

Memorandum

To: The Expert Panel

From: Mitchell Daysh (on behalf of Matakanui Gold Limited)

Date: 12 June 2026

Re: Further Information Response #9 – Traffic / Roads and Recreation - Bendigo-Ophir Gold Project Fast-track Application

INTRODUCTION

The purpose of this memorandum is to provide responses on behalf of Matakanui Gold Limited (“**MGL**”) to the request for further information by the Bendigo-Ophir Gold Project Expert Panel (“**the Panel**”) under section 67 of the Fast-track Approvals Act 2024 (“**the Act**”) in relation to the Bendigo-Ophir Gold Project application. This request was received on 28 May 2026.

The request followed the receipt of the Traffic / Roads Joint Witness Statement (“**JWS**”) and the Recreation JWS, dated 15 May 2026 and 27 May 2026, respectively.

For completeness, the further information request is provided in full (in italics) below and is followed by our response.

TRAFFIC / ROADS JOINT WITNESS STATEMENT

In respect to the Traffic / Roads JWS, the request for further information seeks the following:

- 1. It is clear to the Panel that there are challenges with the proposed design and alignment, and compliance with the proposed condition. While the Panel appreciates that the proposed condition provides for further design work, the road is proposed now does not meet the “like with like” replacement of Thomson Gorge Road, changes to its design may have flow on implications and it appears that there may be difficulties achieving the condition at all. The Panel considers it appropriate and requests that further design work is undertaken now and provided to the Panel to provide greater certainty that the a “like-to-like” replacement can be provided and the proposed condition can be complied with.*

MGL has provided a timeline of the correspondence with the Central Otago District Council (“**CODC**”) regarding the Ardgour Rise design and the ongoing engagement with CODC on this

matter, the majority of which predates the issuing of this further information request. This timeline is provided in an MGL memorandum attached as **Appendix 1** to this memorandum.

Following this correspondence with CODC, an updated Ardgour Rise design has been prepared and is attached as part of **Appendix 1**.¹ This design is accompanied by an independent verification report prepared by a registered surveyor - Landpro NZ Limited – which confirms that the updated Ardgour Rise design complies with the design standards requested by CODC.²

While it is noted that agreement has yet to be reached with CODC with respect to the final Ardgour Rise alignment, MGL's position is that the proposal shown within **Appendix 1** reflects a better than 'like-for-like' replacement of the existing Thomson Gorge Road. This is because:

- > The Ardgour Rise design has more suitable gradients than the existing Thomson Gorge Road, with only a very small portion (approximately 168 m or 1.2%) having a gradient of between 16.7% to 20% - while the section of Thomson Gorge Road contains approximately 242 m or 2.9% of the same range of gradient - and no sections of the Ardgour Rise design exceeding a 20% gradient; and
- > The Ardgour Rise design is formed to a higher standard than the existing Thomson Gorge Road. For example, all cross falls and drainage will be designed in accordance with the latest CODC standards and windrows will be provided where there is a potential for the drop-off of vehicles).

Refer to the MGL Memorandum provided as **Appendix 1** for further details.

MGL has agreed to a request from the CODC that the final design specifications for Ardgour Rise are certified by CODC following the granting of any consent – with the focus on certifying that the final Ardgour Rise design meets the relevant standards required in the proposed *D.01 Central Otago District Council Land Use Consent and Conditions (17 April 2026)*. The specific design standards requested by CODC, that have been adopted in the Ardgour Rise design, will be explicitly included in the updated condition set that will be provided to the Expert Panel on 22 June 2026. Following this certification process, and after Ardgour Rise is constructed in general accordance with the draft design and according to the specified standards contained within the proposed conditions, MGL proposes the road is surveyed and subdivided to be vested as fee simple title to CODC.³ This vesting process would occur simultaneously with the road stopping of the existing Thomson Gorge Road.

¹ Provided as Attachment 4 to the MGL Memorandum which is provided as Appendix 1 to this covering memorandum.

² Provided as Attachment 5 to the MGL Memorandum which is provided as Appendix 1 to this covering memorandum.

³ Clause 16 of the Roding Deed between CODC and MGL requires that Ardgour Rise is vested as fee simple title to CODC.

RECREATION

In respect of the matters raised in the Recreation JWS, the request for further information seeks the following:

2. ***Please set out the mechanism by which public access to the Bendigo Conservation Area is to be maintained.***

We understand this question reflects the discussion provided under Topic B – Public Access to Bendigo Conservation Area, which is addressed in paragraphs 16-18 of the Recreation JWS.

An existing paper road and physically formed access track currently provides access to Mt Moka and the wider Bendigo Conservation Area from the Thomsons Saddle. However, it is noted that the current access track deviates outside the existing paper road along several sections of the alignment. This is illustrated in Figure 1 below, with the existing paper road corridor shown in light grey outline and the physically formed access track evident in the underlying aerial map.

