

WHAKAPAPA SKI AREA PROPOSED GONDOLA

EXECUTIVE SUMMARY

It is proposed to construct a gondola at Whakapapa Ski Area from near the Top o' the Bruce to Knoll Ridge. The proposal includes the removal of the towers and top terminal building of the Waterfall Express Chairlift. The Waterfall Express Chairlift bottom terminal building will be retained.

In order to remain competitive and respond to customer expectations, Ruapehu Alpine Lifts Limited (RAL) must upgrade the skiing and boarding experience and in particular embark on a programme of replacing aged lift infrastructure with modern lifts meeting new safety and comfort standards.

The gondola cabins will be 10 person capacity. The proposal is entirely within the Amenities Area and is to replace the uphill capacity that was lost through the removal of the National Downhill Chairlift. Currently only the Rangatira Chairlift provides access uphill from the Top o' the Bruce as the Rock Garden Chairlift was recently removed.

The adverse effects of the proposal will be avoided or mitigated with a variety of methods and the project has undergone many reiterations in design to address the many constraints and sensitivities.

Background

Last summer RAL continued with demolition of the National Downhill Chairlift which extended through the centre of the Ski Area southwest from the Top o' the Bruce area. For many years it has been proposed to replace the National Downhill Chairlift capacity with a chondola or gondola. A recent safety review of the Waterfall Express Chairlift has revealed that a major upgrade is required in 2019. The new gondola will allow the Waterfall Express Chairlift to be removed. A future proposal which has not yet been finalised is to reinstate lift access between Hut Flat and the upper mountain. It is proposed to utilise the gondola all year round. Currently the chairlifts operate outside of the ski season during suitable weather.

Previously it was proposed to locate a gondola or chondola west of the current location, over the Amphitheatre. This prior proposal included a new café at the top of the gondola. The current proposal provides environmental benefits compared to the previous chondola proposal, such as –

- The proposed gondola will be located next to other existing chairlifts, narrowing the area affected by infrastructure and limiting potential landscape effects,
- The alignment is over previously modified land,
- The proposal requires less earthworks than the chondola and café proposal,
- The gondola avoids the need to upgrade the Waterfall Express Chairlift and allows it to be removed, and
- The gondola will allow better utilisation of the existing Knoll Ridge Café.



Image 1 – Example of gondola cabins and tower

A future application to upgrade the Top o' the Bruce facilities will include a new café in the Top o' the Bruce to ensure capacity meets demand. RAL functions as a public benefit entity with all profits reinvested in the mountain and shareholders are not provided with dividends or any financial benefits.

Proposed Gondola Alignment

The proposed alignment includes 14 towers over approximately 1,800m length from near the Top o' the Bruce to Knoll Ridge. The alignment has been influenced by several factors including:

- avoidance of areas of high ecological value,
- preference to utilise previously disturbed land,
- the location of existing buildings,
- potential lahar paths,
- landscape effects,
- preference to minimise the scale of earthworks, and
- Skier requirements.

The alignment is in relatively close proximity of the Rangatira Chairlift and Waterfall Express Chairlift. Many of the proposed tower sites are in modified areas and tower heights vary from approximately 10m to 21m with an average height of approximately 14.84m. This is comparable to the height of chairlift towers at Whakapapa and Turoa. The alignment passes by the Ruapehu Ski Club and new technologies almost eliminate the risk of derailment. The risk of damage to the Ruapehu Ski Club buildings in the unlikely event of tower failure has been assessed and found that the club buildings are not at risk of damage.

Proposed Gondola Lower Terminal

The proposed lower terminal will be the drive terminal, containing the engine and running equipment for the gondola and cabin storage. The lower terminal will be located on the edge of Happy Valley near the Rangatira Chairlift lower terminal, the new Happy Valley access elevator, Lorenz' Café and the Happy Valley Café as shown in the following image. The proposed basement cabin storage area is approximately 820m² and the upper floor will be approximately 805m². The building will be clad in timber, precast dark concrete slabs and ironsand coloursteel to blend with the summer rockfield landscape at Whakapapa.

