CRIFFEL STATION
wanaka . new zealand

18 March 2015
Mandy Bell met with Sandy and Sylvia Morris
Mt Barker Rd, Wanaka

Sandy Morris – was the race man for a large period of time – from November 1967 through to August 1992 but still involved through to today

Irrigated – flood and border:
1. Ironsides – 220 acres; Bell bought in 1995; all FF flats set up for flood irrigation and stock water
2. Anderson – 600 acres; 7/8 of his block and stock water. Centre pivot and couple of big guns which had to be shifted; 3 – 4 hydrants; used all water
3. Pontys and Corbridge – 340 acres; 5 heads to Corbridge; most irrigation on Pontys; arrangement with Criffel for water days; 3 days to Pontys and 12 days to Criffel
4. Criffel – 640 acres; tops and terraces, bottom flats to airport and along to Lake McKay, desert block

Timings:
Year 1- Scheme was launched/opened in spring November 1967. The weir was filled to overflow for the opening. Afternoon was in Luggate Hall – see clippings. Slides shown on screen. There was some porousness of the top race above Frenchman's Creek so started with a low flow so the silt could build up over the following 4 to 5 years.
Year 3 – steady increase in flow to manage race and to meet the infrastructure. Once on flat land OK to have high flows – combination of borders and wild flood.
Year 4, 5 – top of weir blew out with a big snow melt through Norwest wind about three years after opened. Built a square box flu from entrance of concrete pipe for 250 m and then into original race – water was too low to get into the pipe. increased border dykes at Criffel and Corbridge. Used 14 head between them and 1 left for stock water.
Year 7 – rebuilt the dam when had the funds – blasted from Lake McKay, dropped rock, bulldozer – G Wallis to rebuild the weir.
Year 8 – full usage and all border dykes in place ie Ponty's flats, Feints block, Criffel flats and terraces (440 acres), Criffel desert block (200acres), Corbridge (90acres).

Other notes:
- Criffel pumping – 4 heads to above homestead; higher race – 2 heads with wild flooding.
- How did you know what water you used?
    - There was a measuring box behind the Frenchman's Creek cottage; 6 heads to Anderson and Jelleys(Ironsides); 15 heads to Criffel/Corbridge/Ponty's.
    - Knew that 6 heads could go under the main road due to size of the culvet
    - "Was pretty accurate"
- How did you know that 21 heads went through?

If anything is unclear, or you have any questions please call us

Criffel Station, PO Box 361 Wanaka New Zealand
Phone: 03 443 4251 Fax: 03 443 9239 Email: mandy@criffel.co.nz or jerryb@criffel.co.nz

  - Pipe was full
  - Put a lid on the first vent as there was quite a fall and then a flat pipeline. The water used to bubble up at the first vent if a lot of water coming through. A plywood lid was made and put on the vent – this enabled the 21 heads to come through.
- Flood - weir comments: 1800 cusecs over top of the weir when it washed out; 120 cusecs came through off the catchment into the existing system to the measuring box at FC; Ian Falconer designed the weir and pipeline to hold 21 heads. (120 years of age in 2015)
- Re underflow - Sandy shut of all water going down the Luggate from time to time ie all through the pipeline. There was half a cusec at the base of the weir and at Lake McKay crossing there was 6 to 7 cusecs. There is a significant flow under the whole creek.

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Private Irrigation Scheme Is Opened

WANAKA (Special).—The Criffel irrigation scheme providing 21 cusecs of water to about 2,000 acres in the Criffel and Mt Barker areas near Wanaka was officially opened on Saturday, marking a big advance in the fight for irrigation in the Upper Clutha.

Attended by a crowd of well-wishers, the opening took place about 2,000ft above sea level at a small rock-dirt dam in the Luggate Creek.

The four partners in this scheme, which is a private one, are the Criffel Run Company, Ltd. (Mr H. D. Bell), L. R. Morris and Co., Ltd. (L. R. and A. R. Morris), Mr A. S. Anderson and Mr Elder[illegible]side.

Mr [illegible]. Hunt, opening the scheme, paid a tribute to the partners.

He said that, with courage, initiative and ability, they had completed the scheme in a time of recession for products of the land.

It was private enterprise at its best.

The Criffel irrigation committee had been aided by many people, he said. They included Mr Les Robertson, who handled the bulldozer in difficult country; Mr Ian Falconer, irrigation officer; Mr J. D. Watt, former Ministry of Works engineer at Alexandra; and the late Dr J. Parcell, who had aided the committee with legal problems concerning water rights.

Mr Hunt said that when, within the next decade, development was completed of the Criffel scheme irrigating 2,000 acres, the Lake Hawea Government scheme irrigating 3,000 acres and a further Mount Barker scheme (Messrs L. R. Morris, G. Couper and N. Harris) irrigating 900 acres, there would be an enormous increase in the production potential of the areas irrigated.

Earlier schemes on the Luggate Creek, Mr Hunt said, included a water race in 1870 to the Luggate Mill, the George Pearce and Gideon Anderson water and irrigation scheme in 1895, and the George Morris scheme at the end of World War I.

Mr John Hercus, field superintendent of the Department of Agriculture, said that water was necessary for high production and that irrigation was the touchstone on which the land was going to progress.

An article will appear on next Saturday's farm page giving further details of the scheme.

Nov 27, 1967

Big Private Irrigation Scheme Opens At Criffel Run

By the Agriculture Writer

Top award for enterprise, co-operation and hard work in Otago farming this year must go to the four Mount Barker farmers in the Criffel irrigation s( )me)

It is one of the largest private irrigation ventures in New Zealand and was opened last Saturday.

Based on the main branch of the Luggate Creek which flows through Criffel Station, the scheme has been leveloped by Mr H. D. Bell, art-owner of Criffel, and three neighbouring farmers, Messrs L. R. Morris, E. S. Ironside and A. S. Anderson.

Old mining rights are being used to draw 21 cusecs from the creek. Eventually the water will be used to irrigate about 2,000 acres.

So far the irrigation enterprise has cost about $16,000, but as Mr Bell said it was impossible to put a price on its value.

For the four men it is the culmination of more than two years work and planning. Mr Bell, who has wide experience of irrigation in the Tarras scheme, only moved on to Criffel about two years ago.

But the other farmers have believed for a long time that th( )ter running to waste in t[illegible] creek could be put to good use.

Bringing his typical enthusiasm and industry to Criffel, Mr Bell, according to his three neighbours, has been the prime mover in the scheme.

WEIR THE KEY

Because of extreme fluctuations in the level of the boulder-strewn Luggate Creek it was necessary to build a weir to ensure an even supply of water.

Although it has been described as a "few rocks and boulders thrown together," the weir is the key to the gravity scheme.

It was built by blasting a bluff down into the creek bed. The upstream face has been lined with spoil and the downstream face has been partially capped with concrete.

The greatest recorded flow in the creek was 1,200 cusecs in 1903, but the dam is built to withstand more than this.

A pipe built into the face of the weir as a safety valve will take 80 cusecs of water flow.

A pipeline draws the water from the weir and takes it half a mile to an open race on the terraces overlooking the Mount Barker flats.

It was built of 27in concrete and 36in steel pipes on a bulldozed track which gives access to the weir.

The water drops about 200ft down the face of the terrace to a small concrete dividing weir. There the four farmers will draw off their water.

It will be time before the farmers get the water from their boundaries on to their land, but they have a cheap and efficient means of getting over the hot dry summers that restrict production in the area.

Mr Morris said a lot of people would be well advised [illegible]

KEY to the Criffel irrigation scheme is this dam on the main branch of the Luggate Creek. Because of fluctations in the level of the creek it was necessary to ensure an even supply of water for the outlet pipeline (lower right). The catwalk extending out over the dam gives access to a gate which can open and close the safety valve pipe built into the face of the dam.

Water Will Give A Big Boost To Mount Barker Farmers

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their water.

It will be time before the farmers get the water from their boundaries on to their land, but they have a cheap and efficient means of getting over the hot dry summers that restrict production in the area.

Mr Morris said a lot of people would be well advised to have a look at irrigation themselves instead of waiting for the Ministry of Works to do something.

TRIBUTE PAID

All four farmers paid great tribute to the work of Mr I. R. Falconer, farm advisory officer (drainage), of the Department of Agriculture, Dunedin.

"Ian has done a tremendous job on the scheme," Mr Bell said.

Although the scheme will not come into operation for about two weeks, it was given another trial last Saturday for the benefit of the 347 people who were attached to the opening.

The well-known Upper Clutha farmer, Mr J. S. Hunt, expressed the thoughts of everyone who saw the scheme when he said "this is private enterprise at its best."

Water Will Give A Big Boost To Mount Barker Farmers

By the Agricultural Writer

Immense benefits, long-term and short-term, will be derived by the four farmers in the Criffel irrigation scheme which opened last Saturday.

Although increased production from cropping or stock will be a definite consideration in future, the immediate short-term effect of the Criffel scheme will be to ensure adequate growth during the hot dry summers.

This aspect is particularly important if haymaking is uncertain and farmers are either forced to sell capital stock or buy in expensive feed to get them through the winter.

Anyone visiting the Luggate-Mount Barker area at present might wonder at the need for irrigation at all. But this has been an abnormal season for rain.

Instead of the usual 22in of rain that can be expected each year about 33in have already fallen this year.

REGULAR GROWTH

The need for regular growth during summer was emphasised by Mr L. R. Morris, who cut only 347 bales of hay on his 1,800 acres last season compared with 7,000 the year before.

He said if he had been irrigating during last year's drought he would have realised his 7,000 bales.

Mr Morris, who will be drawing 3 cusecs from the scheme, believes irrigation will even out the bumps in his pasture production caused by the dry summers.

He said if last year's drought had continued all summer and autumn he would have been forced to sell capital stock.

MORE SHEEP

Mr A. S. Anderson, will also draw three cusecs of water from the scheme. He intends irrigating about 300 acres which will mean at least another 300 sheep on his 670-acre farm.

Within his farm he will have three big dams in which to store his quota of water.

During his spare moments Mr Anderson has also experimented with drilling for water. He is down to 250ft, but can only get about 50ft of water in the bore.

Although he denies knowing much about irrigating, Mr E. S. Ironside has about 280 acres going under water.

Like his four partners in the scheme the water will be used for both cropping and pasture.

COLOSSAL TASK

The work to be done using 12 cusecs of water at Criffel itself is colossal. Mr H. D. Bell, part-owner of the 20,000-acre run, is an experienced irrigator having been on the Tarras scheme.

Because Criffel is only partly developed as yet, compared with the other three properties, the water will give a great boost to production.

Much of the 1,000 acres of Criffel on the flat was formerly under native vegetation. But Mr Bell has big plans of irrigating swede and turnip seed crops, lurcerne and pasture.

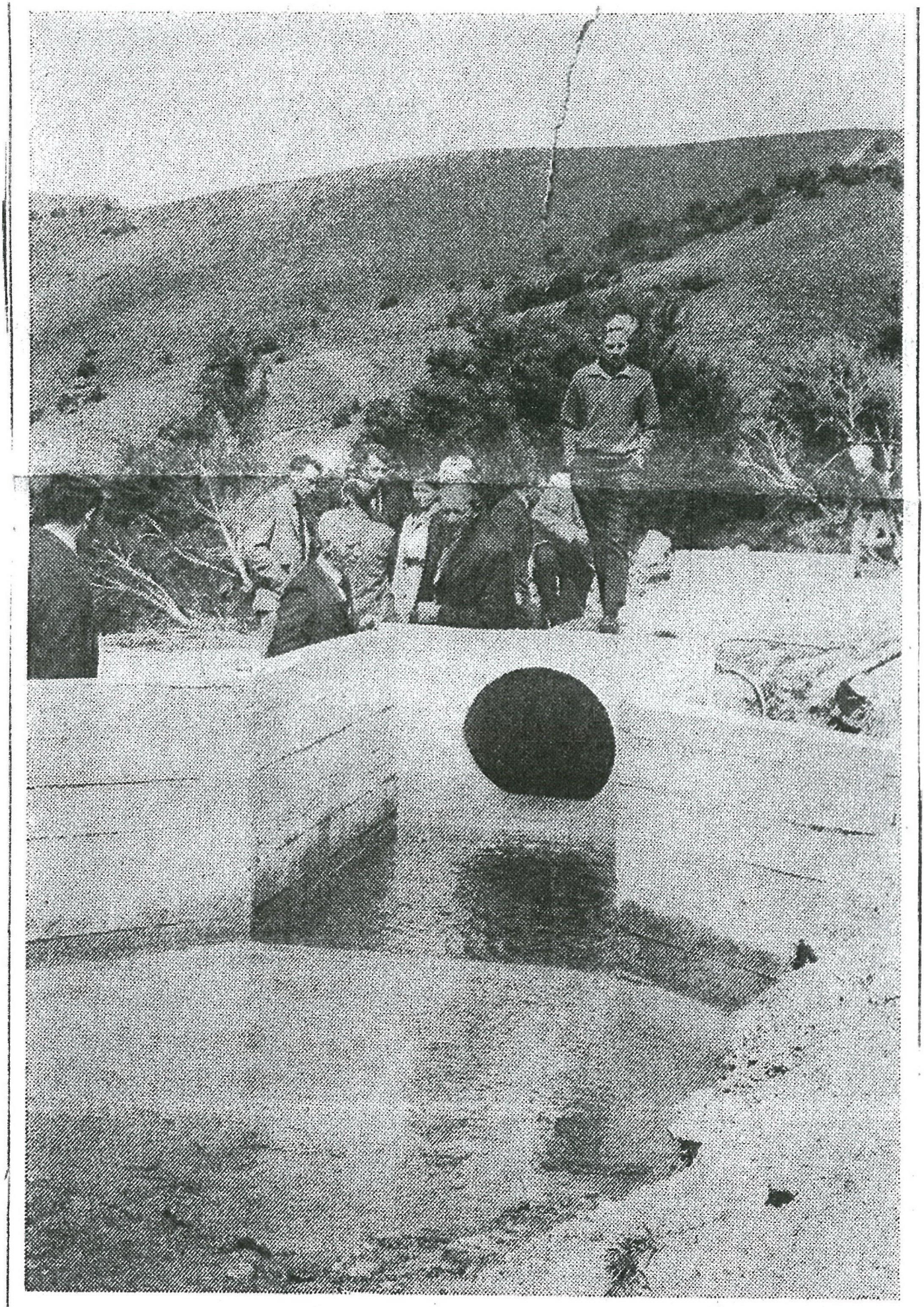
In theory 12 cusecs will irrigate about 1,200 acres, but he foresees 800 to 900 going under water at Criffel.

Initially the water will be spread by contour ploughing and wild flooding, but an automatic border dyke system is envisaged eventually.

MAIN USES

Prices for meat and wool might ultimately determine any management change under irrigation, but in the foreseeable future cropping and winter feed insurance appear to be the main uses for the water.

With cheap water, which they can use when and how they like, the four partners have achieved something that a lot of other farmers in Central Otago could emulate.



WATER starts to flow in the Criffel irrigation scheme during a trial run for visitors at the opening last Saturday.. This is the end of the half-mile pipeline bringing water from the weir on the Luggate Creek to the main race. From here the water will flow down on to the Mount Barker flats.

WANAKA SCHEME OPENED

PRIVATE ENTERPRISE IRRIGATION

One of the largest private irrigation schemes in New Zealand was opened at the Criffel Run Company's station at Wanaka on Saturday.

The water from the scheme will be shared by the Criffel station and three neighbouring farmers, Messrs L. R. Morris, E. S. Ironside and A. S. Anderson, who have all joined to finance and develop the system.

Mr H. D. Bell, part owner of the Criffel station with Mr D. Ager of Christchurch, who has been mainly responsible for beginning the scheme, considers that eventually more than 2,000 acres will be irrigated.