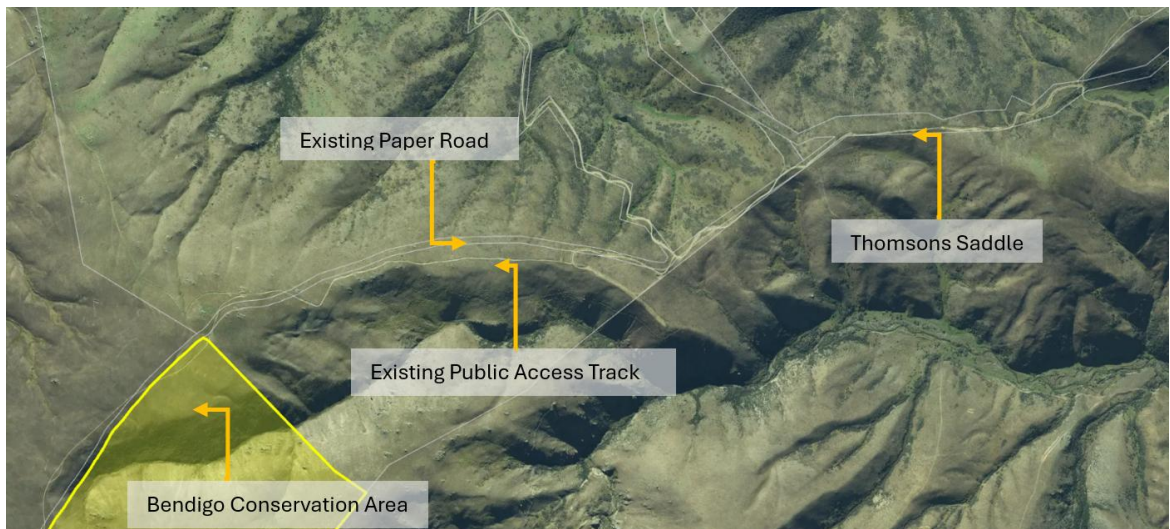


Figure 1: Existing Paper Road to Bendigo Conservation Area

To the extent that the existing public access track deviates outside the legal road reserve and is on land owned by the Bendigo Station Limited⁴ within the BOGP Consent Area, this land will be subject to a permanent easement in gross (in favour of CODC and DOC) to ensure public access from Thomsons Saddle to the Bendigo Conservation Area can continue to be provided. At the request of DOC, the easement will include the ability to convey dogs and firearms.

⁴ The relevant Bendigo Station Land is subject to a sale and purchase agreement with a subsidiary of Santana Minerals Limited, Matakanui Land Limited.

This requirement to establish a permanent easement will be reflected in the updated consent conditions that will be provided to the Expert Panel on 22 June 2026.

- 3. All experts have agreed that the proposed alternative access to the Come-in-Time Battery will reduce the value of it as a recreation destination and is not preferred. The proposed approach of exploring alternative access arrangements with the Department of Conservation (DOC) provides the Panel with little certainty that agreement will be reached with DOC and a satisfactory access provided. This is particularly the case where DOC's s51 and 53 FTAA comments are not supportive of the proposed route, and it is difficult to envisage DOC certifying it as proposed through the concession conditions.**

MGL has considered a range of alternative routes for walking access to the Come-in-Time Battery (“CIT Battery”) and discussed them with DOC. This has included a series of correspondence, workshops and meetings, most recently on 11 June 2026. All of the alternatives identified to date have issues which make them less desirable than the route proposed in the application by MGL or are otherwise unable to be delivered due to operational, land ownership and accessibility reasons.

While no agreement has been reached on an appropriate alternative access arrangement to the CIT Battery at the time of writing this response, MGL commits to continuing discussions to find a mutually agreed route. MGL is also considering the standard of the route (or possibly a track) based on feedback from DOC. MGL seek to also make clear in the conditions that MGL is responsible for the costs associated with the formation of the route / track, its maintenance and decommissioning (if requested by DOC) once the existing track to the CIT Battery is reinstated following the cessation of mining activities. A condition will also be included in the updated condition set to be provided on 22 June 2026 requiring MGL to provide access for any DOC staff through the mine site at mutually agreed times to undertake any necessary maintenance activities at the CIT Battery site.

It is acknowledged that the proposed new route as set out in the Substantive Application and the *D.08 Concession and Conditions for Access Route to the CIT Battery* is not a like-for-like replacement for the existing access to the CIT Battery from Thomson Gorge Road. However, based on the advice of Dr Woods, we understand that the walking route will provide visitors to the CIT Battery with an improved experienced of the heritage values within the Bendigo Historic Reserve. This would include interpretive panels along the route setting out the history of the area and the heritage features within the landscape.

The proposed conditions within *D.08 Concession and Conditions for Access Route to the CIT Battery* are proposed to be amended to provide certainty that an alternative route will be provided. This amendment will clarify that if no agreement can be reached with DOC the

alternative route as proposed in the Substantive Application will be established prior to Thomson Gorge Road being closed. However, the amended condition will retain the requirement that DOC certify the design of the walking route to ensure it is fit for purpose and minimises, as far as reasonably practicable, any effect on ecological features and heritage values. This includes the provision for confirming any alternative route that will minimise these effects and provide a more like-for-like replacement whilst still being operationally feasible and compatible with the proposed mining operations.

In addition, it is also emphasised that the existing walking track to the CIT Battery from Thomson Gorge Road will be restored upon the cessation of mining operations in accordance with the Landscape Closure Plan provided as Appendix 7 to the *B.19 Boffa Miskell Landscape, Natural Character and Visual Effects Assessment* – which is provided as **Appendix 2** to this memorandum.

