



## Otago Regional Council

### Section 42A Staff Recommending Report

Water Permit Application RM19.151  
BSTGT Limited and Antony Patrick McQuilkin, Nicola Jane  
McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin, and  
Graeme Morris Todd Trustees of the A.P McQuilkin Family Trust

***The recommendation in the staff report represents the opinion of the writers and it is not binding on the Hearing Commissioners. The report is evidence and will be considered along with any other evidence that the Hearing Commissioners will hear.***

Alexandra King  
**Team Leader Consents**

25/05/2021

## Executive Summary of Recommendation

BSTGT Limited and Antony Patrick McQuilkin, Nicola Jane McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin, and Graeme Morris Todd Trustees of the A.P McQuilkin Family Trust (**Applicant**) have applied for resource consent (RM19.151). The Applicant is applying for new water permits replacing deemed permits which authorise the take and use of water from New Chums Creek and the North Branch of the Royal Burn. The volumes of water sought to be taken under RM19.151 represent a reduction in the rate of take and volumes consented by the existing Deemed Permits.

The Applicant has applied for a 15-year term. The application was limited notified and there were 15 submissions.

The key issues for this Application are the rate of take, allocation, residual flow, use of water and the consent duration.

After assessing the actual and potential effects of the Application, considering submissions, and considering all of the matters in section 104 of the Resource Management Act 1991, the recommendation of the reporting officer is that the Applications for consent are **granted** with a term expiring **31 December 2035** subject to the recommended conditions of consent.

## Report Author

Please note that this report contains the recommendations of the Consent Officer and represents the opinion of the author. It is not a decision on the Application, nor is it Council policy.

### Alexandra King

My name is Alexandra King. I am a Team Leader Consents – Coastal Otago employed by the Otago Regional Council. I have been employed by the Council as a Consents Officer and Senior Consents Officer since 2018.

I hold the qualifications of a Master of Science (Hydrology) and a Bachelor of Science (Geography and Environmental Management) both from the University of Otago. I am an Associate Member of the New Zealand Planning Institute.

I am a certified decision maker under the Ministry for the Environment 'Making Good Decisions' programme.

I have been involved with the Application since it was lodged and received in May 2019. I attended a site visit in January 2021.

## OTAGO REGIONAL COUNCIL DEEMED PERMIT REPLACEMENT SECTION 42A REPORT

**ID Ref:** A1473401  
**Application No(s):** RM19.151  
**Prepared For:** Hearing Panel  
**Prepared By:** Alexandra King, Team Leader Consents – Coastal Otago  
**Date:** 24 May 2021

**Subject:** Section 42A Recommending Report – Water Permit Application for BSTGT Limited and Antony Patrick McQuilkin, Nicola Jane McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin, and Graeme Morris Todd Trustees of the A.P McQuilkin Family Trust, Arrowtown.

### 1. Purpose

This report has been prepared under Section 42A of the Resource Management Act 1991 (RMA) to assist in the hearing of the application for resource consent made by BSTGT Limited and Antony Patrick McQuilkin, Nicola Jane McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin, and Graeme Morris Todd Trustees of the A.P McQuilkin Family Trust. Section 42A enables local authorities to require the preparation of a report on an application for resource consent and allows the consent authority to consider the report at any hearing. The purpose of the report is to assist the Hearing Panel in making a decision on the application.

The report assesses the application in accordance with Sections 104 and 104C of the RMA and makes a recommendation as to whether the application should be granted, and a recommendation on the duration of the consent and appropriate conditions.

This report contains the recommendations of the Consent Officer and is not a decision on the application. The recommendations of the report are not binding on the Hearing Commissioner. The report is evidence and will be considered along with any other evidence that the Hearing Commissioner will hear.

### 2. Summary of the Application

#### 2.1 Overview

**Applicant:** BSTGT Limited and Antony Patrick McQuilkin, Nicola Jane McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin, and Graeme Morris Todd Trustees of the A.P McQuilkin Family Trust

**Applicant's Agent:** Hilary Lennox

**Site address or location:** Site 1: Upper Royal Burn North Branch, approximately 1.2 kilometres north of the intersection of Glencoe Road and Crown Range Road, Arrowtown

Site 2: Upper Royal Burn North Branch, approximately 600 metres north of the intersection of Glencoe Road and Crown Range Road, Arrowtown

Site 3: New Chums Creek, approximately 3.4 kilometres north west of the intersection of Glencoe Road and Crown Range Road, Arrowtown

**Legal description(s) take and use:** Site 1: Lot DP 458870

Site 2: Lot 102 DP 473144 – Access Road

Site 3: Section 29 Block X Shotover SD

**Map reference(s):** Site 1: E1275616 N5012955

Site 2: E1275632 N5012344

Site 3: E1274643 N5015072

**Consent(s) sought:** Water Permit

**Purpose of take:** Irrigation and stock water

**Deemed permits:** RM14.364.01, 96285, 3073B, 97029.V1 and 95696

**Information requested:** No request for further information was been made

**Notification decision:** The application was limited notified to 16 parties.  
The Department of Conservation provided unconditional written approval prior to limited notification

**Submissions:** Total submissions received by due date: 15

In opposition: 15

Wishing to be heard: 15

**Site visit:** Processing officer attended site visit 27 January 2021

**Key Issues:** I consider the key issues with this application are:

- Consent duration;
- Rate and volume of take;
- Allocation; and
- Residual flow.

## 2.2 Description of Application

The Applicant has sought a new water permit to take and use water from New Chums and Royal Burn as primary allocation for the purpose of irrigation and stock water. The use of water is discussed below in Section 2.3.

## 2.3 Use of water

The Applicant has applied to take and use water for the purpose of irrigation and stock water. It is important to note the proposed use of land for a golf course is a Queenstown Lakes District Council consent matter and not a matter for our consideration here. However, Otago Regional Council is required to consider the efficient use of water and the effect of the use of the water.

## 2.4 Rates and Volumes Applied For

### Rates and Volumes Applied For (the applicant amended their volumes Appendix 6):

Rate of take:	Site 1: 15 L/s Site 2: 50 L/s Site 3: 24.5L/s
Daily Volume:	7,732 m <sup>3</sup> /day
Monthly Volume:	239,716 m <sup>3</sup> /month
Annual volume:	1,214,683 m <sup>3</sup> /year

## 2.5 Details of Deemed Permits Being Replaced

The Applicant is seeking new consents to 'replace' RM14.364.01, 96285, 3073B, 97029.V1 and 95696 which all expire 1 October 2021. Table 1 and 2 below explain the shareholders, current allocation and the allocation sought in the application.

This application was lodged with the Council at least six months before the expiry date of the deemed permits. In accordance with Section 124 of the Act, the applicant may continue to operate under Water Permits RM14.364.01, 96285, 3073B, 97029.V1 and 95696 until a decision on this application is made and appeals are determined.

**Table 1: Deemed permits to be replaced by RM19.151**

<i>Number</i>	<i>First Issued Date</i>	<i>Holder</i>	<i>Share</i>
RM14.364.01 – to take water as primary allocation from the Royal Burn North Branch at a maximum rate of 55.6 L/s	Originally 97029 February 1923	G Coutts, R Coutts and S L Anderson being Trustees of the Barley Station (Glencoe) Trust	100%
96285 – to take 50,000 L/hr from the Royal Burn North Branch (13.9 L/s)	February 1923	Glencoe Station Ltd*	20% (10,000 L/hour)
		G Coutts, R Coutts and S L Anderson being Trustees of the Barley Station (Glencoe) Trust	80% (40,000 L/hour)
3073B – to take 48,000,000 L/month from the Royal Burn North Branch at a maximum rate of 400,000 L/hr	February 1923	A P McQuilkin, N J McQuilkin, R N Wilson and G M Todd being Trustees of the A P McQuilkin Family Trust	100%

(111.1 L/s)			
97029.V1 – to take 56,000,000 L/month from the Royal Burn North Branch at a maximum rate of 200,000 L/hr (55.6 L/s)	February 1923	G Coutts, R Coutts and S L Anderson being Trustees of the Barley Station (Glencoe) Trust	79.9%
		P C Little and G Coutts being Trustees of the Barley Station Trust	20.1%
95696 – to take 300,000 L/hr from New Chums Gully (83.3 L/s)	September 1910	Glencoe Station Ltd*	20% (60,000 L/hour)
		BSTGT Ltd being Trustees of the Barley Station (Glencoe) Trust	80% (240,000 L/hour)

\*Glencoe Station Ltd are not renewing their shares as part of this consent application

**Table 2: Current Allocation and allocation sought under application RM19.151**

<b>Permit</b>	<b>Location</b>	<b>Primary allocation currently held by applicants</b>	<b>Primary allocation sought</b>
96285	Upper Royal Burn North Branch	11.1 L/s Same point of take as RM14.364.01	15 L/s
RM14.364.01	Upper Royal Burn North Branch	55.6 L/s Same point of take as 96285	
97029.V1	Lower Royal Burn North Branch	55.6 L/s Same point of take as 3073B	50 L/s
3073B	Lower Royal Burn North Branch McQuilkin share	111.1 L/s Same point of take as 97029.V1	
95696	New Chums Creek	66.7 L/s	24.5 L/s
<b>Total</b>		<b>300.1 L/s</b>	<b>89.5 L/s</b>

## 2.6 Application Documents

The Application was lodged with the Council on 13 May 2019 which included the following documents:

- Completed Otago Regional Council Form 1;

- Resource Consent Application and Assessment of Environmental Effects prepared by Hilary Lennox, dated 26 April 2019

The Applicant provided additional information in relation to:

- Royal Burn and New Chums fish survey 28 January 2020, provided to Council 7 September 2020; and
- Royal Burn gauging results Feb 2021 – NIWA, provided to Council 8 April 2021.

The Applicant also made amendments to the Application on two occasions. The relevant changes are outlined below:

- Term, effects on ecology, effects on hydrology, rates of take and irrigation maps. See letter from Hilary Lennox, Ahika dated 27 November 2020; and
- Annual volume, low cut of condition, residual flow for ecological purposes, and proposed consent conditions. See letter from Hilary Lennox, Ahika dated 3 March 2021.

All of these documents are included as Appendix 7.

### 3. Notification and Submissions

#### 3.1 Notification Decision

Council made the decision under Section 95B of the RMA to process the application on a limited notified basis on 6 July 2020, and decided to notify further affected parties on 7 December 2020 with the submission periods closing 3 August and 25 January 2021 respectively.

The following persons were determined to be adversely affected and were notified:

**Table 3: Parties assessed as adversely affected**

Party	What is effect?	Why no more than minor
Aukaha	Cultural values in the area that may be affected by the activity. This is because the taking of water may affect the values associated with water and or the recognised cultural values of the water as displayed in Schedule 1D.	The proposed rate of take exceeds MALF therefore the removal of water from the river as a consumptive take has the potential to cause a minor effect on the mauri of the water.
Te Ao Marama	Cultural values in the area that may be affected by the activity. This is because the taking of water may affect the values associated with water and or the recognised cultural values of the water as displayed in Schedule 1D.	The proposed rate of take exceeds MALF therefore the removal of water from the river as a consumptive take has the potential to cause a minor effect on the mauri of the water.
Glencoe Station Limited	20% shareholder of the consents being replaced. They are not part of this consent application.	As the applicant has proposed a residual flow condition, this may mean when Glencoe Station comes to replace its 20% share it

		will not have surety of water supply for continued use. Therefore, effects on the company are minor.
John Baker and Bridget Steed, Phillip Blakely and Mary Wallace, Barry Hodges, Adam Hill and Rosemary Hodson being Trustees of the R & A Hill Family Trust	Downstream user (97402)	Due to the rate of take exceeding MALF the effects on the downstream user are at least minor.
Downstream permitted users Lofts Water Limited	Downstream permitted users on the North Branch Royal Burn	Due to the rate of take exceeding MALF the effects on the downstream user are at least minor.
Soho Property Limited	Owner of F41/0307	This bore relies on a groundwater source which in the long term may be limited in sustainability and rely on natural surface water losses from New Chums. The effects on this bore are considered low as it is a permitted take and therefore minor.
Glencoe Land Development Company Limited	Owner of F41/0612 and water take 97184	This bore relies on a groundwater source which in the long term may be limited in sustainability and rely on natural surface water losses from the Royal Burn. The effects on this bore are considered low and therefore minor.
Richard Hutchens	Owner of F41/0277	This bore relies on a groundwater source which in the long term may be limited in sustainability and rely on natural surface water losses from the Royal Burn. The effects on this bore are considered low as it is a permitted take and therefore minor.
Royal Burn Station Limited	Owner of F41/0271	This bore relies on a groundwater source which in the long term may be limited in sustainability and rely on natural surface water losses from the Royal Burn. The effects on this bore are considered low as it is a permitted take and therefore minor.
Jef Desbecker	Owner F41/0249	This bore relies on a groundwater source which in the



		long term may be limited in sustainability and rely on natural surface water losses from the Royal Burn. The effects on this bore are considered low as it is a permitted take and therefore minor.
Bringans Consulting Limited	Owner of F41/0218	This bore relies on a groundwater source which in the long term may be limited in sustainability and rely on natural surface water losses from the Royal Burn. The effects on this bore are considered low as it is a permitted take and therefore minor.
Haraway Trust – Dean Sharpe and Bentley de Beyer	Permitted take which supplies households domestic supply from the Royal Burn. The Royal Burn runs through their property and is used as stock water supply.	Although the applicant has proposed residual flow conditions, residual flows have the purpose of providing for the aquatic ecosystem and natural character of the waterbody not downstream users. Based on the proposed rates and timing of the take the lawful user has been assessed as an affected party to the application as effects on them are minor as the permitted take may be unable to be taken if consent is granted.
Dinah Eastwood & Angus Sutherland	Permitted take which supplies households domestic supply from the Royal Burn. The Royal Burn runs through their property and is used as stock water supply.	Although the applicant has proposed residual flow conditions, residual flows have the purpose of providing for the aquatic ecosystem and natural character of the waterbody not downstream users. Based on the proposed rates and timing of the take the lawful user has been assessed as an affected party to the application as effects on them are minor as the permitted take may be unable to be taken if consent is granted.
Peter Clarke	Permitted take of domestic and stock water from the Royal Burn. The Royal Burn runs through their property and is used as stock water supply.	Although the applicant has proposed residual flow conditions, residual flows have the purpose of providing for the aquatic ecosystem and natural character of the waterbody not downstream users. Based on the proposed rates and timing of the

		take the lawful user has been assessed as an affected party to the application as effects on them are minor as the permitted take may be unable to be taken if consent is granted.
James and Lyn Campbell	Permitted take of domestic and stock water from the Royal Burn. The Royal Burn runs through their property and is used as stock water supply.	Although the applicant has proposed residual flow conditions, residual flows have the purpose of providing for the aquatic ecosystem and natural character of the waterbody not downstream users. Based on the proposed rates and timing of the take the lawful user has been assessed as an affected party to the application as effects on them are minor as the permitted take may be unable to be taken if consent is granted.
Patrick and Liisa Garceau	Permitted take of domestic and stock water from the Royal Burn. The Royal Burn runs through their property and is used as stock water supply.	Although the applicant has proposed residual flow conditions, residual flows have the purpose of providing for the aquatic ecosystem and natural character of the waterbody not downstream users. Based on the proposed rates and timing of the take the lawful user has been assessed as an affected party to the application as effects on them are minor as the permitted take may be unable to be taken if consent is granted.

It is noted that the Department of Conservation (DOC) has supplied written approval and therefore, all consideration of effects on DOC will be disregarded.

**Parties not considered affected:**

- Contact Energy - The applicant amended their application to reduce the rate of take. The rate of take is now below the rate permitted by Rule 12.1.2.2 in the Water Plan for takes directly from the Clutha River. Therefore, the effects on Contact Energy are considered to be less than minor.
- Otago Fish and Game - Fish and Game under the Conservation Act is a body corporate which has the rights, powers and privileges of a natural person. The primary function of Fish and Game is to manage, maintain and enhance sports fish and game resources in the recreational interest of anglers and hunters. As stated above the trout present do not form a recreational fishing asset due to their size, therefore effects on fish and game were considered less than minor.

- Forest and Bird - There are no regionally significant wetlands in proximity to the takes, therefore effects on Forest and Bird were considered less than minor.
- Te Runanga o Ngai Tahu - Neither the Royal Burn nor New Chums Creek are listed as Statutory Acknowledgement areas.
- GLC Land Holding Limited; SDM Trustee Company (2015) Limited, Neil Alexander McIlree and Philip John Dexter; Edward Michael Eadeh and Diann Elizabeth Eadeh; Joseph Dale Anderson and Paula Christine; Peter Frost – There are water races running across their properties. The Applicants amended their application and supplied section 417 certificates. There are no environmental effects on these property owners therefore they are not considered affected. It is worth noting Philip Dexter contacted me with concerns regarding flooding on his property caused by the water race. However, after discussing this matter with compliance there have been no complaints lodged with Council or any investigation undertaken to show evidence of this claim.
- Royal Burn Station Limited (Carlos Bagrie) - holds a resource consent for a surface water take from South Branch Royal Burn. The takes associated with this application are from the North Branch of the Royal Burn therefore it was considered the effects on this take are less than minor. However, bore F41/0271 is owned by Royal Burn Station and effects on the bore are considered minor and Royal Burn Station were subsequently notified as affected.
- David Stretch - the North Branch of the Royal Burn does not flow through the property, it is Brodies race that runs through his property which is the Applicant's race. Therefore, Mr Stretch is not considered affected by the proposed takes from the Royal Burn.
- Troy and Vera Stewart have a permitted take which is located below the terrace at approximately 3 km below the Applicant's take. The rate of take for a permitted take will be below 1 L/s, therefore it was concluded the effects of the take from the applicant were less than minor.
- The Ching Family Trust owns property adjacent to the Royal Burn North Branch. They were not considered affected as the Ching Family Trust does not have an existing water permit or bore on the site, and would require a resource consent to drill one. The Council does not have jurisdiction to assess the effects of the proposed activity on potential bore interference where that bore does not exist, and there is no certainty as to the location or depth of such a bore.
- Greg and Philippa Rooke along with Nick and Monique Scott have a permitted take from a bore which is located a distance from the surface water takes, and no permitted takes from the North Branch of the Royal Burn they were not considered affected.

### 3.2 Submissions Received

Submissions were received from the following persons:

**Table 4: Summary of Submissions for application RM19.151**

Affected party Submitter	Why affected	Submission points	Wishes to be heard
Aukaha	Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki	Kāi Tahu would not oppose an amended application or, any consent	Yes

	Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga (Ngā Rūnanga)	that would be subject to the following conditions: <ul style="list-style-type: none"> <li>• That the term of consent be no longer than 6 years.</li> <li>• Retain existing requirements for water meter(s) and ensure results continue to be recorded and reported via telemetry.</li> <li>• A minimum flow of 90% of the mean annual low flow (MALF) as calculated by the regional council and an allocation limit of 30% of MALF as calculated by the regional council</li> </ul>	
Phillip Blakely and Mary Wallace	Consented downstream user	Oppose application in its entirety specifically the North Branch of Royal Burn concerns relating to the use of water for golf course and flow reduction.	
John Baker and Bridget Steed	Consented downstream user	Concerns relating to the adverse environmental effects, the proposed takes not sustaining needs for future generations, nor life supporting capacity, acknowledgement of downstream users, use of water and rates of take and statutory assessment	Yes
Glencoe Station and Glencoe Land Development	Shareholder	Concerns relating to the lack of consultation, rate and volume taken, residual flow and shareholder allocation availability	Yes
Barry Hodges	Consented downstream user	Concerns relating to the over allocation, use of water for golf course and drying reaches of Royal Burn	Yes
Angus Sutherland and Dinah Eastwood	Lofts permitted user	Concerns relating to the amount of water being taken, use of water for golf course and farm effects on Royal Burn, need for monitoring by ORC and acknowledgement of downstream users	Yes
B Wolter	Lofts permitted user	Concerns relating to the quantity of water being sought, the description of environment and future land use, lack of consultation and acknowledgement of downstream users. The application is not consistent with purpose and principles of RMA	Yes
Bloomsbury Stud	Lofts permitted user	Concerns relating to the adverse environmental effects, the proposed takes not sustaining needs for future generations, nor life supporting capacity, acknowledgement of downstream users, use of water and	Yes

		rates of take and statutory assessment	
Peter Clarke and Niki Mason	Permitted user	Concerns relating to the lack of hydrology information, controlling intakes, residual flows and minimum flow and lack of storage	Yes
Patrick Garceau	Permitted user	Concerns relating to the rate and volume of take, use of water for golf course and turf business, drying reaches of the Royal Burn and the effect on trout and downstream users	Yes
Glenn and Keryn Russell	Lofts permitted user	Concerns relating to the effects on downstream users, values within Brodies race, quantity and quality of water	Yes
James and Lynn Campbell	Permitted user	Concerns relating to the volume of water, use of water, continual flow within the Royal Burn and water quality	Yes
Jef Desbecker and Robina Bodle	Lofts permitted user, separate surface water permitted user and bore permitter user	Concerns relating to effects on the environment, adjacent ecosystems, aquifers and downstream users, allocation and use of water. Effects on trout and recreational activities are also of concern. No acknowledgment of downstream users.	Yes
Lindsay and Gaya Irwin (Mylore Family Trust)	Lofts permitted user	Concerns relating to loss of water for stock and deer shed use is wanting more control on amount of water taken and used.	Yes
Mark Weldon and Sarah Elliot	Lofts permitted user	Opposes the application due to lack of information and concerns about allocation and use of water for golf course. That, if the application is granted in any form, including modified form, it is: <ul style="list-style-type: none"> <li>- 6 years duration;</li> <li>- The 'load balancing' approach be rejected;</li> <li>- Accompanied by obligations to measure and record daily water flow of both streams at the take points, total water taken and used; and</li> <li>- Accompanied by obligations to keep records and make those records available with respect to pesticides and fertilizer use.</li> </ul>	Yes

#### 4. Description of the Environment

#### 4.1 Description of the Site and Surrounding Environment

There are two properties included in the application and three points of take. One property is a lifestyle property owned by the McQuilkin Family Trust and around 15.2 ha of this is and will be irrigated by the water sought. The other property is a productive farm owned by BSTGT Limited that contains several dwellings, a turf growing business and a private golf course. In total between the two properties 139.2 ha of pasture is proposed to be irrigated and a further 20 ha of golf course will be irrigated.