More than $16,000 have already been spent on the scheme.

"The South Island of New Zealand was beginning to be classed as an underdeveloped area," said Mr J. S. Hunt, a well-known farmer in the Upper Clutha area when he opened the scheme.

"The south has also been described as ultra conservatibe, but I think this is wrong and things must be done to convince them it is wrong," he said.

"What has been done demonstrates that it can be done."

Men of great foresight, initiative and ability had done a great job, he said.

"They are men of courage to have completed such works at a time when there are low returns from the land."

"This is private enterprise at its best," said Mr Hunt.

Irrigation had fallen into ill repute in Central Otago said Mr J. Hercus, Field Superintendent of the Department of Agriculture in Otago.

But irrigation could be the touchstone on which the area was going to progress, and It was good to see farmers going ahead and getting the water out, he said.

Luggate Creek Harnessed

Difficult access and extreme fluctuations in the level of the Luggate Creek were only some of the problems that the Criffel Irrigation Committee had to face before their scheme could be brought to fruition.

Luggate Creek Harnessed

Difficult access and extreme fluctuations in the level of the Luggate Creek were only some of the problems that the Criffel Irrigation Committee had to face before their scheme could be brought to fruition.

Mr H. D. Bell, part owner of Criffel station and the person mainly responsible for the scheme said that the weir built at the top of the creek was designed to withstand a pressure in excess of 1200 cusecs. This figure was the greatest known flow in the creek and had occurred in 1903 said Mr Bell.

The smallest flow that had been recorded was eight cusecs.

Mr H. D. BELL

The total area of the water stored behind the weir was 10 acre feet, he said.

The problem of getting the water out onto the four farms involved was solved by running half a mile of 6ft pipe from the weir around the side of the creek bed, then running the water in smaller pipes to the top of a terrace where it will fall to the land below.

Old mining rights were being utilised, said Mr Bell, and great assistance had been received from the late Dr J. C. Parcell of Cromwell.

The weir was formed by blasting a bluff down into the creek and this was formed across the bed. The upstream face of the weir was lined with spoil carted from further downstream.

A safety valve, capable of taking up to 80 cusecs flow water, is built into the face of the weir.

Only a few hundred acres will be irrigated at present but it is hoped to have the scheme in full operation in 10 years time.

POWER POSSIBILITY

As the water falls down a 200ft face, they were investigating the possibility of utilising the water to generate power so that water could be pumped to higher terraces, said Mr Bell.

"This scheme is unique, in thet four farmers were able to get together and solve what they thought was an impossible problem," Mr Bell concluded.

HE CENTRAL OTAGO
Views.
ALEXANDRA HERALD, DUNSTAN TIMES AND LAKE COUNTY MAIL

Phon
RUSS

PRIVATE IRRIGATION SCHEME.—Some of the many visitors to the Criffel station on Saturday inspecting the weir built across the Luggate Creek. When completed, the scheme will eventually irrigate 2,000 acres, and was built and financed by four farmers in the Mt. Barker region.

Criffel Water Limited
Hydro-electricity Addendum to Report of 19 June 2015

Discussions have recently been held relating to the long-term (10 year) plan for the infrastructure for Criffel Water Limited.

There is a total of approximately 1200 ha that is proposed to be irrigated in that time-frame. It is expected that the method of irrigation will be close to completely spray irrigation by that time.

The existing intake water level on Luggate Creek is at 420 m above sea level. Much of the irrigation area is at about 380 m or lower. The Clutha River level opposite the Wanaka Airport is 270m.

If the current open race system is converted to spray irrigation, it makes logical sense for this to utilise the gravity pressure that could be supplied via a fully piped system. This also would improve distribution efficiencies for both stockwater and irrigation supplies.

While irrigation and stockwater would utilise the available gravity pressure while that demand is present, and these purposes would have the highest priority, the prospect of hydro-electric generation in the shoulder and off-seasons has potential.

The application for rate of take and seasonal and annual volumes was prepared based on irrigation and stockwater supplies only. If hydro-electric potential is to be considered it also would also require a buffer headwater pond so that generation can occur at the peak demand times of the day. Hydro-electric generation would also be a year round activity that would potentially fully utilise flows up to the pipeline capacity when such flows were available. Hydro-electricity is a non-consumptive use and there would be return flows to the Clutha River.

Storage is also to be investigated to improve the efficiency and reliability of irrigation water supply. The storage investigation and design for both hydro-electricity and irrigation would thus be best considered together.

Indicative numbers for potential hydro-electric at say 400 l/s for 5 months over a 40m drop should generate about 460,000kWh. At $0.10 per kWh this has a value of $46,000 per annum. Capital costs for different pipeline and storage options need to be evaluated as to whether the proposal is likely to have merit.

In a wet year the theoretical maximum annual take volume is the pipeline capacity over 365 days = 18,978,000 m^3. There is insufficient hydrological data to more accurately model what an average year's or a dry year's take would be.

David Hamilton

Resource Consent Application Form 4

To take and use surface water

Otago Regional Council

This application is made under Section 88 of the Resource Management Act 1991

70 Stafford St
Private Bag 1954, Dunedin 9054
0800 474 082
www.orc.govt.nz

Important notes for the applicant

Use forms 5, 16 or form 22 if you are applying to take groundwater, move the point of take for a water permit/deemed permit/mining privilege or vary a condition of an existing Water Permit or Deemed Permit.

Disclaimer:
If council accepts your application for processing, this does not constitute a guarantee that water allocation is available.

You should contact the council's resource science unit or a resource management officer regarding water availability **before** lodging your application. If no allocation is available, the activity will be prohibited and no resource consent will be granted.

Ensure that you complete this application Form 4 **and** Resource consent application form 1 **in full.**

To process consent applications efficiently in the minimum time and at minimum cost, it is critical that as much relevant information as possible is included with the application. If all the necessary information is not entered on the form or supplied with the application then Otago Regional Council (ORC) may **reject your application**, request further information or publicly notify your application. This will lead to delays in the processing of your application and may increase processing costs. As a precaution, applications for replacement water permits should be lodged at least **6 months** before they expire, to ensure allocation is retained.

Please note that an application to replace an existing water permit that has not been **lodged and received** by the council at least **3 months** before its expiry, may lose its allocation. This application form, when properly completed, should provide an adequate "Assessment of Effects on the Environment" (AEE) where the adverse effects of a proposal are not significant. However, this can only be determined on application.

PART A: General

A.1 Is this application for *(tick which applies)*:

- ☐ a new surface water take; or
- ☐ an application to replace a current Water Permit?

  Water Permit number: .....

  Expiry date:
- ☑ an application to replace a current Deemed Permit?

  Deemed Permit number: ..... See Schedule attached

  Expiry date:
- ☐ an application to replace a current Mining Privilege?

  Mining Privilege number: .....

A.2 **If you are applying to replace an existing Water Permit, Deemed Permit or Mining Privilege, do you have evidence of the amount of water historically abstracted under the permit?**

☑ Yes, my records are attached with the application.

☑ Yes, the ORC has my records. See report re history

Note: You will be charged for all time spent retrieving and analysing records held on council files

If neither of the above are ticked, you must provide evidence of the previous use of the water over the last five years. This should be evidence of how much has been used each year over what period.

PART B: Point of take description

B.1 **What are the GPS location co-ordinates of the point(s) of take from which surface water is proposed to be taken?**

Point 1: NZTM 2000 E 1300150 N 5038140

Point 2: NZTM 2000 E ..... N .....

If more than two, please provide details on a separate sheet.

B.2 **What is the name or names of the water body(s) that the taking of water is to be taken from?**
Note: if the water body is unnamed then please note this and state which water body it flows into.

Luggate Creek

B.3 **Provide photographs of the proposed point of take (or existing intake structure) and of the water body within the immediate area.** (Note: Please date and detail the orientation of each photo). If you can't provide photos please give reasons.

See attached

PART C: Volume and rates of take

C.1 **How much water do you propose to take and at what rate will it be taken?** Note: 1,000 litres = 1 cubic metre
Please take the time to complete this section in full as each of the values listed are required to assess an application.

(a)	maximum rate of take	60 l/s	litres per second
(b)	maximum daily volume		litres per day; **or**
		51,995	cubic metres per day
(c)	maximum weekly volume	363,968	cubic metres per week
(d)	maximum monthly volume	1,559,866	cubic metres per month (30 day)
(e)	maximum annual volume	18,978,000	cubic metres per year

C.2 What is the frequency of your proposed water take?

		average	maximum
(a)	How many hours per day?	.....	.....
(b)	How many days per week?	.....	.....
(c)	How many weeks per month?	.....	.....

(d) In which months do you expect to take water? *(tick those relevant)*

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Average	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dry year			✓	✓	✓	✓	✓	✓	✓	✓		

Irrigation

C.3 When will you typically take water?

- ☐ During the day
- ☐ During the night
- ☑ 24 hours
- ☐ On demand
- ☐ Other *please specify* .....

C.4 Do you intend to harvest water for storage before subsequent use?

- ☐ No, go to question **C.6**.
- ☐ Yes, state capacity of water storage reservoir(s) ...To be investigated... cubic metres

C.5 Is your water storage reservoir 3 metres or more in depth and stores more than 20,000 cubic metres of water?

- ☑ No.
- ☐ No, but the water immediately upstream of the dam is more than 3 metres deep and/or the dam stores more than 20,000 cubic metres. (Note: If the dam meets the above criteria and is in a watercourse or captures catchment runoff you may require resource consents for damming and associated activities. Contact the duty resource management administration officer for more information.
- ☐ Yes. A building permit may be required. Contact the duty consent administration officer or visit the council website www.orc.govt.nz for more information.

C.6 For rivers, streams, modified water courses, springs or drains answer questions (a)-(g), for lakes, ponds and wetlands go to Question C.7.

(a) What type of water course is identified in B.3 above. *Tick those relevant*

- ☐ river
- ☑ stream
- ☐ modified watercourse
- ☐ spring
- ☐ drain

(b) Is the water course:

☑ Perennial (flows all year around) ☐ Ephemeral (flows only as a result of rainfall or snow melt)

(c) What is the average channel **width** nearest to your proposed point of take? ..... metres

(d) What is the channel **depth** nearest to your proposed point of take? ..... metres

(e) What is the estimated average water flow velocity? ..... metres/second

(f) How would you describe the bed of the water course? *Tick those relevant*

☐ muddy ☐ boulders ☐ gravels and cobbles ☐ sandy ☐ hard rock

(g) Can you supply estimated minimum and maximum flow rates for the water course?

- ☐ No, go to **Part D**
- ☐ Yes, please complete the following

Minimum: ..... litres per second

Maximum: ..... litres per second

Location of estimated flow: ☐ adjacent to proposed point of take ☐ other

Source of flow data: .....

C.7 For lakes, ponds and wetlands, answer points (a)-(f) below.

(a) What type of water body is identified in B.3 above. *Tick those relevant*

☐ lake ☑ pond ☐ wetland

If identified as a wetland, is the wetland classified as a Regionally Significant Wetland?

☐ yes ☑ no

(Note: if unsure of this please contact the duty consents administration officer or visit the council website www.orc.govt.nz.)

(b) Has the water body been formed artificially?

☑ yes ☐ no

See Consent Nos 2007.676 and 2010.056

(c) What is the surface area of the ~~lake/pond/wetland~~? ~1700 m²

(d) How deep is the ~~lake/pond/wetland~~? Originally 4m

(e) Does the lake/pond/wetland have an outlet? i.e. does water flow out of it?
☑ yes ☐ no

(f) What is the main source of water that fills the lake/pond/wetland? *Tick as many boxes as is relevant*
☐ direct rainfall ☐ springs ☐ groundwater ☐ runoff from surrounding land
☑ stream/rivers name Loggate Creek
☐ other consented water takes consent numbers.....

Part D: Water measurement and reporting information

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and the Otago Regional Plan: Water require continuous measurement of the water taken and for the daily records to be provided to the ORC at the end of the water year. Verification of the device or systems installed is also required. (Note: according to the regulations the water year is from 1 July through to 30 June in the following year).

D.1 What is the maximum capacity of the pump you propose to install?.....

D.2 Is a water measuring device or system... ☐ proposed to be installed; or ☑ already installed

D.3 Is a data logger installed, or proposed to be installed, as part of your water measuring device or system?
☐ no ☑ yes
(Note: If a data logger is required it will need a minimum of 24 months data storage.)

D.4 Photographs of the measuring device or system if it is currently installed. (see also Question B.3) ✓

Installation of a water measuring device or system
The ORC has standard installation specifications required for water meters. These are:

- ✓ *The water meter 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.*
- ✓ *The water meter shall be installed at least 10 times the diameter of the pipe from the pump and at least five times the diameter of the pipe.*

D.5 Do you propose to install your water meter in accordance with council's standard installation specifications outlined in the paragraph above?
☐ yes ☐ no NA.

If your answer is NO, you must complete and attach to this application form a ***Non-Standard Installation Form*** for water measuring devices available on our website or through the council's environmental services unit.

D.6 **The regulations require the taking of water to be measured at the point of take unless an exemption is approved by council. Is your water measuring device or system installed at the point of take?**

☐ yes ☑ no

If your answer is NO, you must apply for an exemption by filling out ***application form 24 – Application for Exemption to use a device or system near the location from which water is taken***. This is available on our website www.orc.govt.nz and from our offices.

D.7 **The regulations require the taking of water to be recorded on a daily basis unless an exemption is approved by the ORC. Will you be keeping daily records of your water use?**

☑ yes ☐ no

If your answer is no, you must apply for an exemption by filling our ***application form 25 – Application for exemption to record water use on a weekly basis,*** available on our website www.orc.govt.nz and from our offices. Please note that only in exceptional circumstance will council consider granting an exemption for water use to be recorded on a weekly basis. In most cases, a datalogger must be installed.

PART E: Water user group management

E.1 **Will the water take be managed as part of an existing water allocation committee or water management group?**

☐ yes – water allocation committee .....

☐ yes – water management group .....

☑ no but Criffel Water Limited amalgamates several existing permits.

If yes, please describe how the allocation committee/management group operates. .....

.....

.....

.....

.....

E.2 **Please describe the property(s) on which the water is to be used.**

(a) name of owner(s) ..... See attached report & schedules .....

(b) address/location .....

(c) legal description (as shown on certificate of title attached to this application – see E.3 below)

.....

If there is more than one property (legal description) please provide these details on a separate sheet.

E.3 **Show on a map (no smaller than A4 size) or a coloured aerial photograph the following details:**

- O the location of the point or points of take
- O the location of the water measuring device or system
- O the total property area boundary
- O the area(s) to be irrigated (if relevant)
- O area of the community supply (if relevant)
- O distances to any discharge activities
- O other surface water bodies and wetlands and distances from the point of take(s) to them
- O the coastline and the distance to it (if relevant)
- O location of any dairy shed

See maps in report

Efficiency of water use

In this section you are required to only answer the questions relevant to your intended use of water. As a guide the questions are as follows:

E.4 Irrigation of land (pasture etc)
E.5 Irrigation of crops or horticulture
E.6 Frost fighting
E.7 Industrial use
E.8 Private community water supply
E.9 Public community water supply
E.10 Stock and/or dairy shed use
E.11 Other

E.4 **Irrigation of** land **– not crops or horticulture**
(includes pasture, turf (golf courses), lifestyle blocks and sports fields)

See attached report

(a) How many hectares of land will be irrigated? .....

(b) What is the total property area (not just that proposed to be irrigated)? .....

(c) What type of irrigation system is to be or is being used?

- ☑ K-line
- ☑ centre pivot
- ☑ travelling irrigator
- ☑ border-dyke/flood irrigation
- ☐ other

(d) How many hectares will be irrigated in one day? .....