4. Please respond to the experts' comments in respect to Question E in respect of:

- ***A legal mechanism for continued public access to all existing and proposed public recreation settings to ensure their maintenance for recreational use.***
- ***Reinstatement of public access in the Bendigo Conservation Covenant Area***

As noted by Mr Greenaway in paragraph 25 of the Recreation JWS, upon the cessation of mining operations the following recreational access measures are proposed by MGL within the BOGP Consent Area:

- > The retention of Ardgour Rise to provide vehicle and cycle access from the Ardgour terraces to Thomsons Saddle;
- > The reinstatement of road access to the existing walking track to the CIT Battery (including a car parking area) through the reestablishment of a section of Thomson Gorge Road from the north of the Project Site;
- > The reinstatement of road access to a point approximately 1.8km northwest of Thomsons Saddle; and
- > A pedestrian, cycle and equestrian track between these two road ends (accessed from the CIT Battery access point and access from Thomsons Saddle).

New and upgraded 4WD tracks are also proposed to be established within the Shepherds Valley and upper parts of the Rise and Shine Valley.

These public access provisions are illustrated in the Landscape Closure Plan, which is provided as **Attachment 2** to this memorandum.

As noted in the response to Question 1 above, Ardgour Rise is proposed to be vested as fee simple title to CODC in conjunction with the closure of Thomson Gorge Road. This will ensure

public access along this road, and to adjoining public conservation land, will continue to be provided for.

The reinstated sections of Thomson Gorge Road, the pedestrian, cycle, equestrian and access track between the two road ends of Thomson Gorge Road, and the new and upgraded 4WD tracks with the Shepherds and Rise and Shine Valleys are proposed to be subject to permanent easements (in favour of CODC) to ensure that public access along these routes will be provided for through an appropriate legal mechanism.

A condition will be included in the updated condition set to be provided on 22 June 2026 that requires that upon mine closure, an easement in gross is to be registered in relation to the public access provisions outlined above that apply to MGL owned land and this easement is registered on the relevant titles in favour of both CODC and DOC.

In addition, Condition 118 of *D.01 Central Otago District Council Land Use Consent and Conditions (17 April 2026)* requires that the proposed new covenant that will provide legal protection in perpetuity in relation to the environment outcomes to be achieved in the ecological rehabilitation and habitat enhancement areas (sometimes referred to as the offset and compensation areas). One of these outcomes to be specified in this covenant is the public access as shown on the Landscape Closure Plan.

Overall, while there will be necessary public access restrictions to land within and across the Project Site during mining operations for health and safety reasons, following the cessation of mining operations a greater standard and breadth of public access will be provided for across the Project Site.



APPENDIX 1

MGL Memorandum



Memorandum

To: Cheryl Low (Environment Manager Matakanui Gold Limited)

From: David Stretch (on behalf of Matakanui Gold Limited)

Date: 12 June 2026

Re: Ref FTTA- 2507-1089

This letter is written in response to the Expert Panels request for information regarding the Ardgour Rise alternate route as in accordance with Question 1 listed below:

- 1. It is clear to the Panel that there are challenges with the proposed design and alignment, and compliance with the proposed condition. While the Panel appreciates that the proposed condition provides for further design work, the road is proposed now does not meet the "like with like" replacement of Thomson Gorge Road, changes to its design may have flow on implications and it appears that there may be difficulties achieving the condition at all. The Panel considers it appropriate and requests that further design work is undertaken now and provided to the Panel to provide greater certainty that a "like-to-like" replacement can be provided and the proposed condition can be complied with.*

In response, the following sets out a high-level timeline of the consultation undertaken with Central Otago District Council ("**CODC**") in relation to the Ardgour Rise design and the key differences / improvements between the existing Thomson Gorge Road design and the proposed Ardgour Rise design:

1. An initial design was submitted to CODC on 12 September 2025 in Resource Consent Application RC250248¹ by Matakanui Gold Limited ("**MGL**"). The application was not processed by CODC on the basis that they could not assess it unless the road covered the full road route including through the Ardgour Conservation Area administered by the Department of Conservation ("**DOC**"). A notice to place the Resource Consent Application on hold was issued by CODC² on 24 September 2025.
2. The initial road design was rejected by CODC during a meeting with the CODC CEO and Group Manager of Infrastructure on 7 November 2025, primarily due to road gradient concerns. However, CODC agreed that compliance to the 4404 (2004) road standard is unlikely to be achievable with the topography of the region, therefore a compromised design solution would be investigated.
3. CODC engaged an expert roading design engineer firm, Meyer Cruden, to develop a set of design guidelines³ that would be considered acceptable as a like-for-like replacement to the existing section of Thomsons Gorge Road ("**TGR**") under this Fast-Track Application. The review of the initial road design by Meyer Cruden is provided as **Attachment A** of this memorandum.
4. The initial Ardgour Rise design was modified by MGL to ensure compliance with all the recommendations provided by Meyer Cruden and subsequently issued to CODC for review via email on 19 November 2025.⁴
5. Subsequent notice was received from CODC by email⁵ that there was refusal to review the updated design until a decision was made on the overall Bendigo-Ophir Gold Project Fast-Track Application.