Figures 1 and 2 shows the irrigation infrastructure in place across the properties, including a pond on the BSTGT site that is used to store water from the Upper Royal Burn point of take. The vast majority of this infrastructure traverses the applicants' properties. There are a further two ponds; one has been constructed to store water from New Chums Creek, and another to store water on the golf course but those activities are not part of this consent application.

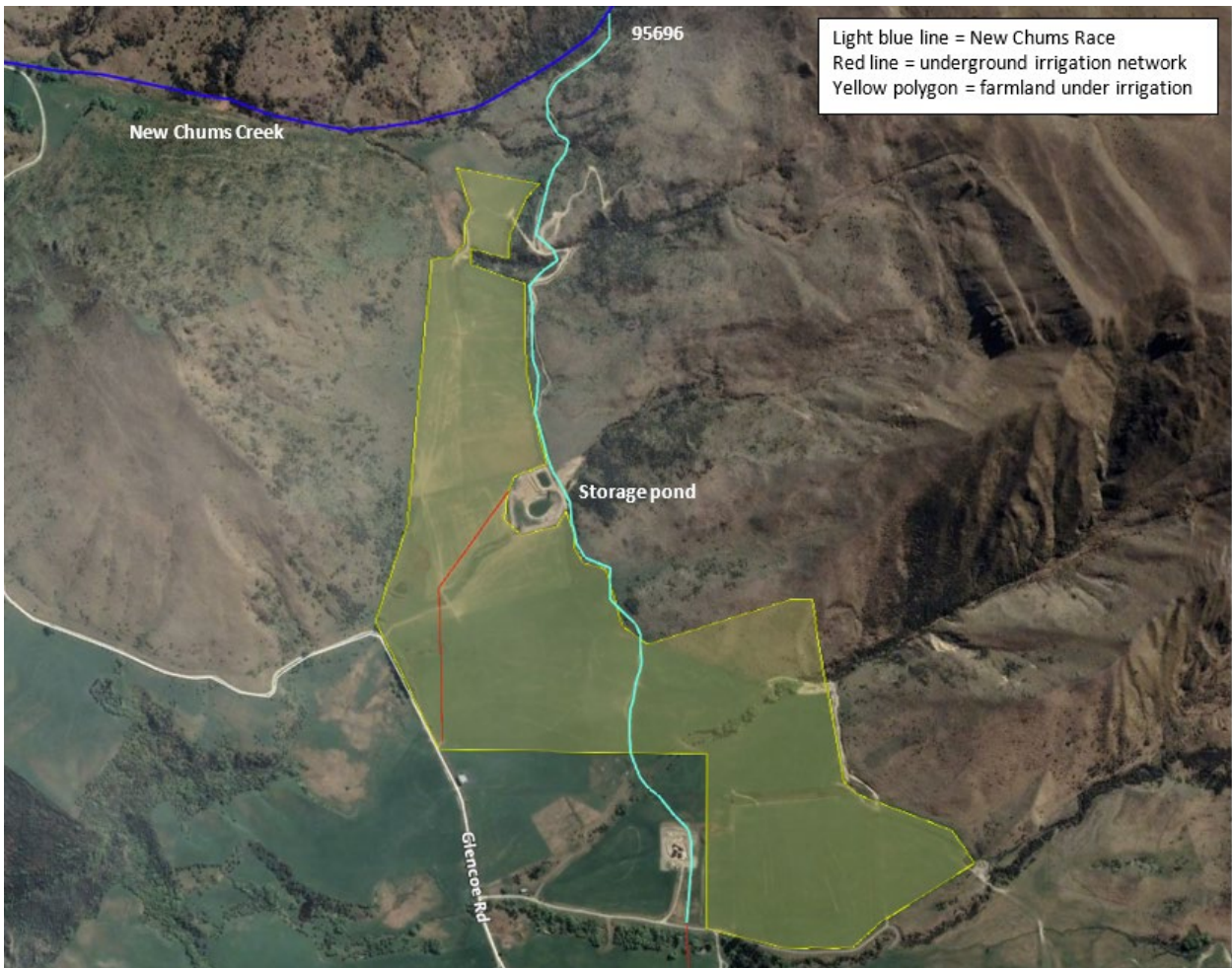
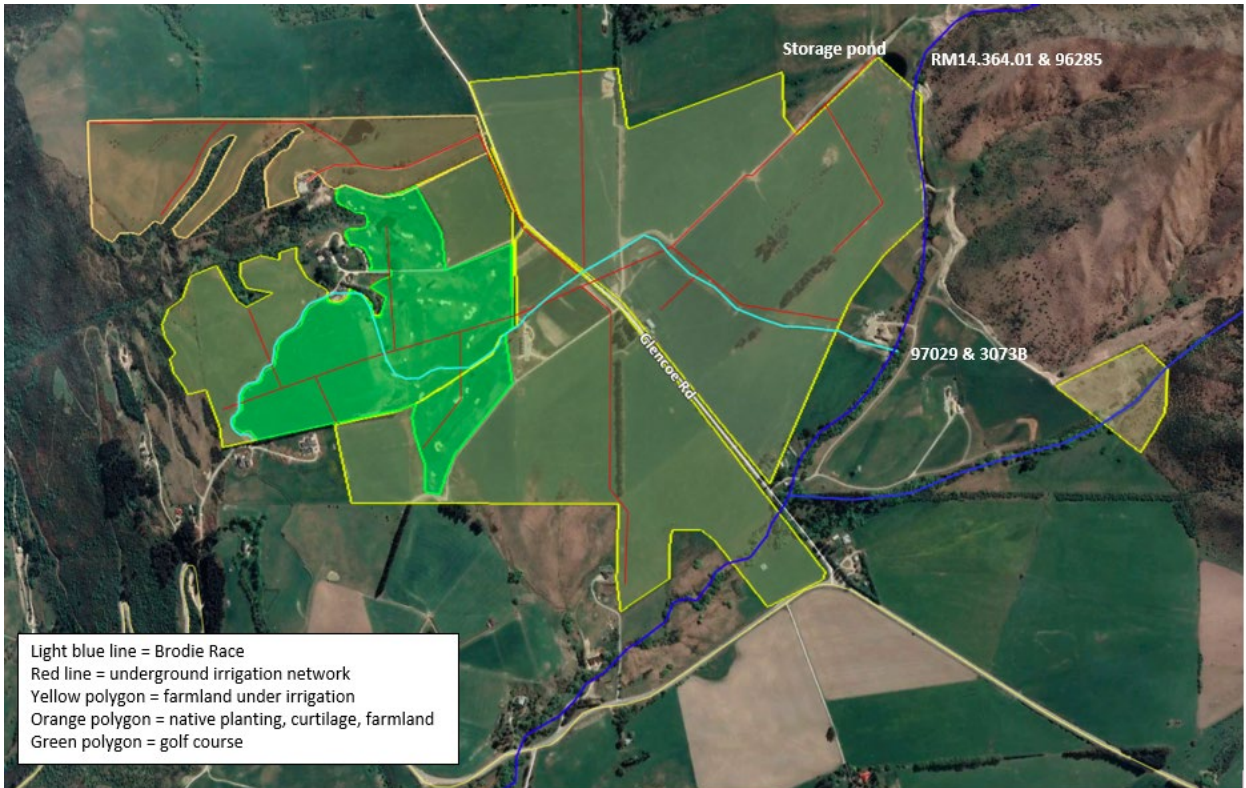


Figure 1: Location of the point of take on New Chums including the race, underground irrigation network and irrigated area (Source: Application)



**Figure 2: Points of take on the Royal Burn, Brodie race, underground irrigation network, irrigated area, and golf course (Source: Application)**

**Take site 1:**

The main point of take is located in the upper part of the Royal Burn North Branch (referred to as the “Upper Royal Burn” take). This is where RM14.364.01 and 96285 are currently exercised. The intake structure consists of a pipeline sitting in the main channel of the Royal Burn (Figure 3). It is fitted with a screen to prevent debris entering the pipeline. Water travels to ponds around this intake pipe, which then diverts water into a holding chamber on the bank of the creek. A gated outlet allows water to flow from the holding chamber, through an underground pipe, into the applicant’s 13,000 m<sup>3</sup> storage pond (which sits outside of the bed of the creek). The take is metered at a location between the intake and the pond. From the storage pond, water is conveyed by an underground pipeline for use at various locations throughout the property for irrigation and stock drinking water.



**Figure 3: Upper Royal Burn intake showing the holding chamber, gated outlet and ponded area surrounding the intake pipe. Source: Application.**

#### **Take site 2:**

The other point of take is located further downstream on the Royal Burn North Branch (referred to as the “Lower Royal Burn” take). This is where 97029 and 3073B are currently exercised. At the point of take, the applicant has recently upgraded the intake infrastructure so that it now comprises a manually operated control gate (Figures 4 and 5). There is no screening at this point of take. Water taken at the Lower Royal Burn point of take is conveyed by the Brodie Race for use at various locations throughout the property for irrigation and stock drinking water. There is also an offtake from the Brodie Race immediately downstream of Glencoe Road where the McQuilkin Family take their water (under Deemed Permit 3073B) and convey it by an underground pipeline to their property. WEX0129 authorises the metering of this take at a location near the entrance of the McQuilkin property. At both points of take on the Royal Burn, the creek bed consists of gravelly substrate and riparian margins are vegetated with exotic grasses.





**Figure 4: Lower Royal Burn intake showing the flow sharing between the Royal Burn and applicants take. Source: Processing officer site visit photo.**



**Figure 5: Lower Royal Burn intake showing the natural bed, diversion channel toward flume and the water flume. Source: Application.**

**Take site 3:**

Water is taken from within the New Chums Creek gully through an overground pipeline which turns into an open race once it leaves the gully. Parts of the historic pipeline have recently been replaced with more modern piping. At the point of take there is a small weir structure that allows water to pool around the gated intake pipe (Figure 6). These structures have all been in place for many years and there is no screening at this point of take. This take is not measured deep in the gully at the point of take. Rather it is measured further along the race, outside of the gully, and this is authorised by WEX0184.

The New Chums race is approximately 2 km long and has been maintained in good condition, with no signs of any leakages. The race then goes into a 650 m-long underground pipe that transports any unused water from the New Chums race into the Brodie Race.



**Figure 6: New Chums intake showing the intake gate, new pipe and historic pipe. Source: Application.**

The properties are situated on the Crown Terrace, a distinct geological feature located above Arrowtown which runs adjacent to the Crown Range. Most of the terrace has a landcover categorised in the New Zealand Landcover Database as high producing exotic grassland, with low producing grassland and tussock on the eastern slopes. This exotic grassland cover is consistent with this area primarily being used for farming and lifestyle properties. Historically, the area was involved in gold mining practice. The terrace sits approximately 600 m above sea level, raising only 100 m back towards the foothills of the Crown Range. The terrace is bordered in the north by Mt Beetham, and towards the south it drops off to the Kawarau River.

The Crown Terrace is subject to characteristically hot dry summers and cold winters, with snow typical. The alpine pass that crosses the terrace and on into the Cardrona Valley is frequently closed in winter due to snow and ice. Median annual rainfall is 700 – 800 mm.

The Crown Terrace is dominated by Pallic Soils, with the upper reaches of the terrace that border the foothills of the Crown Range composed of Recent Soils. Because the Crown Terrace is a distinct geological feature, it has a unique lithology. The terrace is composed of Loess and Alluvium, and the surrounding lithology Schist. The terrace is the result of uplift and glacial processes that have produced the characteristics scarps, and flat area that is now used for farming.

#### 4.2 Description of Surface Water Body

The northern branch of the Royal Burn runs west off the Crown Range and drains into the Arrow River approximately 3 km upstream from the confluence of the Arrow River with the Kawarau River and is therefore a sub catchment of the Arrow. The Ministry for the Environment River Flow database estimates the Royal Burn North Branch to have a mean annual flow of 33.7 L/s and a MALF of 10.7 L/s upstream of the upper point of take.

The head waters of New Chums Creek flow west off the Crown Range towards Mt Beetham, flowing from here north west, draining into the Arrow River. The confluence with the Arrow River is approximately 1 km upstream from Arrowtown. The Ministry for the Environment River Flow database estimates New Chums Creek to have a mean annual flow of 19.8 L/s and a MALF of 4.7 L/s.

A search of the New Zealand Freshwater Fish Database (NZFFD) indicates that there have been three surveys conducted in the Royal Burn catchment. These records indicate that no fish species occupy the waterways associated with this application. The most recent survey was conducted in 2018, by Otago Regional Council (ORC) and the findings of no fish support a previous survey that was completed by ORC in other waterways on the Crown Terrace. The surveys did reveal the presence of invertebrate species from the Trichoptera, Ephemeroptera and Plecoptera families. The Royal Burn and New Chums fish survey 28 January 2020 undertaken by the Applicant (see Appendix 6) found the following:

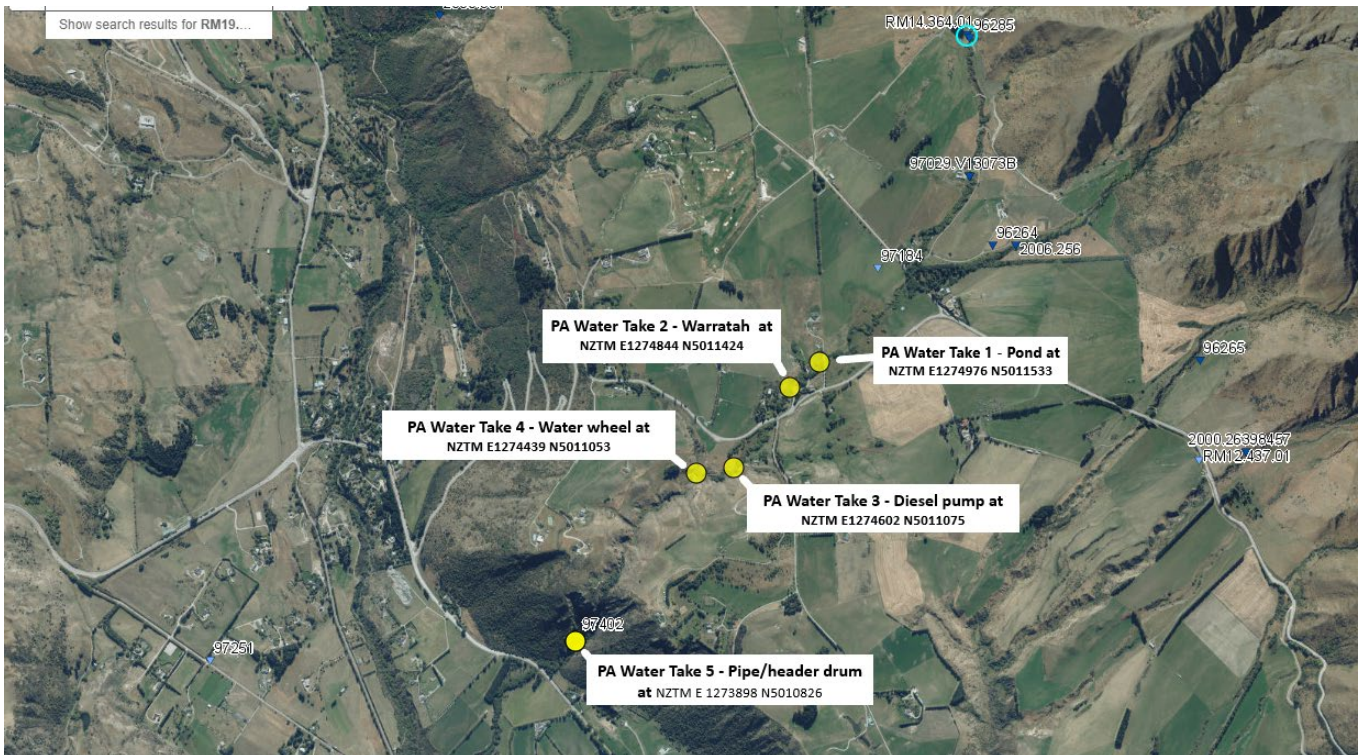
- On New Chums Creek no fish were caught or observed during the survey. The invertebrate community was dominated by large body specimens such as stoneflies indicating fish (especially salmonids) are not present. There were waterfalls and fish barriers present.
- On the North Branch of the Royal Burn no fish caught or observed. The invertebrate community was dominated by large body specimens such as stoneflies indicating fish (especially salmonids) are not present. Downstream of take 97029 and 3073B the North Branch of the Royal Burn went dry despite two thirds of the flow passing the intake, indicating that the lower section of the Royal Burn North Branch is naturally intermittent. Downstream of the North and South Branches confluence, the Royal Burn gains flows from groundwater inputs and appears to flow permanently. It was in this section several age classes of small trout were recorded. Given there is no fish passage from the Arrow up the Crown Terrace to the Royal Burn this indicates fish have been liberated into the Royal Burn. Currently it is likely the intermittent reach in the North Branch is acting as a barrier to trout moving into the fish-free perennial reaches above the takes. It is highly unlikely that this trout population is contributing to the wider Arrow fishery, nor are they of any size to be a recreational asset.

There are various downstream users on the Royal Burn (see Figure 7 below which shows their locations relative to the Applicants' takes). There is one consented deemed permit downstream user 97042. These permitted users are:

- Permitted point of take location 1 owned by Patrick and Liisa Garceau where water is abstracted from the Royal Burn in a non-consumptive manner to supply an ornamental pond with water. The ornamental pond discharges back to the Royal Burn approximately

50 metres downstream from the abstraction. Council compliance officer Byron Pretorius estimates the take is 1 L/s (Appendix 6). This permitted user also uses water in the Royal Burn for stock water.

- Permitted point of take location 2 is owned by Lofts Water Limited. A Certificate of Compliance (CoC) exists for this abstraction. The CoC allows Lofts to take and use up to 25,000 litres per day for domestic and animal drinking water.
- Permitted point of take location 3 is owned by Jef Desbecker and Robina Bodle this is a domestic permitted activity take, where a small diesel pump is located close to the waterway. The pipe diameters were approximately 20mm, reflecting that an abstraction of more than 1 litre per second is unlikely.
- Permitted point of take location 4 is owned by James and Lyn Campbell who are in the process of completing construction of a water wheel. Infrastructure has been installed in the waterway.
- Permitted point of take location 5 is owned by Dean Sharpe and Bentley de Beyer located in close proximity to the Water Permit 97402 point of take. Here, a pipe in the Royal Burn conveys water to a small sized header drum. A pipe approximately 50mm in diameter takes water from the header drum down gradient toward the state highway.



