

Appendix B – ENGINEERING LOGS

- Test Pit Logs (TP1 TP4)
- Borehole Log (BH1)
- Infiltration Results (Proposed Platform 1)





TEST PIT LOG

CO-ORDINATES: 342366

5030869

± m: **ELEVATION:** 608 GPS DATUM: UTM

HEIGHT DATUM: MSL

JOB NUMBER: G22043

PROJECT: IP Cardrona Valley Geotech LOCATION: Cardrona Valley Road

CARDRONA

15/09/2021 DATE: LOGGED BY: GT

EQUIPMENT

TYPE & MODEL: Yanmar ViO17 COMPANY: Mt Iron Geodrill

OPERATOR: G Tippett

PIT DIMENSIONS:

Wide: 0.5m Long: 2.4m



IETHC I Na	tural Exposure U50	LES: Jndisturded Sa 50mm Diamete			A scala	result of 2.5 blows per 5 lent to a geotechnical ulti	
	4 SAMP	FQ·	MOISTINGE. CONSISTENCY / DENSITY.		NOTE:		4
	_ 3						3 -
	_						
	_ 2						2 -
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	Refusal at 0.95m		dilatancy silt. φ = 35° Hole ends 1.1m (Refusal)				1 -
		.0	coarse grained, sub-rounded to angular, well graded gravel, fine to coarse grained, well graded sand, some high		D	ALLUVIUM	
E	-	×.×× ×.××	Sandy GRAVEL: yellow grey, fine to	M			
		×.×× ×.××	Sandy SILT: grey yellow, high dilatancy silt, fine sand. c = 2 kPa φ = 30°		F	AEOLIAN	
	0					TOPSOIL	0
METHOD	(a) BLOWS/50mm	SAMPLES	DESRIPTION: Soil Name, Plasticity or Particle Characteristics Colour, Secondary Components & Minor Components	MOSITURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositiona	
	E BLOW0/50	Ø O		Ш	>		

Excavator HA Hand Auger

Document Set ID: 7750320

Existing Excavation

50mm Diameter D **Disturbed Sample** Vane Shear (kPa) Bs Bulk Disturded Sample **Environmental Sample** Infiltration test

Moist Wet Saturated

Soft S Firm St Stiff

Loose MD Medium Dense D Dense VSt Very Stiff VD Very Dense Hard Fb Friable

equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:

Water Inflow

• **Standing Water Level**

Estimated High Water Level

Nil Water Observed

Version: 1, Version Date: 07/09/2023

TEST PIT LOG

CO-ORDINATES: 342332

5030891

± m: **ELEVATION:** 605 GPS DATUM: UTM HEIGHT DATUM: MSL

JOB NUMBER: G22043

PROJECT: IP Cardrona Valley Geotech LOCATION: Cardrona Valley Road

CARDRONA

15/09/2021 DATE: LOGGED BY: GT

EQUIPMENT

TYPE & MODEL: Yanmar ViO17 COMPANY: Mt Iron Geodrill

OPERATOR: G Tippett

PIT DIMENSIONS:

Wide: 0.5m Long: 2.4m ш



		GGLD D1. G	1 Wide: 0.5111		•	4111	
МЕТНОБ	DEPTH (m) O MATER MATER	SAMPLES	DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOSITURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional	
	0		TOPSOIL - Sandy SILT: dark brown, low dilatancy, organic rich silt, fine sand		F	TOPSOIL	0
Е	- 1 - Refusal at 1.45m	× × × × × × × × × × × × × × × × × × ×	Sandy SILT: grey yellow, high dilatancy silt, fine sand. c = 2 kPa φ = 30°	М	F-S t	AEOLIAN	1 —
	_		Hole ends 1.6m (Refusal)				_
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							_
	_ 3						3 —
							_
	4						4
X E	Natural Exposure U50 Un Existing Excavation 50 Excavator D Dis	ES: Idisturded Sai Imm Diameter Sturbed Samp	M Moist S Soft L Loose	ose Dense	equivel bearing	result of 2.5 blows per 50 ent to a geotechnical ultim capacity of 300kPa in acc S 3604-2011, Section 3.3.7	nate cordance

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HA Hand Auger

Bs

Vane Shear (kPa)

Infiltration test

Bulk Disturded Sample

Environmental Sample

Saturated

St

Fb

Stiff

Hard

Friable

VSt Very Stiff VD

D

Dense

Very Dense

with NZS 3604-2011, Section 3.3.7.