6. Following the correspondence above, the updated Ardgour Rise design⁶ with further reduction in gradient is reissued as part of the further information request response. These design drawings are provided in **Attachment B** of this memorandum.
7. Independent verification⁷ by a registered surveyor, Landpro NZ Limited, has confirmed that the updated Ardgour Rise design complies with CODC expert advisor's (Meyer Cruden) standard and Australian Road Research Board unsealed roads best practice guide edition 2 as a like-for-like replacement to the existing section of TGR subject to this Fast-Track Application. This independent verification report is provided as **Attachment C** of this memorandum.
8. As noted above, gradient is a key issue of concern of CODC, considering the constraints with the topography of the route proposed.
9. The table below provides a comparison in gradient of the section of TGR proposed to be closed, in comparison to the updated Ardgour Rise design (refer to **Attachment B**).

		ARDGOUR RISE MAY 2026			THOMSON GORGE ROAD		
	GRADE	LENGTH (m)	%		LENGTH (m)	%	
	<5%	4068	29.8%		2324	28.3%	
	5% to 10%	3373	24.7%		3360	40.8%	
	10% to 12.5%	1328	9.7%		1171	14.2%	
	12.5% to 16.7%	4712	34.5%		1128	13.7%	
	16.7% to 20%	168	1.2%		242	2.9%	
	>20%	0	0%		20	0.2%	
	TOTAL	13649			8226		

11. In addition, the Ardgour Rise Road width will be increased, and the formation will be constructed to the ARRB Unsealed Roads Best Practice Guide Edition 2, an improvement compared to the existing TGR formation. In particular, the Landpro NZ Limited Report⁷ provides substantiation to cross falls (Section 4 of the ARRB Guidelines) and safety in design (Section 5 of the ARRB Guidelines). Windrows will be provided where there is potential for drop off of vehicles.
12. MGL's position is that the updated Ardgour Rise design offered meets the design guidelines proposed by CODC and the road will be of higher quality than the existing TGR and therefore provides certainty the like-for-like design has been provided.

¹ Resource Consent Application RC250215 "3329-25- AEE Final" 24th September 2025.

² "250248 Deferred s91" notice of placing the consent for Ardgour rise on hold.

³ Meyer Cruden Design Guideline "Ardgour Rise Alignment Design Feedback" .

⁴ Email from Josh Cowan to Paul Fleet "RE: Ardgour Rise revised Route 10th November 2025".

⁵ Email from Paul Fleet to Dave Stretch "RE: Ardgour Rise Road Design" 17th March 2026.

⁶ Updated MGL design for Ardgour Road. Provided with this RFI response - Landpro 25064_02_Ardgour Rise May 2026 Road Alignment.

⁷ Landpro NZ Limited Assessment of the Current Design"20261110 Ardgour Rise Design Report".

Attachment A

Ardgour Rise Alignment – Santana Mining Ltd (SML) Revised Design Feedback

1. Longitudinal Gradients

Current Revised SML design

- The revised design represents an improvement on the earlier submission but still does not meet Council's current roading standards.
- The maximum permissible gradient under Council standards is 12.5%, with some flexibility up to 16.7% (1:6) in constrained terrain.
- The proposed alignment includes approximately 4.6 km of grades above 12.5%, of which 2.8 km is between 16.7–20%.
- The new route is longer and steeper than the existing Thomson Track, resulting in a more challenging and costly asset to maintain.

While the terrain presents limitations, the current design would not be accepted as a Council road under the existing standard.

Acceptable Mid-Point Design

Council engaged Myer Cruden Engineering to complete further analysis to assess a potential agreeable mid-point in respect of longitudinal gradients. Other similar “back country” and ski field roads were analysed for comparable gradients in relation to the Ardgour Rise proposal.

These included:

- The existing Thomsons Gorge Road
- Nevis Road
- Blue Mine Track
- Treble Cone ski-field road
- Ohau ski-field road

Google Earth was used to assess grades. Although not as accurate as a specific topographic survey they still provide some relevant comparable data.

EXISTING THOMSONS GORGE ROAD



- The existing Thomsons Track has multiple sections of over 16.7% which are up to 150m long.
- The Nevis road has a 250m long section of 20% but nothing more.
- The Blue Mine track has two short sections over 20% which are approx. 50m long.
- The Treble Cone Road has 5 sections about 20% which are 100m-120m long.
- The Ohau Ski Field road has multiple sections of 20% which are up to 250m long.
- The proposed road has two long sections of about 20% - nearly 1km long each. This is much longer than the steep sections in the existing track and lots of other gravel tracks.
- We would recommend that a maximum length of 150m be specified for grades of over 16.7%. The two proposed long steep sections of should be split up for safety and driveability.

This shows the existing Thomsons Track has sections with a continuous grade between 16.7% and 20% that are up to 150m long (ref Google Earth) and a total length of track in excess of 16.7% of 262m (Ref: data provided by SML). *Note: The data from Google Earth (GE) and from Santana is not well aligned because GE is not as accurate, hence why GE predicts there is more length of track over 16.7% than in the Santana data. We still consider the GE data to be adequate to make recommendations.*

The other roads are consistent with this and there are no continuously steep sections as long as on the proposed route. Therefore, we believe it is reasonable to specify a maximum length for steep sections.

Recommendation 1:

SML to revisit the design and limit continuous sections of track over 16.7% to a maximum of 150m in length.

We understand that the current proposed design has 2762m of track between 16.7% and 20% (Ref: data provided by Santana). This recommendation is not putting a limit on the total length of road over 16.7% but it is recommending that each continuous section of the road over 16.7% has a maximum length (of 150m).