**Figure 7: Permitted activity takes and consented takes from the Royal Burn. Source: Otago Maps.**

There are also groundwater takes from bores near the Applicants' takes on both the Royal Burn and New Chums. On New Chums Creek there is one bore F41/0307 which has no associated water permit, so it is assumed to be a permitted take. There are various bores located near the proposed takes on the Royal Burn as shown in Figure 8 below. There is only one bore with a water permit to take groundwater (97184) from bore F41/0612. Two of the five bores (F41/0176

and F41/0277) are at the confluence of the South and North branches of the Royal Burn while the other three are downstream and flank the main stem of the Royal Burn above the terrace drop off (F41/0271, F41/0249 and F41/0218).

There is no known aquifer below the bores and therefore no comment can be made on allocation of groundwater.

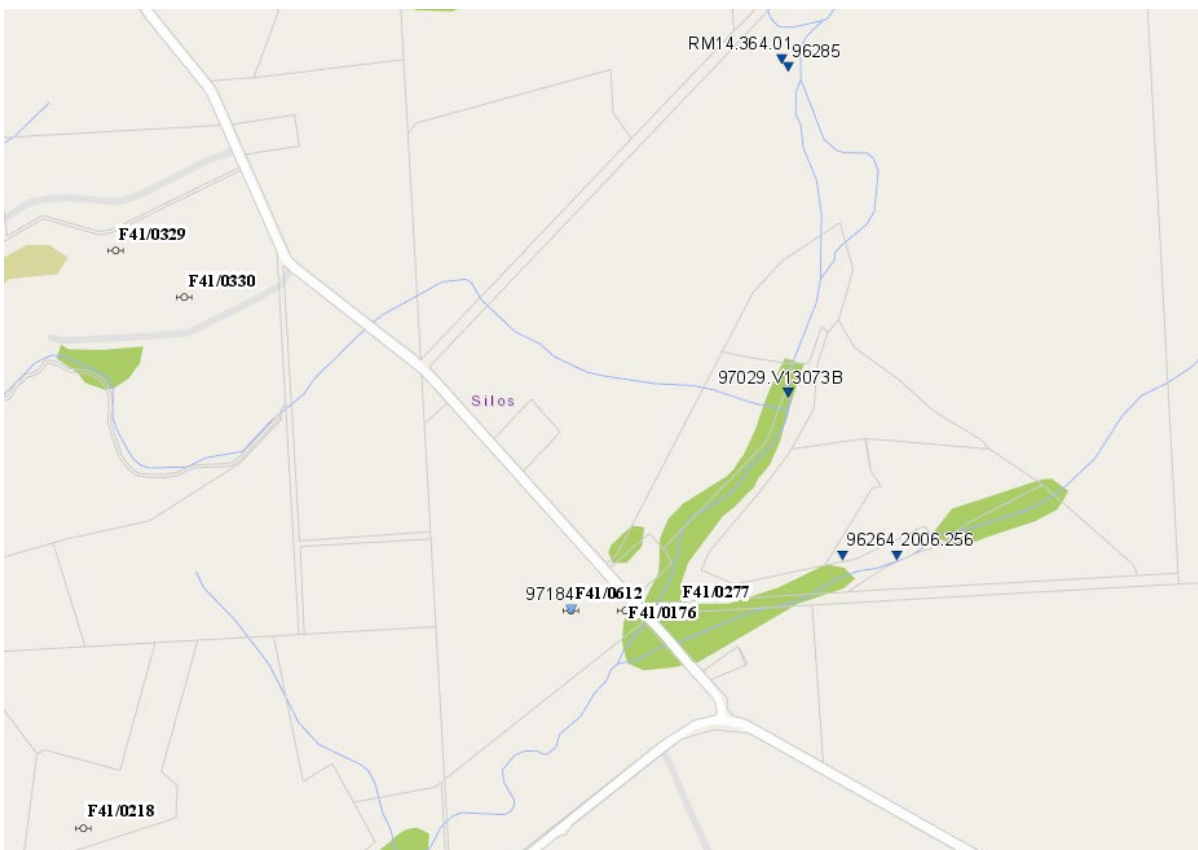


Figure 8: Bores located near the proposed takes on the Royal Burn. Source: Otago Maps.

### 4.3 Schedule 1 of the Regional Plan: Water

Schedule 1A of the Regional Plan: Water for Otago (RPW) outlines the natural and human use values of Otago's surface water bodies. Neither the Royal Burn nor New Chums Creek are within this Schedule, however the Arrow River is identified as having the following values:

- Large water body supporting high numbers of particular species, or habitat variety, which can provide for diverse life cycle requirements of a particular species, or a range of species.
- Access within the main stem of the catchment through to the sea or lake unimpeded by artificial means such as weirs and culverts.
- Plant/boulder/gravel/sand/silt/rock bed composition of importance to resident biota.

- Absence of aquatic pest plants identified in the Pest Plant Management Strategy for the Otago Region.
- Absence of crack willow.
- Presence of significant fish spawning areas for trout
- Presence of significant areas for development of juvenile trout
- Significant presence of trout
- Also note outstanding natural features/landscapes areas with a high degree of naturalness.

Schedule 1B of the RPW identifies water takes used for public supply purposes (current at the time the RPW was notified in 1998), while Schedule 1C identifies registered historic places which occur in, on, under or over the beds or margins of lakes and rivers. There are no Schedule 1B and 1C values in the RPW listed in close proximity to the proposed activity.

Schedule 1D of the RPW identifies the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kai Tahu. Neither the Royal Burn nor New Chums Creek are within this Schedule, however the Arrow River is identified as having the following values:

- ***Kaitiakitanga:*** the exercise of guardianship by Kai Tahu, including the ethic of stewardship.
- ***Mauri:*** life force.
- ***Waahi taoka:*** treasured resource; values, sites and resources that are valued.
- ***Mahika kai:*** places where food is procured or produced.
- ***Kohanga:*** important nursery/spawning areas for native fisheries and/or breeding grounds for birds.
- ***Trails:*** sites and water bodies which formed part of traditional routes, including tauraka waka (landing place for canoes).
- ***Cultural materials:*** water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines).

#### 4.4 Schedule 2 of the Regional Plan: Water

The Arrow catchment is not in Schedule 2A-2D of the RPW.

#### 4.5 Regionally Significant Wetlands and Natural Inland Wetlands

Schedule 9 of the RPW identifies Regionally Significant Wetlands and Wetland Management Areas. There are no Regionally Significant Wetlands in the vicinity of the activity.

A wetland 'swamp' was mentioned as being present by the Applicant, downstream of both water takes on the Royal Burn in the Further Amendments letter 3 March 2021. When questioned about the ecology of the stated 'swamp' in an email dated 14 May 2021, the response in an email from Ms Lennox on 18 May 2021 was that the term 'swamp' had not been appropriately classified and should be referred to as a 'damp patch in the paddock'. Further to this it is stated to be dominated by willow, exotic pasture, bull rushes and other weeds. This wetted area was not considered to be of ecological value by Ms Lennox and this was reiterated by Mr Hickey in an email (dated 21 May 2021) who described this as "an area of groundwater upwelling" and did not consider it to be a 'swamp' as ecologically defined.

## 5. Status of the Application

Resource consent is required under the operative Regional Plan: Water (RPW). The relevant rules in the operative RPW are as follows.

### The take and use of water

#### **Restricted Discretionary Activity Rule 12.1.4.5**

*Taking and use of surface water as primary allocation applied for prior to 28 February 1998 in catchments not listed in Schedule 2A:*

- (i) *This rule applies to the taking of surface water, as primary allocation, in catchment areas not listed in Schedule 2A, if the taking was the subject of a resource consent or other authority:*
  - (a) *Granted before 28 February 1998; or*
  - (b) *Granted after 28 February 1998, but was applied for prior to 28 February 1998; or*
  - (c) *Granted to replace a resource consent or authority of the kind referred to in paragraph (a) or (b).*
- (ii) *Unless covered by Rule 12.1.1A.1, the taking and use of surface water to which this rule applies is a restricted discretionary activity. The matters to which the Otago Regional Council has restricted the exercise of its discretion are set out in Rule 12.1.4.8.*
- (iii) *Unless covered by Rule 12.1.1A.1, the taking and use of surface water in the Waitaki catchment to which this rule applies is a restricted discretionary activity provided that by itself or in combination with any other take, use, dam, or diversions, the sum of the annual volumes authorised by resource consent, does not exceed the allocation to activities set out in Table 12.1.4.2. The matters to which the Otago Regional Council has restricted the exercise of its discretion are set out in Rule 12.1.4.8.*
- (iv) *Takes to which this rule applies will not be subject to a minimum flow condition until the minimum flow has been determined by investigation and added to Schedule 2A by a plan change.*

*Note: If a minimum flow has been determined for a catchment previously not listed in Schedule 2A, and that minimum flow has been set by a plan change, the catchment will then be listed in Schedule 2A and Rule 12.1.4.2 or Rule 12.1.4.4 will apply.*

#### **Rule 12.1.4.8 Restricted Discretionary Activity considerations**

*In considering any resource consent for the taking and use of water in terms of Rules 12.1.4.2 to 12.1.4.7 and 12.2.3.1A, the Otago Regional Council will restrict the exercise of its discretion to the following:*

- (i) *The primary and supplementary allocation limits for the catchment; and*
- (ii) *Whether the proposed take is primary or supplementary allocation for the catchment; and*
- (iii) *The rate, volume, timing and frequency of water to be taken and used; and*
- (iv) *The proposed methods of take, delivery and application of the water taken; and*
- (iv) *The source of water available to be taken; and*
- (vi) *The location of the use of the water, when it will be taken out of a local catchment; and*
- (vii) *Competing lawful local demand for that water; and*
- (viii) *The minimum flow to be applied to the take of water, if consent is granted; and*



- (ix) *Where the minimum flow is to be measured, if consent is granted; and*
- (x) *The consent being exercised or suspended in accordance with any Council approved rationing regime; and*
- (xi) *Any need for a residual flow at the point of take; and*
- (xii) *Any need to prevent fish entering the intake and to locate new points of take to avoid adverse effects on fish spawning sites; and*
- (xiii) *Any effect on any Regionally Significant Wetland or on any regionally significant wetland value; and*
- (xiv) *Any financial contribution for regionally significant wetland values or Regionally Significant Wetlands that are adversely affected; and*
- (xv) *Any actual or potential effects on any groundwater body; and*
- (xvi) *Any adverse effect on any lawful take of water, if consent is granted, including potential bore interference; and*
- (xvii) *Whether the taking of water under a water permit should be restricted to allow the exercise of another water permit; and*
- (xviii) *Any arrangement for cooperation with other takers or users; and*
- (xix) *Any water storage facility available for the water taken, and its capacity; and*
- (xx) *The duration of the resource consent; and*
- (xxi) *The information, monitoring and metering requirements; and*
- (xxii) *Any bond; and*
- (xxiii) *The review of conditions of the resource consent; and*
- (xxiv) *For resource consents in the Waitaki catchment the matters in (i) to (xxiii) above, as well as matters in Policies 6.6A.1 to 6.6A.6.*

### **Permitted Activities**

The Applicant currently discharges water from the reservoir via a spillway and enters the Royal Burn at approximately NZTM 2000: E1275618 N5012913. The discharge of water into a lake or river from a permitted dam is a permitted activity in accordance with Rule 12.C.1.1 of the RPW. The discharge to Royal Burn is therefore a **permitted** activity.

### **Plan Change 7 to the Water Plan (Notified)**

Plan Change 7 was notified by the Council on 18 March 2020 and therefore the rules, objectives and policies in the plan change apply to the water permit. The rules in PPC7 have immediate legal effect in accordance with section 86B(3) of the RMA, as they relate to water, and therefore they must be complied with.

However, under s88A of the RMA an application for a resource consent continues to be processed for the type of activity that applied when an application was made, despite an activity status changing as a result of proposed plan change being notified. As this application was lodged prior to notification of PPC7, it will retain the activity status that it had under the operative rules in the RPW.

For applications to renew deemed permits expiring in 2021, and any other water permits expiring prior to 31 December 2025, PC7 establishes a controlled activity consenting framework for short duration consents which comply with the controlled activity conditions. Where a longer consent duration is sought or the application fails to meet one of the controlled activity conditions, the application is a non-complying activity.

As the duration applied for is 15 years and the monthly and annual allocation sought has not been calculated using the method within the controlled activity the activities do not meet the conditions of Rule 10A.3.1.1 and therefore is a non-complying activity under rule 10A.3.2.1. Despite consent being required under Rule 10.3.2.1 for a non-complying activity, the application should continue to be processed as a **Restricted Discretionary Activity** in accordance with section 88A(1A), being the activity status that applied under the RPW when the application was made.

## 6. Section 104 Evaluation

Section 104 of the Act sets out the matters to be considered when assessing an application for a resource consent. These matters are subject to Part 2, the purpose and principles, which are set out in Sections 5 to 8 of the Act.

The remaining matters of Section 104 to be considered when assessing an application for a resource consent are:

- (a) *the actual and potential effects on the environment of allowing the activity;*
- (ab) *any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;*
- (b) *any relevant provisions of a national environmental standard, other regulations, a national policy statement, the Regional Policy Statement (RPS), the Regional Plan: Water (RPW); and*
- (c) *any other matter the Council considers relevant and reasonably necessary to determine the application.*

### 6.1 S104(1)(a) – Actual and potential effects on the environment of allowing the activity

Section 104(1)(a) of the RMA requires the Council to have regard to any actual and potential effects on the environment of allowing the activity. This includes both the positive and the adverse effects.

#### Permitted Baseline

Section 104(1)(a) of the Act requires the Council to have regard to any actual and potential effects on the environment of allowing the activity, including both positive and adverse effects. In considering the adverse effects, the Consent Authority may disregard those effects where the plan permits an activity with that effect, otherwise known as the “permitted baseline”. In the case of this Application, there is considered to be one rule where the permitted baseline may be applied being:

- Permitted Rule 12.1.2.5 of the RPW would authorise the take and use of up to 25,000 litres per day at a rate of 1 L/s from New Chums and Royal Burn. Although the abstraction exceeds this, the portion of the abstraction that would meet this rule should be discounted when considering the actual and potential adverse effects of the abstraction.

The actual and potential adverse effects of the activity, while taking into account the permitted baseline, is outlined in the sections below.

### Receiving Environment Assessment

When processing a resource consent regard must be had to what constitutes the “environment” to inform the assessment of the effects of a proposal. Section 104(1)(a) requires an assessment of the actual and potential effects on the environment.

The receiving environment beyond the subject site includes permitted activities under the relevant plans, lawfully established activities (via existing use rights or resource consent), and any unimplemented resource consents that are likely to be implemented. For resource consents issued by regional councils that are of limited duration, case law has confirmed that for activities that are seeking to be re-consented, the activities subject to those consents should not form part of the receiving environment as it cannot be assumed that existing consents with finite terms will in fact be replaced or replaced on the same conditions. Similarly, the consent term of resource consents for lawfully established activities needs to be considered when considering the effects of the proposed activity on them (i.e. they may also have a finite term and cannot assume they will be replaced or replaced on the same conditions in the future).

The consideration of whether water permits form part of the receiving environment is not influenced by any s124 continuation rights. As such, when assessing the taking of water as part of the replacement process for deemed permits and water permits, the effects on the environment from the take need to be considered as if the take on the subject site does not currently occur. In this case, the existing effects of the water permit/deemed permit that is being replaced are not considered part of the receiving environment. When assessing effects on the environment of the proposal, consideration has been given to the naturalised flows of the waterbody and the existing values (natural and human use) of the waterbody and how these values will be affected by the proposed take.

There are one consented and various permitted users located downstream from the takes on the Royal Burn, as well as a number of bores. The consented take expires on 1 October 2021 (at the same time as the consent this application is seeking to replace). The ability to consider effects of the proposal on the deemed permits is limited because the permits will all expire at the same time, therefore the environment is not modified (in theory) by deemed/water permits that expire past 1 October 2021.

### **Positive effects**

The proposal will have the following positive effects:

- Economic well-being of the farming operation and flow-on effects from this on the local economy and community;
- Social benefits by supporting the families and workers who directly rely on the farms;
- Provides greater certainty for the farming production than is possible with dryland farming; and

- Maintenance of pasture quality over a critical dry period/crops are not affected by moisture stress at critical growing times.

### **Adverse effects**

In considering the adverse effects, the Consent Authority:

- may disregard those effects where the plan permits an activity with that effect; and
- must disregard those effects on a person who has provided written approval.

Any adverse effects on DOC, who have provided written approval, are disregarded.

### **Cumulative effects**

In accordance with Section 3 of the Act, the definition of 'effect' includes *any cumulative effect which arises over time or in combination with other effects*. There is no definition for 'cumulative effect' under the Act, other than what is outlined above. The Oxford English dictionary defines 'cumulative' as meaning 'having a result that increases in strength or importance each time more of something is added' and 'including all the amounts that have been added previously'. Westlaw NZ expands on this definition by drawing from case law. This case law advises that a cumulative effect is an effect that will occur as opposed to a 'potential effect'.

In relation to this application, consideration the cumulative effects become a question of scale. The takes are located along the Crown Terrace and therefore tributaries of the wider Clutha River Catchment. Cumulative effects could be considered on two different scales, either the cumulative effects within each individual stream and/or the cumulative effects on the Clutha River Catchment. The effects of the proposed takes are discussed below in Section 6.2, the recommended residual flows, along with the recommended rates and volumes provide for no more than minor cumulative effects in relation to the abstraction of water from New Chums and Royal Burn. In relation to the Clutha River there is no evidence of a more than minor cumulative effect.

## **6.2 Effects Assessment**

### **Matter (i) and (ii) under restricted discretionary considerations 12.1.4.8 – primary allocation**

Primary allocation is defined by Policy 6.4.2(b) of the RPW:

*“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 low flow; or*

*(b) The sum of consented maximum instantaneous, or consented 7-day, takes of:*

*(i) Surface water as at: 19 February 2005 in the Welcome Creek catchment; or 7 July 2000 in the Waianakarua catchment; or 28 February 1998 in any other catchment; and*

*(ii) Connected groundwater as at 10 April 2010,*

*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) *All of the water taken is immediately returned to the source water body.*
- (3) *All of the water being taken had been delivered to the source water body for the purpose of the subsequent take.*
- (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.”*

There is no Schedule 2A limit for the Arrow Catchment, therefore, the allocation is the sum of the consented maximum. The existing primary allocation of the Arrow Catchment (i.e. calculated in accordance with Policy 6.4.2(b)) equates to 3,713 L/s. As these takes already form part of the primary allocation under the Plan, reducing the takes from 300 L/s to 89.5 L/s puts 211 L/s back into the allocation for the Catchment, this is in reference to the plan provisions and not the existing environment as discussed above. Therefore, the primary allocation of the Arrow catchment with the reduced allocation of this application is 3,502 L/s. As this allocation is not set within the plan and is calculated in accordance with Policy 6.4.2(b) there is still no primary allocation available within the Arrow Catchment. The application seeks an annual volume of 1,214,683 m<sup>3</sup> (equivalent to a combined average continuous rate of take of 38.5 L/s), which is a reduction from the 5,266,200 m<sup>3</sup>/year to have been previously authorised.

The permits this application seeks to replace were originally granted prior to 28 February 1998. As such they retain their primary allocation in accordance with Policy 6.4.2, and because the applicant has applied to replace this consent within the statutory timeframes given in Section 124 of the Act. This is in reference to the plan provisions and not the existing environment as discussed above.

In their submission Aukaha request the allocation be limited to 30% of MALF as calculated by the Council. It is understood that this calculation was derived from a consultation document associated with the proposed National Environmental Standard for Ecological Flows (2008). Based on MALF for New Chums this would equate to approximately 1 L/s and for Royal Burn approximately 3 L/s. I note that the consultation document has no regulatory weight and the allocation provisions of the RPW must be considered. I consider that if a new allocation limit is to be set, it should be set through the Schedule 1 process as it relates to a full catchment and needs to consider a wider range of factors that cannot be considered through this consent process.

Various submitters have concerns regarding the allocation sought. James and Lynn Campbell, Jef Desbecker and Robina Bodle, Mark Weldon and Sarah Elliot have requested the Applicant take 25,000 under permitted rules. However, the water use is discussed in Section 6.3, efficient volumes for the use have been recommended.