Standing Water Level **Estimated High Water Level Nil Water Observed**

WATER:

•

Water Inflow

TEST PIT LOG

CO-ORDINATES: 343155

5031420

± m: **ELEVATION:** 591 GPS DATUM: UTM HEIGHT DATUM: MSL

JOB NUMBER: G22043

PROJECT: IP Cardrona Valley Farms Geotech LOCATION: Cardrona Valley Road

CARDRONA

15/09/2021 DATE: LOGGED BY: GT

EQUIPMENT

TYPE & MODEL: Yanmar ViO17 COMPANY: Mt Iron Geodrill

OPERATOR: G Tippett



Wide: 0.5m Long: 2.4m



with NZS 3604-2011, Section 3.3.7.

Standing Water Level Estimated High Water Level Nil Water Observed

WATER:

•

Water Inflow

МЕТНОБ	DEPTH (m)	10 ER	SAMPLES	DESRIPTION: Soil Name, Colour, Secondary Co	Plasticity or Particle Cha omponents & Minor Com	aracteristics, ponents	MOSITURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional	
	0			, , 3	rich silt, fine sar	nd		F	TOPSOIL	0 _
E	Scala not undertaken	N	X	Sandy SILT: grey silt, fine sand. c =	y yellow, high dila : 2 kPa φ = 30°	tancy	М	F-S t	AEOLIAN	1 —
	_ 2			Hole ends 1.8m						2 —
										_
										_
	_ 3									3 —
	4									4
X Exi		D Dis	S: disturded Sar nm Diameter turbed Samp	M Moist le W Wet	CONSISTENCY / D VS Very Soft VI S Soft L F Firm M	L Very Loo Loose	se	equivelobearing	result of 2.5 blows per 50 ent to a geotechnical ultim capacity of 300kPa in acc S 3604-2011. Section 3.3.7	mm is nate

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E Excavator HA Hand Auger

Bs

Vane Shear (kPa)

Infiltration test

Bulk Disturded Sample

Environmental Sample

Saturated

Stiff

Hard

Friable

VSt Very Stiff VD

St

Fb

Very Dense

Dense

D

TEST PIT LOG

CO-ORDINATES: 343183

5031446

± m: 6m **ELEVATION:** 592 GPS DATUM: UTM

HEIGHT DATUM: MSL

JOB NUMBER: G22043

PROJECT: IP Cardrona Valley Farms Geotech LOCATION: Cardrona Valley Road

CARDRONA

15/09/2021 DATE: LOGGED BY: GT

EQUIPMENT

TYPE & MODEL: Yanmar ViO17 COMPANY: Mt Iron Geodrill

OPERATOR: G Tippett



Wide: 0.5m Long: 2.4m



METHO N Nat	D: tural E	xpos	ure					rded Sa	MOISTURE: mple D Dry	VS Very Soft		ose	A scala	result of 2.5 blows per 50	
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	— 2														2 -
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,	_														
									Hole ends 1m (re	efusal)	/				
	_ ′							1000	grained, well gra	ded sand. c = 2 l	kPa φ = _/				 1 -
								0 0 0 0 0 0	dilatancy silt, sor	ne fine to coarse			-D	7.227.0	
	_							×0×0	coarse grained, s sub-angular, well		high	W	MD	ALLUVIUM	
		un	dertake	n		\triangleleft		?.x? > 0 0 ×o×o	Silty GRAVEL: o	range yellow, fin	e to				
Е	_	Sc	ala not dertake					×.×.×							
								×.××	silt, fine sand. c =	= 2 κPa φ = 30°		W	F-S t	AEOLIAN	
	_							×.×.×	Sandy SILT: grey	y yellow, high dila	atancy	M-			
	('						······································	TOPSOIL - Sand dilatancy, organi	c rich silt, fine sa	nd /		S-F	TOPSOIL	0
Σ						<u> </u>		<u></u>		omponents & Minor Cor		<u> </u>			
METHOD	ОЕРТН (m)		ي ا ا ا ا ا			WATER	SAMPLES	GRAPHIC	DESRIPTION: Soil Name	, Plasticity or Particle Ch	naracteristics,	MOSITURE	CONSISTENCY DENSITY	Additional Observations Geological / Depositional	
D D	4 (m)	BLC				ָ בַּ	LES	HC				URE	JENCY	Structure and	