(e) For how many hours per day? .....

(f) What is the target (net) application rate? .....

(g) How many days are there between irrigating the same block?.....

(h) Please describe the soil types of the areas to be irrigated and state the source of this information.

.....

.....

.....

.....

(i) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

.....

(j) Is the area to be irrigated:

- ☐ presently irrigated/developed
- ☐ partly irrigated/developed (.....ha partly irrigated) (.....ha developed)
- ☐ proposed to be irrigated/developed – (likely completion date.....)

E.5 Irrigation of crops or horticulture See attached report

(a) What is the total area to be irrigated?.....

(b) Show the area of land to be irrigated on the map specified in **E.3** and attach to this application.

(c) What is the total property area (not just that proposed to be irrigated)? .....

(d) If glass/plastic houses are used, what area do they cover?.....

(e) What type of crops will be irrigated?

- ☐ grain/wheat ☐ pip fruit ☐ stone fruit
- ☐ market garden ☐ flowers ☐ nursery
- ☐ viticulture .....(vines/hectare)
- ☐ nuts
- ☐ other .....

(f) What type of irrigation system is or is proposed to be used?

- ☐ trickle ☐ sprinkler ☐ other .....

(g) How many hectares will be irrigated in one day?.....

(h) For how many hours per day? .....

(i) What is the target (net) application rate? .....

(j) How many days will there be between irrigating the same block?.....

(k) Please describe the soil types of the areas to be irrigated and state the source of this information.

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(l) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

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(m) Is the area to be irrigated:

- ☐ presently irrigated/developed
- ☐ partly irrigated/developed (.....ha partly irrigated) (.....ha developed)
- ☐ proposed to be irrigated/developed (..... likely completion date)

E.6 Frost Fighting Nil

(a) List the crops, and the area (ha) of each crop, for which frost fighting may be undertaken.

.....

.....

(b) How many hours a day? .....

(c) How many days per year? .....

(d) How many days on average do you expect a frost when frost fighting is required?

(e) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

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E.7 Industrial Use

(a) What type of industry/process will be using the water and how will the water be used?

Hydro-electricity generation

Design of ponds & pipelines to be tied into improvements to irrigation infra-structure

Max flow from river 601.8 l/s as for irrigation pipeline capacity.

(b) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

.....

.....

E.8 Private community water supply Nil

Council considers that efficient water use for a household is 1,000 litres per day in winter and 3,000 litres per day in summer (average 2,000 litres per day). This is derived from wastewater volumes in ASNZ 1547:2000.

(a) What type of institution uses the water?

- ☐ households – number of households to be supplied .....
- ☐ camping grounds – maximum number of visitors and staff per year .....
- ☐ schools - maximum number of students and staff per year:.....
- ☐ motel units – number and expected occupancy .....
- ☐ other: .....

(b) For applications to supply water to households what is the minimum, maximum and average lot size?

.....square metres (minimum)

.....square metres (average)

.....square metres (maximum)

(c) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

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E.9 Public community water supply Nil

The council considers efficient water use for a household is 1,000 litres per day in winter and 3,000 litres per day in summer (average 2,000 litres per day). This is derived from wastewater volumes in ASNZ 1547:2000.

(a) What population(s) will be served by the supply?

general location of population(s).....

approximate number of households .....

(b) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

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.....

E.10 Stock water and / or dairy shed use See attached report

Council considers the following as efficient use of water for stock.

sheep	5 litres per day per head
beef cattle	40 litres per day per head
dairy cows	70 litres per day per head
deer	1.5 litres per day per head
dairy shed use	50 litres per day per head

(a) What type and how much stock will be supplied with water?

☐ sheep number: ..... water required: .....litres/head/day

☐ beef cattle number: ..... water required: .....litres/head/day

☐ dairy cows* number: ..... water required: .....litres/head/day

☐ other number: ..... water required: .....litres/head/day

* excluding dairy shed usage

(b) If you have dairy cows, and require water for your dairy shed, state the estimated volume required

.....**litres/head/day**

E.11 Other

How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

See attached report.

.....

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.....

Assessment of Environmental Effects (AEE)

An AEE should be proportional to the scale and significance of the proposed activity. If your proposed take could have significant effects on the surface water resource a more detailed environmental assessment is required.

The word environment includes ecosystems, people, communities, all natural and physical resources and amenity values, and social and economic, aesthetic and cultural conditions that affect them.

F.1 Are there any of the following present within 500 metres of the proposed point of take?

(i)	Obvious signs or known aquatic biota?	☑ yes	☐ no
(ii)	Areas where food is obtained from a water body?	☐ yes	☑ no
(iii)	Natural wetlands?	☐ yes	☑ no
(iv)	Waste discharges?	☐ yes	☑ no
(v)	Recreational activities?	☐ yes	☑ no
(vi)	Areas of special aesthetic value?	☐ yes	☑ no
(vii)	Areas or aspects of significance to iwi?	☐ yes	☑ no
(viii)	Other water takes (ground or surface)?	☐ yes	☑ no

If you have answered 'yes' to any of the above, describe what adverse effects your take may have and the steps you propose to mitigate these effects:

Environmental considerations covered by minimum flow conditions & minimum residual flow past weir.

F.2 Can your instantaneous abstraction rate (litres per second) be reduced by increasing the length of time over which water is taken?

☐ yes

For how long would you take water and at what rate?

☑ no

Explain why not? At times of peak demand the full design capacity is required.

F.3 What are the positive effects of your proposed take and use? (examples can include any environmental, social and economic benefits of your water take. If you are part of a water management group are there any benefits/good environmental outcomes to being part of this management group. Please explain).

The irrigation area is subject to seasonally very dry conditions and includes shallow soils. Productive farming is better managed and sustainable with adequate irrigation and supplementary. Formation of Eiffel Water Ltd will improve water management.

F.4 What measures are you proposing to minimise wastage of water and maximise its efficient use?

Investigating storage ponds. Already irrigators changing to spray irrigation methods.

This trend is expected to continue.

F.5 **How far from the point of taking the water is the use of the water? If the distance is greater than five km please explain the reasons for this and why a closer source of water is not available.**

Closest use 500m. Furthest is ~5.5 km. At northern extent Clutha River is much closer but also 100m lower in elevation.

Alternative Water Supplies

G.1 **Does your property have alternative water sources available?** (such as other water bodies, reticulated supplies, groundwater, other water permits, irrigation schemes?

- [x] no
- [ ] yes

If yes, detail the sources, quantities, uses and any current water permit numbers or any takes authorised by permitted activity rules in the Regional Plan: Water for Otago.

G.2 **Have you considered the option of using other sources of water?**

- [ ] no
- [x] yes

If yes, please detail the sources, quantities, uses and any Water Permit numbers

Clutha R pump lift is over 100m for northern area and existing arrangement more suitable.

G.3 **Explain why you have decided to take water from the proposed surface water source rather than any alternative source?**

See above

H.1 Describe any consultation undertaken with persons/parties potentially affected by your proposed surface water take. This should include parties you identified in F.1

N.A.

Written approvals are required from parties who are considered by the ORC to be affected by your proposed water take. To reduce costs and processing times, it is recommended that written approval is obtained, and submitted with the application, for parties who may be affected.

Potential affected parties for surface water takes:

- Director General of Conservation (DoC)
- Fish and Game (Otago or Central South Island)
- Kai Tahu ki Otago Limited
- Nearby consented and permitted activity takers

H.2 Provide any written approvals using the council's standard Form 1 – resource consent application available on our website.

I.1 Deposit

A deposit is required upon lodgement of your application. Refer to the fees on Form 1. This deposit is not the final or maximum cost of your application. Further charges are incurred in accordance with council's scale of fees and charges.

Deposit enclosed

☑ yes ☐ no

I.2 Checklist

To minimise consent processing costs you must send a full and complete application.

Use this checklist to be sure that you have completed all sections before lodging your application with council.

- ☐ Fully completed this application form and Form 1
- ☑ For replacement applications, provide evidence of how much water has historically been used under that consent (unless information held by council). Refer A.2
- ☐ Attached a *non-standard installation form* if required. Refer D.5
- ☐ Attached an *exemption application form* for the point of take Refer D.6
- ☐ Attached an *exemption application form* for weekly records Refer D.7
- ☐ For water management groups, provide evidence that the group meets the requirements of Appendix 2A of the Regional Plan: Water for Otago. Refer F.3
- ☑ A detailed site map or aerial photograph. Refer E.3
- ☐ Attached any written approvals. Refer H.2
- ☐ Paid your deposit or attached a cheque. Refer I.1

TABLE SETTING OUT WATER TAKES ON NORTH BRANCH LUGGATE CREEK ACCORDING TO PRIORITY

Historic Water Race Permit	Current Deemed Permit Number	Current Permit Holder	Volume (l/hr)	Legal Description	Point of take
WR359cr Renewal Number 2585B Date: 9 Sept 1887 Volume: 400,000L/hr WR359CR allocates 600,000l/hr in two parts	94201	Corbridge Park Ltd as partner of Corbridge Est Ltd Partnership	50,000	Sec 65 and Pt Sec 64 Blk IV Lwr Wanaka SD, Sec 1 Blk II Lwr Wanaka SD and Sec 66-67 Blk IV Lwr Wanaka SD	Luggate Creek approx. 2.6km SE of Mt Barker Rd and Boundary Road Intersection (NZMS 260:G40:101-995
	95541	JA Feint and MC Feint	66,000	Lot 2, 3, 5 DP 20109, Section Part 7, Block II, Cardrona SD	(NZMS 260:G40:101-995
	95560	Alexander Rowley Morris	132,000	Not specified	Reserve Adjacent to Pt Sec 5, Blk XIII Cardrona SD (NZMS 260:G40:101-995
	96588	George R Wallis ½ share and JW and JR Cooper ½ share	132,000	Not specified	sec 3 SO 300466, Luggate Creek approx. 3.6km SW of SH6 and Mt Barker Rd (NZMS 260:G40:101-995
	2001.011.V1	David Stanley Allen	33,000	Not specified	Pt Sec 5 Blk XIII Cardrona SD (NZMS 260:G40:101-995

TABLE SETTING OUT WATER TAKES ON NORTH BRANCH LUGGATE CREEK ACCORDING TO PRIORITY

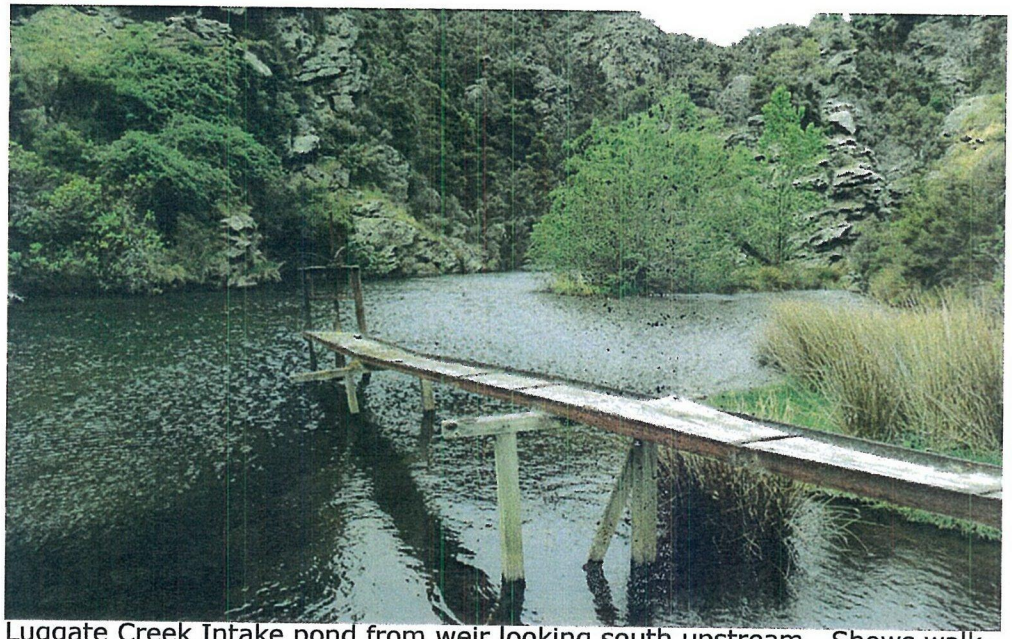
Historic Water Race Permit	Current Deemed Permit Number	Current Permit Holder	Volume (l/hr)	Legal Description	Point of take
WR7284CR Privilege Number 1496 Date: 9 Dec 1897 Volume 200,000	N/A	Luggate Irrigation Company Limited	200,000	Not specified	At point in Nth Branch of Luggate Creek at Intake of WR1496
WR2579/98 Renewal Number 3296A Date: 18 Dec 1898 Volume: 800,000L/hr	97629_v1	Jeremy Bell Investments Limited	800,000	Not specified	River Reserve btwn Run 625 + Sec5, Blk XIII, Cardrona SD Luggate Creek 5.5km upstream of Luggate Domain (NZMS 260:G40:101-998)
WR412Cr Date: 11 May 1900 Volume: 700,000L/hr (original licence provided for 10 sluice heads) [t]	N/A	Jeremy Arthur Bell	700,000	Not specified	Commencing at point in Nth Branch of Luggate Creek about a mile above the junction of the north and south branches

\ \ - 150619

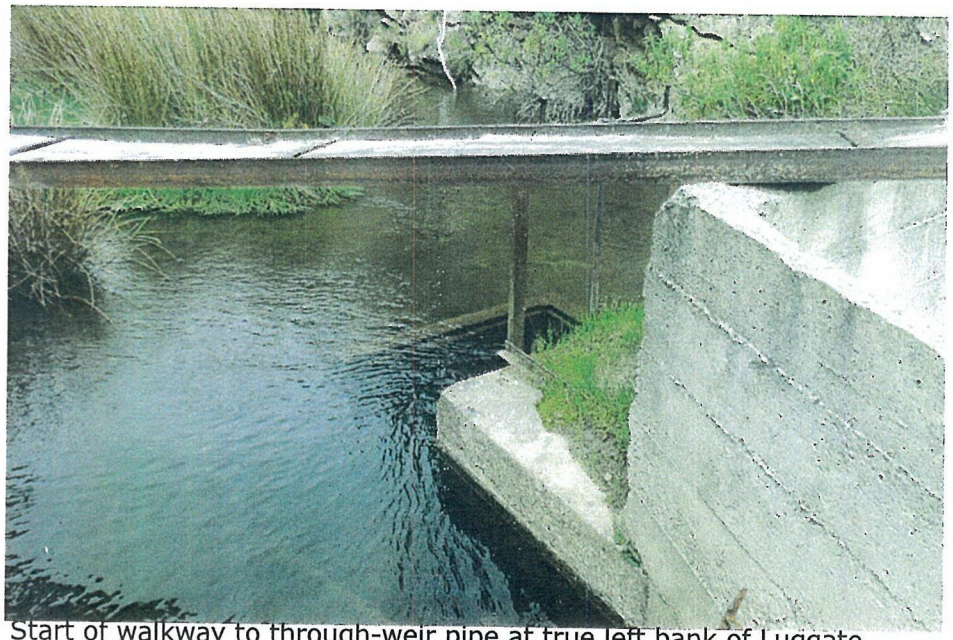
DH 19 June 2015

TABLE SETTING OUT WATER TAKES ON NORTH BRANCH LUGGATE CREEK ACCORDING TO PRIORITY

Historic Water Race Permit	Current Deemed Permit Number	Current Permit Holder	Volume (l/hr)	Legal Description	Point of take
WR359cr Renewal Number 2585B Date: 9 June 1904 Volume: 200,000L/hr WR359CR allocates 600,000l/hr in two parts	94201	Corbridge Park Ltd as partner of Corbridge Est Ltd Partnership	25,000	Sec 65 and Pt Sec 64 Blk IV Lwr Wanaka SD, Sec 1 Blk II Lwr Wanaka SD and Sec 66-67 Blk IV Lwr Wanaka SD	Luggate Creek approx. 2.6km SE of Mt Barker Rd and Boundary Road Intersection (NZMS 260:G40:101-995)
	95541	JA Feint and MC Feint	34,000	Lot 2, 3, 5 DP 20109, Section Part 7, Block II, Cardrona SD	(NZMS 260:G40:101-995)
	95560	Alexander Rowley Morris	68,000	Not specified	Reserve Adjacent to Pt Sec 5, Blk XIII Cardrona SD (NZMS 260:G40:101-995)
	96588	George R Wallis ½ share and JW and JR Cooper ½ share	68,000	Not specified	sec 3 SO 300466, Luggate Creek approx. 3.6km SW of SH6 and Mt Barker Rd (NZMS 260:G40:101-995)
	2001.011.V1	David Stanley Allen	17,000	Not specified	Pt Sec 5 Blk XIII Cardrona SD (NZMS 260:G40:101-995)
Total Vol Under Mining Licences: 2,300,000L/hr			**Total under Deemed Permits:** 2,325,000 l/hr		