#### **Matter (ix) under restricted discretionary considerations 12.1.4.8 – minimum flows**

Minimum flows may be set for a river or catchment for the purpose of restricting primary allocation takes of water. A minimum flow provides for the maintenance of aquatic ecosystem and natural character values of water bodies, while providing for the sustainable taking of water for use. Once

set in Schedule 2A of the RPW, they are imposed on all relevant consents in that catchment. When a minimum flow is breached, all consents to take water as primary allocation (with some exceptions), must cease.

Policy 6.4.4 of the RPW states that in the case of existing resource consents to take water outside of Schedule 2A catchments, any proposed minimum flows must be set in Schedule 2A by a plan change before it can be applied to any consent in accordance with Policy 6.4.5(d). No minimum flow has yet been set for the Arrow Catchment. Any relevant consent within that catchment may be reviewed under Section 128 of the Act in order to impose conditions that will allow a minimum flow to be met. If the Application were to be granted, such conditions are recommended.

### **Effects on Fish and Instream Values**

With regard to the effects on the instream values of a surface water body, only the following can be considered under the restricted discretionary considerations listed by Rule(s) 12.1.4.8:

- the need for a residual flow at the point of take (matter xi);
- the rate, volume, timing and frequency of water to be taken and used (iii);
- the proposed methods of take (iv);
- the need to prevent fish entering the intake and to locate new points of take to avoid adverse effects on fish spawning sites (xii); and
- any effect on any Regionally Significant Wetland or on any regionally significant wetland value (xiv).

A residual flow may be set at the point of take, for the purpose of providing for instream values and natural character of the source water body. As discussed in Section 4.2, New Chums and Royal Burn have some invertebrate and instream values.

The Applicant amended their Application on 27 November 2020 (Appendix 7) and 14 March 2021 (Appendix 7) to include the following residual flow provisions as proposed consent conditions:

*Water must not be abstracted from a point of take when a continuous residual flow extending 50 metres downstream from that point of take cannot be maintained.*

*Water must not be abstracted from the North Branch of the Royal Burn for irrigation purposes when flows in the Royal Burn drop below 5 L/s at NZTM2000 E1274996 N5011547.*

Although the Applicant has aligned themselves with Council's original Resource Science Unit (RSU) report by Mr Ravenscroft (Appendix 7), more information has been provided by the submitters and Applicant which has provided Council cause to reconsider these recommendations. Bryony Miller from e3 Scientific on behalf of Council's RSU assessed the Application and submissions. Her technical review report is appended to this report (Appendix 2). A summary of Mrs Miller's comments and recommended conditions are listed below:

- No fish screens are recommended due to fish passage restrictions downstream of all takes;

- 90% MALF residual below New Chums take;
- 90% MALF residual below upper Royal Burn take;
- 50:50 flow sharing lower Royal Burn take; and
- 10 L/s residual on Royal Burn at NZTM 2000 E1274996 N5011547.

In their submission, Aukaha stated a preference for a minimum flow of 90% of MALF and allocation of 30% of MALF as calculated by the Regional Council, in accordance with Proposed National Environmental Standard on Ecological Flows and Water Levels (Ministry for Environment 2008). In this instance, I refer to the MfE River Flow database which estimates the Royal Burn North Branch to have a MALF of 10.7 L/s upstream of the upper point of take and New Chums Creek to have a MALF of 4.7 L/s. A residual flow of 9.6 L/s on the upper Royal Burn take would satisfy the residual flow preference of Aukaha and can be implemented via a meter installed below the intake as discussed in Mrs Millers technical review report, or via a specific diameter pipe (as per recommended consent conditions attached as Appendix 1). A residual flow of 4.2 L/s on New Chums would satisfy the residual flow preference of Aukaha and can be implemented via a specific diameter pipe which is discussed in Mrs Miller's technical review report. In recognition of the potential losses of water below the upper Royal Burn take and the lower Royal Burn take and the lack of flow gauging data it is recommended by Mrs Miller to have 50:50 flow sharing at this point of take. Based on Figure 3 from the WRM Memo (2020) a 50:50 flow sharing regime looks to largely be occurring already.

Mrs Miller has recommended the 5 L/s residual flow proposed by the Applicant be increased to 10 L/s. The reason for this is to reduce the likelihood of potential for stagnancy in the 'swamp' and reductions in water quality required to support ecological values such as dissolved oxygen and changes to water temperature, as well as increased stretches of creek intermittency. Based on this, a proposed residual flow of 10 L/s at NZTN 2000 E1274996 N5011547 on the Royal Burn is considered an appropriate limit to ensure surface flow through the swamp and the maintenance of water quality.

Not only will the recommended proposed residual flows align with the submission from Aukaha but will protect the natural ecological values, in particular invertebrates, trout and wetland swamp habitat, and the life-supporting capacity of the creeks. The recommended residual flows will address concerns about ecological values raised in submissions by Bloomsbury Stud, Peter Clarke and Niki Mason, Patrick and Liisa Garceau, John Baker and Bridget Steed, Philip Blakely and Mary Wallace.

The proposed rate, volume, timing and frequency of water to be taken and used will be dependent on the water availability and need. The Applicant has storage which provides surety of supply during low flow periods and less dependence on taking.

Based on the recommendations listed above specifically in relation to the residual flow, it is expected that there will be no more than a minor effect on instream values. Overall, the adverse effects of the proposed takes on instream values will be appropriately avoided, remedied or mitigated to an acceptable level.

There are no Regionally Significant Wetlands or any known regionally significant wetland values that will be affected by the proposed water take.

**Matters (vii)(xvi) and (xvii) under restricted discretionary considerations 12.1.4.8 – effects on other water users**

There are various downstream users who were considered affected and subsequently submitted on the application in relation to effects on hydrology, whereby their ability to abstract water could be compromised. Bas Veendrick from Pattle Delmore Partners on behalf of Councils RSU assessed the Application and submissions, his comments are appended to this report (Appendix 3). Mr Veendrick stated that based on the proposed consent condition which states: '*Water must not be abstracted from the North Branch of the Royal Burn for irrigation purposes when flows in the Royal Burn drop below 5 L/s at NZTM2000 E1274996 N5011547*' (or the recommended residual flow of 10 L/s by Mrs Miller) effects on other surface water users will be less than minor. This is due to allowing flow availability to the downstream users, based on the information provided and provided the Applicant demonstrates that the abstraction for stock water use is small/negligible. The adoption of this condition should address the Submitters concerns, in particular Glencoe Station Limited, Bridget Wolter, Barry Hodges, Bloomsbury Stud, John Baker and Bridget Steed, Philip Blakely and Mary Wallace, Lindsay and Gaya Irwin, Jef Desbecker and Robina Bodle, Glenn and Kerry Russell, Mark Weldon and Sarah Elliot, Patrick and Liisa Garceau submissions.

Based on the residual flows proposed by the applicant the effect on supply for the downstream surface water users will be less than minor. If the recommended residual flows are applied to the consent (if granted) there is even more certainty that effects on these users are less than minor.

Hilary Lough from Pattle Delamore Partners on behalf of Council's Resource Science Unit (RSU) assessed the Application and submissions. Her technical review report is appended to this report (Appendix 4). Overall, the available information on groundwater surface-water interaction suggests that the surface water abstraction from both surface waterways could reduce groundwater recharge, which, in addition to reducing potential gains in flow further downstream, may impact on groundwater users via reduced aquifer recharge. Mrs Lough considered bore F41/0307 (near New Chums) stating that considering the reduction in the proposed rate of take from the originally proposed 45 L/s to 24.5 L/s together with the observations of gains in flow during the fish survey, the effects on the bore may not be significant. The residual flow below the take will ensure some water passes the intake to provide groundwater recharge. As the take from this bore is assumed to be a permitted take with a potential rate of take of 1 L/s or less, the take in this application will have a less than minor effect on this bore if the recommended residual flow is applied to the consent if granted.

A submission was lodged by Jef Desbecker and Robina Bodle in relation to their bore (F41/0249) and permitted surface water take for the Lofts scheme. Mrs Lough in her technical review stated that Mr Desbecker's bore (F41/0249) is located near the terrace edge which means it is less likely to be adversely affected due to the expected gains in flow in the Royal Burn, reflecting higher groundwater levels in that location. Further to this, as this is a permitted take with a potential rate of take of 1 L/s or less from the bore, the take in this application will have a less than minor effect on this bore if the recommended residual flows are applied to the consent if granted.

**Matters (xv) and (xvi) under restricted discretionary considerations 12.1.4.8 – effects on groundwater**



As stated in Section 4.2 there is no known aquifer on the Crown Terrace and therefore no comment can be made on allocation of groundwater. Mrs Lough in her report (Appendix 4) has stated that at present, no monitoring measures for groundwater water effects have been proposed. Mrs Lough has recommended the Applicant monitor a nearby bore which is owned by the Applicant (29.3 m deep bore F41/0176). The intention for the groundwater monitoring would primarily be information gathering the recommended review condition would allow for changes if the information indicated effects of concern. The monitoring would have an added benefit of providing information that could be helpful in the instance neighbouring bore owners raised concerns.

In considering the effects on groundwater the Applicant's proposed surface water takes reduce inputs to the groundwater system that would normally occur as a result of natural surface water losses to the aquifer. The recommended residual flows would decrease the risk of adverse effects on the nearby bores by increasing the likelihood of flow in both New Chums and the Royal Burn at the location of the bores, which could maintain a degree of groundwater recharge.

### **Effects on Cultural Values**

With regard to the effects on the cultural values of a surface water body, only the following can be considered under the restricted discretionary considerations listed by Rule(s) 12.1.4.8:

- the rate, volume, timing and frequency of water to be taken and used (iii);
- the proposed methods of take, delivery and application of water taken (iv);
- the source of water available to be taken (v); and
- competing lawful local demand for the water (vii).

While neither the Royal Burn nor New Chums Creek are within Schedule 1D, the Arrow River is identified and it is recognised that the creeks may still have cultural significance. Aukaha on behalf of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga (Ngā Rūnanga) have submitted opposing the Application. In their submission they discuss that Kāi Tahu has a cultural, spiritual, historic and traditional relationship with the Clutha/Mata-au Catchments/Te Riu o Mata-au.

The Clutha/Mata-au Catchments and its headwaters were the traditional focus of seasonal migrations for many of the hapū and whānau living in the Araituru/Coastal Otago. Its vast length, many tributaries and three large roto at its headwaters, fed by the mauka in Kā Tiritiri o Te Moana/Southern Alps, had much to offer Kāi Tahu. The Clutha/Mata-au Catchments was therefore highly valued by all the different hapū and their whānau who used it. The use of these Catchments was a focus of the very distinctive seasonal lifestyle. The primary management principle for Ngā Rūnanga is the maintenance and enhancement of the mauri or life-giving essence of a resource. The Aukaha submission notes that Mauri can be tangibly represented in terms of elements of the physical health of the land, a river, or surrounding biodiversity. The forest, waters, the life supported by them, together with natural phenomena such as the mist, wind and rocks, possess a mauri or life-force. While there are also many intangible qualities associated with the spiritual presence of a resource, elements of physical health which Ngā Rūnanga use to reflect the status of mauri and to identify the enhancements needed include:

- Aesthetic qualities e.g. natural character and indigenous flora and fauna;
- Life supporting capacity and ecosystem robustness;
- Fitness for cultural usage.

Indigenous biodiversity, life-supporting capacity and eco-system robustness are also physical indicators of the status of mauri. Based on the evidence of Mrs Miller, and the findings of fish survey work, New Chums and Royal Burn do have life-supporting capacity. In my opinion, based on the application and technical reports, the abstraction from New Chums and Royal Burn has a no more than minor adverse effects on life-supporting capacity and eco-system robustness, although the takes limits the amount of water below the take points the recommended residual flows maintain these values capacity. I cannot comment on whether the residual flow proposed or recommended will maintain mauri and mahika kai, however, the 90% MALF residual flow has been recommended on New Chums and the upper Royal Burn takes aligns with the submission received by Aukaha. The 50:50 flow sharing at the lower Royal Burn intake as well as the low flow cut off will provide further protection. Aukaha also requested 30% MALF allocation, this has not been recommended therefore, the takes are considered to have a minor adverse effect.

Another key aspect in terms of effects on waterways from a cultural perspective is the concept of ki uta ki tai. At a more literal level this concept may be applied in terms of flow from the mountains from the sea and considering effects (including cumulative effects) along the whole length of a waterway. In terms of flow and effects from the mountains to the sea and considering effects (including cumulative effects) along the whole length of a waterway. In the context of this application, this would relate to the wider Clutha River/Mata Au. As this is a restricted discretionary activity the ability to consider cumulative effects is limited, however it can be discussed in the context of effects on surface water and groundwater, and Policy 10A.2.3 in PC7. The effects of the abstractions on surface water flows are considered no more than minor based on the proposed residual flow, which will be more certain with the recommended residual flows. There is interaction between the surface water and groundwater which has been confirmed with the NIWA flow gauging supplied by the Applicant. Mrs Lough stated that the residual flow below the take will ensure some water passes the intake to provide groundwater recharge, and it is recommended to include groundwater level monitoring and a review condition. Surface water takes can affect groundwater via a reduction in groundwater recharge, especially when an abstraction affects an intermittent surface waterway. Based on this, I consider the proposed abstractions are likely to impact upon the concept of ki uta ki tai within the Clutha River/Mata Au catchment in a minor way.

Aukaha in their submission consider that the application in its current form should be declined, but would not oppose the application should the following conditions be imposed to manage effects on cultural and kai tahu values:

- That a term of consent be no longer than 6 years;
- Retain existing requirements for water meter(s) and ensure results continue to be recorded and reported via telemetry;
- A minimum flow of 90% of the MALF as calculated by the Regional Council and an allocation limit of 30% the MALF as calculated by the Regional Council.

In relation to the matters, it is understood that the duration of 6 years is sought to ensure consistency with proposed PPC7 and to give effect to Te Mana o Te Wai. I have given consideration to this in Section 6.8.3, 6.8.8 and Section 10 of this report.

In relation to the metering, I agree that this should continue and have recommended conditions that require it is in accordance with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2020. This should address this matter raised in their submission.

I have considered the allocation limit above in Section 6.2 and consider that a reduction to 30% of the MALF would need to be done on a catchment basis and would be better suited to a Schedule 1 process. I remain of the opinion that allocation must be considered based on the current provisions of the RPW and the provisions of PPC7.

I have considered the requested minimum flow of 90% of MALF in an ecological context above in Section 6.2 and consider that it is justified to set a specific flow limit (on a residual flow) as discussed in Mrs Miller's technical report.

Overall, I consider adverse effect on cultural values to be minor.

#### **Matters (iv), (xv) and (xx) under restricted discretionary considerations 12.1.4.8 – effects on water quality**

The use of water for irrigation can lead to adverse effects, such as nutrient losses to groundwater and water bodies. In this case, effects on water quality are consequential on the use of water for irrigation as they would not occur to the same extent if water was not used for irrigation. A number of submitters raised this as an issue, in particular Angus Sutherland and Dinah Eastwood, Bridget Wolter, Jef Desbecker and Robina Bodle, Glenn and Kerryn Russell, Mark Weldon and Sarah Elliot.

When assessing the use of water for irrigation consideration needs to include potential impact of leaching of contaminants on areas to which irrigation water is applied. Therefore, it is recommended to include consent conditions requiring the applicant to keep records of fertiliser use and any other nitrogen inputs. If the Applicant does want to extend the golf course then it is my understanding that this would trigger a land use consent from the QLDC and the appropriateness of this would be considered then (and outside the jurisdiction of ORC). The fact that there is a turf growing operation on the site has also been raised by submitters. The Applicant is utilising efficient irrigation methods, which means there should be no overland flow from irrigating the farm, turf operation or golf course. There have been various submissions concerned about the water quality effects relating to the land use. The recommended conditions of consent relating to records of fertiliser use, maintaining their current irrigation area and records of nitrogen inputs should address these concerns. This will address concerns raised in Mark Weldon and Sarah Elliot's submission. Further to this, Mrs Miller stated that the recommended residual flow of 10 L/s is considered an appropriate limit to ensure maintenance of water quality for ecological values downstream of the takes on the Royal Burn.

It is worth noting that there are other lifestyle blocks which may have fertilisers and nitrogen inputs as well as a consented wastewater discharge (RM16.035) which is located 50 m from the Royal Burn. Full consideration of effects of land use and nitrogen input will be considered under Plan

Change 6AA which comes into effect 2026 and/or the future Land and Water Plan which will be notified 2023.

### Summary

- The Applicant's proposal meets the definition of primary allocation under Policy 6.4.2 in that it seeks the replacement of the Applicant's previous primary allocation consents with new consents for the same and similar activity. The proposal is, therefore, considered consistent with key policy parameters in the current operative RPW designed to protect surface water from becoming over-allocated. To this extent, re-allocation of this water is considered to result in less than minor impacts on water sustainability in the context of the policies in the operative RPW. It is important to note that there is a difference between phasing out of overallocation under the NPSFM, as the RPW is not a NPSFM compliant plan.
- The Applicant has proposed residual flows to mitigate effects on downstream users, however the recommended residual flows (90% MALF, 50:50 flow sharing and increased low flow condition 10 L/s) also consider cultural values in specific relation to Aukaha's submission and provide certainty to maintaining ecology.
- The takes will have a less than minor effect on downstream users based on the recommended residual flow of 10 L/s. I consider the residual flow condition addresses the concerns of Submitters relating to surety of supply.
- The proposal is considered to have a minor adverse effect on cultural values.

Taking into consideration the positive and adverse environmental effects associated with this Application, the actual and potential effects on the environment are considered to be minor and appropriately managed by the recommended conditions.

## 6.3 Water Use Assessment

This water use assessment considers what the Applicants have applied for, their historic use and what is considered efficient. The Applicants are proposing to take and use the water in for irrigation of pasture, golf course and turf business as well as stock drinking water.

### 6.3.1 Historical Water Access

To assist in the reduction of primary allocation under Policy 6.4.2(b), Policy 6.4.2A allows only water that has been historically accessed under previous consents to be considered to be granted as primary allocation (except in the case of a registered community drinking water supply where an allowance may be made for growth that is reasonably anticipated).

The Council is able to control the rate, volume, timing or frequency of take, or a combination of these. The Council could grant less water than has been taken under existing consents if it is satisfied on the evidence that the lesser quantity would:

- reflect only the water actually taken and the pattern of taking established under the existing consent; and/or*
- minimise conflict between those taking water; and/or*
- address the underutilisation of water allocated under the existing consent, including any underutilisation arising from;*

- (i) *inefficient and inappropriate practices; and/or*
- (ii) *consent holders retaining authorisation for more water than is actually required for the purpose of use.*

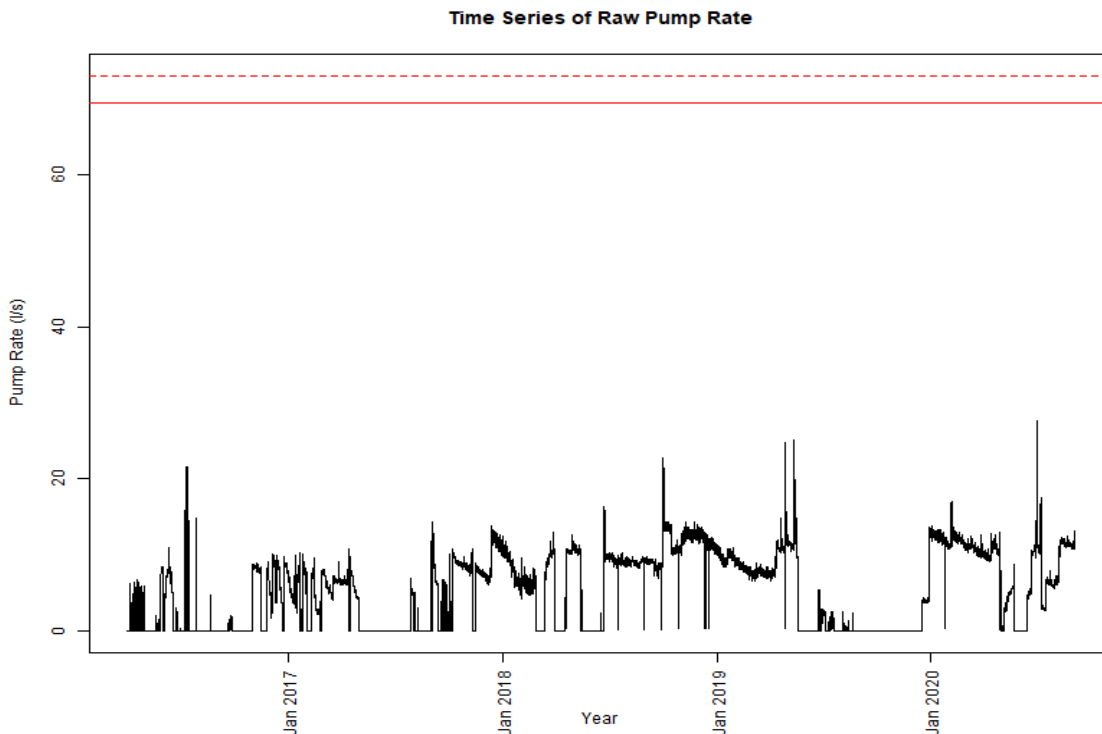
Although theoretically straightforward there is no specific method set in the Water Plan for calculating actual use. With the introduction of PPC7 as notified there has been a change to how historic water use is assessed, specifically due to the method in Schedule 10A.4. The 10A.4 method is Council’s most up to date way of calculating instantaneous rate and it seeks to ensure that there is a method in the plan, and that that method is objective and certain in terms of its Application and outcomes. The 10A.4 method considers the period 1 July 2012 to 30 June 2017.