2. Cross-Sections and Drainage

The cross-section provided (4 m carriageway with 1 m shoulders) does not meet Council's standard geometry:

- Cross-fall is up to 12% (exceeding the 5% maximum).
- No side drains are shown; a 400 mm deep side drain is required under the standard.
- Shoulder treatment and drainage details will need revision to achieve a functional and durable surface.

Recommendation 2:

SML to propose modifications to cross-section and drainage details that could be incorporated to ensure safe operation and adequate stormwater control without requiring full reconstruction to Council's standard.

- ***The design needs fully developed cross sections and SW drainage details.***
- ***Plans to show cross sections every 20m with full extent of cut and fill batters.***
- ***Long sections to be fully developed.***
- ***All culverts to be sized, located and detailed. SW Design report to be provided including catchment plans & analysis, peak flows and culvert sizing/erosion requirements.***

3. Horizontal Alignment and Width

- Two tight curves have radii below the 25 m minimum.
- The 4 m carriageway may be acceptable for limited-use recreational traffic, but passing opportunities and widened sections will be needed in constrained areas.

Recommendation 3:

- ***SML revisit the design and identify localised widening or signage to mitigate safety concerns in the steeper and narrower sections of the alignment.***

4. Vesting and Future Maintenance

Council would not support vesting the realigned section unless it provides a clear network benefit (e.g. a continuous through-route connecting back into Thomson Gorge Road). Without that, it would remain private or unmaintained, as it does not serve a public transport function.

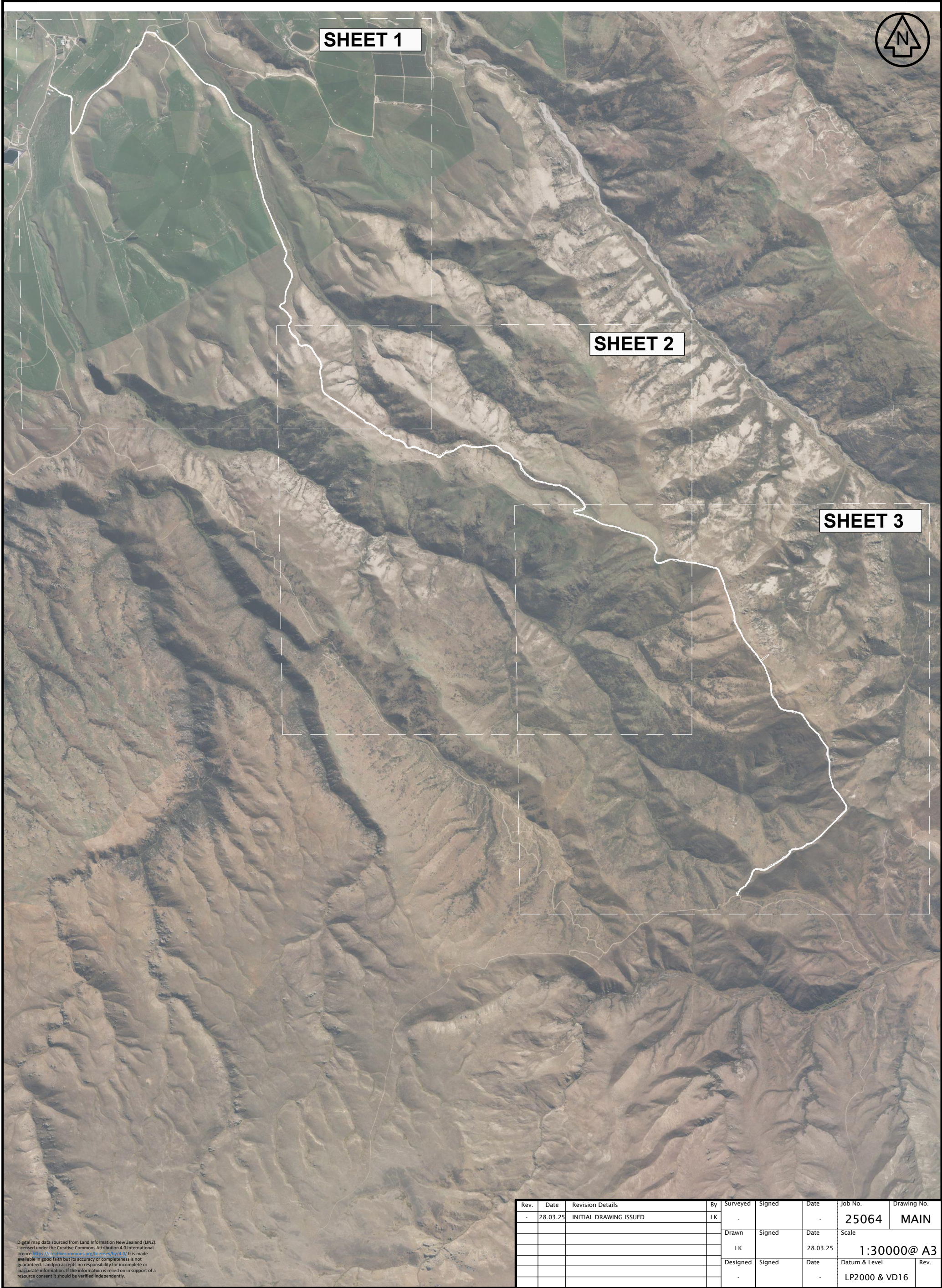
5. Next Steps

- Place the application on hold by mutual agreement to allow further technical engagement between the applicant's engineers and Council staff.
- Considering the recommendations above agree on a pragmatic, safety-focused mid-point standard that ensures the road is safe and functional, even if not accessible to all vehicles all year-round.
- Agreement for SML to meet the costs of technical guidance – Meyer Cruden costs for the technical engineering review and work between both parties to agree a standard (that Council is willing to accept).