Luggate Creek Intake pond from weir looking south upstream. Shows walk-way and gate control for 900 diam discharge pipe through weir

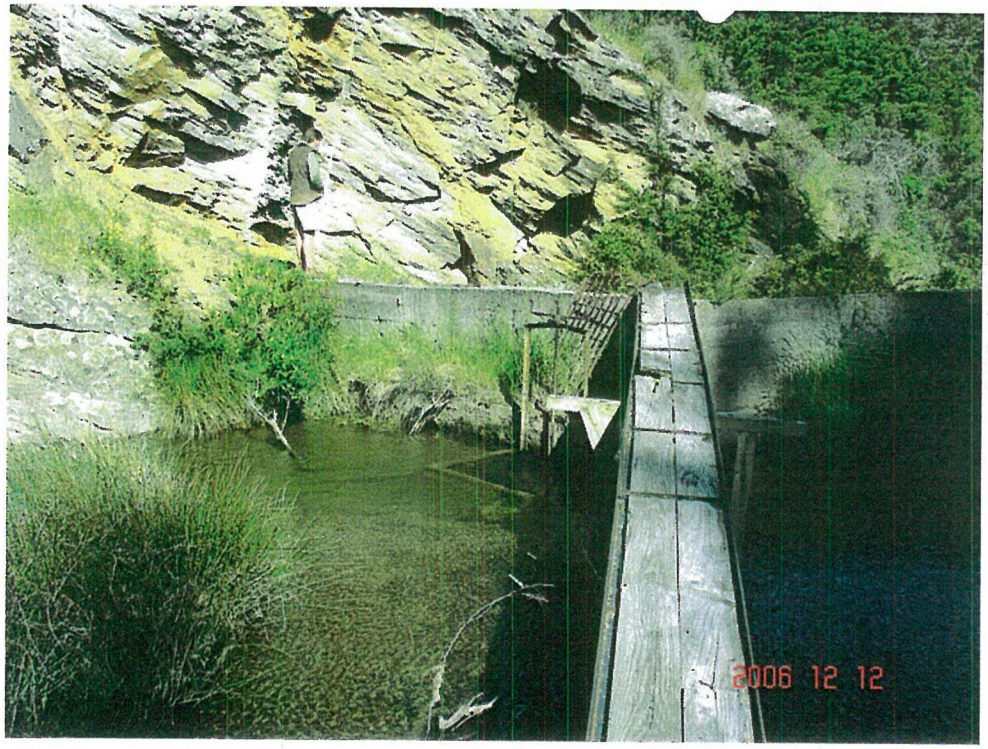


Start of walkway to through-weir pipe at true left bank of Luggate Creek weir/ Intake sump and control gate for supply pipeline evident in mid photo

Photo looking along weir crest from true left bank to right bank of intake weir

Criffel Water Limited Intake
Luggate Creek
28 October 2014

David Hamilton & Associates Ltd



Intake control gate at Luggate Creek weir left bank and sump inlet to 685mm diameter concrete pipe to water measuring site, some 490m downstream. Looking NW along walkway to control gate for through-weir discharge pipe.
Photo 12 Dec 2006

View from north looking SE at outlet end of 490m concrete supply pipeline from Luggate Creek weir. Flow splits downstream of this point. Water measuring equipment in foreground.
Photo 28 October 2014

Criffel Water Limited
Luggate Creek Take

David Hamilton & Associates Ltd

Table of Titles in Criffel Scheme

Registered Proprietors	Certificate of Title	Legal Description	Area
George Robert Wallis, Joanna Wallis and Stephen John Grant	15151	Lot 1-2 Deposited Plan 303795	86.7990 hectares more or less
Jeremy Bell Investments Limited	2455	Lot 1-3 Deposited Plan 300397 and Section 32 Block VI Tarras Survey District and Section 7 Block XIV Cardronna Survey District	1769.9438 hectares more or less
Jeremy Bell Investments Limited	OT9C/5	Section 8 Block II Lower Wanaka Survey District	113.5776 hectares more or less
Corbridge Estates Limited Partnership	OT14C/457	Section 1 Block II Lower Wanaka Survey District and Section 66-67 Block IV Lower Wanaka Survey District	245.2592 hectares more or less
David Stanley Allan	OT13A/1410	Lot 2 Deposited Plan 21379	121.3895 hectares more or less
Jeffery Adrian Feint as to a ½ share, Margaret Cameron Feint as to a ½ share	OT11A/1443	Lot 2-3 and Lot 5 Deposited Plan 20109	59.2665 hectares more or less
Alexander Rowley Morris	OT11A/1444	Lot 1 and Lot 4 Deposited Plan 20109	69.6300 hectares more or less

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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**15151**
Land Registration District	**Otago**
Date Issued	05 February 2003

Prior References
OT18B/1176 OT18B/1177

Estate	Fee Simple
Area	86.7990 hectares more or less
Legal Description	Lot 1-2 Deposited Plan 303795

Proprietors
George Robert Wallis, Joanna Wallis and Stephen John Grant

Interests

Saving and excepting all minerals within the meaning of the Land Act 1924, under the surface of Sections 10 and 1553R

Part Surface Soil Only

Subject to Section 241(2) Resource Management Act 1991 (affects DP 303795)

Subject to a right to convey water over part marked C, D, E on DP 303795 created by Transfer 5479774.5 - 5.2.2003 at 9:00 am

Land Covenant in Transfer 5479774.5 - 5.2.2003 at 9:00 am

Appurtenant to Lot 1 herein is a right to operate & maintain a bore and a right to convey water created by Easement Instrument 5479774.6 - 5.2.2003 at 9:00 am

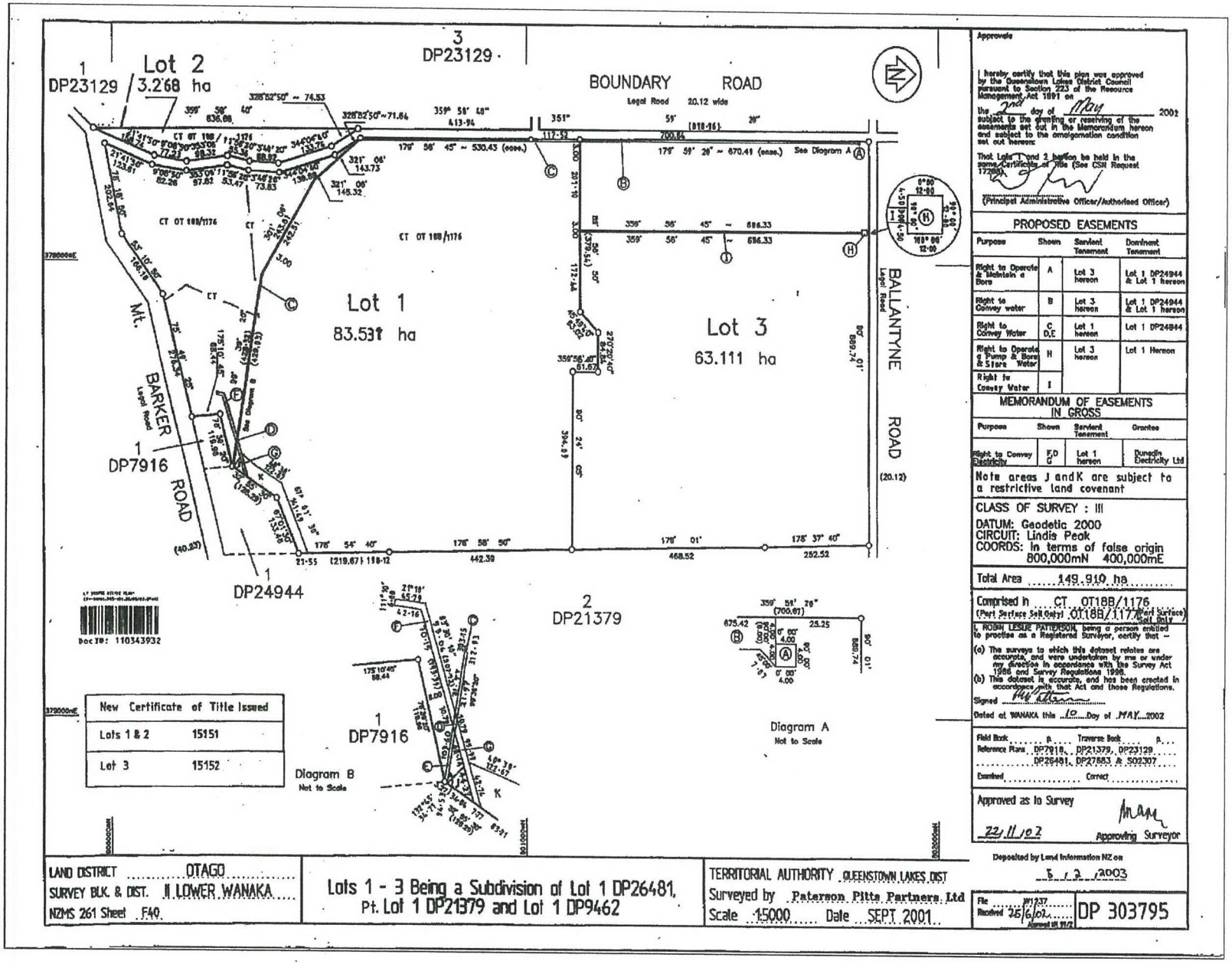
Subject to a right (in gross) to convey electricity over part marked F, D, G on DP 303795 in favour of Dunedin Electricity Limited created by Transfer 5479774.7 - 5.2.2003 at 9:00 am

The easements created by Transfer 5479774.7 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant hereto is a right to operate a pump and bore and to store water and a right to convey water created by Easement Instrument 8611331.1 - 12.10.2010 at 10:20 am

Subject to a right to convey water over Lot 1 DP 303795 marked A,B,F,C1,G and a right to operate and maintain pump over Lot 1 DP 303795 marked B both on DP431620 created by Easement Instrument 8784413.1 - 16.6.2011 at 9:48 am

Appurtenant to Lot 1 DP 303795 is a right to convey electricity created by Easement Instrument 8784413.2 - 16.6.2011 at 9:48 am



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Identifier	**2455**
Land Registration District	**Otago**
Date Issued	01 November 2000

Prior References
OT273/194

Estate	Fee Simple
Area	1769.9438 hectares more or less
Legal Description	Lot 1-3 Deposited Plan 300397 and Section 32 Block VI Tarras Survey District and Section 7 Block XIV Cardrona Survey District

Proprietors
Jeremy Bell Investments Limited

Interests

Subject to Sections 230(c) and 315 of the Land Act 1924

436224 Transfer creating the following easements - 12.2.1975 at 2:42 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Convey water	Lot 3 Deposited Plan 300397 - herein	Line Transfer 436224	Lot 1 Deposited Plan 12622 - CT OT6A/911	N/A

776079.2 Transfer creating the following easements - 27.3.1991 at 10:49 am

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Convey take & use irrigation water	Lot 1 Deposited Plan 300397 - herein	A-B Transfer 776079.2	Lot 2 Deposited Plan 21379 - CT OT13A/1410	N/A

862617.5 Mortgage to The National Bank of New Zealand Limited - 15.8.1994 at 9:57 am

893111 Variation of Mortgage 862617.5 - 10.10.1995 at 10:51 am

5041484.1 Gazette Notice (2001/1044) declaring adjoining road (S.H. No 6) to be limited access road - 11.5.2001 at 9:31 am

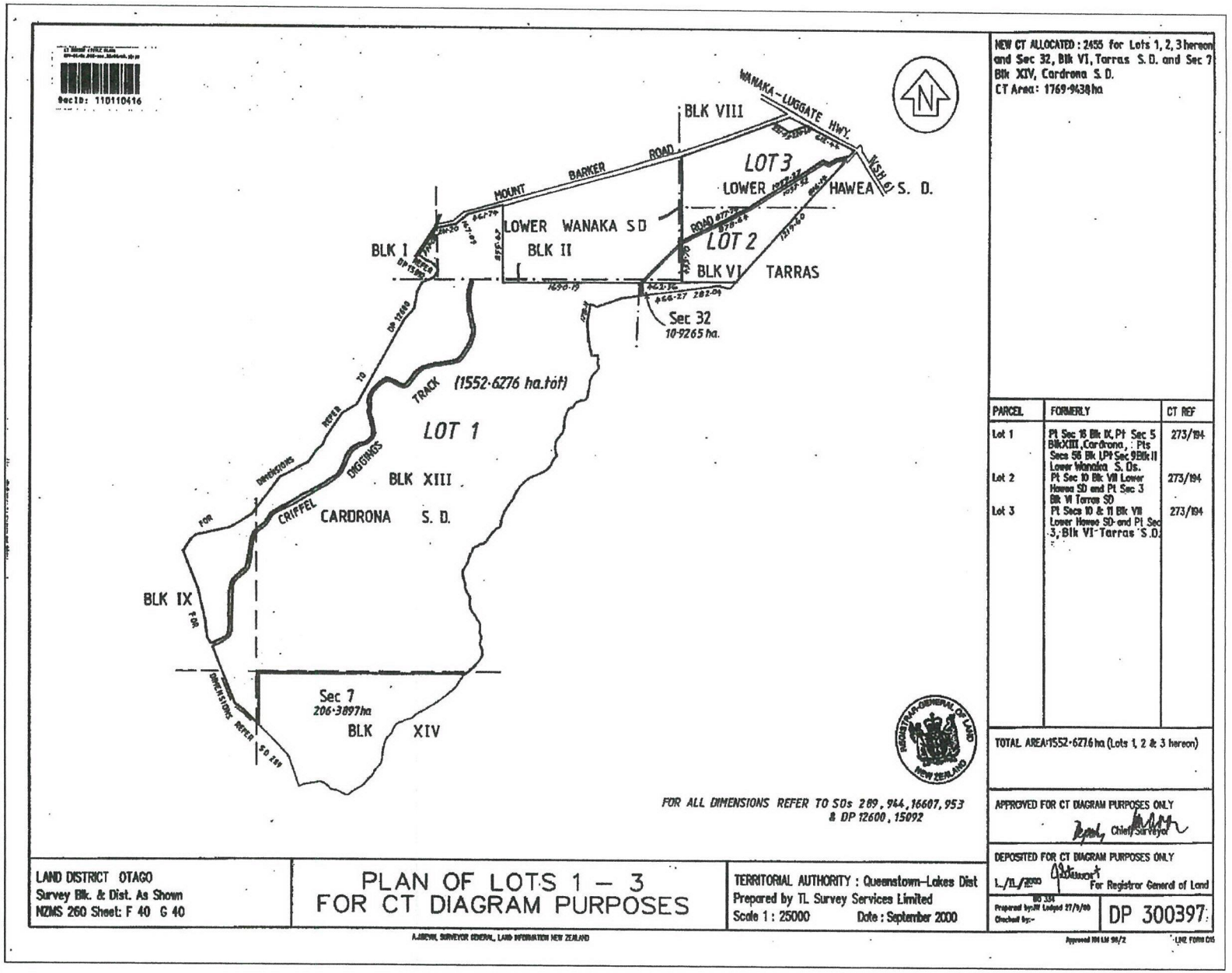
5823477.2 Variation of Mortgage 862617.5 - 4.12.2003 at 9:00 am