A water use analysis was undertaken by Council’s Systems and Information Analyst, Sean Leslie.

Upper Royal Burn take:

Using method 10A.4 set within PPC7 the maximum rate of take for the lower Royal Burn is 16.8 L/s, the applicant has applied for 15 L/s, see Figure 9 below showing the instantaneous rate of take from 2017-2020. The applicant is applying for less than is calculated under method 10A.4.

The maximum volume taken from the Lower Royal Burn take location in any day is 1,870 m<sup>3</sup>, in any month is 35,100 m<sup>3</sup> and in any irrigation year is 292,030 m<sup>3</sup>. The Applicant has applied for combined monthly and annual volumes for all takes from the Royal Burn and New Chums (see Table 5 below).

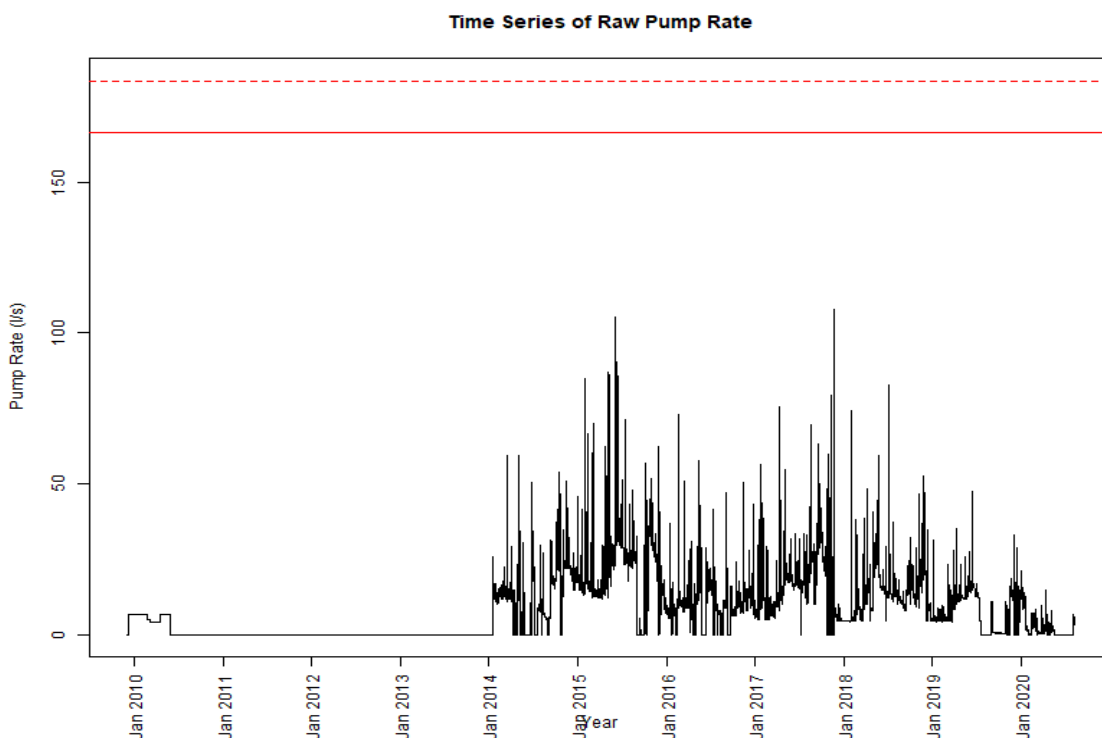


**Figure 9: Time series of instantaneous rate historically taken under Deemed permits RM14.364.01 and 96285 from the Upper Royal Burn take location 2017-2020.**

Lower Royal Burn take:

Using method 10A.4 set within PPC7 the maximum rate of take for the lower Royal Burn is 78 L/s, the applicant has applied for 50 L/s, see Figure 10 below showing the instantaneous rate of take from 2010-2020. The applicant is applying for less than is calculated under method 10A.4.

The maximum volume taken from the Lower Royal Burn take location in any day is 5,510 m<sup>3</sup>, in any month is 99,700 m<sup>3</sup> and in any irrigation year is 572,800 m<sup>3</sup>. The Applicant has applied for combined monthly and annual volumes for all takes from the Royal Burn and New Chums (see Table 5 below).



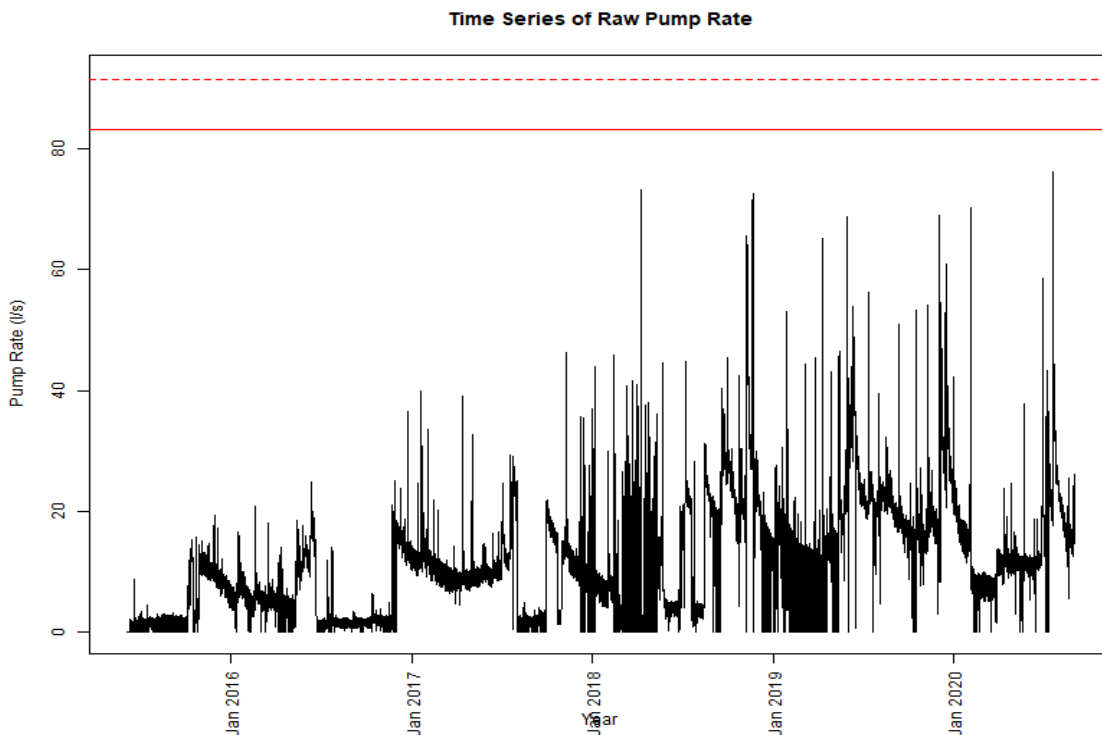
**Figure 10: Time series of instantaneous rate historically taken under Deemed permits 97029.V1 and 3073B from the Lower Royal Burn take location 2010-2020.**

New Chums take:

Using method 10A.4 set within PPC7 the maximum rate of take for New Chums is 24.5 L/s, the applicant has applied for 24.5 L/s. It is noted that 24.5 L/s is representative of actual use when considering Figure 11 below.

The maximum volume taken from the Lower Royal Burn take location in any day is 5,670 m<sup>3</sup>, in any month is 83,100 m<sup>3</sup> and in any irrigation year is 558,400 m<sup>3</sup>. The Applicant has applied for

combined monthly and annual volumes for all takes from the Royal Burn and New Chums (see Table 5 below).



**Figure 11: Time series of instantaneous rate historically taken under Deemed permit 95696 from the New Chums take location 2016-2020.**

Table 5 below shows the historic rates and volumes calculated by the Council verse those applied for by the Applicant. It is important to note that the monthly volume applied for by the Applicant is more than that calculated as used historically by Council, however, the annual volume is less than calculated as historically used Council. I cannot recommend more than has been applied for.

**Table 5: Historic rate and volumes calculated by Council vs applied for**

Location	Applicant (L/s)	Council (L/s)	Applicant monthly m <sup>3</sup>	Council monthly m <sup>3</sup>	Applicant annual m <sup>3</sup>	Council annual m <sup>3</sup>
Upper Royal Burn North Branch	15*	16	N/a	35,100	N/a	292,030
Lower Royal Burn North Branch	50*	78	N/a	99,700	N/a	572,800

New Chums Creek	24.5	24.5	N/a	83,100	N/a	558,400
<b>Total</b>	<b>89.5*</b>	<b>118.5</b>	<b>239,716</b>	<b>217,900</b>	<b>1,214,683*</b>	<b>1,423,230</b>

\* As this value is lower than calculated by Council I cannot recommend a value higher than this.

### 6.3.2 Efficiency of Water Take and Use

#### Irrigation of pasture

Policy 6.4.0A of the RPW requires that the quantity of water granted to take is no more than that required for the purpose of use taking into account the local climate, soil, crop or pasture type and the efficiency of the proposed water transport, storage and Application system. The Council commissioned a report by Aqualinc Research Ltd (Aqualinc) entitled “*Water Requirements for Irrigation Throughout the Otago Region*”, dated October 2006, to assess water volumes required to efficiently irrigate pasture and crops. This report was updated in July 2017.

Aqualinc developed a water-balance computer model that was used to estimate soil moisture levels over a 42-year period. This model takes into account the local climate, the types of soils, crop types and the irrigation system. The irrigation strategy meets a specific irrigation objective, being that production levels were to be maintained close to maximum for most of the time, and that even in the driest of conditions sufficient water would still be available to sustain plant growth.

The land area of the Otago region was divided into four main zones (Central and Lakes District, Coastal and South Otago, Maniototo and North Otago) based on geographical distribution and climatic conditions; primarily evapotranspiration and temperature. These four zones are further divided into rainfall sub-zones using mean annual rainfall (MAR), as irrigation demand is primarily dependent on rainfall.

The soil type of an area and the rooting depth of a crop or pasture affect plant available water (PAW). PAW is the amount of water that a soil can store that is available for plants to use. Six soil PAW classes have been specified and soil data for each site can be obtained from the S-Map database (Landcare, 2014), the New Zealand Fundamental Soil Layer (NZFSL) (Landcare 2000) or a site-specific soil investigation.

This information is used to calculate the Applicant’s water requirement over monthly and seasonal periods. The monthly volume outlined in Aqualinc is the estimated peak monthly usage for any one month in an irrigation season but is not intended to be used for every month over the course of the season i.e. seasonal volume does not equal the monthly volume multiplied by the months in the irrigation season. Commonly, the peak monthly rate is used for one to two months in an irrigation season; however, this is dependent on variables such as rainfall, climate and crop growth.

A seasonal limit on the volume of water has been given to reflect that less water is required during the 'shoulder' of the irrigation season. Aqualinc provides recommended seasonal volumes based on an average year; a one in two-year drought (80<sup>th</sup> percentile); a one in ten-year drought (90<sup>th</sup>



percentile); and a maximum situation. For Otago it is considered that a one in ten-year drought or 90<sup>th</sup> percentile is the most appropriate when considering efficient water use.

In terms of adjoining regions and their more contemporary regional plans, we are aware that the Environment Canterbury Land and Water Regional Plan (Schedule 10) assumes an irrigation Application efficiency of 80%, a system capacity to meet peak demand, a nominal irrigation season from 1 September to 30 April, demand conditions that occur 9 out of 10 years (equivalent to a 90-percentile demand) and a land use of intensive pasture production. Similarly, the Southland Water and Land Plan (Appendix O) stipulates use of a field-validated daily time-step irrigation demand model to calculate the annual irrigation volume for 90 percent (9 in 10 year) reliability taking account of crop and soil type, climatic factors and an irrigation Application efficiency of 80%. Other Regional Councils that we are familiar with and who also allocate irrigation water for a 9 in 10 years security of supply include Hawke’s Bay,<sup>1</sup> Waikato<sup>2</sup> and Northland.<sup>3</sup>

It is noted that the Applicants have requested a 100 – percentile demand. If that approach was used as a precedent and applied region-wide in Otago it could result in locking up water that would rarely be used and that could not thereafter be allocated to other Applicants. That is not an efficient use of a finite resource. In this case this is particularly relevant given the duration sought by the Applicants. For example, a future review of the RPW could conceivably decrease the primary allocation or establish seasonal allocation limits. If the Applicants are granted more water now than is enabled by these future rules and policies, then that could well exclude other parties from accessing that water in future decades.

For the purpose of calculating water requirements on the Applicant’s property, the take is located in the Central and Lakes District zone with a MAR of 750 mm/yr and PAW value of 90 and 120 mm<sup>4</sup>. Therefore, to maintain optimum plant growth, the maximum monthly limit for irrigation has been estimated at 1,300 and 1,400 m<sup>3</sup>/ha. It is also estimated that no more than 5,880 and 6,280 m<sup>3</sup>/ha should be applied over an irrigation season. It is acknowledged that actual use will only be known through the keeping of accurate pumping records.

Table 6 summarises water volumes and Application rates (calculated by the Council based on the total area able to be irrigated) as applied for by the Applicant and compares them to water volumes and Application rates recommended by Aqualinc.

**Table 6: Summary of Applied for Water vs Aqualinc Recommendations**

	<b>Applied for by Applicant (including stock water)</b>	<b>As recommended by Aqualinc</b>
<b>Total volume per month</b>	187,915 m <sup>3</sup> / month	187,915 m <sup>3</sup> / month
<b>Irrigation period</b>	8 months	8 months
<b>Irrigated area</b>	139.2 hectares	139.2 hectares

<sup>1</sup> *Regional Resource Management Plan, Policy 32 for groundwater. For surface water the security of supply is 1 in 5 years (Policy 42).*

<sup>2</sup> *Waikato Regional Plan, section 3.4.3 Policy 2.*

<sup>3</sup> *Northland Regional Plan, section D.4.13.*

<sup>4</sup> *Approximately 50% of the property has soils with a mod PAW of 24 mm and 50% of the property has soils with a mod PAW of 45 mm.*

<b>Total volume per season</b>	1,074,608 m <sup>3</sup> / season	846,316 m <sup>3</sup> /season
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As the monthly volume applied for by the Applicant is the same as the monthly volume recommended by Aqualinc the water taken for the purpose of irrigation is assessed as efficient. The seasonal volumes of water applied for by the Applicant is more than seasonal volume recommended by Aqualinc, because the Applicant has used the 100<sup>th</sup>ile demand rather than the 90<sup>th</sup>ile demand. It is recommended to use the 90<sup>th</sup>ile as per the discussion above.

The recommended maximum allocation limits from Aqualinc can only discourage water being wasted during a dry year. In order to avoid water being wasted in an average year, a condition of consent is recommended to ensure that there is no runoff of irrigation water on-site and off-site, there is no leakage from pipes and structures and the use of water onto non-productive land is avoided.

### **Irrigation of golf course and turf business**

Council has no specific model such as Aqualinc to calculate efficient water use for a golf course or turf business. For previous applications Council has used Aqualinc as a baseline for these assessments. The Applicant has provided commentary on use of water for the golf course and turf business needing less than irrigation of pasture (amendments to application 3 March). The 36 ha of golf course being irrigated excludes the rough and bunkers which are not irrigated, so the total being irrigated is 20 ha. The Applicant stated the following:

*“The volume of water required for irrigating the golf course is less than previously assessed using Aqualinc values for pasture. We have extracted data from the irrigation system and found that the maximum volume used for irrigating the golf course over the past 6 years was 1,949.43 m<sup>3</sup>/ha. At the time of writing this letter, 36 ha of paddock is occupied by the golf course, of which 20 ha is irrigated. Based on this, the maximum annual irrigation demand for the golf course should be around 38,989 m<sup>3</sup>/yr. If this land had remained in pasture then the average annual irrigation demand would be 274,960 m<sup>3</sup>/yr.”*

The volumes amended by the Applicant are less than would be used if the land was irrigated for pasture. The Applicant is applying for volumes that represent actual use over the past 6 years which provides a level of comfort in recommending this volume.

### **Stock Water Supply**

Based on water requirements per head of animal, Table 7 summarises the daily volume of water that is considered reasonable for consumption by the Applicants’ stock. The stock numbers were provided to Council via email from Hilary Lennox on 8 May 2019.

**Table 7: Total stock numbers and water requirements per day**

<b>Animal</b>	<b>Total number</b>	<b>Water requirements per head per day (L)</b>	<b>Total water requirements per day (L)</b>
Beef	50	45	2,250
Sheep	2000	5	10,000

<b>Total</b>			<b>12.5 m<sup>3</sup></b>
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Based on these calculations, the Applicants' proposed daily abstraction volume of 12.5m<sup>3</sup>/day is an efficient use of water. It is recommended the stock water be added to the irrigation demand for a total efficient use during the irrigation season. Baseflow as discussed below will provide the stock water outside of the irrigation season.

### **Baseflow Supply**

In the application the Applicant requested water for baseflow within the races. The reason for this is that if the entire irrigation system relied on a pumped network that transported water directly from the source when it was required, then it would be simple to impose strict monthly and annual limits on the consent based solely on Aqualinc. However, the scheme relies on gravity to transport water, and flows will need to be maintained in the pipes and races at all times to provide stock drinking water as well and preventing weeds establishing and the races silting up. This will need to be around 5 L/s in the Upper RBNB pipe, 5 L/s the Brodie Race and 5 L/s the New Chums Race, which equates to the 40,176 m<sup>3</sup>/month across the scheme. In the amendment dated 3 March 2021 the Applicant amended this to an average of 5 L/s in the New Chums and Brodie races which equals 315,360 m<sup>3</sup>/year.

In considering the baseflow I understand the need for this water based on the gravity fed system, maintaining the race, intakes and outtakes. However, I do not consider baseflow is necessary during the irrigation season, as there will be water travelling through the race for irrigation as well as an allowance for stock water based on the calculation above therefore, no requirement for the baseflow. However, I am also willing to consider additional evidence that this baseflow is required and not inefficient during the irrigation period. I recommend the baseflow be allowed for the months May, June, July and August (months outside irrigation) the monthly and annual volume for baseflow are stated below:

- 25,920 m<sup>3</sup>/month
- 103,680 m<sup>3</sup>/year

### **Total Volumes Recommended**

Taking into consideration the uses of water proposed and volumes applied for and the historical access to water at this site, the following rate of take, monthly and seasonal limits are recommended to be imposed to ensure that the quantity of water granted to take is no more than that required for the purpose of use:

- Instantaneous rate Upper Royal Burn 15 L/s
- Instantaneous rate Lower Royal Burn 50 L/s
- Instantaneous rate New Chums 24.5 L/s
- Combined monthly volume during irrigation season 193,164 m<sup>3</sup>/month
- Combined annual volume during irrigation season 888,305 m<sup>3</sup>/year
- Combined monthly volume outside irrigation season 25,920 m<sup>3</sup>/month
- Combined annual volume during irrigation season 103,680 m<sup>3</sup>/year

The Applicant has applied for 89.5 L/s combined, 217,900 m<sup>3</sup>/month and 1,214,683 m<sup>3</sup>/year.

#### **6.4 Efficiency of Water Transport, Storage and Application System**

The water takes are transported via open race with some piping to the storage ponds and for irrigating the golf course. According to Irrigation New Zealand, open channels can cause more trouble in operating an irrigation system than any other conveyance method if not designed and maintained correctly. The water races are unlined which causes losses due to seepage and have evaporation losses (up to 10%) and are therefore not the most efficient form of transport. The pipework associated with inputs to the dam and golf course is expected to be 100% efficient with no losses.

