

Before Queenstown Lakes District Council

In the matter of The Resource Management Act 1991

And A requested change to the Mount Cardrona Station Special
Zone of the Queenstown Lakes District Council's Operative
District Plan – **Plan Change 52**

SUMMARY EVIDENCE OF TOM HELLER FOR

Mt Cardrona Station Limited

Dated 11 July 2017

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INTRODUCTION AND QUALIFICATIONS

- 1 My full name is Thomas Brendan Heller and I am a Director of Environmental Associates Limited, an environmental consultancy based in Dunedin.
- 2 I hold the qualifications of New Zealand Certificate in Engineering (Civil) and a National Diploma of Science majoring in surface water and groundwater resources from the Otago Polytechnic, Central Institute of Technology, and the New Zealand Qualifications Authority. I hold a Certificate in Management from the New Zealand Institute of Management and a Master's Degree in Environmental Science completed with first class honours from the University of Otago. I am a member of the NZ Association of Resource Management.
- 3 I have over 30 years' experience working in surface water and groundwater resource evaluation. A considerable amount of that time has been spent on hydro-geologic and water quality assessment relating to water allocation and land use issues. I have also been involved with groundwater and surface water policy development for the Regional Plan: Water for Otago, the Regional Freshwater Plan for Southland and the Land and Water Regional Plan for Canterbury.
- 4 I have complied with the Code of Conduct for Expert Witnesses contained in the Environment Court Consolidated Practice Note 2014. This evidence is within my area of expertise, except where I state that I am relying on another person, and I have not omitted to consider any material facts known to me that might alter or detract from the opinions I express.

SUMMARY EVIDENCE

- 5 I refer to and adopt as my evidence, my letter dated 10 April 2017 appended to the further submission by Mt Cardrona Station Limited (**Letter**).
- 6 This Letter provides a technical response in relation to the availability and supply of water to Mt Cardrona Station Special Zone. The Letter summarises the primary water permit held by Mt Cardrona Station (Permit 2009.191), as follows:
 - (a) The Permit authorises water to be taken by Mt Cardrona Station at two points (Pringles Creek and the Cardrona River main stem);
 - (b) The residual flow condition of the Permit pertains only to the take from the Pringles Creek location; if the flow in Pringles Creek drops below the residual flow requirement due to abstraction, then abstraction can be either reduced and/or undertaken from the Cardrona River main stem.

This ensures reliability of supply for the Mt Cardrona Station Special Zone.

- (c) The Permit provides for up to 382,920 cubic metres per annum of primary allocation to be taken for irrigation, commercial and communal domestic supply. A copy of the permit is attached to this evidence. It should be noted that in my Letter I referred to an annual volume for the permit of 393,105 cubic metres, which was correct at that time. Since then, a variation to the permit has been processed and authorised by the Otago Regional Council, with a review of water requirement and reliability and efficiency of water use for the Mt Cardrona Station Special Zone.
 - (d) I am satisfied that the rate and volume of water available, as authorised by the Permit is sufficient for both community development and golf course irrigation needs as envisaged in the Plan Change 52 request.
- 7 I am happy to answer any questions the Panel has regarding this summary evidence or the Letter referred to.

Dated this 11th day of July 2017



Thomas Brendan Heller

Our Reference: A185865

Consent No: 2009.191.V2

WATER PERMIT

Pursuant to Sections 104C of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Mt Cardrona Station Limited

Address: C/- Spencer Financial Partners Limited, Level 4, 16 Viaduct Harbour Avenue, Auckland

To take and use water as primary allocation from Pringles Creek and the Cardrona River

For the purpose of communal domestic supply, commercial supply, irrigation and water storage

For a term to expire on 1 March 2030

Location of points of abstraction:

Pringles Creek, approximately 1.75 kilometres upstream of State Highway 89 (Cardrona Valley Road), 2.1 kilometres west of Cardrona township.

Cardrona River approximately 120 metres east of the intersection of Tuohys Gully Road and State Highway 89 (Cardrona Valley Road) or 720 metres southwest of the intersection of Tuohys Gully Road and State Highway 89 (Cardrona Valley Road).

Legal description of land at points of abstraction:

Pringles Creek Lot 1 DP 344432

Cardrona River Road Reserve

Approximate map reference of points of abstraction:

Pringles Creek NZMS 260 F41:931-855

Cardrona River NZMS 260 F41:954-857 or NZMS 260 F41:949-851

Legal description of land where water is to be used: Lot 48 Deeds Plan 858; Lots 3, 4, 7, 8 & 9 DP 21223; Lots 1, 2, 3, 4 & 5 DP344432 and other land as advised in writing to the Consent Authority.

Conditions:

Specific

1. Deleted

2. The rate of abstraction shall not exceed:
 - (a) 15 litres per second
 - (b) 1,296 cubic metres per day
 - (c) 33,387 cubic per month, and
 - (d) 382,920 cubic metres between 1 July and 30 June following year.
3. A residual flow of no less than 15 litres per second shall be maintained in Pringles Creek immediately downstream of the Pringles Creek point of take for this water permit, at all times when it is being exercised from Pringles Creek.
4. The consent holder shall ensure that all water taken under this water permit is used only to service the Mt Cardrona Station Limited development as described in the application submitted to the Consent Authority on 28 May 2009, further information received dated 27 November 2009 and additional areas in reporting submitted to the Consent Authority as required by condition 7. If there are any discrepancies between the application and this consent, the conditions of this consent shall prevail
- 4.(a) When flows in the Cardrona River reach any minimum flow restriction imposed by Condition 13, the consent holder shall exercise this permit for the purposes of accessing stock and domestic water supply only. Compliance with this restriction shall be observed through monitoring required by condition 5.