Once an agreed design standard is documented, the consent process can resume with clear, achievable conditions.

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Attachment B



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resource consent it should be verified independently.

Rev.	Date	Revision Details	By	Surveyed	Signed	Date	Job No.	Drawing No.
-	28.03.25	INITIAL DRAWING ISSUED	LK	-		-	25064	MAIN
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				LK		28.03.25	1:30000@ A3	
				Designed	Signed	Date	Datum & Level	Rev.
				-		-	LP2000 & VD16	

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ARDGOUR RISE DESIGN - MAY 2026

C:\12\SD\data\SERVER\2008R2\25064-Design of Ardgour Rise as per scope of services document provided 6574\CAD\25064_02 Ardgour Rise May 2026.dwg Plotted: 10.06.2026



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Rev.	Date	Revision Details	By	Surveyed	Signed	Date	Job No.	Drawing No.
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				Designed	Signed	Date	Datum & Level	Rev.
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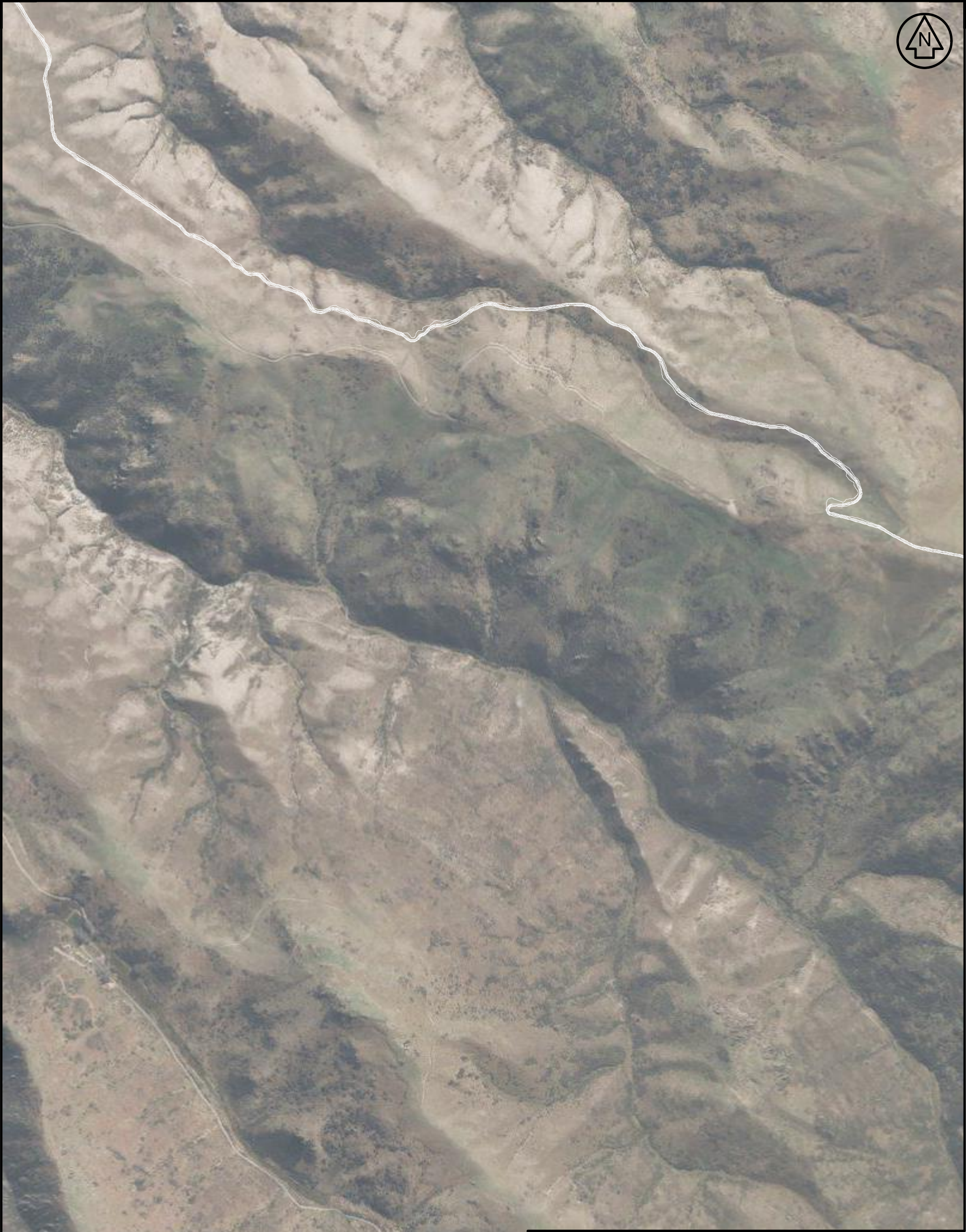
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ARDGOUR RISE DESIGN - MAY 2026