The Applicant currently uses spray irrigation methods (k-line, four travelling hoses and a network of pop-up sprinklers). According to Irrigation New Zealand spray methods allow irrigators to tailor their water discharge and are therefore efficient application types.

On the site visit it was noted there is an overflow from the storage pond into Royal Burn. This water would provide greater benefit if it were left in the upper reaches where it was abstracted. Based on this, I currently consider that the overflow channel is not expressly necessary and leads to water wastage which is inefficient. This is also discussed in Peter Clarke and Niki Masons submission as being inefficient. I am also willing to consider additional evidence that this overflow is required and not inefficient.

In conclusion, the Applicant currently uses some inefficient transport of water, however, due to the age of the race it is likely the bottom of the race has hardened and created a natural lining. The Applicant also has storage ponds, one currently used which has a 13,000 m<sup>3</sup> capacity and second is being built which has a 7,500 m<sup>3</sup> capacity, a third is being built at the end of the golf course which has a 5,000 m<sup>3</sup> capacity. These ponds provide the Applicant greater on-site water retention and security.

It is recommended to have a condition of consent that the Consent Holder must supply a water use efficiency report to the Consent Authority annually. The report includes the Consent Holder supplying information on water usage (month by month, and related to crops in the ground), reasons why the use may have varied. Information on any measures undertaken to avoid loss or wastage of water specifically from the race system, and whether there have been any changes or modifications to irrigation (and water conveyance) infrastructure. This requirement should address the concerns raised in the submissions of Bridget Wolter, Barry Hodges Patrick and Liisa Garceau, John Baker and Bridget Steed.

#### **6.5 Alternative Water Sources**

The RPW promotes the management of water in a way that enables continued access to suitable water, ensuring communities can provide for their social, cultural and economic wellbeing, now and for the future. It achieves this by requiring consideration of whether the source of water applied for is the nearest practicable given the proposed location of use including whether the take and use of the water is an efficient use of the water resource, whether there is another practically available and accessible water source, and the wider benefits (economic, social, environmental and cultural) of taking from the water source applied for compared to taking water from other sources (Policy 6.4.0C).

The proposal seeks to enable the continued taking of water from the nearest practicable source. The Applicant currently has infrastructure in place to take and use water from these sources. For this reason, the Applicants' takes on New Chums and Royal Burn are the nearest practicable source.

## **6.6 Water Take and Use Management**

Water Management Groups are voluntary. They provide flexibility for two or more consent holders to cooperate in exercising their consents, but without the added formality associated with a water allocation committee. If a water management group is developed, the Applicants should give consideration to joining, as they are a useful means of managing takes in a catchment to ensure the minimum flow is not reached.

## **6.7 S104(1)(ab)**

I am not aware of any relevant measure proposed by the Applicants under section 104 (1) (ab) relating to the offset or compensation for adverse effects.

## **6.8 S104(1)(b) Relevant Planning Documents**

The relevant planning documents in respect of this application are:

- The National Environmental Standard for Sources of Human Drinking Water
- Resource Management (National Environmental Standards for Freshwater) Regulation 2020
- Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and Amendment Regulations 2020
- The National Policy Statement for Renewable Electricity Generation
- The National Policy Statement for Freshwater Management 2020
- The Operative Regional Policy Statement, Proposed Regional Policy Statement and Partially Operative Regional Policy Statement
- The Regional Plan: Water for Otago
- Proposed Plan Change 7 (Water Permits) (PPC7)

Plan Change 7 (Water Permits) ("PPC7") was notified for submissions on 18 March 2020 and its rules have immediate legal effect in accordance with section 86B(3) of the Act. The objective, policies and rules in PPC7 establish a consenting regime which provides for a consent duration of no more than six years. Longer term consents for the replacement of deemed permits or permits expiring prior to 31 December 2025 are now non-complying activities and are therefore not anticipated by PPC7. Policy 10A.2.3 of PPC7 sets out that consents for a longer duration will only be granted where the adverse effects on the ecology and the hydrology of the surface water body (and any connected water body) are no more than minor.

As noted earlier in this report, this application was lodged prior to notification of PPC7. As such, it continues to be processed for a restricted discretionary activity (due to the application of section

88A of the RMA). However, the provisions of the proposed plan are required to be considered by the Council in its assessment under section 104 of the RMA.

### **6.8.1 National Environmental Standard for Sources of Human Drinking Water**

Regulations 7 and 8 of the National Environmental Standard for Sources of Human Drinking Water (NES) need to be considered when assessing water permits that have the potential to affect registered drinking water supplies that provide 501 or more people with drinking water for 60 or more calendar days each year.

There are no registered drinking supplies within the vicinity of the proposed takes.

### **6.8.2 Resource Management (National Environmental Standards for Freshwater) Regulation 2020 (NESFW)**

The NES-FW 2020 regulations came into force on 3 September 2020. They impose standards on a range of farming activities and other activities relating to freshwater. They also set out a framework for consenting certain activities if the standards are not met.

The 'swamp' mentioned by the Applicant does not meet the definition of a natural inland wetland and therefore, there are no consents required under the NESFW 2020.

### **6.8.3 National Policy Statement Freshwater Management 2020 (NPS-FM)**

The NPS-FM came into force on 3 September 2020, replacing the previous 2014 NPS-FM (amended in 2017). Although it retains some of the same principles as the NPS-FM 2014, including a strengthened focus on Te Mana o te Wai, the NPS-FM 2020, amongst other things:

- Sets out a framework of objectives and policies to manage activities affecting freshwater in a way that prioritises first, the health and well-being of water bodies and freshwater ecosystems, second, the health needs of people, and third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
- Requires regional councils to develop long-term visions for freshwater in their region and include those long-term visions as objectives in their regional policy statement.
- Requires every local authority to actively involve tangata whenua in freshwater management.
- Sets out a more expansive National Objectives Framework, and Freshwater Management Unit, environmental flows and levels setting, and limit setting processes. This includes 13 new attribute states for ecosystem health, including national bottom lines and national targets.
- Specific requirements to protect streams and wetlands and to provide for fish passage – including new policies which must be included in all regional plans.

Part 2 of the NPS-FM sets out the national objective for future freshwater management and 15 separate policies that support this objective.

An assessment of the objective and relevant policies is provided below.

The NPS-FM 2020 sets one objective being:

*The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:*

- (a) first, the health and well-being of water bodies and freshwater ecosystems*
- (b) second, the health needs of people (such as drinking water)*
- (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future*

This objective sets a hierarchy and gives clear direction that priority must be given first to the environment before the needs of people. While the proposal will result in a benefit for the people and the community, I consider that priority must be given to first ensuring the well-being of water bodies and freshwater ecosystems is provided for. Effects on Royal Burn and New Chums and its freshwater ecosystems are likely to be no more than minor. Further, health needs of people are not likely to be negatively impacted upon as a result of the activity including the permitted downstream users.

I consider that the following policies are also relevant:

*Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.*

The NPS-FM defines the concepts of Te Mana o Wai as being:

*“Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.”*

The NPS-FM directs that every Regional Council must engage with communities and tangata whenua to determine how Te Mana o te Wai applies to water bodies and freshwater ecosystems in the region. It is noted that this has not yet occurred for the Otago Region. In the absence of this, the reduction in take, imposition of the residual flow and consent duration may go part way towards giving effect to Te Mana o te Wai, but it is recognised that the points raised in the submission of Aukaha have not been fully addressed so the application may not be consistent with this policy. The ORC has identified FMUs in the region. These takes are part of the Clutha River/Mata-Au FMU and the Dunstan Rohe. The Council is in the early stages of identifying the values for this FMU. Council will undertake the remaining steps in the NOF process in upcoming years and plans to notify a new Land and Water Plan in accordance with the NPS-FM 2020 in late 2023. This will set the limits that apply to these catchments. The application of these limits to this activity will be considered when this replacement permit is replaced (should consent be granted) or as part of a review of consent conditions, or both.

*Policy 2: Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.*

Tangata whenua have been actively involved in this consent process through Section 95E. Maori freshwater values are defined in the NPS-FM however these values have not yet been identified in this area as the NPS-FM establishes a prescribed process through which this must be achieved. However, consideration has been given to Māori freshwater values identified by tangata whenua within their submission and based on direction provided in the RPW and the iwi

management plan. Not all of the relief within their submission has been provided for, notably in respect of allocation and term. Allocation limits will likely be established as part of a new Land and Water Plan. The reasons for the consent term sought are discussed later in Section 10 of this report.

Māori freshwater values are defined in the NPS-FM as being: *“the compulsory value of mahinga kai and any other value (whether or not identified in Appendix 1A or 1B) identified for a particular FMU or part of an FMU through collaboration between tangata whenua and the relevant regional council”*. The Māori freshwater values are yet to be identified through the prescribed process.

*Policy 6: There is no further loss to the extent of natural inland wetlands, their values are protected, and their restoration is promoted.*

Based on the information provided and my observations during a site visit, I understand there are no natural inland wetlands in close proximity to the abstraction.

*Policy 7: The loss of river extent and values is avoided to the extent practicable.*

*Policy 9: The habitats of indigenous freshwater species are protected.*

*Policy 10: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.*

It is considered the Application is consistent with Policy 7 as there is a proposed residual flow which will provide for no loss of river extent or values. The Application is also consistent with Policy 9 and 10. The ecological assessment of the proposal has indicated that Royal Burn and New Chums do not provide habitat for trout, salmon or indigenous freshwater fish species.

*Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.*

I consider that the rate and volume that would be allocated will be efficiently used. I am unable to comment on future allocation as Council has not gone through the NOF process and therefore, I do not know what the allocation limit will be under a new NPS compliant planning framework. Using the current plan framework the allocation limit will be reduced by 210.6 L/s.

*Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.*

The proposal will provide benefit for the Applicant and the recommended residual flows will provide for social and cultural wellbeing.

Overall, the proposal is consistent with the NPS-FM subject to the recommended conditions and consent duration. I am satisfied that the Application is prioritising the health and wellbeing of the waterbody over the ability of people and communities to provide for their social, economic and cultural well-being.

Aukaha raised concerns with the current planning framework not giving effect to the NPS-FM. The notification of PPC7 is a step towards addressing this issue. While the provisions of PPC7 cannot be afforded full weight, the recommended consent term is consistent with PPC7 and is considered an appropriate response to the issue.



#### **6.8.4 National Policy Statement on Renewable Electricity Generation**

The National Policy Statement on Renewable Electricity Generation came into effect on 13 May 2011 and has the objective of recognising the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities. The most relevant policies to this proposed take are:

- Policy A which relates to recognising the benefits of renewable electricity generation activities including maintaining electricity generation; and
- Policy B which relates to the practical implications of achieving New Zealand's target for electricity generation from renewable resources and requires decision makers to have regard to even minor reductions in the generation output of existing renewable generation activities.

The proposed takes are located above the Clyde Dam and Roxburgh Dam, which are currently managed by Contact Energy Limited. The Applicant has applied to take 89 L/s combined which is below 100 L/s which is the permitted rate of take for a take from Lake Dunstan (Rule 12.1.2.2 of the RPW). Therefore, taking into account the permitted baseline, the proposed take will have a less than minor effect on renewable electricity generation and in accordance with the NPS-Renewable Electricity Generation.

#### **6.8.5 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and Amendment Regulations 2020**

Accurate, complete and current water information is a critical building block in establishing a water management system in which water is effectively allocated and efficiently used.

The Resource Management Regulations 2010 apply to holders of water permits that allow fresh water to be taken at a rate of 5 L/s or more, specifically:

- Regulation 8 - Permit holder must provide records and evidence to regional council

The proposed takes are greater than 5 L/s. The takes are currently measured by a telemetry water monitoring stations. The Applicant is proposing to keep the metering on all three takes. The Applicant has two authorised notice of exemptions, WEX0129 and WEX0184. This should address concerns raised by Jef Desbecker and Robina Bodle, Mark Weldon and Sarah Elliot regarding measuring and reporting.

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 have been amended by the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020, which came into force on 3 September 2020. These regulations introduce a staged timeline requiring holders of consents for more than 20 litres per second to measure their water use every 15 minutes, store their records, and electronically submit their records to the Council every day.

These daily reporting requirements do not come into force until 3 September 2022 for water takes of more than 20 litres per second. These regulations are also required to be complied with by consent holders regardless of whether they are included in a consent condition. If consent were

to be granted, recommended measuring conditions align the consent with the Amendment Regulations.

#### **6.8.6 Regional Policy Statement, Proposed Regional Policy Statement and Partially Operative Regional Policy Statement**

The partially operative Regional Policy Statement for Otago (RPS) provides an overview of Otago's resource management issues, and ways of achieving integrated management of natural and physical resources. The provisions of Chapter 6 (Water) are relevant to this application. The taking of water is consistent with the policies of the RPS, provided that it is done in a conservative manner that does not adversely affect instream biota, natural character, or other lawful water users. It is noted that the RPW gives full effect to the provisions of the RPS, therefore given the applications are consistent with the provisions of the RPW, it is also consistent with the RPS.

The proposed Regional Policy Statement (pRPS) was notified on 23 May 2015 and a decision was released 1 October 2016. Significant weight can be given to the pRPS as it is substantially through the statutory process. The pRPS was made partially operative on the 14th of January 2019 (PO-RPS) and through various court orders. Since then a number of appeals have been resolved through the Environment Court. On 15 March 2021, the Council made further provisions of the PO-RPS operative. The provisions that are the subject of court proceedings and are not made operative are now limited to Policy 4.3.7 (significant infrastructure) and specific methods of Chapter 3. As none of these provisions are applicable to the application, full weight and consideration can be given to the PO-RPS.

The relevant provisions of the PORPS include:

- *Provide for the economic wellbeing of Otago's people and communities by enabling the resilient and sustainable use and development of natural and physical resources (Policy 1.1.1)*
- *Provide for social and cultural wellbeing and health and safety by recognising and providing for Kāi Tahu values; taking into account the values of other cultures; taking into account the diverse needs of Otago's people and communities; avoiding significant adverse effects of activities on human health; promoting community resilience and the need to secure resources for the reasonable needs for human wellbeing; promoting good quality and accessible infrastructure and public services (Policy 1.1.2)*
- *Achieve integrated management of Otago's natural and physical resources (Policy 1.2.1)*
- *Taking the principles of Te Tiriti o Waitangi into account including by involving Kāi Tahu in resource management processes implementation, having particular regard to the exercise of kaitiakitaka and taking into account iwi management plans (Policy 2.1.2)*
- *Managing the natural environment to support Kāi Tahu wellbeing (Policy 2.2.1)*
- *Recognise and provide for the protection of sites of cultural significance to Kāi Tahu including the values that contribute to the site being significant (Policy 2.2.2)*
- *Enable Kāi Tahu relationships with wāhi tupuna by recognising that relationships between sites of cultural significance are an important element of wāhi tupuna and recognising and using traditional place names (Policy 2.2.3)*
- *Enable sustainable use of Māori land (Policy 2.2.4)*

- *Safeguard the life-supporting capacity of fresh water and manage fresh water to:*
  - *Maintain good quality water and enhance water quality where it is degraded, including for:*
    - *Important recreation values, including contact recreation; and,*
    - *Existing drinking and stock water supplies;*
  - *Maintain or enhance aquatic:*
    - *Ecosystem health;*
    - *Indigenous habitats; and,*
    - *Indigenous species and their migratory patterns.*
  - *Avoid aquifer compaction and seawater intrusion;*
  - *Maintain or enhance, as far as practicable:*
    - *Natural functioning of rivers, lakes, and wetlands, their riparian margins, and aquifers;*
    - *Coastal values supported by fresh water;*
    - *The habitat of trout and salmon unless detrimental to indigenous biological diversity; and*
    - *Amenity and landscape values of rivers, lakes, and wetlands;*
  - *Control the adverse effects of pest species, prevent their introduction and reduce their spread;*
  - *Avoid, remedy or mitigate the adverse effects of natural hazards, including flooding and erosion; and,*
  - *Avoid, remedy or mitigate adverse effects on existing infrastructure that is reliant on fresh water. (Policy 3.1.1)*
- *Manage the allocation and use of fresh water by undertaking all of the following:*
  - *Recognising and providing for the social and economic benefits of sustainable water use;*
  - *Avoiding over-allocation, and phasing out existing over-allocation, resulting from takes and discharges;*
  - *Ensuring the efficient allocation and use of water by:*
    - *Requiring that the water allocated does not exceed what is necessary for its efficient use;*
    - *Encouraging the development or upgrade of infrastructure that increases efficiency;*
    - *Providing for temporary dewatering activities necessary for construction or maintenance. (Policy 3.1.3)*
- *Manage for water shortage by undertaking all of the following:*
  - *Encouraging land management that improves moisture capture, infiltration, and soil moisture holding capacity.*
  - *Encouraging collective coordination and rationing of the take and use of water when river flows or aquifer levels are lowering, to avoid breaching any minimum flow or aquifer level restriction to optimise use of water available for taking;*
  - *Providing for water harvesting and storage, subject to allocation limits and flow management, to reduce demand on water bodies during periods of low flows. (Policy 3.1.4)*
- *Identify and protect outstanding freshwater bodies (Policy 3.2.13 & 3.2.14)*
- *Identify and protect the significant values of wetlands (Policy 3.2.15 & 3.2.16)*

- *Apply an adaptive management approach, to avoid, remedy or mitigate actual and potential adverse effects that might arise and that can be remedied before they become irreversible (Policy 5.4.2)*
- *Apply a precautionary approach to activities where adverse effects may be uncertain, not able to be determined, or poorly understood but are potentially significant (Policy 4.4.3)*
- *Consider the offsetting of indigenous biological diversity, when:*
  - *Adverse effects of activities cannot be avoided, remedied or mitigated;*
  - *The offset achieves no net loss and preferably a net gain in indigenous biological diversity;*
  - *The offset ensures there is no loss of rare or vulnerable species;*
  - *The offset is undertaken close to the location of development, where this will result in the best ecological outcome;*
  - *The offset is applied so that the ecological values being achieved are the same or similar to those being lost;*
  - *The positive ecological outcomes of the offset last at least as long as the impact of the activity*

The continued use of water will enable the Applicant to continue to irrigate their land, resulting in their own economic wellbeing as well as that of the wider community. Cultural and Kai Tahu values have been considered and Aukaha on behalf of the local Runanga, were considered affected parties in accordance with Section 95E of the Act. Aukaha submitted in opposition to the application and their submission has been given due consideration and has informed the recommendations made in this report. No specific sites of cultural significance have been identified by Kai Tahu and the application does not relate to Māori land.

Effects on freshwater values have been considered in Section 6.2 of this report. It is considered the take will safeguard the life supporting capacity of Royal Burn and New Chums and freshwater values will be maintained as directed through Policy 3.1.1.

Policy 3.1.3 provides direction for “efficient” allocation freshwater by providing for the three identified components. There is no indication of hierarchy, so all must be considered equally. The rate and volume sought enables the Applicant to continue to irrigate their land resulting in their own economic wellbeing, and indirectly the wider community. In relation to avoiding overallocation, and phasing out existing, the allocation status of Royal Burn and New Chums is outlined in Section 6.2 and it is considered that the proposal will not lead to future over-allocation and the allocation limit will be reduced by 211 L/s, noting that the RPW is not a NPSFM compliant plan. The efficiency of water use is assessed in Section 6.3, and I consider that the rate and volume that would be allocated will be efficiently used, subject to conditions.

In relation to Policy 3.1.4, the proposed method for irrigation and volumes recommended are considered efficient to industry standard as outlined in Section 6.4. The Application also has the ability to water harvest through storage.

Water sought as primary allocation does not exceed what has historically been taken, and the recommended reduction in the primary allocation is considered a positive environmental change. The use of review conditions is consistent with the above framework, specifically the adaptive management approach directed by Policy 5.4.2.

In relation to Policies 3.2.13 - 3.2.16, there are no identified outstanding freshwater bodies associated with the proposal, including wetlands.

Overall, I consider that the applications are generally consistent with the provisions of the PO-RPS.