Existing Excavation Excavator

HA Hand Auger

50mm Diameter D **Disturbed Sample** Vane Shear (kPa)

Bs Bulk Disturded Sample **Environmental Sample** Infiltration test

Moist

Wet Saturated S Soft Loose Firm MD Medium Dense St Stiff D Dense VSt Very Stiff VD Very Dense

Hard Fb Friable equivelent to a geotechnical ultimate bearing capacity of 300kPa in accordance with NZS 3604-2011, Section 3.3.7.

WATER:

Water Inflow

• **Standing Water Level**

Estimated High Water Level

Nil Water Observed

Version: 1, Version Date: 07/09/2023

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BH1

BOREHOLE LOG

CO-ORDINATES: 342344

5030902 6m ± m:

ELEVATION (m): 605 GPS DATUM: UTM HEIGHT DATUM: MSL

JOB NUMBER: G22043

PROJECT: LOCATION: IP Cardrona Valley Geotech Cardrona Valley Road CARDRONA

15/09/2021 DATE: LOGGED BY: GT

EQUIPMENT

TYPE & MODEL: COMPANY: OPERATOR:

Hand Auger Mt Iron Geodrill G Tippett

BOREHOLE DIAMETER: 100mm



Estimated High Water Level

with NZS 3604-2011, Section 3.3.7.

Standing Water Level

Nil Water Observed

Water Inflow

WATER:

МЕТНОБ	DEPTH (m) O BY MATER MATER	U DESRIPTION: Soil Name, Plasticity or Particle Characteristics, Colour, Secondary Components & Minor Components	MOSITURE	CONSISTENCY DENSITY	Structure and Additional Observations Geological / Depositional	
		TOPSOIL - Sandy SILT: dark brown, low dilatancy, organic rich silt, fine sand		F	TOPSOIL	0
НА	Scala Not NUNDERTAKEN	XX Sandy SILT: grey yellow, high dilatancy silt, fine sand. c = 2 kPa φ = 30° N XX Silt, fine sand. c = 2 kPa φ = 30°	М	F-S t	AEOLIAN	_
		Hole ends 0.75m (Limit of Investigation)				
	<u> </u>					1 —
	_ 2					2 —
						_
	_ 3					3 —
	4					4
METHO AS AD RR CB	DD: SAMPLE Auger screwing Auger drilling Roller/Tricone D Dis			equive bearin	: la result of 2.5 blows per 5 lent to a geotechnical ulting capacity of 300kPa in ac	0mm is mate cordanc

Stiff

Hard

Friable

VSt

Fb

 $\textbf{Very Stiff} \ \lor \mathsf{D}$

Very Dense

Dense

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Hand auger

TC bit

Claw / Blade bit v

СВ

TC

HΑ

Bs

Vane Shear (kPa)

Infiltration Test

Bulk Disturded Sample

Environmental Sample

Saturated

for cohesive

soils moisture

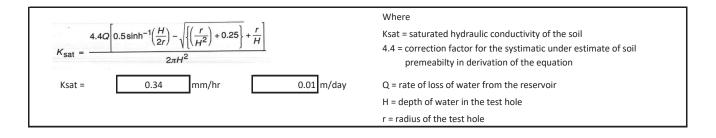
can be further related to:

LL Liquid Limit

PL Plastic Limit

Infiltration Capacity Test Sheet						
Infiltratio	on Capac	city les	t Sheet			
Project:	G22043 IP C	ardrona Va	lley Geotech			
Site Location:	Cardrona Va	alley Road, (Cardrona			
Test Number:	SK-1 in BH-1		Test Date:	15-Sep-21		
Operator:	Gavin Tippe	tt	Test Time:	11:15 a.m.		
Auger Ø:		150 mm	Permeameter Ø ID:	46 mm		
Depth of Auge	r Hole:	750mm	Average Hole Ø:	150 mm		





Permeameter Readings

Time	Δ Time (hr)	Water Level (mm)	Δ Water Level (mm)	Permeameter test was conducted between 0.2m and 0.75m Water Level in hole 550m	nm
11:15:00 AM	0	1648	0	Δ Water Level	
11:16:00 AM	0:01:00	1646	2	7	-
11:17:00 AM	0:01:00	1640	6	6	
11:18:00 AM	0:01:00	1640	0	1 - / /	
11:19:00 AM	0:01:00	1640	0	5	-
11:20:00 AM	0:01:00	1638	2	4	
11:21:00 AM	0:01:00	1636	2	'	
11:22:00 AM	0:01:00	1634	2	3	-
11:23:00 AM	0:01:00	1632	2	2	_
11:24:00 AM	0:01:00	1630	2		
11:25:00 AM	0:01:00	1628	2		_
11:26:00 AM	0:01:00	1626	2	0	_
11:27:00 AM	0:01:00	1624	2		<u>.</u>
11:28:00 AM	0:01:00	1622	2		
11:29:00 AM	0:01:00	1620	2	E	;
11:30:00 AM	0:01:00	1618	2		i
11:31:00 AM	0:01:00	1616	2		

AURORA ENERGY LIMITED

PO Box 5140, Dunedin 9058 PH 0800 22 00 05 WEB www.auroraenergy.co.nz



7 July 2022

Tom Overton IP Solutions

Sent via email only: tom@ipsolutions.nz

Dear Tom,

ELECTRICITY SUPPLY AVAILABILITY FOR A PROPOSED THREE LOT SUBDIVISION.
ADJACENT TO CARDRONA VALLEY ROAD, WANAKA, LOT 2 DP 546120.

Thank you for your inquiry outlining the above proposed development.

Subject to technical, legal and commercial requirements, Aurora Energy can make a Point of Supply¹ (PoS) available for this development.

Disclaimer

This letter confirms that a PoS **can** be made available. This letter **does not** imply that a PoS is available now, or that Aurora Energy will make a PoS available at its cost.

Next Steps

To arrange an electricity connection to the Aurora Energy network, a connection application will be required. General and technical requirements for electricity connections are contained in Aurora Energy's Network Connection Standard. Connection application forms and the Network Connection Standard are available from www.auroraenergy.co.nz.

Yours sincerely

Niel Frear

CUSTOMER INITIATED WORKS MANAGER

1 of 1

¹ Point of Supply is defined in section 2(3) of the Electricity Act 1993.

Chorus New Zealand Limited

06 October 2022

Chorus reference: 10301191

Attention: Tom Overton

Quote: New Property Development

3 connections at Lot: 2, DP: 546120

Thank you for your enquiry about having Chorus network provided for the above development.

Chorus is pleased to advise that, as at the date of this letter, we are able to provide reticulation for this property development based upon the information that has been provided:

Fibre network \$107,653.00

The total contribution we would require from you is \$123,800.95 (including GST). This fee is a contribution towards the overall cost that Chorus incurs to link your development to our network. This quote is valid for 90 days from 05 October 2022. This quote is conditional on you accepting a New Property Development Contract with us for the above development.

If you choose to have Chorus provide reticulation for your property development, please log back into your account and finalise your details. If there are any changes to the information you have supplied, please amend them online and a new quote will be generated. This quote is based on information given by you and any errors or omissions are your responsibility. We reserve the right to withdraw this quote and requote should we become aware of additional information that would impact the scope of this letter.

Once you would like to proceed with this quote and have confirmed all your details, we will provide you with the full New Property Development Contract, and upon confirmation you have accepted the terms and paid the required contribution, we will start on the design and then build.