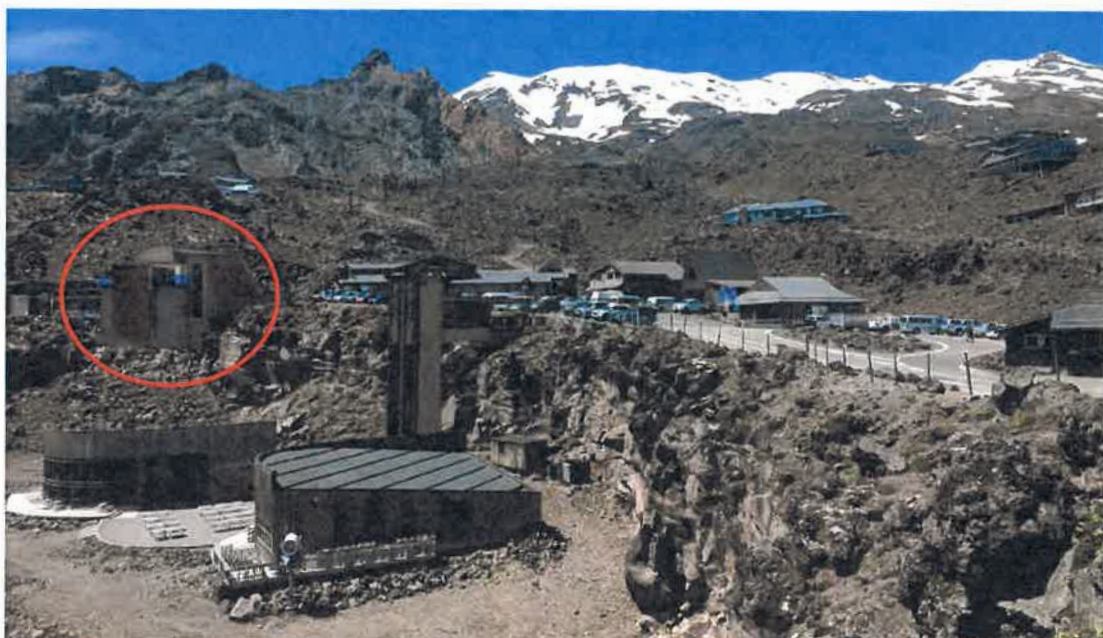


Image 2 – Proposed gondola lower terminal (circled)

Proposed Gondola Upper Terminal

The upper terminal will be located immediately west of the Knoll Ridge Café. A paved area will allow easy access between the two buildings. The terminal building will be approximately 485m². The building

has been designed by the same award winning architect who designed the Knoll Ridge Café. The exterior will be comprised of stonework, vertical timber weatherboards, timber fins over windows and an ironsand coloursteel roof. The materials match the Knoll Ridge Café, provide articulation of the walls and reduce reflections.



Image 3 – Proposed gondola upper terminal next to the existing Knoll Ridge Café

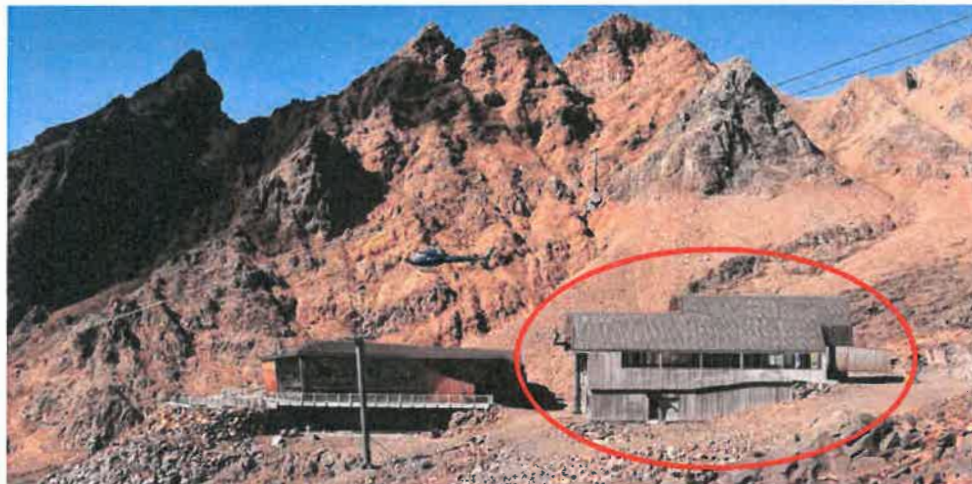


Image 4 – Waterfall Express Upper Terminal Building to be removed

Effects

Potential effects include effects on cultural values, ecological values, landscape values, recreational values and hazards. Adverse effects have been avoided or mitigated through various design elements and recommended conditions.