### **6.8.7 Regional Plan: Water for Otago**

The RPW was notified in 28 February 1998 and became operative in 1 January 2004. It is noted that the RPW was drafted before the NPS-FM 2014 (amended 2017) was notified and has not been updated to give effect to the NPS-FM. Council notified its Progressive Implementation Programme in December 2018 and has a plan to implement the NPS-FM. Part of this plan and as directed by the Minister for the Environment is that a plan change to the Water Plan was notified in March 2020 (PPC7). Issues with the Planning framework have also been raised in Environment Court cases, including the 'Lindis' decision by Judge Jackson (*Lindis Catchment Group Incorporated Vs Otago Regional Council ENV-2016-CHC-61*) on a plan change to the RPW specific to the Lindis catchment and a series of consents to take water to replace deemed permits in this catchment.

Relevant objectives and policies from the RPW are considered below:

*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.*

*Policy 6.4.2A Where an application is received to take water and Policy 6.4.2(b) applies to the catchment, to 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 of a registered community drinking water supply where an allowance may be made for growth that is reasonably anticipated.*

My consideration of the application against Policy 6.4.0A is included in Section 6.3 of this report. Based on this assessment, the volumes recommended for irrigation and stock water are reasonable and efficient for its required use. In addition, the transport (conveyance), storage and application system are reasonably efficient based on industry best standard. I also consider that water bypassed from the reservoir serves no ecological benefit and is effectively running water to waste which is inefficient and contrary to Policy 6.4.0A.

As outlined in Section 6.3 no more water than what is considered efficient or has historically been taken will be authorised under the primary allocation water permit subject to recommended limits.

*Policy 6.4.12 To promote, establish and support appropriate water allocation committees to assist in the management of water rationing and monitoring during periods of water shortage.*

*Policy 6.4.12A To promote, approve and support water management groups to assist the Council in the management of water by the exercise of at least one of the following functions:*

- (a) Coordinating the take and use of water authorised by resource consent; or*
- (b) Rationing the take and use of water to comply with relevant regulatory requirements; or*
- (c) Recording and reporting information to the Council on the exercise of resource consents as required by consent conditions and other regulatory requirements, including matters requiring enforcement.*

*Policy 6.4.12B To manage water rationing amongst water takes, Council may either*

- (a) Support establishment of a water management group; or*
- (b) Establish a water allocation committee.*

*Council may also instigate its own water rationing regime or issue a water shortage direction.*

*Policy 6.6.0 To promote and support development of shared water infrastructure.*

*Policy 6.4.0B To promote shared use and management of water that:*

- (a) Allows water users the flexibility to work together, with their own supply arrangements; and*
- (b) Utilises shared water infrastructure which is fit for its purpose.*

There are no water allocation committees or water management groups that currently operate within this catchment. A standard condition of consent is recommended to be imposed, if consent were to be granted, that requires the applicant to operate in accordance with any Council approved rationing regime.

*Policy 6.4.0C To promote and give preference, as between alternative sources, to the take and use of water from the nearest practicable source.*

It is noted that various submitters consider it appropriate for the Applicant to move to groundwater, however the infrastructure already provides for the abstraction. Moving to groundwater would require further investment by the Applicant and additional authorisations may be required. Through this process I cannot recommend that consent be granted for something that has not been applied for, which in this case is an application for groundwater. Overall, it is considered that the proposed water source is the nearest practicable source.

*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*
  - (i) the taking is from Lakes Dunstan, Hawea, Roxburgh, Wanaka or Wakatipu, or the main stem of the Clutha/Mata-Au or Kawarau Rivers.*
  - (ii) All of the surface water or connected groundwater taken is immediately returned to the source water body.*
  - (iii) Water is being taken which has been delivered to the source water body for the purpose of that subsequent take.*

*Policy 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...*

This application to take surface water has primary allocation, neither the Royal Burn nor New Chums are subject to a minimum flow restriction, nor is any primary allocation minimum flow recommended. Water sought for primary allocation will not impact the current allocation status and will result in a reduction to the current allocation limit.

- 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.*
- 6.4.4 *For existing takes outside Schedule 2A catchments, minimum flows, for the purpose of restricting primary allocation takes of water, will be determined after investigations have established the appropriate minimum flows in accordance with Method 15.9.1.3. The new minimum flows will be added to Schedule 2A by a plan change and subsequently will be applied to existing takes in accordance with Policy 6.4.5(d). For new takes in a catchment outside Schedule 2A, until the minimum flow has been set by a plan change, the minimum flow conditions of any primary allocation consents will provide for the maintenance of aquatic ecosystems and the natural character of the source water body.*
- 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) In the case of new takes applied for after 28 February 1998, upon granting of the consent; and*
  - (b) In the case of any resource consent to take surface water from within the Taieri above Paerau and between Sutton and Outram, Welcome Creek, Shag, Kakanui, Water of Leith, Lake Hayes, Waitahuna, Trotters, Waianakarua, Pomahaka and Lake Tuakitoto catchment areas as defined in Schedule 2A, upon the operative date of this Plan subject to the review of consent conditions under Sections 128 to 132 of the Resource Management Act; and*
  - (c) In the case of any existing resource consent to take surface water from the Manuherikia catchment area (upstream of Ophir) and the Taieri catchment areas Paerau to Waipiata, Wapiata to Tiroiti, Tiroiti to Sutton, as defined in Schedule 2A, upon collective review of consent conditions within those catchments under Sections 128 to 132 of the Resource Management Act; and*
  - (d) In the case of any existing resource consent to take surface water within a catchment area not specified in Schedule 2A, upon the establishment of a minimum flow set for the water body by a plan change, subject to the review of consent conditions under Sections 128 to 132 of the Resource Management Act.*
- 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.*

No minimum flow has currently been established for New Chums or Royal Burn, nor the Arrow Catchment. It is recommended that a review condition is imposed to enable a minimum flow condition to be applied if a minimum flow is set via a plan change in accordance with Policies 6.4.4 and 6.4.5 or relevant policies in any future Regional Plan.

- 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 need for a residual flow is discussed in Section 6.2 of this report. Residual flows have been proposed by the Applicant and recommended, therefore the application is consistent with Policy 6.4.7.

*Policy 6.4.16 In granting resource consents to take water, or in any review of the conditions of a resource consent to 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.*

The Applicant proposes to continue measuring the abstraction using water meters with the data recorded electronically using a datalogger and sent to Council via telemetry. A recommended condition of consent will ensure that this is maintained and is in accordance with Regulations. It is noted that the recommended conditions that require the ongoing monitoring of the takes are consistent with Policy 6.4.16 and wholly satisfy the relief sought in the submission from Aukaha in respect of monitoring and reporting.

*Policy 6.4.18 Where a resource consent for the taking of water has not been exercised for a continuous period of 2 years or more, disregarding years of seasonal extremes, the Otago Regional Council may cancel the consent.*

The recommended water metering condition will allow the Council to monitor the rate and volumes of take, and ensure the water is being used efficiently. Should metering show the consent has not been exercised, in accordance with this policy, the consent may be cancelled. A condition to this effect has been recommended.

*Policy 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.*

Policy 6.4.19 is relevant to determining the duration of the consent. Further discussion around this policy and the consent term is provided in Section 10.

*6.6.2 To promote the storage of water at periods of high-water availability through:*

- (a) The collection and storage of rainwater; and*
- (b) The use of reservoirs for holding water that has been taken from any lake or river.*

The Applicant stores water in a reservoir and the damming of water is subject to this application. This reservoir is to be filled both during normal operations and during periods of high-water availability.

Overall, I consider the proposed is that the proposal is consistent with the provisions of the RPW, subject to my recommendations as outlined above.



### 6.8.8 Proposed Plan Change 7 (Water Permits)

Plan Change 7 (PPC7) was notified by the Council on 18 March 2020 and therefore the rules, objectives and policies in the plan change apply to the water permit. PPC7 was re-notified by the Environmental Protection Agency on 6 July 2020.

The objective, policies and rules in PPC7 establish an interim planning and consenting framework to manage freshwater for the transition from deemed permits to RMA water permits while a long-term sustainable framework is prepared. PPC7 has been notified to implement the recommendations of the Minister for the Environment<sup>5</sup> following Professor Skelton's investigation of freshwater management and allocation functions at Otago Regional Council.<sup>6</sup>

Professor Skelton's report and the Minister's recommendations both highlighted inadequacies of the current planning framework in giving effect to the higher order documents, in particular the NPS-FM. While the comprehensive overhaul of the ORC planning framework is underway, the Minister considers that there is an urgent need to ensure that an interim framework is in place between now and 31 December. In his recommendation to ORC the Minister stated:

*“This is necessary to manage approximately 400-600 future consent Applications in over allocated catchments. The possibility of up to 600 consents being granted under the current planning and consenting framework is problematic. I understand that around 70 per cent of ORC's currently issued water permits are for durations of 25-35 years, with various expiry dates. This includes over 50 permits that expire in 2050 or later, eight of which are 35 year permits issued this year. I am advised that there is a strong expectation from deemed and RMA water permit holders that their new consents will be for similarly long terms, and that the Council is likely to come under strong pressure to meet these expectations. In my view, long terms for these new consents would be unwise, as they would lock in unsustainable water use, inhibiting the council from effectively implementing the outcomes of its intended new RPS and LWRP.”*

In response to Professor Skelton highlighting the importance of having robust interim measures in place to provide for short-term consents until the new regional policy statement and land and water regional plan are completed, the Minister formally recommended, under section 24A of the RMA that ORC:

*Prepare a plan change by 31 March 2020 that will provide an adequate interim planning and consenting framework to manage freshwater up until the time that new discharge and allocation limits are set, in line with the requirements in the National Policy Statement for Freshwater Management.*

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<sup>5</sup> Letter from David Parker (Minister for the Environment) to Otago Regional Council Councillors regarding the Minister's investigation of freshwater management and allocation functions at the Otago Regional Council (18 November 2019).

<sup>6</sup> Peter Skelton "Investigation of freshwater management and allocation functions at Otago Regional Council: (report to the Minister for the Environment, November 2019).

The Minister encouraged ORC to consider a narrow plan change that provides for a relatively low cost, and fast issuing of new consents on a short-term basis, as an interim measure until sustainable allocation rules are in place. These recommendations are reflected in Objective 10A.1.1 of PPC7 which provides:

*Objective 10A.1.1 Transition toward the long-term sustainable management of surface water resources in the Otago region by establishing an interim planning framework to manage new water permits, and the replacement of deemed permits and water permits to take and use surface water (including groundwater considered as surface water) where those water permits expire prior to 31 December 2025, until the new Land and Water Regional Plan is made operative.*

This objective is implemented by the following policies and rules:

*Policy 10A.2.1 Irrespective of any other policies in this Plan, avoid granting resource consents that replace deemed permits, or water permits to take and use surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) where those water permits expire prior to 31 December 2025, except where:*

- (a) The deemed permit or water permit that is being replaced is a valid permit; and*
- (b) There is no increase in the area under irrigation, if the abstracted water is used for irrigation; and*
- (c) There is no increase in the instantaneous rate of abstraction; and*
- (d) Any existing residual flow, minimum flow or take cessation condition is applied to the new permit; and*
- (e) There is a reduction in the volume of water allocated for abstraction.*

*Policy 10A.2.2 Irrespective of any other policies in this Plan concerning consent duration, only grant new resource consents for the take and use of water for a duration of no more than six years.*

*Policy 10A.2.3 Irrespective of any other policies in this Plan concerning consent duration, only grant new resource consents that replace deemed permits, or resource consents that replace water permits to take and use surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) where those water permits expire prior to 31 December 2025, for a duration of no more than six years, except where Rule 10A.3.2.1 applies and:*

- (a) The activity will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur; and*

(b) *The resource consent granted will expire before 31 December 2035.*

As this Application is for a water permit to replace deemed permits, Policies 10A.2.1 and 10A.2.3 apply.

As PC7 has been notified, regard must be had to its provisions as well as the provisions of the operative RPW. While regard must be given to the provisions of PPC7, this does not necessarily mean giving full effect to its content. It is up to the decision-maker as to the weight that should be afforded to each of the matters under section 104(1).

In terms of weight applied to proposed provisions, the following has been distilled from case law as relevant for the decision maker to consider whether greater weight should be applied to proposed provisions:

- The extent that it has progressed through the plan-making process<sup>7</sup>;
- The extent that the proposed measure has been subject to independent testing or decision making<sup>8</sup>;
- Circumstances of injustice<sup>9</sup>;
- The extent to which a new measure, or the absence of one, might implement a coherent pattern of objectives and policies in a plan<sup>10</sup>; and
- Whether there has been a significant change in Council policy and the new provisions are in accordance with Part 2 of the RMA<sup>11</sup>.

Based on these matters outlined above, I consider that while the provisions are in their initial stages of the plan making process, they are particularly directive (use of 'avoid') and are a significant change from the operative provisions of the RWP. As these provisions have been proposed in response to the Minister's recommendations that I have set out above, following an independent investigation undertaken by Professor Skelton with a particular focus on the management of freshwater, I consider that they better achieve the purpose and principles of the Act and the NPS-FM than current operative provisions. Otherwise, water permits granted under the current operative planning provisions have the potential to frustrate the new limits imposed in the new regional plan for land and water resources that is scheduled to be notified by December 2023 and made operative by December 2025.

I recognise that PC7 is only an interim step to achieving the purpose of the RMA and giving full effect to the NPS-FM, however as set out in the section 32 report for PC7, it is a critical measure in order to achieve this purpose in a timely manner and ensures the current planning framework

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<sup>7</sup> *Queenstown Central Ltd v Queenstown Lakes District Council* [2013] NZHC 815 at [9].

<sup>8</sup> *Hanton v Auckland City Council* [1994] NZMRA 289 (PT).

<sup>9</sup> *Keystone Ridge Ltd v Auckland Bity Council* (HC Auckland, AP24/01, 3 April 2001) at [16] and [37]; *Mapara Valley Preservation Society Incorporated v Taupo District Council* EnvC Auckland A083/07, 1 October 2007, at [51].

<sup>10</sup> *Keystone Ridge Ltd v Auckland Bity Council* (HC Auckland, AP24/01, 3 April 2001) at [16] and [37]; *Mapara Valley Preservation Society Incorporated v Taupo District Council* EnvC Auckland A083/07, 1 October 2007, at [51].

<sup>11</sup> *Keystone Ridge Ltd v Auckland Bity Council* (HC Auckland, AP24/01, 3 April 2001) at [16].

is more in accordance with Part 2 of the RMA in the interim period.<sup>12</sup> Further, PC7 implements a coherent pattern of objectives and policies as it is designed to be a standalone consenting regime for replacement deemed permits and water permits expiring before 31 December 2025.

I do acknowledge however, that this Application was in the system before the notification of the plan change and as such the Applicant has not had the benefit of the new controlled activity rule under PPC7 to obtain a relatively low cost short term consent. It is inevitable that some Applicants may be caught up in a change of planning framework and this does need to be weighed against the manner in which the provisions in PPC7 represent a significant shift in Council policy and that granting new consents for all expiring deemed permits would inhibit the Council from effectively implementing the outcomes of its intended new regional policy statement and land and water plan. As I consider some weight should be placed on the notified provisions of PPC7 I have provided an assessment against the provisions below.

The objective in PC7 requires a 'transition' toward long-term sustainable management of surface water. This relates to the management of surface water generally and the issues relating to large quantities of water being allocated to deemed permits or historic water permits (pre-RMA). Transition insinuates a process or period of changing which through the preceding policies and rules is achieved through limiting the duration of consents and thereby reducing risk for water to be allocated for a long duration under the current framework. By ensuring the Application is consistent with the corresponding policies, ensures the Application is consistent with this objective. I have considered these policies further below and the duration in Section 10 of this report.

Policy 10A.2.1, provides strong direction to 'avoid' granting consent except where the provisions in (a) – (e) are met. As confirmed in the *King Salmon*<sup>13</sup> case, the word 'avoid' takes its ordinary meaning of 'not allow' or 'prevent the occurrence of'. In respect to this policy, it directs that the Council must refuse the consent, unless all of the provisions of (a) – (e) are met. In relation to these matters, the water permit that is to be replaced is 'valid'; there is no increase to the area of irrigation; there is no increase to the instantaneous rate of take; there was no existing residual or minimum flow on the current water permit (however residual flows have been proposed) and there is a proposed reduction in the volume of water allocated of abstraction. All of these provisions are met, so granting of this Application is consistent with this policy.

Policy 10A.2.3 applies irrespective of any other policies concerning consent duration. It directs that new resource consents to replace deemed permits only be granted for a duration of no more than 6 years except where the activity will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur. In that case, a consent may be granted with an expiry of up to 31 December 2035. Given the assessment of effects in Section 6.2 and the Applicant has sought a duration of 15 years, the application is consistent with this policy. I have considered these policies further in Section 10 of this report.

The activity would be a non-complying activity under the notified plan in accordance with rule 10A.3.2.1. However, it retains its activity status of restricted discretionary as it was in the system

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<sup>12</sup> Section 32 Evaluation Report for PPC7 dated 18 March 2020, p 18.

<sup>13</sup> *Environmental Defence Society Incorporated v The New Zealand King Salmon Company Limited* [2014] NZSC 38 (*King Salmon*).

before notification of PC7. A non-complying activity status introduces the most onerous test for a consent application being the Section 104D 'gateway' test. This being that the consent authority may only grant consent if the Application is not contrary to provisions of all planning documents or causes a no more than minor adverse effect. Given this Application was lodged prior to the notification of PC7 it retains the operative rule and its corresponding activity status. I therefore will give no further consideration to this proposed rule.

## 6.9 Section 104(1)(c) - Any other matters

### 6.9.1 The Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008

The Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 - The Cry of the People, Te Tangi a Tauira is considered to be a relevant other matter for the consideration of this application. This is because the RPW is yet to be amended to take into account this Plan and this Plan expresses the attitudes and values of the four Rūnanga Papatipu o Murihiku – Awarua, Hokonui, Ōraka/Aparima and Waihōpai.

The following objectives and policies are of most relevance to this application:

- Adopt the precautionary principle when making decisions on water abstraction resource consent applications, with respect to the nature and extent of knowledge and understanding of the resource.
- Support and encourage catchment management plans, based on the principle of *ki uta ki tai*, to manage the cumulative impacts of water abstractions in a given area.
- Require that scientifically sound, understandable, and culturally relevant information is provided with resource consent applications for water abstractions, to allow Ngāi Tahu ki Murihiku to fully and effectively assess cultural effects.
- Recommend, as a condition of consent, that any application for irrigation puts in on-farm rainwater holding facilities, to help with dairy washdown and irrigation.
- Encourage the installation of appropriate measuring devices (e.g. water meters) on all existing and future water abstractions, to accurately measure, report, and monitor volumes of water being abstracted, and enable better management of water resources.
- Advocate for durations not exceeding 25 years on resource consents related to water abstractions.
- Require that Ngāi Tahu are provided with the opportunity to participate through pre hearing meetings or other processes in the development of appropriate consent conditions including monitoring conditions to address our concerns.
- Avoid adverse effects on the base flow of any waterway, and thus on the mauri of that waterway and on mahinga kai or taonga species.
- Ngāi Tahu's right to development, as per the Treaty of Waitangi, must be recognised and provided for with respect to water allocation from freshwater resources.
- Encourage water users to be proactive and use water wisely. To encourage best practice and efficient use of water, particularly in terms of:
  - sustainable irrigation design, delivery and management;
  - making best use of available water before water levels get too low;

- reducing the amount of water lost through evaporation by avoiding irrigating on hot windy days.
- Consideration of consent applications for water abstractions should have particular regard to questions of:
  - how well do we understand the nature and extent of the water resource;
  - how well can we monitor the amount of water abstracted;
  - whether land capability (e.g. soil type, vulnerability of underlying groundwater resources) matches the land use enabled by irrigation;
  - what might happen in the future (e.g. rainfall and recharge of aquifers, climate change).
- Applications for water abstractions may be required to justify the quantities of water requested. Information may need to be provided to Te Ao Mārama Inc. regarding the proposed water use per hectare, estimated water losses, stocking rates, and the level of efficiency for the scheme. This will enable iwi to put the quantity of water sought in context, and ensure that a test of reasonableness can be applied to consents.
- Require catchment based cumulative effects assessments for activities involving the abstraction of water.
- The establishment of environmental flow regimes must recognise and provide for a diversity of values, including the protection of tangata whenua values.
- Ensure that environmental flow allocation and water management regimes for rivers recognise and provide for the relationship between water quality and quantity.
- Avoid compromising fisheries and biodiversity values associated with spring fed creeks and rivers for the purposes of water abstractions.