C:\12\SD\data\SERVER\2008R2\25064-Design of Ardgour Rise as per scope of services document provided 6574\CAD\25064_02 Ardgour Rise May 2026.dwg Plotted: 10.06.2026



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Rev.	Date	Revision Details	By	Surveyed	Signed	Date	Job No.	Drawing No.
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				Designed	Signed	Date	Datum & Level	Rev.
				-		-	LP2000 & VD16	-

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ARDGOUR RISE DESIGN - MAY 2026



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				-		-	LP2000 & VD16	-

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ARDGOUR RISE DESIGN - MAY 2026

Attachment C

Road Alignment Assessment
Ardgour Rise Alignment – May 2026

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Project Name:	Ardgour Rise Alignment Assessment
Client:	Matakanul Gold Limited
Client Contact:	Alistair Snow
Supplier:	Landpro Limited
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Phone:	+64 3 445 9905
Supplier Contact:	Nathan Archer
Landpro Reference:	FINAL

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1. Executive Summary

This assessment is prepared in response to commentary received from the FTA panel specifically relating to the ability to achieve proposed roading conditions and that Thompson Gorge like-to-like replacement can be achieved.

The report confirms that the proposed Ardgour Road design (May 2026) provides certainty that the “Like-to-like” realignment can be achieved. The design can comply with existing acceptable roading standards and that safety in design and stormwater management can be achieved or mitigated in the detailed design phase.

A number of existing resources and existing standards are referenced in this assessment as follows:

- Ardgour Rise Alignment Revised Design Feedback – Myer Cruden November 2025
- Central Otago Standards for Gravel Roads – March 2003
- ARRB Unsealed Roads Best Practice Guide Edition 2
- NZS4404:2008 and the CODC Addendum to NZS4404:2004 dated 2008
- NZS4404:2010

The following redesign files were provided by MGL for assessment:

- BOGP Ardgour Rise Roading plan – May 2026

2. Thomsons Gorge Road

The slope of the existing Thomsons Gorge Road was calculated from levels interpreted every 20m off the available lidar survey by Stantec and listed in the table below.

	Thomson Gorge Road	
Grade	Length (m)	%
<5%	2,324	28.3
5% to 10%	3,360	40.8
10% to 12.5%	1,171	14.2
12.5% to 16.7%	1,128	13.7
16.7% to 20%	242	2.9
>20%	20	0.2
Total	8,226	

Table 1 – Thomson Gore Road Gradients (Source: Stantec)

The table indicates the proportion of the existing formation with vertical gradients between 16.7% to 20% is 242m in length and being 2.9% of the road duration.

There is a short 20m long portion of formation in excess of 20% however given the sample is at 20m intervals little weight can be given to its accuracy.

The cross sectional profile of Thomson Gorge Road is variable and organic in nature. There is very little evidence of any stormwater management or design being applied to the existing road formation.

3. Vertical Gradient Assessment

COMPARISON OF STANDARDS

The proposed Ardgour Road alignment is compared to the relevant standard in table 2 below.

STANDARD	Maximum Gradient	Ardgour Rise May 2026
NZS4404:2004 CODC Addendum Table 3.1	12.5%	Deviation for the standard is required
CODC Standards for Gravel Roads	12.5%	Deviation for the standard is required
ARRB Best Practice Guide	12.5%	Deviation for the standard is required
NZS4404:2010	Gradients above 12.5% are acceptable subject to Local Authority approval. Provision in the roading tables for vertical gradients up to 20%	Compliant – (Subject to CODC approval) Compliant
Myer Cruden Report	Accept gradients up to 20% Limit the length of gradient between 16.7% to 20% at 150m	Compliant Compliant

Table 2 – Standard Comparison

PROPOSED PROFILE:

To assist like-to-like comparison the Ardgour Road (May 2026) gradients were tabled against the existing Thompson Gorge alignment in the table below.

		ARDGOUR RISE MAY 2026				THOMSON GORGE ROAD		
	GRADE	LENGTH (m)	%			LENGTH (m)	%	
	<5%	4068	29.8%			2324	28.3%	
	5% to 10%	3373	24.7%			3360	40.8%	
	10% to 12.5%	1328	9.7%			1171	14.2%	
	12.5% to 16.7%	4712	34.5%			1128	13.7%	
	16.7% to 20%	168	1.2%			242	2.9%	
	>20%	0	0%			20	0.2%	
	TOTAL	13649				8226		

Table 3 – Ardgour Road Rev 4 Gradient Comparison

The proposed vertical gradients above 12.5% are a deviation to NZS4404:2004 and Table 3.1 of the CODC Addendum to NZS4404 (2008). Gradients above 12.5% are also a deviation from the CODC Standard for Gravel Roads and the ARRB best practice guide.

It is noted that NZS4404:2010 (a standard released to supersede NZS4404:2004 and is widely accepted in New Zealand for Road Design) includes provisions for gradients up to 20% subject to approval by the Local Authority.

It is also noted that proposed gradients up to 20% are confirmed as being acceptable in the Myer Cruden Report on the November 2025 alignment.

It is noted from an extract in the joint witness statement that the panel supports the use of ARRB best practice guide (opposed to the CODC roading standards) and any departures be assessed through detailed design and be subject to approval from the CODC and be comparable to the design features of the existing Thomson Gorge Road.