Cultural - The proposed gondola will not extend into the Tuku (Gift Area). Consultation with Iwi has shaped the proposal which has been through many reiterations to respond to the various constraints and sensitivities, including cultural effects. Support for the proposal has been provided from the Paramount Chief of Ngāti Tūwharetoa and from Te Rūnanganui o Ngāti Hikairo ki Tongariro.

Landscape - The gondola will replace the recently removed National Downhill Chairlift which had 17 towers. The Waterfall Chairlift's 17 towers and top terminal will also be removed. The landscape and visual effects are have been assessed by a qualified and experienced landscape architect and the report included with the application. The landscape and visual effects are mitigated by the following factors:

- Bespoke architectural design of the buildings specific to the landscape,
- Recessive colours and materials on the terminal buildings and gondola towers,
- The gondola will be located next to existing infrastructure and buildings - limiting the area affected,
- The alignment is within an incised valley which has limited visibility,
- The number of towers and the heights have been reduced as much as practicable, and
- Careful site selection for the gondola alignment and the terminal locations.

Ecological - The ecological effects have been assessed by a qualified and experienced ecologist and the report included with the approval application documentation. Ecological effects are mitigated by the following factors:

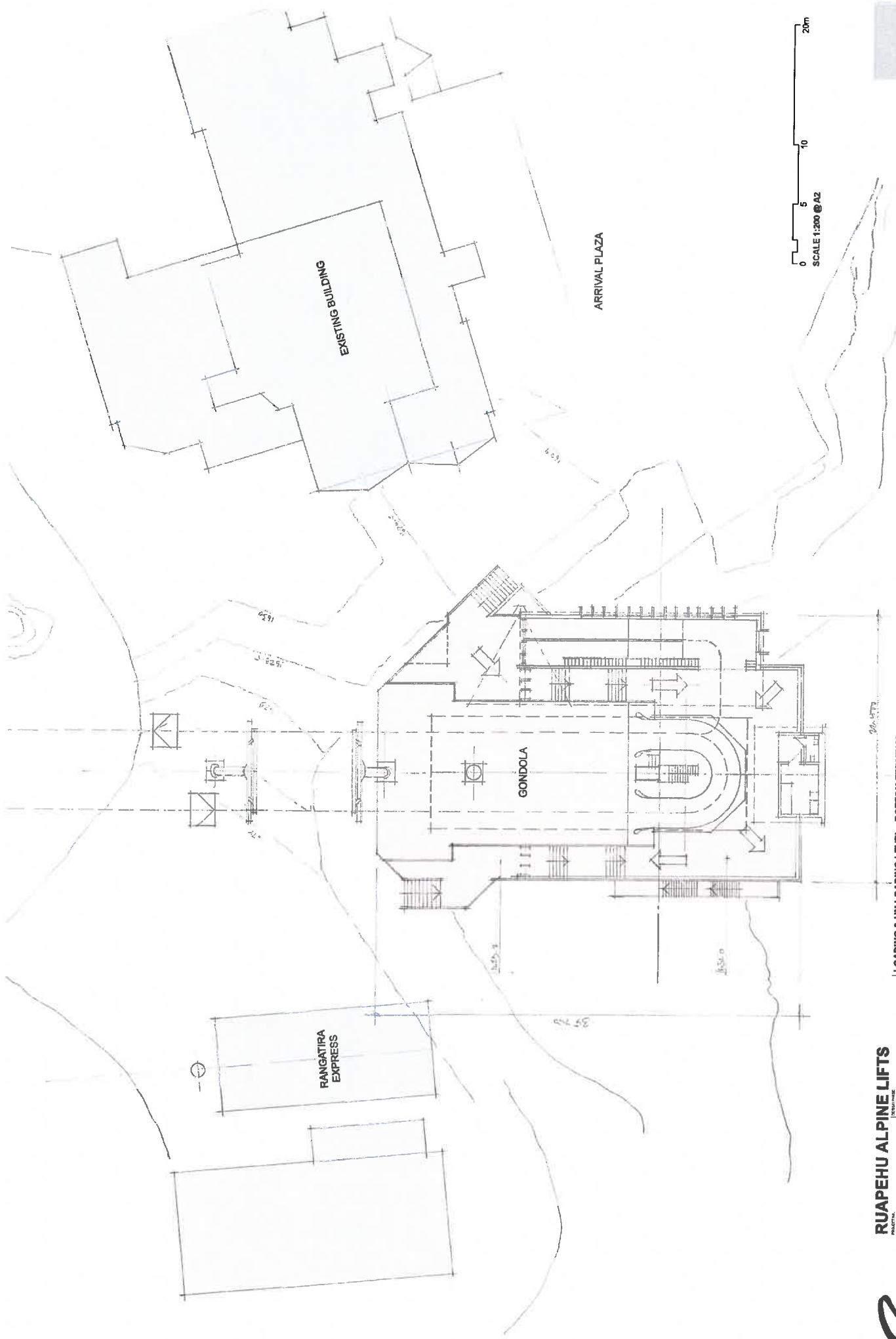
- Careful site selection for the towers and buildings, avoiding any ecologically sensitive areas,
- Minimising earthworks through site selection and the use of previously disturbed sites and rock pining where possible,
- The Top o' the Bruce area is highly modified and so ecological values there are low,
- The upper areas are relatively devoid of vegetation due to the climatic and substrate (lava pavement),
- Earthworks will be managed to avoid sedimentation of streams. A detailed Construction Management Plan will be prepared and approved prior to works commencing and will detail methods for the control of effects during earthworks and construction,
- Any indigenous vegetation which must be disturbed will be harvested, maintained and re-planted as works are completed, and
- A rehabilitation plan will be prepared and followed for the Waterfall Express Chairlift sites which will have structures removed. This will ensure that ecological values are enhanced and the ground is rehabilitated to appear natural in the landscape.