Performance Monitoring

5. (a) The consent holder shall install a water meter at each point of take to record the water take, within an error accuracy range of +/- 5% over the meter's nominal flow range, and a datalogger with at least 12 months data storage to record the rate and volume of take, and the date and time this water was taken. (All practicable steps shall be taken to ensure that the meter's nominal flow range coincides with required pumping rate(s). An error accuracy of +/- 10% shall apply to meters when pumping rates are below the nominal flow range.)
- (b) The dataloggers shall record the date and time of each increment of 1000 litres of water.
- (c) The installation and maintenance of the water meters and dataloggers shall be performed in accordance with manufacturer's specifications and for the water meter only, to New Zealand Quality Standard ISO 4064 and subject to condition 5(d).
- (d) The water meters shall be installed in a straight length of pipe, before any diversion of water occurs. The straight length of pipe shall be part of the pump outlet plumbing, easily accessible, have no fittings and obstructions in it, and be of a length that is at least 15 times the diameter of the pipe. The water meters shall be installed at least 10 times the diameter of the pipe from the pump and at least 5 times the diameter of the pipe from the diversion of any water.

- (e) The consent holder shall ensure the full operation of the water meters and datalogger at all times during the exercise of this consent. All malfunctions of the water meters and/or dataloggers during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days.
 - (f) The installation of the water meters and dataloggers shall be completed to full and accurate operation within 1 month of the exercise of the consent. The consent holder shall forward a copy of the installation certificate to the Consent Authority within one month of installing the water meter and datalogger.
 - (g)
 - (i) If a mechanical insert water meter is installed it shall be serviced each and every year from the first exercise of this consent.
 - (ii) Any datalogger and an electromagnetic or ultrasonic flow meter shall be serviced every five years from the first exercise of this consent.
 - (iii) Each service shall be undertaken by a suitably qualified operator and receipts of service shall be supplied to the Consent Authority by 1 September each year, and upon request.
 - (h) The consent holder shall provide records from the dataloggers to the Consent Authority on or before 31 July each year and on request. Data shall be available electronically giving date, time and flow rates in no more than 15 minute increments, via a datalogger approved by the Consent Authority.
6. Copies of the results of any water quality analyses performed on the surface water shall be forwarded to the Consent Authority within two weeks of the analysis being undertaken.
7. The consent holder shall submit a report to the Consent Authority by the 31 May each year, summarising the following:
- (a) a map showing the extent of the Mt Cardrona Station Ltd Development;
 - (b) management of water supply to the Mt Cardrona Station Ltd Development,
 - (c) any maintenance undertaken, and
 - (d) any promotional material used to meet condition 9(c) and condition 10 of this consent.

General

8. The consent holder shall take all practicable steps to ensure that:
- (a) the volume of water used for irrigation does not exceed soil field capacity of the irrigated areas;
 - (b) the irrigation does not cause surface runoff that would discharge into natural waterbodies;
 - (c) there is no leakage from pipes and structures used for irrigation;
 - (d) irrigation induced soil erosion and soil pugging does not occur;
 - (e) soil quality is not degraded as a consequence of irrigation; and

- (f) loss of water, nutrients, and agrichemicals by percolation to groundwater is minimised.
9. The consent holder shall take all reasonable action to minimise the leakage from the water delivery system. The term "reasonable action" is to include:
 - (a) A proactive leak detection programme, and
 - (b) A commitment to upgrading of the reticulation, as required, to minimise leakage, and
 - (c) A public awareness programme encouraging all water users to prevent leakage of water from their connected systems.
 10. The consent holder shall promote the efficient use of water to all water users of the scheme at least once every two years through appropriate media or communication methods.
 11. The intakes shall be screened so as to prevent the ingress of small fish and elvers.
 12. The permit shall be exercised as directed by the Consent Authority or any Water Allocation Committee established by the Consent Authority which operates in the Cardrona River catchment.
 13. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent for the purpose of imposing the minimum flow restriction, if and when an operative regional plan sets a minimum flow for the Cardrona River catchment.
 14. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:
 - (a) adjusting the consented rate or volume of water under condition 2 should monitoring under condition 5 or future changes in water use indicate that the consented rate or volume is not able to be fully utilised; or
 - (b) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (c) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (d) adjusting or altering the method of water take data recording and transmission.

Advice Note:

1. *The water meters and data loggers should be safely accessible by the Consent Authority and its contractors at all times.*

2. *The water should regularly be tested to ensure it meets the Drinking-water Standards for New Zealand 2005.*

Issued at Dunedin this 8th day of March 2010.

Reissued at Dunedin this 27th day of May 2015 to reflect a change to the reporting date for condition 5(h).

Reissued at Dunedin this 2nd day of May 2017, to reflect a change to the purpose and to reflect changes to conditions 2 and 4, and deletion of condition 1 and insertion of condition 4(a).

Reissued at Dunedin this 4th day of May 2017 to correct Condition numbering.



Christopher P Shaw
Manager Consents