68. AM supports the use of the ARRB Guide as a design reference for the Ardour Rise route. AM is aware that the current 18 November 2025 design would not meet the gradient requirements of the ARRB Guide. To achieve the gradient requirements is likely to generate localised adjustments to the current alignment. Those changes may require further consideration by other experts such as landscape and ecology disciplines. For that reason, AM considers that there may be a need for some further flexibility in the maximum gradient to support a balanced roading environment that also responds to environmental constraints. Any departures can be considered through detailed design engineering statements, as included in condition 49, and with consideration to comparable design features of the existing Thomson Gorge Road.

69. DS is comfortable with condition 49 subject to the following two amendments:

- (a) that “engineering approval” as opposed to “certification” is referenced in the condition; and
- (b) that the “ARRB Unsealed Roads Best Practice Guide” is referenced directly as the required design standard in the condition, and any departures would be subject to engineering approval from CODC.

70. JK supports the ARRB design criteria and considers that Ardour Rise is not a suitable ridge for a robust unsealed road as the gradients are too steep. Any significant departures without appropriate compensating factors (sealing, grade reversals, etc.) will likely result in a chronic maintenance burden for CODC.

Figure 1 – BOGP Traffic Roads Joint Witness Statement

Given all of the above, it is considered that the May 2026 vertical profile gradients comply with the Myer Cruden recommendation and NZS4404:2010 and is generally like-to-like for the formation of Thompson Gorge Road with exception to the ARRB best practice guide and CODC standards with gradients generally below 16.7%

SUMMARY:

It is concluded that the vertical design of the proposed May 2026 profile provides a like-to-like profile to Thomson Gorge Road.

4. Cross Sectional Profile

PROPOSED PROFILE

The existing Thomson Gorge Road profile is variable and organic in nature.

The proposed profile has been analysed using 12d design software and confirmed that the top width of the metalled profile agrees with the minimum required as stated in the CODC Standard for Gravel Roads and the minimum required in ARRB Best Practice Guide.

The Cut/Fill batter gradients for earthworks and the depth of the roadside stormwater drains are also compliant the CODC Standards for Gravel Roads. It is noted that stormwater cut off drains can be assessed at the time of detailed design and any roadside stormwater channels steeper than 10% will be rock lined to prevent erosion.

SUMMARY:

The proposed road cross sectional profile complies with the CODC Standard for Gravel Roads and will be an improvement to the existing Thomson Gorge Road formation.

5. Safety In Design

PROPOSED DESIGN:

The existing Thomson Gorge Road is organic in nature.

The proposed profile has been analysed using 12d design software and considered to be a single-lane, two-way formation designed for light vehicles and 4WD vehicles.

It is noted that the Myer Cruden report is silent on any proposed safe stopping distance requirements therefore, the accepted standards in the CODC standard for gravel roads and the ARRB Best Practice Guide have been considered in addressing safety in design.

SIGHT DISTANCE REQUIREMENTS:

The CODC standard for gravel roads and the ARRB best practice guide provide applicable sight distance requirements for unsealed roads. The ARRB guide provides deceleration parameters for unsealed roads that can be applied in the detailed design phase.

Wherever there are instances that the proposed alignment does not achieve safe stopping sight distances then localised widening can be applied in accordance with the requirements of the CODC Standards for Gravel Roads.

In addition to localised widening it is considered that advisory signs be installed to warn road users of the local conditions such as posted speed restrictions, sudden changes in vertical gradients and any vehicle type restrictions.

As noted in the Meyer Cruden report there are horizontal curves with radius less than the 25m minimum by the CODC Standard for Gravel Roads. The Gravel Road Standard also suggests that where the 25m minimum radius cannot be achieved then localised widening be applied instead.

It is considered that localised widening can be applied and achieved where the horizontal curve radius is less than 25m in order to comply with the CODC Standard for Gravel Roads.

SUMMARY:

The Safety in Design requirements will be an improvement to the existing Thomson Gorge Road and are considered to exceed the "Like-to-like" provision.



APPENDIX 2

Landscape Closure Plan

LEGEND

- 1 **SOIL STOCKPILE**
Remove stockpiles and reinstate original land form. Landcover to support ecological outcomes.
- 2 **HAUL ROADS**
Shallow-off batters and form wedge of soil/ rock to support rehabilitation. Remaining high cut faces will remain as stable rock.
- 3 **THOMSON GORGE ROAD CLOSURE**
Car parking with walking access where shown on plan.
- Existing Thomson Gorge Road retained
- Upgraded and realigned Ardgour Rise Road
- Existing 4WD tracks
- Upgraded / new 4WD tracks
- Recreation route for walking access
- Outstanding Natural Landscape (ONL)
- Existing waterways
- Permanent clean water diversion channel
- Permanent diverted mine water channel
- Known springs/ seepages

BENDIGO-OPHIR MINE

Date: 21 July 2025

Plan prepared for Santana Minerals by Boffa Miskell Limited

Project Manager: Rhys.Girvan@boffamiskell.co.nz | Drawn: EWo | Checked: RGI

0 50 300m

1:8,000 @ A0

1:16,000 @ A2

Date: 21 July 2025

0 50 300m
1:8,000 @ A0
1:16,000 @ A2