In addition, a monitoring and management plan will be prepared and followed for summer walkers and educational signage erected in the Ski Area regarding the sensitivity of alpine plants to trampling by foot traffic.

Hazards - The majority of the gondola alignment, including the terminal buildings are outside of potential lahar paths, however two towers within a potential lahar path are essential and complete avoidance of the is not practicable. These two towers will be engineered specifically to withstand the force of a lahar. The Ski Area also has an Eruption Detection System which, in the event of a volcanic eruption likely to cause a lahar, sets off sirens and loudspeakers to direct ski area users away from valley floors to higher ground.

The gondola is outside of the Summit Hazard Zone. RAL have a Safety Management System to deal with all risks and contingency plans for evacuations in the event of eruptions. Chairlifts and gondolas are maintained and operated, including being inspected annually prior to the ski season by an auditor, as per the Code of Practice for Passenger Ropeways in NZ. Detachable gondolas also allow adaptable boarding and unloading speeds – providing for safer boarding and unloading. The risk of any damage to Ruapehu Ski Club buildings in the event of a catastrophic collapse has been assessed by Leitner and found that even in such an event the buildings will not be affected.

Recreational - The gondola is expected to provide long term benefits to recreational users including skiers and sightseers but improving the lift facilities and providing comfortable access to Knoll Ridge. The proposal provides for the inclusion of less able-bodied persons.



0 5 10 20m
SCALE 1:200 @ A2



LOADING & UN-LOADING LEVEL - BOTTOM TERMINAL
ISSUED FOR INFORMATION
DATE 21 DEC 2017
BY: J. J. JONES (Project Engineer)