Subject to a right to convey electricity and establish & maintain an electricity transformer & ancillary equipment in gross over part lot 3 DP 343972 marked A DP 343972 to Aurora Energy Limited created by Easement Instrument 6547543.1 - 25.8.2005 at 9:00 am

The easements created by Easement Instrument 6547543.1 are subject to Section 243 (a) Resource Management Act 1991

8930025.1 Certificate pursuant to Section 417 Resource Management Act 1991 to Jeremy Arthur Bell - 1.12.2011 at 2:05 pm

9058499.1 Certificate pursuant to Section 417 Resource Management Act 1991 to Corbridge Estates Limited Partnership - 11.5.2012 at 3:13 pm (affects Lot 1 DP 300397)



NEW CT ALLOCATED : 2455 for Lots 1, 2, 3 hereon and Sec 32, Blk VI, Tarras S.D. and Sec 7 Blk XIV, Cardrona S.D.
CT Area: 1769·9438ha

PARCEL	FORMERLY	CT REF
Lot 1	Pt Sec 18 Blk IX, Pt Sec 5 Blk XIII, Cardrona, : Pts Secs 56 Blk I, Pt Sec 9 Blk II Lower Wanaka S. Ds.	273/194
Lot 2	Pt Sec 10 Blk VII Lower Hawea SD and Pt Sec 3 Blk VI Tarras SD	273/194
Lot 3	Pt Secs 10 & 11 Blk VII Lower Hawea SD and Pt Sec 3, Blk VI Tarras S.D.	273/194

TOTAL AREA: 1552·6276 ha (Lots 1, 2 & 3 hereon)

APPROVED FOR CT DIAGRAM PURPOSES ONLY
Chief Surveyor

DEPOSITED FOR CT DIAGRAM PURPOSES ONLY
1./11./2000
For Registrar General of Land

LAND DISTRICT OTAGO
Survey Blk. & Dist. As Shown
NZMS 260 Sheet: F 40 G 40

PLAN OF LOTS 1 – 3 FOR CT DIAGRAM PURPOSES

TERRITORIAL AUTHORITY : Queenstown-Lakes Dist
Prepared by TL Survey Services Limited
Scale 1 : 25000 Date : September 2000

DP 300397

A.J.BROWN, SURVEYOR GENERAL, LAND INFORMATION NEW ZEALAND

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Registrar-General
of Land

Identifier	**OT9C/5**
Land Registration District	**Otago**
Date Issued	25 November 1983

Prior References
OT99/69

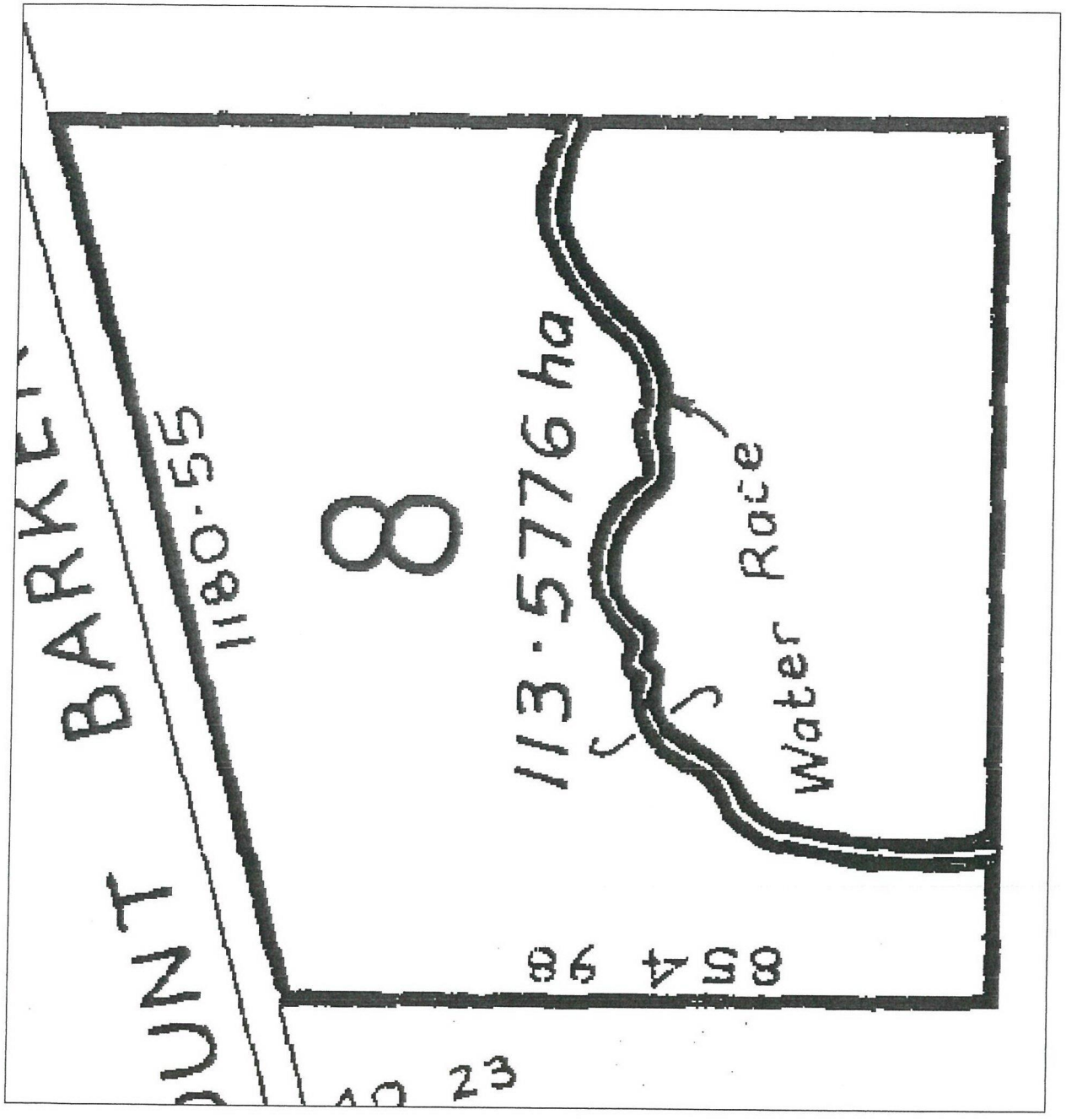
Estate	Fee Simple
Area	113.5776 hectares more or less
Legal Description	Section 8 Block II Lower Wanaka Survey District

Proprietors
Jeremy Bell Investments Limited

Interests

Subject to Section 8 Mining Act 1971
Subject to Section 5 Coal Mines Act 1979
894059.4 Mortgage to The National Bank of New Zealand Limited - 25.10.1995 at 10.29 am
5823477.3 Variation of Mortgage 894059.4 - 4.12.2003 at 9:00 am
8930025.1 Certificate pursuant to Section 417 Resource Management Act 1991 to Jeremy Arthur Bell - 1.12.2011 at 2:05 pm
9058499.1 Certificate pursuant to Section 417 Resource Management Act 1991 to Corbridge Estates Limited Partnership - 11.5.2012 at 3:13 pm

Identifier **OT9C/5**



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Identifier	**OT14C/457**
Land Registration District	**Otago**
Date Issued	16 June 1992

Prior References
OT8C/244

Estate	Fee Simple
Area	245.2592 hectares more or less
Legal Description	Section 1 Block II Lower Wanaka Survey District and Section 66-67 Block IV Lower Wanaka Survey District

Proprietors
Corbridge Estates Limited Partnership

Interests

Subject to Section 11 Crown Minerals Act 1991

Subject to Part IV A Conservation Act 1987

5041484.1 Gazette Notice (2001/1044) declaring adjoining road (S.H. No 6) to be limited access road - 11.5.2001 at 9:31 am

5061036.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 18.7.2001 at 1:38 pm

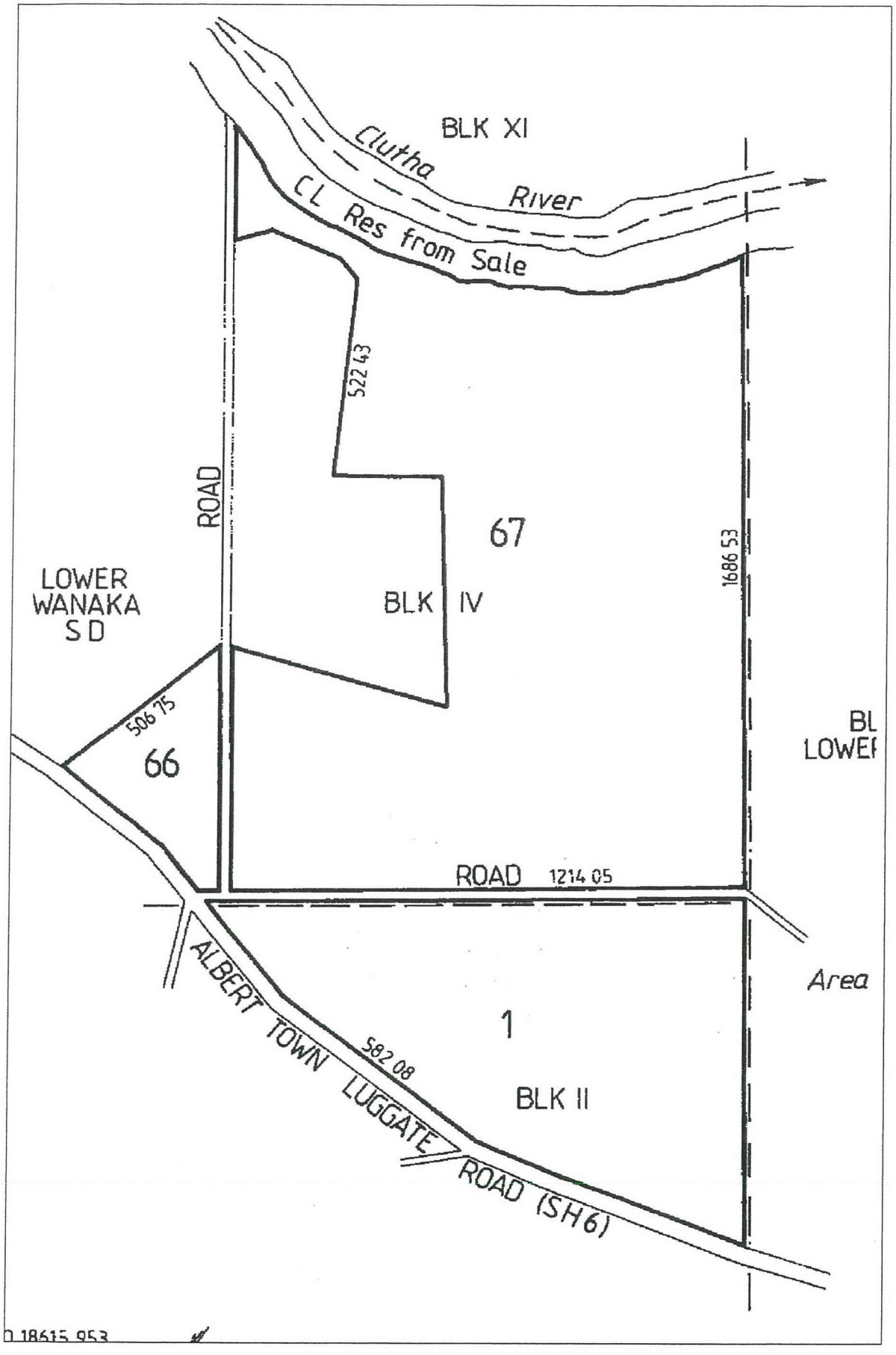
5061036.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 18.7.2001 at 1:38 pm

5061036.3 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 18.7.2001 at 1:38 pm

9058499.1 Certificate pursuant to Section 417 Resource Management Act 1991 to Corbridge Estates Limited Partnership - 11.5.2012 at 3:13 pm (affects Section 1 Block II Lower Wanaka SD and Section 67 Block IV Lower Wanaka SD)

Land Covenant in Easement Instrument 9829345.2 - 10.12.2014 at 12:24 pm

Identifier **OT14C/457**



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**OT13A/1410**
Land Registration District	**Otago**
Date Issued	21 May 1990

Prior References

OT309/101	OT327/73	OT376/7
OT414/87	OT414/88	

Estate	Fee Simple - Surface Only
Area	121.3895 hectares more or less
Legal Description	Lot 2 Deposited Plan 21379

Proprietors

David Stanley Allen

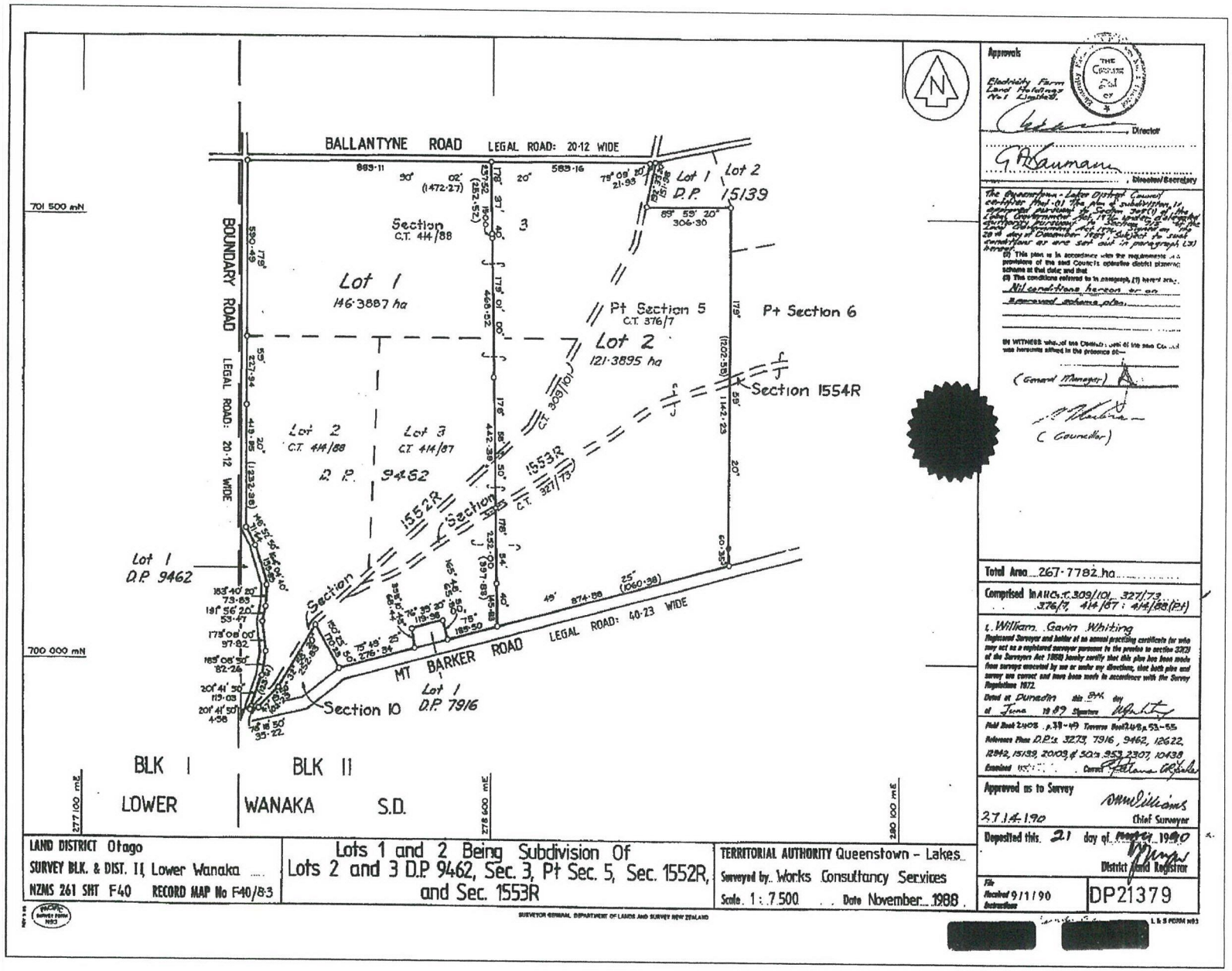
Interests

Saving and excepting all minerals within the meaning of the Land Act 1924 under the the surface of Section 1553R reserving always a right of ingress, egress and regress to all persons lawfully engaged in working any such minerals