For more information on what's involved in getting your development connected, visit our website www.chorus.co.nz/develop-with-chorus

Kind Regards

Chorus New Property Development Team

Document Set ID: 7750322 Version: 1, Version Date: 07/09/2023



Our Reference: A1455465 File Number: 3304

CERTIFICATE UNDER S. 417 OF THE RESOURCE MANAGEMENT ACT 1991

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Pursuant to Section 417(2) of the Resource Management Act 1991, the Otago Regional Council hereby certifies that:

Cardrona Valley Farms Limited

of

2127d Cardrona Valley Road, RD 2, Wanaka

being registered as holder of Licence for a Water Race 3304B which was granted in substitution of WR3249Q, Queenstown Registry of the Warden's Court, are entitled to cut, construct, and maintain a water race, or to use as a water race any natural channel (but only where that channel has been so used under the licences); to occupy (but only for the purposes of the construction, maintenance, and improvement of the race) the land forming the course of the race plus a strip 6.1 metres wide (20 feet) along the entire length of the race, and measured either wholly on one side of its course or partly on one side and partly on the other, so that the total on both sides does not exceed 6.1 metres; to deposit within those strips any material removed from the race in the course of maintaining and improving it, and to convey water in the race, across the lands described in the Schedule, as indicated on the attached diagram.

Sarah Maureen Gardner Chief Executive

THE COMMON SEAL of the OTAGO REGIONAL COUNCIL Was hereunto affixed in the Presence of:

Common Seal

ouncillor

Councillo

Otago Regional Council

Our Reference: A1455465

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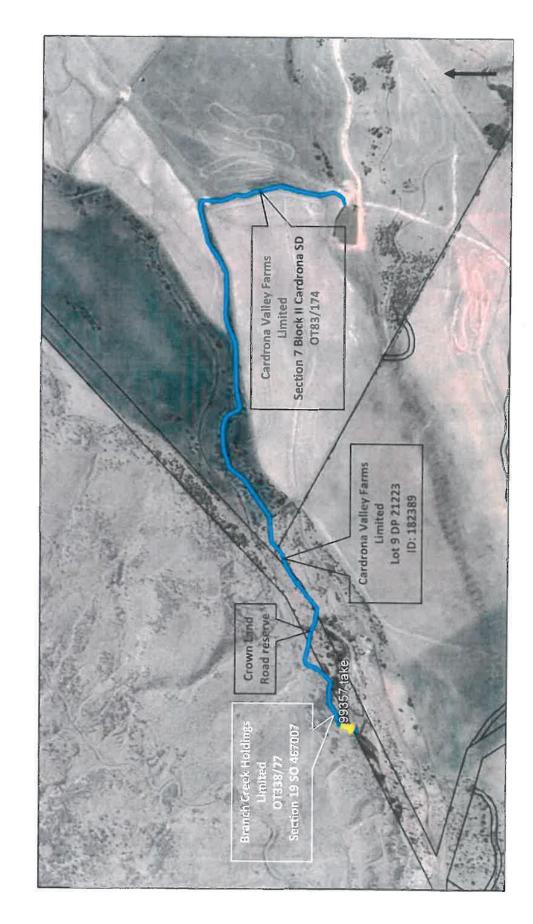
SCHEDULE

Land Affected	Title Reference	Owner
Sec 7 Blk II Cardrona SD	OT 83/174	Cardrona Valley Farms Limited
Lot 9 DP 21223	182389	Cardrona Valley Farms Limited
Crown Land Road Reserve	Crown Land	Crown Land
Sec 19 SO 467007	OT 338/77	Branch Creek Holdings Limited