GONDOLA WHAKAPAPA

RUAPEHU ALPINE LIFTS
PROJECT
RUAPEHU ALPINE LIFTS
CONCEPT DESIGN
SHEET
SK 04
REVISED: 10/12/17

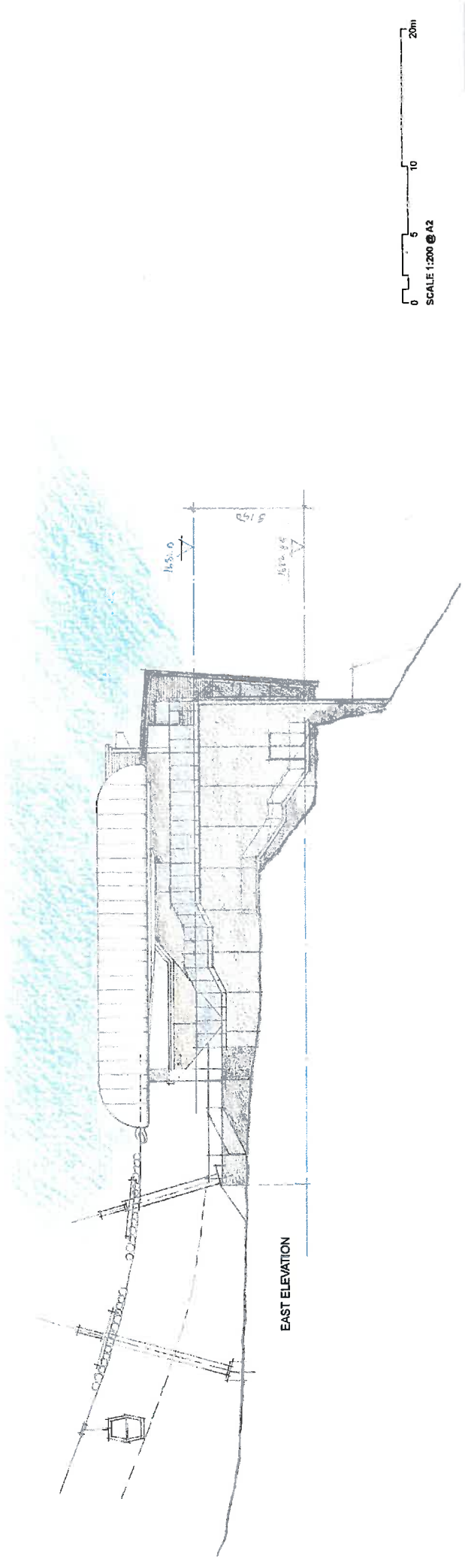
5330





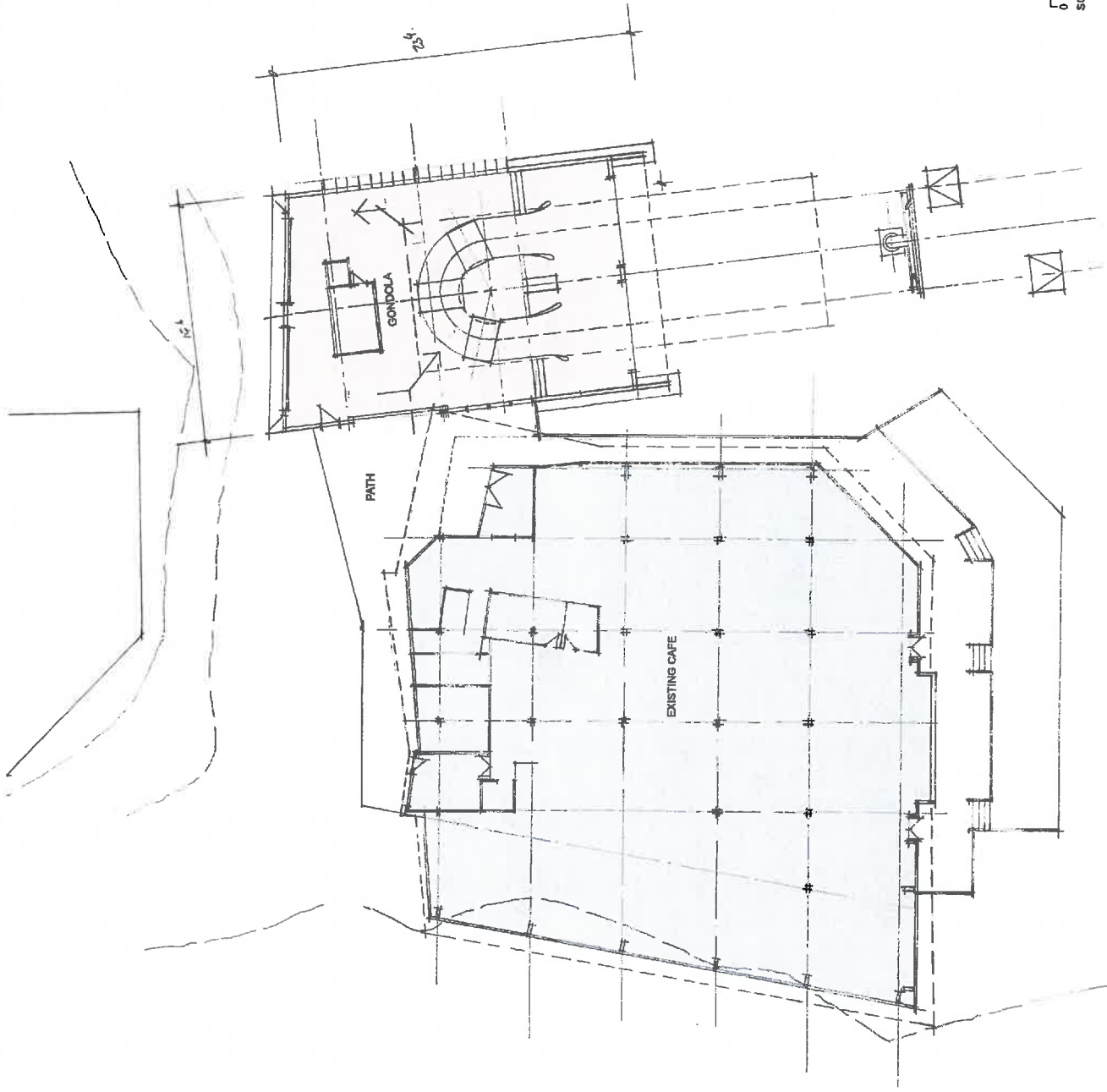
WEST ELEVATION

NORTH ELEVATION



EAST ELEVATION





RUAPEHU ALPINE LIFTS
PROJECT

DESIGN RANGE CONCEPT DESIGN
DATE 12 DEC 2017
SHEET NO. 01
REVISED 001

5330

B

CONCEPT FLOOR PLAN - TOP TERMINAL
ISSUED FOR INFORMATION

GONDOLA WHAKAPAPA



NOTES:

Aerial Imagery has been obtained from drone imagery captured in March 2017. All engineering details shown have been derived from the aerial imagery and have been used to derive contour information through photogrammetric techniques.

As built details may have other setbacks in close proximity which are not shown for the purposes of this plan.

Boundary Levels are in terms of Mean Sea Level 1985
 Origin: 18 (10040464)

Alignment position is preliminary.

Proposed Gondola tower pylon locations are preliminary and have been taken from Leithorpe Road drawing 7701926/02, dated 22/11/2017

Proposed top and bottom station locations have been taken from Leithorpe Road drawing 7701926/02, dated 22/11/2017

Proposed Gondola Alignment

5m Contour Interval

Rev	Date	Author	By	App
1	15/03/17	Tommy Jackson	JR	BT
2	15/03/17	Tommy Jackson	JR	BT
3	15/03/17	Tommy Jackson	JR	BT
4	15/03/17	Tommy Jackson	JR	BT
5	15/03/17	Tommy Jackson	JR	BT

Project Title: Ruapehu Alpine Lifts Ltd