776079.2 Transfer creating the following easements - 27.3.1991 at 10:49 am

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Convey take & use irrigation water	Part Section 9 Block II Lower Wanaka Survey District - OT273/194	A-B Transfer 776079.2	Lot 2 Deposited Plan 21379 - herein	N/A

776079.4 Mortgage to The National Bank of New Zealand Limited - 27.3.1991 at 10.49 am



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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

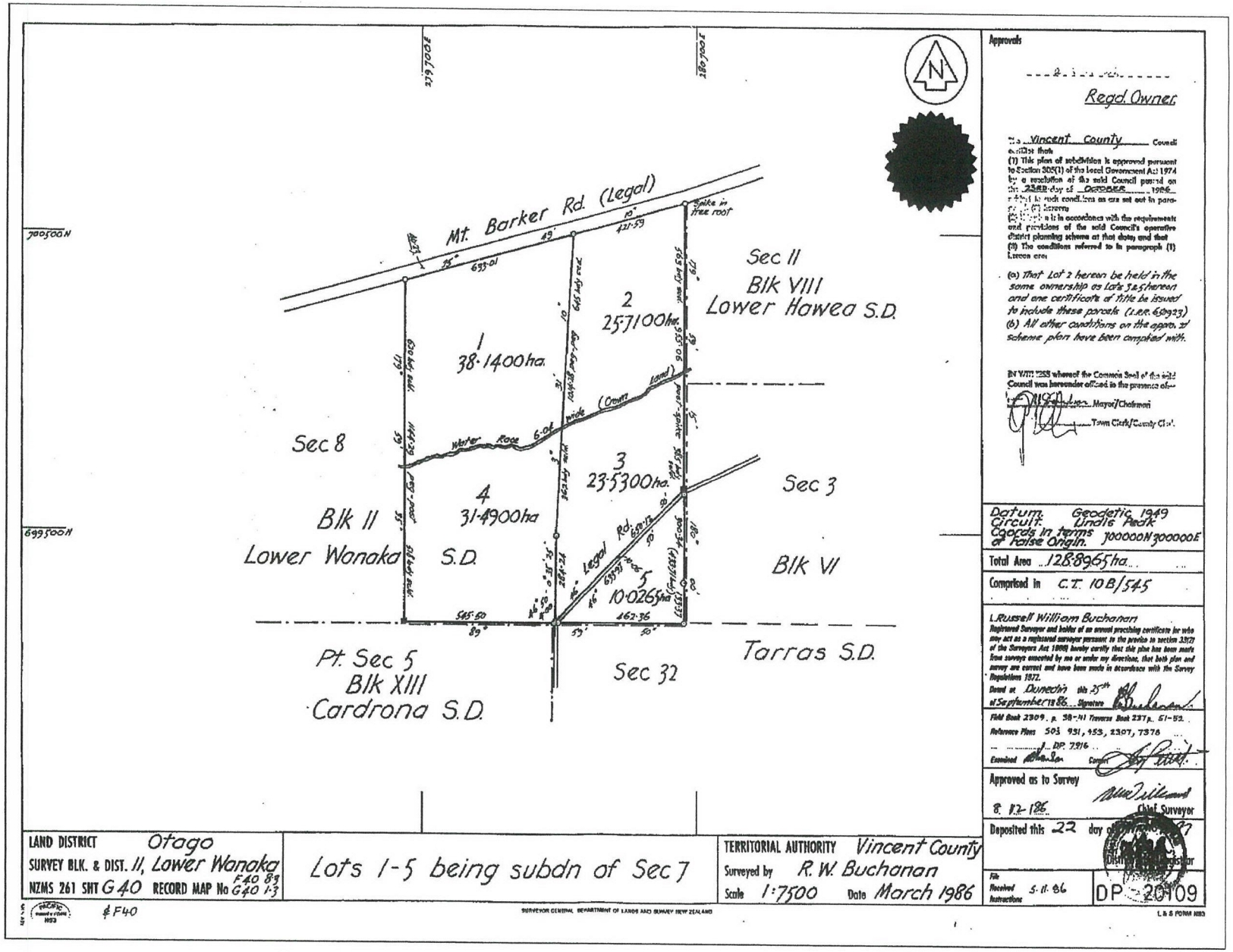
Identifier	**OT11A/1443**
Land Registration District	**Otago**
Date Issued	22 December 1986

Prior References
OT10B/545

Estate	Fee Simple
Area	59.2665 hectares more or less
Legal Description	Lot 2-3 and Lot 5 Deposited Plan 20109

Proprietors
Jeffrey Adrian Feint as to a 1/2 share
Margaret Cameron Feint as to a 1/2 share

Interests
Subject to Section 5 Coal Mines Act 1979
Subject to Section 8 Mining Act 1971
806500.2 Mortgage to (now) Westpac New Zealand Limited - 4.6.1992 at 9.30 am
5919453.1 Variation of Mortgage 806500.2 - 4.3.2004 at 9:00 am



COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**OT11A/1444**
Land Registration District	**Otago**
Date Issued	22 January 1987

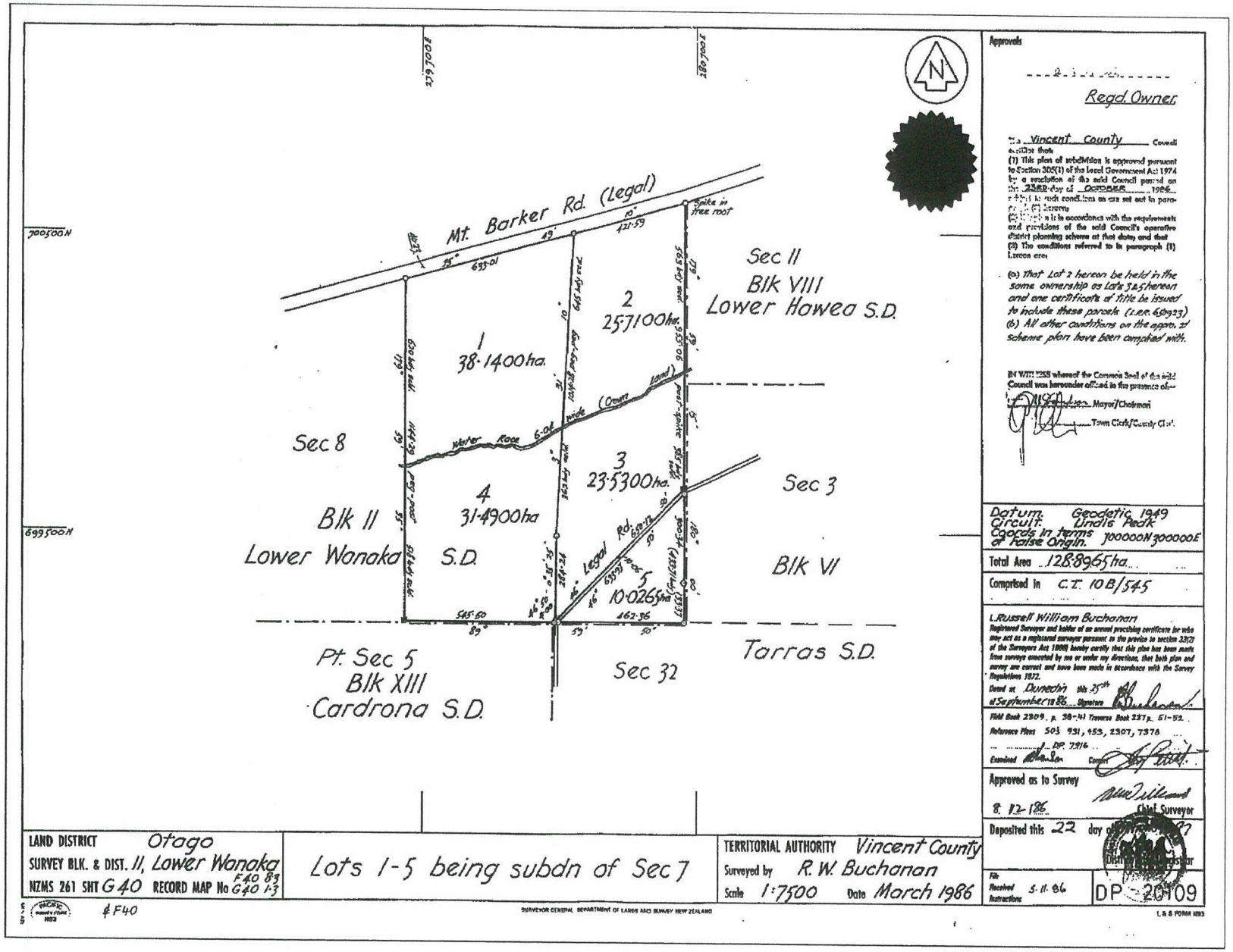
Prior References
OT10B/545

Estate	Fee Simple
Area	69.6300 hectares more or less
Legal Description	Lot 1 and Lot 4 Deposited Plan 20109

Proprietors
Alexander Rowley Morris

Interests

Subject to Section 8 Mining Act 1971
Subject to Section 5 Coal Mines Act 1979
8989239.1 Mortgage to ANZ National Bank Limited - 21.2.2012 at 11:14 am



Consent No: 2007.676

WATER PERMIT

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

Name: Alexander Rowely Morris, George Robert Wallace, David Stanley Allen, Brian Lewis Hore, Jeremy Arthur Bell, Jeffery Adrain Feint being partners of Criffel Irrigation Scheme Partnership

Address: 87 Mt Barker Road, Mt Barker, Wanaka

To dam Luggate Creek

for the purpose of damming water for stock water supply and irrigation

for a term expiring 12 April 2045

Location: Luggate Creek, approximately 2 kilometres southeast of the intersection of Smith Road and Mount Barker Road, Luggate

Legal description of land: Crown Land Block VI Tarras SD, Crown Land Block XIVI Cardrona SD, Sec 3 SO 300466

Map reference: NZMS 260 G40:101-000

Conditions:

Specific

1. This consent shall be exercised in conjunction with Discharge Permit 2010.056.

2. The maximum volume of water impounded by the dam shall be no more than 1,500 cubic metres.

3. A residual flow of no less than 50 litres per second shall be maintained in Luggate Creek immediately downstream of the dam at all times other than when inflows to the dam are less than 50 litres per second at which time the residual flow immediately below the dam shall be no less than the inflow to the dam.

Performance monitoring

4. The consent holder shall undertake visual inspections of the dam structure at each 1 year anniversary from the commencement of this consent. A written record shall be kept of observations made at each inspection, and shall be provided to the Consent Authority upon request.

5. In case of dam failure the consent holder shall, as soon as practicable:

(a) Advise landowners immediately downstream;
(b) Advise the Consent Authority of dam failure; and
(c) Arrange for an inspection by a suitably qualified engineer to advise on making the site safe.

General

6. The consent holder shall ensure that the dam and all its appurtenant component and accessory structures are maintained in a safe and stable condition.

7. The damming of water shall not cause flooding, erosion, land instability, sedimentation or property damage to any other person's property.

8. The consent holder shall carry sufficient public liability insurance to repair damage to property and structures that may occur in the event of dam failure.

9. 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 three months of each anniversary of the date of this consent for the following purposes:
   (a) 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
   (b) ensuring the conditions of this consent are consistent with any National Environmental Standards.
   (c) reviewing the frequency of monitoring required under this consent.

Issued at Dunedin this 14th day of April 2010

Christopher P Shaw
Manager Consents
A194485

Consent No: 2010.056

DISCHARGE PERMIT

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

Name: Alexander Rowely Morris, George Robert Wallace, David Stanley Allen, Brian Lewis Hore, Jeremy Arthur Bell, Jeffery Adrain Feint being partners of Criffel Irrigation Scheme Partnership

Address: 87 Mt Barker Road, Mt Barker, Wanaka

To discharge water to Luggate Creek

for the purpose of passing flows through a dam

for a term expiring 12 April 2045

Location: Luggate Creek, approximately 2 kilometres southeast of the intersection of Smith Road and Mount Barker Road, Luggate

Legal description of land: Crown Land Block VI Tarras SD, Crown Land Block XIVI Cardrona SD, Sec 3 SO 300466

Map reference: NZMS 260 G40:101-000

Conditions:

Specific

1. This permit shall be exercised in conjunction with Water Permit 2007.676.

General

2. The discharge shall not cause erosion, scouring or deposition to the watercourse or to any other person's property. Should such adverse effects occur due to the exercise of this consent, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such adverse effects.

3. No lawful take of water is to be adversely affected as a result of any discharge.

4. The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.

5. 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) 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;
b) ensuring the conditions of this consent are consistent with any National Environmental Standards.

Issued at Dunedin this 14th day of April 2010

Christopher P Shaw
Manager Consents
A194485

Otago Regional Council

Our Reference: A749222

17 March 2015

GALLAWAY COOK ALLAN
19 MAR 2015
RECEIVED

J Bell Investments Ltd, J A Bell,
Corbridge Park Ltd, J A McFeint,
A R Morris, G R Wallis,
J W Cooper & DS Allen
C/- Gallway Cook Allan
PO Box 143
Dunedin 9054

Dear Sir/Madam

Decision on Exemption Application No. WEX0162 for Consents WR359Cr, 94201, 95541, 95560, 96588 & 2001.011.V1, WR7284Cr & WR412Cr, WR2579/98 - 97629.V1 to install a water measuring device or system near (instead of at) the point of take, approximately 3.177 kilometres south of the intersection of Mt Barker Rd and Wanaka Luggate Highway (SH6), Wanaka

I advise that a decision has been given on your application for exemption. A copy of the staff recommending report is enclosed along with the consent.

The decision is:
That pursuant to Regulation 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, the Otago Regional Council **approves** the use of a water measuring device or system installed near (instead of at) the location from which water is taken with the same terms and conditions as shown on the permit enclosed.

Please contact **Mike Anderson** at this office should you require clarification of any matter relating to this decision letter.

Yours sincerely

Christopher P Shaw
Manager Consents
Encl

Telarc. REGISTERED QUALITY ISO 9001

Working for New Zealand's Environment

Otago Regional Council

Our Reference: A749152 WEX0162

NOTICE OF EXEMPTION

Pursuant to Regulation 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, the Otago Regional Council **approves** the use of a water measuring device or system installed near (instead of at) the location from which water is taken.