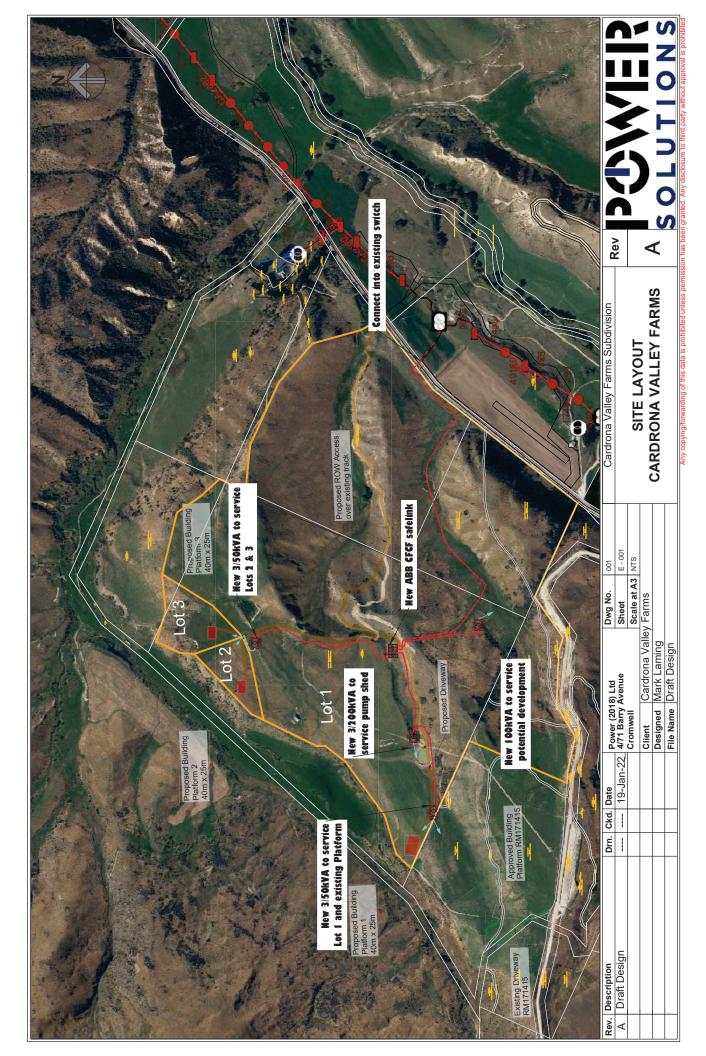


Map of WR3249Q - S4170067

Trace of water route shown in blue across applicant & neighbouring property



Page 3 of 3





AFFECTED PERSON'S APPROVAL



FORM 8A

Resource Management Act 1991 Section 95



RESOURCE CONSENT APPLICANT'S NAME AND/OR RM

Cardrona Valley Farms Limited



AFFECTED PERSON'S DETAILS

I/We Cardrona Alpine Resort Limited

Are the owners/occupiers of

Cardrona Alpine Resort incl Cardrona Ski Area Access Road



DETAILS OF PROPOSAL

I/We hereby give written approval for the proposal to:

Undertake boundary adjustments and add 3 building platforms as per attached plan, provided that vehicles shall not access the lots from the Cardrona Ski Area Access Road.

at the following subject site(s):

2084 Cardrona Valley Road, Wanaka





I/We understand that by signing this form Council, when considering this application, will not consider any effects of the proposal upon me/us.



I/We understand that if the consent authority determines the activity is a deemed permitted boundary activity under section 87BA of the Act, written approval cannot be withdrawn if this process is followed instead.



WHAT INFORMATION/PLANS HAVE YOU SIGHTED





I/We have sighted and initialled ALL plans dated and approve them.

Oct 2021 drawing W1540



APPROVAL OF AFFECTED PERSON(S)

The written consent of all owners / occupiers who are affected. If the site that is affected is jointly owned, the written consent of all co-owners (names detailed on the title for the site) are required.