 Bruce Road
 Mt Ruapehu

Proposed Gondola Site Plan
 Alternative Profile

Stage	Author	Date
Designed	A. Nott	12/03/17
Checked	A. Nott	12/03/17
Approved	A. Nott	12/03/17

Other INFORMATION

Scale	A1	1:1500	A3
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Drawing Number	2009-128-743
Rev	B





NOTES:

- Aerial Imagery has been obtained from Aerial Imagery Ltd and dated 17th March 2017. All plan locations shown are preliminary and have been taken from Leifer Roseways drawing 77019226/02, dated 22/11/2017.
- Proposed Top and Bottom Station locations have been taken from Leifer Roseways drawing 77019226/02, dated 22/11/2017.
- Alignment position is preliminary.
- Proposed Gondola Tower positions are preliminary and have been taken from Leifer Roseways drawing 77019226/02, dated 22/11/2017.
- Proposed Top and Bottom Station locations have been taken from Leifer Roseways drawing 77019226/02, dated 22/11/2017.

Proposed Gondola Alignment

5m Contour Interval

Rev	Date	Amendment	By	CHK App
B	13/12/17	Issue for public engagement	MP	ET
A	12/07/17	Information	MP	ACH, E

Project Title
Ruapehu Alpine Lifts Ltd
Bruce Road
MT Ruapehu

Drawing Title
Proposed Gondola
Site Plan

Alternative Profile

Surveyed	Designed	Drawn	Checked	Approved	Status
	M. Roper	12/10/17	ACH	MP	MP
	A. Ross	12/10/17	ACH	MP	MP
	F. Brown	12/10/17	ACH	MP	MP

INFORMATION
 Scale: A1
 A3 1:1500
 A3

Drawing Number
2009-128-744
 Rev
B