Relating to Water Permit numbers:
WR359Cr,94201,95541,95560,96588,2001.011.V1,WR7284CR,WR412CR,WR2579/98,97629

Map reference of point of take: NZTM2000 E1300149 N5038142

Map reference of water measuring device or system:
Within a 20 metre radius of NZTM 2000 E1300123 N 5038518

For a term expiring on 1 October 2021

Description of the location of the water measuring device or system: approximately 3.177 kilometres south of the intersection of Mt Barker Rd and Wanaka Luggate Highway (State Highway 6), Wanaka

Notes:

1. *In accordance with Regulation 12 this exemption prevails over relevant conditions of the related water permit.*
2. *In accordance with Regulation 11, approval may be revoked by the Otago Regional Council if it has been granted on the basis of incorrect information provided by the permit holder.*

Approved on this 17th day of March 2015

Christopher P Shaw
Manager Consents

ORC STAFF RECOMMENDATION, FIELD REPORT AND DECISION

Document ID: A736447
File No: 97629
Permit No:
WR359Cr,94201,95541,95560,96588,2001.011.V1,WR7284CR,WR412CR,WR2579/98,97629
WEX No: WEX0162
Prepared for: Staff Consents Panel
Prepared by: Mike Anderson, Environmental Officer
Date: 19/02/2015

Subject: **Exemption Application WEX0162 by Jeremy Bell Investments Ltd, J A Bell, Corbridge Park Ltd, J A & M C Feint, A R Morris, G R Wallis & J W Cooper and D S Allen to install a water measuring device or system near (instead of at) the point of take, Luggate Creek, Luggate.**

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1 Purpose

To report and make a recommendation on the determination of the above application for an exemption under Clause 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (the Regulations).

2 Field Officers Inspection

Consent Details

Type (Water Permit/Deemed Permit/Mining Privilege)	Deemed Permit/Mining Privilege
Consent Number	As above
Expiry Date	1 October 2021
Map Reference of Point of Take as Given on Consent	G40:101-995 or G40:101-998
Name of Watercourse/Aquifer	Luggate Creek
Rate of Take (litres per second)	595 l/s or 21 heads
Water Use	Irrigation and stockwater
Pumped or Gravity Fed	Gravity Fed
Piped or channel take	Piped
Water take data transfer (manual/datalogger/telemetry):	Telemetry
Is the water meter already installed?:	Yes

Site Assessment

Physical point of take GPS: NZTM 2000	E1300149	N5038142
GPS location of proposed water measuring device or system: NZTM 2000	E1300123	N5038518
Date of site visit: The site visit was made on the 20th February 2015.		

Point of Take
Is the actual point of take different from the consented point of take? ☐ Yes ☑ No

Please Note
A pre application has been lodged with ORC (RM14.371) to have all associated permits within the scheme combined and have the one take permit under an irrigation company type body. Any discrepancies in take locations over the suite of permits will be addressed with the new application.

Water Regulations (Clause 6(1) of the Regulations)
In accordance with Clause 6(1) of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010., will the measuring device/system, at the proposed location, allow for ***all*** of the water taken to be ***continuously*** measured? ☑ Yes ☐ No

3 Recommendation

It is not practicable to measure the take at the point of take.

The location for the measuring devices / system at NZTM 2000 E1300123 N5038518 will allow the consented take to be measured in accordance with Clause 6(1) of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.

The recommendation is that the Exemption WEX0162 is **approved** for WR359Cr,94201,95541,95560,96588,2001.011.V1,WR7284CR,WR412CR,WR2579/98,97629

Environmental Officer
20th February 2015

4 Decision (need 2 of 3)
Approved~~/Not approved~~

Marian Weaver

Manager Consents	**Resource Manager Procedures and Protocols**	**Manager Environmental Services**
(Name)	*(Name)Marian Weaver*	*Martin King*
(Date)	*(Date) 16 Mar 15*	*9 March 2015*

Relevant Objectives from National Policy Statement for Freshwater Management 2014

Relevant Objective	Reason
Objective B1 – *"To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the taking, using, damming, or diverting of fresh water."*	The proposed take will be subject to the minimum flow requirements detailed in the Regional Plan. This safe-guards the values of the Luggate Creek including the life-supporting capacity, ecosystem processes and indigenous species and their associated ecosystems. This application is consistent with this objective.
Objective B3 – *"To improve and maximise the efficient use and efficient allocation of water."*	CWL was incorporated to combine the current deemed permits and mining privileges into a single resource consent for the area. This improves the efficiency of the water allocation and provides a body to manage the allocation over CWL's command area. If the consent is secured, this will provide the necessary security to allow capital expenditure to improve the efficiency of the infrastructure, allowing more efficient use of the water. This application is consistent with this objective.
Objective C1 – *"To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment."*	CWL provides an integrated management body to allocate the water over it's command area, some 1500 hectares. The consent will be subject to the minimum flow retime which will ensure takes on the creek are managed to avoid effects on ecosystem values. This application is consistent with this objective.

In conjunction with the relevant objectives above, the national values of particular relevance to CWL include mahi māra and āu putea (or cultivation and economic or commercial development). The water to be taken will be used for irrigation, which in turn helps economic and commercial development of the community.

The application is consistent with the NPS for freshwater management.

Relevant Objectives and Policies from the National Policy Statement for Renewable Electricity Generation 2011

Relevant Objective or Policy	Reason
Objective – *"To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generating activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds New Zealand Government's national target for renewable electricity generation."*	CWL proposes to place turbines within the irrigation equipment. This will help create renewable hydroelectricity to power the irrigation systems. It will slightly increase the proportion of renewable electricity generated by New Zealand. The proposal is consistent with this objective.
Policy A(a) – *"Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to: maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;"*	CWL's proposal will increase the electricity generation capacity of the Luggate area. The generation will be hydroelectricity which does not create any greenhouse gas emissions. This application is consistent with this policy.
Policy A(b) – *"Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to: maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;"*	Should the irrigation system be creating electricity while it functions, less power will be required from the national grid. This will increase the security of electricity at the local level and diversify the type and location of hydroelectricity generated in the Luggate area. The application is consistent with this policy.
Policy A(c) – *"Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to: using renewable natural resources rather than finite resources;"*	The proposed electricity will be generated with water, which is a renewable resource. The matter is to be taken from a catchment where minimum flow levels protect the values of the waterway. The application is consistent with this policy.
Policy C1(a) – *"Decision-makers shall have particular regard to the following matters: the need to locate the renewable electricity generation activities where the renewable energy resource is available;"*	Irrigation uses water. The water will be located in the irrigation pipes, which doubles as an ideal place to place the turbines to generate this electricity proposed by this application. The application is consistent with this policy.

Overall, the application is consistent with the NPS for Renewable Electricity Generation.

Relevant Objectives and Policies from Operative Regional Policy Statement

Relevant Objective or Policy	Reason
Objective 6.4.1 – *"To allocate Otago's water resources in a sustainable manner which meets the present and reasonably foreseeable needs of Otago's people and communities."*	Criffel Water Limited's application is consistent with this objective as the need to efficiently irrigate the command area is reasonably foreseeable. This allocation has been used historically and it is planned to continue using this allocation into the future. CWL will be subject to the minimum flow requirements of the Luggate Creek. This will ensure the sustainable management of this resource while allowing the community to provide for their economic, social and cultural wellbeing in a manner consistent with how the deemed permits and mining privileges provide for that wellbeing currently.
Objective 6.4.3 – *"To safeguard the life-supporting capacity of Otago's water resources through protecting the quantity and quality of those water resources."*	CWL will be subject to the minimum flow requirement which will protect the quantity of the Luggate Creek, providing for the instream values to be maintained. The application is consistent with this objective.
Objective 6.4.4 – *"To maintain and enhance the ecological, intrinsic, amenity and cultural values of Otago's water resources".*	CWL's take will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values of the Creek. This application is consistent with this objective.
Policy 6.5.2(b) – *"To allocate water in areas of Otago where there is or potentially will be insufficient water supplies through: Considering the needs of primary and secondary industry;"*	The Hamilton report details the climate, soil and sufficiency of water supplies over CWL's command area. The proposed take is consistent with what has been authorised historically. CWL will be subject to the minimum flow requirements which will ensure the values of the Luggate Creek are maintained. CWL is also required to allow at least 50L/s to pass over the Criffel weir to ensure sufficient water downstream of the weir for other permit holders. Given that the water take will be used for primary industry, this application is consistent with this policy.
Policy 6.5.3 –*"To promote efficient consumptive water use through:* *(a) Promoting water use practices which minimise losses of water before, during and after application; and* *(b) Promoting water use practices which*	There is currently some water loss due to infrastructural inefficiencies. Securing this consent will allow CWL to undertake capital expenditure to improve the efficiency of their infrastructure, allowing a greater area to be irrigated.

require less water; and *(c) Promoting incentives for water users to use less water."*	Despite these infrastructure upgrades, CWL will still be taking the same volume of water, it will however allow for greater productivity to be achieved through applying water more efficiently over a greater command area. Therefore, the application is inconsistent with this policy.
Policy 6.5.4 – *"To investigate and, where appropriate, set minimum flow levels and flow regimes for Otago water bodies and maximum and minimum lake levels to protect any of the following..."*	The Otago Regional Plan: Water sets a minimum flow requirement for the Luggate Creek. CWL will be subject to this minimum flow so the the importance of the matters identified in this policy will be protected. The application is consistent with this policy.

The following objectives and policies are not applicable to this application: 6.4.2, 6.4.3, 6.4.5, 6.4.6, 6.4.7, 6.4.8, 6.5.1, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10 and 6.5.11.

Relevant Objectives and Policies in the Otago Proposed Regional Policy Statement

Provision	Reason
Objective 2.1 – The values of Otago's natural and physical resources are recognised, maintained and enhanced	The proposed application provides irrigation for the command area. This allows land values to be maintained. The water take will be subject to the minimum flow requirements of the Luggate Creek. This will ensure the values of the Creek are maintained. The application is consistent with this objective.
Policy 2.1.1 – Managing for freshwater values	CWL's application will be subject to the minimum flow requirements of the Luggate Creek. This will ensure that the values of the Creek are maintained. The application is consistent with this policy.
Policy 2.1.5 – Managing for soil values	CWL's application is consistent with (a), (b), (c), (d), (f), (j) and relevant to (e) and (h). Providing for the continued take of water allows the soil of CWL's command area to maintain its life supporting capacity. The soil and pasture helps feed a variety of pastoral animals which in turn provide food and income for the region's communities. With a continued water take the consistency of the pasture growth can be preserved and through that the soil biodiversity and biological activities. CWL's application is particularly consistent with retaining the soil resources for primary production. The water use is intended for primary production land, therefore will retain the soil resources for primary production. The continued irrigation will maintain their values. Continued irrigation will maintain the soil's function as a buffer or filter for pollutants resulting from human activities and provide for other cultural values as stated above.
Policy 2.1.6 – Managing for ecosystem and indigenous biodiversity values.	The application is consistent with (a). The continued irrigation of the command area allows CWL to maintain or enhance the ecosystem health of their command area.

	Further, the application will be subject to the minimum flow requirements of the Luggate Creek. This will ensure the values of the Creek are maintained.
Objective 2.3 – Natural resource systems and their interdependencies are recognised	This application recognises that the take of water from the Luggate Creek has interdependencies on the productiveness of the command area. The water take has a number of flow on effects including the productive use of primary land and through that the communities wellbeing is enhanced. The application will be subject to the minimum flow requirements of the Luggate Creek. This recognises the interdependencies of this resource and allows the values to be maintained. The application is consistent with this policy.
Policy 2.3.1 – Applying an integrated management approach among resources	Criffel Water Ltd is aware of the impact that it's take has on other resources. These impacts are positive as the water take helps ensure efficient primary production. The water take helps improve the land values. The hydro-generation component of the activity also allows the physical resource comprising the infrastructure of the scheme to be used more efficiently. This application is consistent with this policy.
Policy 2.3.2 – Applying an integrated management approach within a resource.	This application ensures that the effects of activities on the whole of a resource are considered when that resource is managed by sub-units. CWL was incorporated to provide a single entity for the renewal of deemed permits. This single entity helps provide an integrated approach to the water distribution over the command area. The application will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values and apply an integrated approach to this resource. The application is consistent with this proposal.
Policy 2.3.3 – Applying an integrated management approach for freshwater catchments.	CWL's application applies an integrated management approach to activities in freshwater catchments by coordinating the management of land use and freshwater.

	The application will be subject to the minimum flow requirements of the Luggate Creek. This will help maintain the values of the Luggate Creek.
Objective 3.1 – Protection, use and development of natural and physical resources recognises environmental constraints	This application will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values of the Creek. The minimum flow recognises the environmental constraints. The application is consistent with this objective.
Policy 3.1.1 – Recognising natural and physical environmental constraints.	This application will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values of the Creek. The minimum flow recognises the environmental constraints. The application is consistent with this policy.
Objective 3.6 – Energy supplies to Otago's communities are secure and sustainable.	CWL is proposing small-scale hydro electricity generation. This will allow CWL to provide supply for its own infrastructure and possibly sell back to the grid. This will diversify the supply, increasing the security and sustainability of energy supply to the community. The application is consistent with this objective.
Policy 3.6.2 – Promoting small scale renewable electricity generation.	CWL's application increases the community's resilience and security of energy supply. As the generation will be hydro-generation it is anticipated there will be no adverse effects on the environment. This application is consistent with this policy.
Policy 3.6.6 – Reducing long term demand for fossil fuels.	CWL's application to provide small scale hydro-generation will reduce the need for electricity to be generated from non-renewable sources. The application is consistent with this policy.
Objective 4.3 – Sufficient land is managed and protected for economic production.	Securing water supply will allow CWL to undertake infrastructural upgrades. This will allow a greater area to be irrigated, allowing more production. This will allow the community to provide for their economic and social wellbeing. The application is consistent with this objective.
Policy 4.3.1 – Managing for rural activities.	This application enables farming and other rural activities to continue to be productive. The application is consistent with this policy.
Objective 4.4 – Otago's communities can make the most of the natural and built resources available for use.	CWL's application provides supply for its shareholders to irrigate the command area. Securing the supply will allow capital

	expenditure to undertake infrastructural upgrades. This will result in a greater area of the command area being able to be irrigated. This will allow the community to make the most of the natural resources available for use. The application will be subject to the minimum flow requirements of the Luggate Creek. This will protect the ecological and recreational values of the Creek. The application is consistent with this objective.
Policy 4.4.1 – Ensuring efficient water allocation and use.	CWL was incorporated to combine the rights of holders of existing deemed permits and mining privileges. Securing the supply will allow capital expenditure to undertake infrastructural upgrades. This will result in a greater area of the command area being able to be irrigated. This will allow the community to provide for their economic and social wellbeing. The application is consistent with this policy.
Objective 4.5 – Adverse effects of using and enjoying Otago's natural and built environment are minimised.	The application will be subject to the minimum flow requirement of the Luggate Creek. This will result in the values of the Creek being maintained and the minimising of any adverse effects. The application is consistent with this policy.
Policy 4.5.4 – Minimising soil erosion	Adequate irrigation will prevent erosion in an area which is dry during the summer. The application is consistent with this policy.