	Name (PRINT) Matthew Day for Cardrona Alpine Resort Limited	
Α	Contact Phone / Email address matthew.day@realnz.com	
	Signature	Date 21/10/22
	Name (DDINIT)	
	Name (PRINT)	
В	Contact Phone / Email address	
	Signature	Date
	Name (PRINT)	
С	Contact Phone / Email address	
	Signature	Date
	Name (PRINT)	
D	Contact Phone / Email address	
	Signature	Date
	Note to person signing written approval	
	Conditional written approvals cannot be accepted.	
	There is no obligation to sign this form, and no reasons need to be given.	
	If this form is not signed, the application may be notified with an opportunity for submiss	





AFFECTED PERSON'S APPROVAL



FORM 8A

Resource Management Act 1991 Section 95



RESOURCE CONSENT APPLICANT'S NAME AND/OR RM

Cardrona Valley Farms Limited



AFFECTED PERSON'S DETAILS

I/We Snow Farm NZ Limited

Are the owners/occupiers of Property ID: 28562

Appellation: Lot 5 DP 460313



DETAILS OF PROPOSAL

I/We hereby give written approval for the proposal to:

Undertake boundary adjustments and add 3 building platforms as per attached plan

at the following subject site(s): 2084 Cardrona Valley Road, Wanaka





I/We understand that by signing this form Council, when considering this application, will not consider any effects of the proposal upon me/us.



I/We understand that if the consent authority determines the activity is a deemed permitted boundary activity under section 87B of the Act, written approval cannot be withdrawn if this process is followed instead.



WHAT INFORMATION/PLANS HAVE YOU SIGHTED





I/We have sighted and initialled ALL plans dated and approve them.

May 2022



Document Set ID: 7750326 Version: 1, Version Date: 07/09/2023



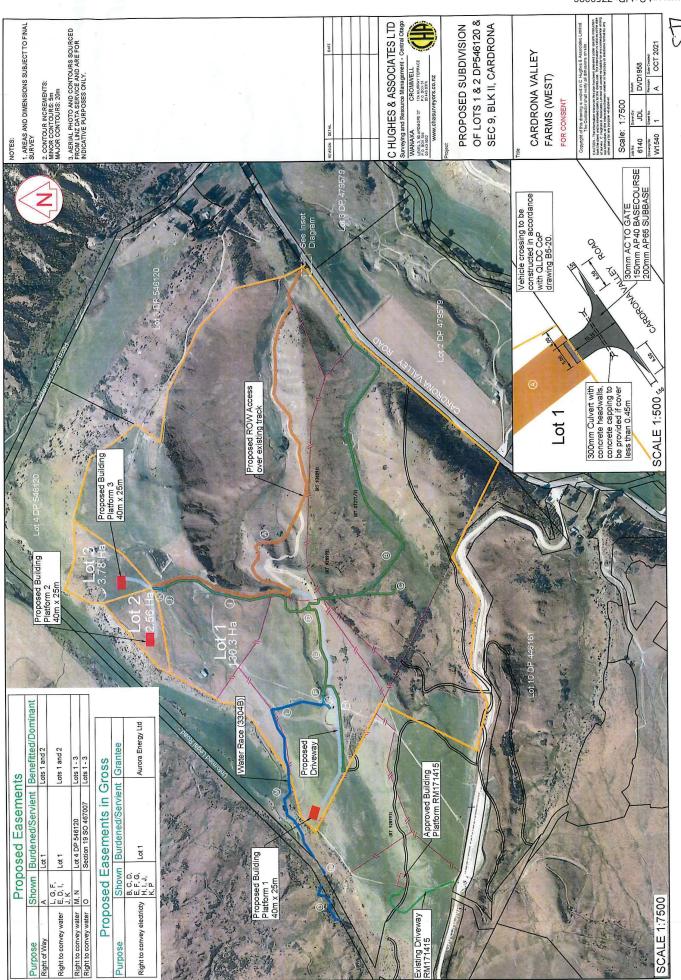
APPROVAL OF AFFECTED PERSON(S)

The written consent of all owners / occupiers who are affected. If the site that is affected is jointly owned, the written consent of all co-owners (names detailed on the title for the site) are required.

Contact Phone / Email address	
Signature	Date 20/08/2022
Name (PRINT)	
Contact Phone / Email address	
Signature	Date
Name (PRINT) Contact Phone / Email address	
Signature	Date
Name (PRINT)	
Contact Phone / Email address	
Signature	Date
Note to person signing written approval	







Document Set ID: 7750326 Version: 1, Version Date: 07/09/2023