Objectives and Policies of ORC: WATER ch 6 – Quantity

Objectives

Objective	Analysis
6.3.1 – Retain flows in rivers sufficient to maintain life-supporting capacity for aquatic ecosystems and their natural character	Schedule 2A determines the minimum flow requirement for the Luggate Creek. This application will adhere to the minimum flow requirement so the life-supporting capacity for aquatic ecosystems and their natural character will be protected. The application is consistent with this objective.
6.3.2 – Provide for the water needs of Otago's primary and secondary industries, and community domestic water supplies	Criffel Water Limited (CWL) will provide water for irrigation and stock drinking water. That will help improve productivity and economic sustainability of 1500ha of productive land. The proposed take will not compromise any community water supplies. Securing the water take will allow Criffel to undertake capital expenditure to improve the infrastructure currently used. This will improve the efficiency of the scheme and allow more land to be irrigated. This will increase the productivity of the primary industries of this area and provide for the economic, social and spiritual wellbeing of the community. Therefore CWL's application is consistent with this objective.
6.3.3 – minimise conflict among those taking water	CWL has been incorporated to succeed the rights of the existing deemed permits and mining privileges and consolidate those takes into one scheme. This minimises any potential conflict amongst those taking water. Any conflict will be managed by internal dispute management regimes. CWL is aware of one other user, who takes water from the north branch of the Luggate Creek. As the application will take no more water than already consented including ensuring a residual flow of at least 50L/s through the Criffel weir. Conflict with this user is already addressed. The application is consistent with this objective.
6.3.6 – minimise any adverse downstream effect of managed flows	It is anticipated there will be no adverse downstream effects as this application will see the water managed in a way consistent

	with historical use. CWL will be subject to the minimum flow requirements of the Luggate Creek (which it is currently not subject to) which addresses effects associated with ecological and recreational values. The application is consistent with this objective.

Policies for Integrated Water Management

Policy	Analysis
6.4.0 – Recognise hydrological characteristics of Otago's water resources, including behaviour and trends when managing the take of water	The hydrological characteristics have been taken into account when preparing this application. CWL has considered "ORC, Management Flows for Aquatic Ecosystems in the Luggate Creek, August 2006". The consent will be subject to the minimum flow regime which protects the ecological and recreational values of the Luggate Creek. The hydrological characteristics are recognised by the high and low seasonal minimum flows. The application is consistent with this policy.
6.4.0A – To ensure that the quantity of water granted to take is no more than that required for the purpose of use taking into account: a) How local climate, soil, crop or pasture type and water availability affect the quantity of water required; and b) The efficiency of the proposed water transport, storage and application system	The Hamilton Report details the climate and soil characteristics of the Criffel scheme command area and calculated the water demand for stock and irrigation water purposes. Future efficiency improvements will allow further land within the command area to be irrigated. This will allow the community to better provide for their economic, spiritual and social wellbeing. The balance of the water sought is for non-consumptive hydroelectricity generation purposes. This application is consistent with this policy.
6.4.0B – To promote and support shared use and management of water that: a) Allows water users the flexibility to work together, with their own supply arrangements; or b) Utilises shared water infrastructure which is fit for purpose	CWL has been incorporated to consolidate the existing deemed permits and mining privileges within the Criffel scheme. CWL's proposal utilises the shared infrastructure and allows the shareholders to flexibly manage their water use. CWL's application strongly supports this policy.
6.4.0C – to promote and give preference, as between alternative sources to the take and use of water	CWL will be taking water in the most efficient manner possible utilising infrastructure.

from the nearest practicable source	Alternative sources include groundwater and/or surface water such as the Clutha. To take from the Clutha would require new infrastructure to be installed and would require that water to be pumped uphill. Given the existing infrastructure and regime which works successfully, identifying groundwater takes or taking from the Clutha is considered impractical and inefficient. The application is consistent with this policy.
6.4.1 – to enable the taking of surface water, by: a) Defined allocation quantities; and b) provision for water body levels and flows, except when: (not applicable).	This policy supports CWL's proposal to take from the Luggate Creek. CWL is seeking to take 601.8 L/s which is within the Primary allocation limit and will be subject to the minimum flow requirements of the Luggate Creek.
6.4.2 – to define the primary allocation limit for each catchment, from which surface water takes and connected groundwater takes may be granted, as the greater of: a) that specified in Schedule 2A, but where no limit is specified in Schedule 2A, 50% of the 7-day mean annual flow; or b) The sum of consented maximum instantaneous, or consented 7-day, takes of: i) Surface water as at: … (3) 28 February 1998 in any other catchment [includes Luggate Catchment]…, Less any quantity in a consent where: (1) In a catchment in Schedule 2A, the consent has a minimum flow that was set higher than that required by Schedule 2A (2) … (3) … (4) The consent has been surrendered or has expired (except for the quantity granted to the existing consent holder in a new consent). (5) The consent has been cancelled (except where the quantity has been transferred to a new consent under Section 136(5)). (6) The consent has lapsed.	Luggate Creek is specified in the Luggate Catchment in Schedule 2A. The primary allocation limit for the Luggate Creek identified in Schedule 2A is 500L/s. Under paragraph (b) of the policy, the primary allocation limit is equivalent to the existing consented take which is 987L/s. As this is the greater quantity this will be the primary allocation limit. The current permits held by the applicant shareholders authorise a take of up to 601.8 L/s. This is within the allocation limit for the catchment. The application is consistent with this policy.
6.4.2A – Where an application is received to take water and Policy 6.4.2(b) applies to the catchment, to	The policy is focused on the efficient use of water. The principle reasons that this policy was adopted is to ensure that conflict between users is

grant from within primary allocation no more water than has been taken under the existing consent in at least the preceding five years, except in the case … (not relevant)	minimised and that underutilised primary allocations are reduced in order to lower the supplementary minimum flows. The applicant was incorporated to efficiently distribute the water resources amongst its members. The reduction of conflict amongst water users from the Luggate is achieved by this incorporation. There is only one other party that takes water from the Luggate, downstream from the applicant's take. The conditions of dam permit 2007.676 ensure that the other party taking from the Luggate has sufficient water to exercise their resource consent. The incorporation combined with the applicant's provision of water to other users ensures that conflict between those taking water is minimised. Due to the primary allocation of water in the Luggate Catchment there is no supplementary allocation available. If supplementary allocation were available, it would only be available in times when the Luggate is in high flow. This remains the case should a rate of take consistent with the previous 5 years take be consented. A reduction of authorised rate of take will not allow the supplementary minimum flow to be lowered because the primary allocation in the Luggate does not allow for any supplementary allocation. Furthermore, there is no merit in authorising supplementary allocation on the Luggate, because: i) there is only one other user; and ii) the current allocations would not allow any potential new takes to obtain supplementary allocation. This removes the viability of any new takes and suggests that there will be no possibility for additional takes beyond those currently. Any reduction of the rate of take based on the previous 5 years would result in limited benefit for the Luggate, and would be detrimental to the applicant due to reduced potential use of the water. The policy suggests that historic use will be equivalent to future use. This is not correct. In the case of a new water take, the efficiency of the proposed infrastructure and utilisation of the water will be taken into account. The decision to allocate water would be based on future potential. The same logic should apply to this application. The applicant is proposing significant infrastructural

	upgrades. This will ensure the efficient utilisation of the water. Disregarding the volume taken in the last 5 years would, in this case, meet the purpose of the policy better than strict adherence to it. The incorporation of the applicant reduces conflict amongst those taking water from the Luggate. Granting consent to the applied take will allow infrastructural upgrades to occur ensuring absolute utilisation of the water. The minimum flow of the Luggate will be maintained in order to ensure environmental sustainability. The potential benefit that can be achieved through the water combined with the applicant's commitment to ensure efficiency upgrades means the 5 year "use it or lose it" requirement of policy 6.4.2A should not apply.
6.4.3 – For catchments identified in Schedule 2A, except as provided for by Policy 6.4.8, minimum flows are set for the purpose of restricting *primary allocation* takes of water.	The minimum flow for the Luggate Creek has been set at 500L/s (1 May to 30 October) and 180L/s (1 November to 30 April). The proposed consent will be subject to the minimum flow regime. Therefore CWL's application is consistent with this policy.
6.4.5 – The minimum flows established by Policies 6.4.3, 6.4.4, 6.4.6, 6.4.9 and 6.4.10 will apply to resource consents for the taking of water as follows: a) (not relevant); and b) (not relevant); and c) In the case of existing resource consent to take water from the Luggate catchment area … upon collective review of consent conditions within those catchments under ss 128 -132 RMA; and d) (not relevant).	This is not a review process and therefore the policy is not directly relevant. However, the new consent is proposed to commence on 2 October 2021 and will be subject to the minimum flow requirements as detailed in Schedule 2A.
6.4.7 - The need to maintain a residual flow at the point of take will be considered with respect to any take of water, in order to provide for the aquatic ecosystem and natural character of the source water body.	The consent for the Criffel weir requires 50L/s of residual flow to ensure adequate water is available for downstream users. This consent will maintain the 50L/s over the weir and be subject to the minimum flow regime. The application is consistent with this policy.
6.4.11 – To provide for the suspension of the taking of water at the minimum flows and aquifer restriction levels set under this Plan	This consent will adhere to the minimum flow requirements and is therefore consistent with this policy.
6.4.16 – In granting resource consents to take water, or in any review of the conditions of a resource consent to	A measurement regime is already in place. Therefore this application is consistent with this policy.

take water, to require the volume and rate of take to be measured in a manner satisfactory to the Council unless it is impractical or unnecessary to do so.	
6.4.19 – When setting the duration of a resource consent to take and use water, to consider: a) The duration of the purpose of use; b) The presence of a catchment minimum flow or aquifer restriction level; c) Climatic variability and consequent changes in local demand for water; d) The extent to which the risk of potentially significant, adverse effects arising from the activity may be adequately managed through review conditions; e) Conditions that allow for adaptive management of the take and use of water; f) The value of the investment in infrastructure; and g) Use of industry best practice.	The holders of the deemed permits and mining privileges have been taking water since the late 1800s. It is submitted that the values in the Creek have remained largely intact since that time. CWL needs long term security of supply to support capital upgrades that will contribute to the economic sustainability of landowners within the command area and the wider operation. This will provide for the community's wellbeing, therefore a 35 year duration is appropriate. The catchment is subject to a minimum flow requirement which will be adhered to. This will preserve the values of the catchment and result in CWL's take having no more than minor adverse effects while allowing significant benefits to be secured for the community. This application is consistent with this policy.

Policies for the promotion of management of water resources by users

Policy	Analysis
6.6.0 – To promote and support development of shared water infrastructure	CWL has been incorporated to combine existing deemed permits and mining privileges into a single resource consent. This allows continued shared use of existing infrastructure. This application is consistent with this policy.
6.6.1 – To promote water conservation practices through: a) Promoting water use practices which minimise losses of water; and b) Promoting water use practices which require less water	If this consent is secured it will provide necessary security of supply that will enable capital expenditure to improve irrigation practices. This will enable more land to be irrigated within the same volume of water. There is currently some water lost due to inefficiency. Should consent be granted the efficiency of the infrastructure will improve due to infrastructure upgrades. This consent will achieve this policy.
6.6.2 – To promote the storage of water at periods of high water availability through: a) The collection and storage of rain water; and b) The use of reservoirs for holding water that has been taken from any lake or river.	Storage is being considered and may be an option once CWL has certainty that their water take is secured. Taking water for storage has been allowed for in the application rates and volumes.

	This application is neither consistent nor inconsistent with this policy
6.6.3 – To work with and seek the co-operation of holders of deemed permits in: a) The observance of any minimum flows or levels applying to other users; b) (irrelevant as 6.4.15 repealed); and c) The measuring of takes and return flows.	As CWL is incorporated, no co-operation of holders of deemed permits will be necessary. These deemed permits and mining privileges will be encapsulated in one resource consent which will be subject to the minimum flow requirements of the Regional Plan. This application is consistent with this policy.

Analysis

CWL requires 601.8 L/s of water. The minimum flow requirement for the Luggate Catchment is provided in Schedule 2A of the ORC Plan: Water. It states that the minimum flow is 180L/s from November to April and 500L/s from May to October.

Schedule 2A also provides for a Primary Allocation Limit of 500L/s (Luggate Catchment from mouth to headwaters). However, policy 6.4.2(b) provides for an allocation limit of 987L/s. A take of 601.8 L/s is sought historical records adequately demonstrate that volume has been utilised.

The proposal to take 601.8 L/s is consistent overall with the objectives and policies of Chapter 6 as CWL proposes to adhere to the minimum flow requirements. Further, it appears that Council encourages the conversion of mining permits into resource consents provided the minimum flow requirements can be met and the consent holder needs that water. CWL requires their proposed take for the irrigation of their command area. This will allow the community to provide for their economic, social and spiritual wellbeing.

Overall, CWL's application is consistent with the objectives and policies of Chapter 6 ORC Plan: Water.

Relevant Objectives and Policies from the Kai Tahu ki Otago Natural Resource Management Plan 2005

Relevant Objective or Policy	Reason
Section 5.3.3.	The objectives of this section have been considered. They are not applicable to this proposal.
5.3.4(22) – *"To require that resource consent applicants seek only the amount of water actually required for the purpose specified in the application."*	This application seeks the volume of water that is necessary for its use. This application is consistent with this policy.
5.3.4(23) – *"To require that all water takes are metered and reported on, and information be made available to Kai Tahu ki Otago."*	The take is currently metered. The information is available to Kai Tahu since it is held in the public domain by the ORC. The application is consistent with this policy
5.3.4(25) – *"To oppose the granting of water take consents for 35 years. Consistent with a precautionary approach, either a review clause or a reduced term may be sought."*	CWL seeks a 35 year term given that the proposed take will not have adverse effects. The creek is also subject to a minimum flow therefore precautionary approach is no longer necessary in this catchment.
5.3.4(26) – *"To encourage those that extract water for irrigation to use the most efficient method of application. Flood irrigation, border dyke and contour techniques are less likely to be supported than spray irrigation techniques."*	Securing this consent will allow CWL to undertake capital expenditure to improve the efficiency of their infrastructure. This will allow a greater command area to be irrigated, providing a more efficient and productive use of land. This will lead to the increased wellbeing of the community. The application which will achieve efficiency gains is consistent with this policy.
5.3.4(27) – *"To require that consent terms for irrigation be 5-10 years where Kā Papatipu Rūnaka considers the method of irrigation to be inefficient to allow for an upgrade to a more efficient method."*	CWL seeks a term of 35 years for it's resource consent. This will provide security for CWL to justify capital expenditure to improve the efficiency of the infrastructure, allowing a greater command area to be irrigated. This will increase the economic, social and cultural wellbeing of the community. The duration proposed in the application is inconsistent with this policy, however upon the securing of this consent efficiency upgrades will make the take consistent with this proposal.
5.3.4(28) – *"To discourage over-watering."*	CWL does not engage in over-watering and take volumes have been calculated with reference to rainfall and soil characteristics. This application is consistent with this policy.
5.3.4(29) – *"To encourage irrigation at times when winds are light and evaporation low."*	CWL will manage water takes and irrigation to ensure the highest value can be extracted from

	the water. It is in CWL's interests to do this. No specific conditions are proposed in relation to this. The application is neither consistent or inconsistent with this policy.
5.3.4(30) – *"To encourage dry land farming practices where appropriate."*	Dry land farming is not appropriate in this location. This application is consistent with this policy.
Section 10.2.3	The policies of this section have been considered. These policies are not applicable to this application.

It is worth noting that there may be some policies that are relevant due to their concern with the values associated with Luggate Creek. This application will not affect the values of the water taken as the take is consistent with what has been authorised historically and will be subject to the minimum flow requirement detailed in the Regional Plan. Further, the Otago Regional Plan: Water which became operative on 1 June 2015 is required to have regard to the Kai Tahu Ki Otago Natural Resource Management Plan. As this application is broadly consistent with the Otago Regional Plan: Water, it is considered that the objectives and policies in the Kai Tahu Ki Otago Natural Resource Management Plan have been given effect.