The Applicant has applied for a term of 15 years and the Applicant is seeking rates of take and an annual volume less than historically, however a monthly volume more than historically used compared to the calculations by Council. The water use for irrigation of pasture has been assessed as efficient, however the annual volumes they have requested the maximum compared to Council's use of the 90<sup>th</sup>% maximum. The stock water use and baseflow have been considered efficient. The golf course use is proven to be used historically, however no comment can be made on efficiency. The Applicant currently meters their takes and they have proposed to continue metering the takes. The Applicants currently irrigate using industry best standard. The Application as it stands is generally inconsistent with this management plan. Te Ao Marama, and Aukaha were given the opportunity to be involved in the process. Both Aukaha has submitted opposing the Application and would support an amended Application with a term of 6 years. The assessment of effects concludes that effects on Kai Tahu values are minor.

### **6.9.2 The Kai Tahu ki Otago Natural Resource Management Plan 2005**

The Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) is considered to be a relevant other matter for the consideration of this application. This is because the RPW is yet to be amended to take into account this Plan and this Plan expresses the attitudes and values of the four Papatipu Rūnaka: Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga. The following objectives and policies are of most relevance to this application:

- To require that resource consents applications seek only the amount of water actually required for the purpose specified in the application.

- To require that all water takes are metered and reported on, and information be made available upon request to Kai Tahu ki Otago.
- To oppose the granting of water take consents for 35 years.
- To encourage those that extract water for irrigation to use the most efficient method of application.
- To discourage over-watering.

Water requirements and the efficiency of water use is outlined in Section 6.3 of this report. Based on this assessment, the volumes recommended for irrigation and stock water reasonable and efficient for its required use. In addition, the transport (conveyance), storage and application system are reasonably efficient based on industry best standard. Subject to the recommendations being accepted no more water than what is required will be provided. There are is also unlikely to be an overuse of water subject to the recommendations. Water taken is currently metered and will continue to be metered. The duration sought is less than 35 years.

### **6.9.3 Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999**

The Ngāi Tahu Freshwater Policy Statement 1999 (NTFP) is considered to be a relevant other matter for the consideration of this application because the RPW is yet to be amended to take into account the NTFP. The NTFP expresses the attitudes and values of Te Rūnanga o Ngāi Tahu

The following objectives and policies are of most relevance to this application:

#### **6.1 – Wāhi Tapu: To afford total protection to waters that are of particular spiritual significance to Ngai Tahu.**

- *Identify sites for immediate protection because of their significance as wāhi tapu.*

The location of the take has not been identified as a site of significance as wāhi tapu.

#### **6.2 – Mauri: To restore, maintain and protect the mauri of freshwater resources.**

- *Identify freshwater resources where:*
  - *Mauri is unaffected by modification and human activity so that these waterbodies can be afforded total protection; and*
  - *Mauri is adversely affected, and the activities that cause such affects.*
  - *Accord priority to ensuring the availability of sufficient quantities of water of appropriate water quality to restore, maintain and protect the mauri of a waterbody, in particular priority is to be accorded when developing water allocation regimes.*

The application is for water takes within an area that has been modified by human activity and where water is currently taken from. Aukaha Limited made a submission on behalf of Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga (Ngā Rūnanga). The submission raises concern that a resource's mauri will be degraded through over-allocation and lack of sufficient flows. In turn, the resource may no longer support the traditional uses and values. A water body or other natural resource can be desecrated by improper resource management activities. These may extinguish the mauri and in turn diminish the association upon which a range

of values are based, including mahika kai, for Ngā Rūnanga who hold traditional rights and responsibilities in respect to the resource. Aukaha have sought that should the consents be granted, allocation within Royal Burn and New Chums is reduced to 30% of MALF and a minimum flow of 90% of MALF is applied. This is further discussed in Section 6.2.

*6.3 – Mahinga Kai: To maintain vital, healthy mahinga kai populations and habitats capable of sustaining harvesting activity.*

- *Protect critical mahinga kai habitats and identified representative areas*
- *Restore and enhance the mahinga kai values of lakes, rivers, streams, wetlands, estuaries and riparian margins.*
- *Ensure that activities in the upper catchment have no adverse effects on mahinga kai resources in the lower catchments*
- *Restore access to freshwater resources for cultural activities, including the harvest of mahinga kai.'*

Aukaha have stated in its submission that Kai Tahu has a cultural, spiritual, historic and traditional relationship with the Clutha Catchments/Mata-au. Mahika kai sourced from the Clutha/Mata-au Catchment, the Royal Burn and New Chums provide life supporting capacity. The proposed and recommended residual flows will ensure life supporting capacity remains.

It is considered that, overall, the application is generally consistent with the objectives and policies of the NTFP.

#### **6.9.4 Report by Professor Skelton and Minister's Recommendation**

Professor Peter Skelton was engaged by the Hon David Parker, Minister for the Environment (the Minister) to investigate whether the ORC is adequately carrying out its functions under section 30(1) of the RMA in relation to freshwater management and allocation, particularly the implementation of the NPS-FM.

The October 2019 report concluded that the current planning framework in Otago is not fit for purpose to appropriately consider resource consent applications for new water permits before the expiry of deemed permits in October 2021. It also identified the need for an accelerated full review of the Water Plan (to notify a new Land and Water Plan by December 2023) and a full review of the Regional Policy Statement (to notify by November 2020).

To bridge the gap between the expiry of deemed permits in Otago in 2021 and other water permits expiring prior to a full plan review, and when a new Regional Policy Statement and Land and Water Plan for Otago will be operative, the Minister has recommended an interim change to the Water Plan. This has been notified as Proposed Plan Change 7 (Water Permits) (PPC7).

However, the weight placed on these matters is not determinative of the consent application in regard to granting the consent. This report has been considered but has not changed the recommendation to grant the consent.



## **7. Section 104(2A) Value of Investment**

When considering an application affected by Section 124 of the Act, the Council must have regard to the value of the investment of the existing consent holder. The applicant has provided the following evidence of the value of investment:

The existing intakes, water distribution infrastructure, storage and irrigation systems represent significant investment. Further investment will be required for ongoing maintenance of the infrastructure, upgrades to allow the extension of the existing takes.

## **8. Section 124B Applications by Existing Holders of Resource Consents**

The following criteria must be considered when a person who holds an existing resource consent makes an application to use a natural resource and that is affected by Section 124, and the consent authority receives one or more other applications to use some or all of the natural resource to which the existing consent relates, and that could not be exercised until the expiry of the existing consent.

The application affected by s124 is entitled to priority over any other application and the consent authority must determine that application before any other applications.

In order to make the determination of the application affected by s124, the consent authority must apply all the relevant provisions of this Act and the following criteria:

- (a) the efficiency of the person's use of the resource; and
- (b) the use of industry good practice by the person; and
- (c) if the person has been served with an enforcement order not later cancelled under section 321, or has been convicted of an offence under section 338,
  - (i) how many enforcement orders were served or convictions entered; and
  - (ii) how serious the enforcement orders or convictions were; and
  - (iii) how recently the enforcement orders were served or the convictions entered.

As there is currently such an application before Council, the above matters have been considered. The Applicant is seeking rates of take and an annual volume less than historically used, however a monthly volume more than historically used compared to the calculations by Council. The water use for irrigation of pasture has been assessed as efficient, however the annual volumes they have requested the maximum compared to Council's use of the 90<sup>th</sup>% maximum. The stock water use and baseflow have been considered efficient. The golf course use is proven to be used historically, however no comment can be made on efficiency. There is use of industry best practice for irrigation. The Applicant has already invested a significant amount of capital to improve efficiency over the last few years. These efficiency improvements have come through new storage.

A review of the compliance records confirmed that no enforcement action has been taken against the Applicant, however it was noted that the rate of take has exceeded the consented maximum

on some occasions. Melanie Heather in Council's Compliance Team commented that Lower Royal Burn has dried up in the past, Mrs Heather was not sure if there is a losing reach in the mid-section of the Royal Burn as water was flowing downstream of the dried reach and upstream of the state highway. There had been complaints in 2018 relating to this section drying.

## 9. Part 2 of the Act

Under Section 104(1) of the RMA, a consent authority must consider resource consent applications "subject to Part 2" of the RMA, specifically, sections 5, 6, 7 and 8.

The Court of Appeal has recently clarified how to approach the assessment of "subject to Part 2" in section 104(1). In *R J Davidson*, the Court of Appeal found that (in summary):<sup>14</sup>

- a. Decision makers must consider Part 2 when making decisions on resource consent applications, where it is appropriate to do so. The extent to which Part 2 of the RMA should be referred to depends on the nature and content of the planning documents being considered.
- b. Where the relevant planning documents have been prepared having regard to Part 2 of the RMA, and with a coherent set of policies designed to achieve clear environmental outcomes, consideration of Part 2 is not ultimately required. In this situation, the policies of these planning documents should be implemented by the consent authority. The consideration of Part 2 "would not add anything to the evaluative exercise" as "genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome". However, the consideration of Part 2 is not prevented, but Part 2 cannot be used to subvert a clearly relevant restriction or directive policy in a planning document.
- c. Where it is unclear from the planning documents whether consent should be granted or refused, and the consent authority has to exercise a judgment, Part 2 should be considered.
- d. If it appears that the relevant planning documents have not been prepared in a manner that reflects the provisions of Part 2, the consent authority is required to consider Part 2.

As noted, the Minister for the Environment commissioned an investigation into the allocation and freshwater management provisions of Otago. Following this, direction was provided for an interim framework to be put in place while a longer-term allocation and freshwater management framework can be established. PPC7 has been established in response to this. As there has been identified to be an ineffective allocation framework currently in place and PPC7 remains in its initial stages, there is an indication of incomplete coverage in the current regional planning document and the RPW does not give effect to the NPSFM 2020 and a new RPS is being notified at the end of June. I therefore consider it appropriate to consider the relevant matters of Part 2 of the Act.

The taking of water from Royal Burn and New Chums for the purpose of irrigation and stock water, is consistent with the purpose of the Act, as outlined in Section 5. The granting of the application

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<sup>14</sup> *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

will enable the applicant and the community to meet their social and economic needs, while sustaining the life supporting capacity of the river, and avoid or mitigate the more significant adverse effects of the taking of water from the river.

The matters under Section 6 of the Act have been recognised and provided for. The natural character of the Royal Burn and New Chums will be preserved (section 6(a)). The proposal will not affect any outstanding natural features or landscapes (section 6(b)). There is no presence of the nationally endangered and nationally vulnerable indigenous fish (section 6(c) of the Act). Where public access exists, this will be maintained (section 6(d)). The relationship of Maori and their culture and traditions with water has been recognised through the identification of iwi as an affected party. The submission of Aukaha has been considered and the recommendations of this report have provided for the relief sought where appropriate (section 6(e)).

Particular regard has been given to kaitiakitanga (section 7(a)). It is considered that the rates and volumes of abstraction will not cause the mauri of the waterbodies to be degraded beyond its current state. This will ensure that a degree of kaitiakitanga is maintained which recognises the relationship between Maori and the water. Particular regard has also been given to the efficient use and development of natural and physical resources and the Applicants efficient use of water has been recognised (section 7(b)). The need to protect the habitat of trout has been considered and as there are barriers below the intakes effect on trout is considered less than minor (section 7(h)). With the recommended conditions, particularly the requirement to provide water efficiency reporting, I consider the application is consistent with the “other matters” of Section 7 of the Act.

Section 8 requires all persons acting under the Act to take into account the principles of the Treaty of Waitangi. The principles of Te Tiriti o Waitangi, including active protection, equity and participation, have been taken into account in accordance with section 8. Of significance is the Treaty principle of active protection. This needs to be understood as it relates to the mauri of waterbodies. Degradation of mauri can diminish associations and prevent cultural uses, which may occur when an application is taking a significant proportion or all of a waterbody over a long period of time. The proposed conditions and the consent term of 15 years should address this issue. However, it is acknowledged that Aukaha have requested a duration of 6 years in their submission. Active protection is linked to Article Two of the Treaty and partnership responsibilities. When the mauri of waterbodies is degraded, this demonstrates a lack of active protection. Addressing degradation of mauri aligns with national direction around Te Mana o te Wai, which has been assessed in the section of this report on the NPS-FM.

Overall, the application is considered to be consistent with Part 2 of the Act, given the nature of the activity and the consent conditions recommended to be imposed.

## 10. Overall Recommendation

It is recommended that this consent application is **approved**, subject to the appended conditions, for the following reasons:

- a. The actual and potential adverse effects on the environment will be no more than minor.
- b. Subject to recommended conditions of consent, the proposal is consistent with the objectives and policies of the RPW and PPC7, specifically in relation to the efficient use of water and the alignment of allocation with historic use,
- c. The activity is consistent with the Part 2 of the Act.

- d. The activity is consistent with the NPS-FM by providing for Te Mana o te Wai
- e. The Applicant has undertaken an assessment that demonstrates that the activity will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur. This is the reason why a 15-year duration might be appropriate. The proposal will not hinder the implementation of an NPS-FM compliant Plan as future allocation limits can be imposed upon renewal of this consent or periodically as provided for by the recommended review conditions.
- f. No matters have arisen in the assessment of the application that would indicate the application should have been publicly notified.

### 10.1 Term of Consent (Section 123)

The Applicant initially sought a duration of 25 years for all activities, however, have amended the duration to 15 years.

I consider that a duration of 15 years (expiring 31 December 2035) is appropriate for RM19.151.01. In reaching this recommendation I have considered the following factors, distilled from case law, which are relevant to the Council's determination of the duration of a resource consent:

- The duration of a resource consent should be decided in a manner which meets the RMA's purpose of sustainable management;
- Whether adverse effects would be likely to increase or vary during the term of the consent;
- Whether there is an expectation that new information regarding mitigation would become available during the term of the consent;
- Whether the impact of the duration could hinder implementation of an integrated management plan (including a new plan);
- That conditions may be imposed requiring adoption of the best practicable option, requiring supply of information relating to the exercise of the consent, and requiring observance of minimum standards of quality in the receiving environment;
- Whether review conditions are able to control adverse effects;
- Whether the relevant plan addresses the question of the duration of a consent;
- The life expectancy of the asset for which consents are sought;
- Whether there was significant capital investment in the activity/asset; and
- Whether a particular period of duration would better achieve administrative efficiency.

Policy 6.4.19 of the RPW addresses consent duration for consents to take and use water. While it does not recommend actual durations, it directs the consideration of the following criteria:

- (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 the 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 explanation to the policy states the following:

*The duration of each resource consent to take and use water should have regard to the particular circumstances of the activity and its likely environmental effects, but there needs to be good reason for Council to reduce the duration of consents from that required for the purpose of use. There can be tension between granting sufficiently long consent durations to enable continued business viability and managing the greater environmental risk associated with long duration consents.*

*Where more is known about a water resource, such as when a catchment minimum flow has been specified in Schedule 2B, or an aquifer restriction level has been specified in Schedule 4B, and a council approved rationing regime will be adhered to, the risk of adverse effects being unforeseen is reduced and longer duration consents may be appropriate.*

*Consent review provisions provide an opportunity to allow longer consent durations while ensuring the requirements of this Plan are met over time. Where there is a higher degree of risk of adverse effects, uncertainty of longer term availability of the water resource, or the applicant is unwilling to volunteer adaptive management conditions (it may be too difficult to set suitable review conditions), a shorter duration consent may be appropriate.*

*Adaptive management provisions may be volunteered in situations where there is uncertainty about the response required to meet future change, including rapidly changing technology or a rapidly changing environment. Such provisions enable a proposal to proceed with sufficient, but not exhaustive, assessments of all risks and contingencies. Environmental standards initially set may be varied to be more or less restrictive over the life of the consent, in light of changing circumstances and community expectations.*

*Short duration consents should not be used as an alternative to declining consent, or as a response to poor assessments of environmental effects prepared by consent applicants.*

The principal reasons for adopting the policy are:

*This policy provides greater certainty on the assessment criteria used when deciding on the duration of the consent to take and use water.*

- In the case of the proposed abstractions activities, the purposes are enduring, being irrigation and stock drinking water (criteria (a)).
- There are no minimum flows or aquifer restriction levels that apply to the relevant waterways (criteria (b)).
- Climatic variability is certain to occur but no detailed evidence of its relevance has been supplied. It is likely to create uncertainty in water demand therefore water security is critical to ongoing business operation (criteria (c)).
- Potential adverse effects, such as minimum flows, can be addressed through robust review conditions. However, there are limitations on how the Council can deal with allocation through the review of consent conditions and the extent of changes that can be made given that the effect of the change of conditions on the continued viability of the activity must be considered as part of any review. It is not yet known what the outcome

of the Council's future planning programme may be and therefore the extent of changes required to conditions to bring the consent into line with the new planning framework. As such, a relatively short term of 15 years which relies on a review condition to manage effects is considered appropriate. (criteria (d)).

- The Applicant has not proposed adaptive management (criteria (e)),
- The Applicants have considerable investment that benefits from the water abstraction activities (criteria f)).
- The irrigation methods employed are consistent with industry best practice and the efficiency of use is acceptable (criteria (g)).

The Kai Tahu ki Otago Natural Resource Management Plan 2005 oppose consents granted for up to 35 years and the Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 advocate for terms of consent not greater than 35 years. Therefore, the recommended term of 15 years is consistent with the relevant iwi management plans.

The objective and policies of PPC7 are relevant to consent applications that have been lodged but not determined (i.e. all resource consent applications currently being processed), and all new applications that are lodged in accordance with section 104(1)(b) of the RMA. The objective and policies of PPC7 are directive and have been outlined in Section 6.8.8. As outlined, while I do not consider that full weight should be given to PPC7 due to its current status and the timing of the Application, I consider that the duration sought of 15 years for water permit RM19.151.01 is generally consistent with the provisions of PPC7. This is on the basis that the activity meets Policy 10A.2.3 which directs that a duration expiring 31 December 2035 may be granted provided the activity will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur.

Based on the above, a duration of consent expiring on 31 December 2035 is recommended for RM19.151.01 for the following reasons:

- Ensures consistency with the direction provided through PPC7;
- The rate and volume of water will reflect what has been historically taken and will result in a reduction of 211 L/s to primary allocation;
- The rate and volume of water recommended will only be what is reasonably required and based on efficient use;
- Subject to the overflow the water use system is efficient and follows industry good standard;
- Adverse effects on the values within Royal Burn, New Chums, and groundwater will be no more than minor;
- The Applicant has made significant economic investment into the operation into the take which has included some replacement of the water conveyance infrastructure and the using industry best irrigation methods.
- Provides the Applicant with long term security of access to surface water resources and assists in minimising costs associated with implementing the consent.

Overall, I consider that the recommended durations strike an appropriate balance between the Applicant's level of investment, the security they require, managing long term adverse effects, the timing of the application and in ensuring consistency with the Council's direction under PPC7.

### **10.2 Lapse Period (Section 125)**

Under s125, if a resource consent is not given effect to within five years of the date of the commencement (or any other time as specified) it lapses automatically, unless the council has granted an extension.

An advice note is recommended to inform the applicant of the provisions under s125.

### **10.3. Cancellation of Consent (Section 126)**

Pursuant to section 126(1) of the RMA, the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years, unless expressly provided otherwise by the resource consent.

Policy 6.4.18 in the RPW provides for the council to cancel a resource consent if not exercised in the preceding 2 years. In this case, I consider that alignment with Policy 6.4.18 is not required because the Applicant has been using the resource and s126(1) should apply, with an advice note recommended to inform the applicant that Council may cancel this consent if it has been exercised in the past but subsequently is not exercised for 5 years.

An advice note is recommended to inform the applicant of the provisions under s126(2)(b), including their appeal rights.

### **10.4 Review Condition (Section 128)**

The RMA provides for the council to review conditions at any time or times specified for that purpose in the consent where there are any adverse effects that may arise from the exercise of the consent, or in relation to a coastal, water or discharge permit where a regional plan or NES has changed. In addition, the council can review other conditions (such as those outlined in the advice note above) without having to set out in a condition the timeframes within which it will review them.

A review condition has been recommended on the consent. The reasons for this are:

- In the case of a water take, to vary the quantities, monitoring, operating and reporting requirements, and performance standards in order to take account of information, including the results of previous monitoring and changed environmental knowledge, on:

- water availability, including alternative water sources;
- actual and potential water use ;
- groundwater levels;
- stream water flow and level regimes;
- groundwater or stream water quality;

- efficiency of water use; and
  - Instream biota, including fish passage and the functioning of aquatic ecosystems.
- To deal with any adverse effect on the environment which may arise or potentially arise from the exercise of this consent and which it is appropriate to deal with at a later stage, in particular adverse effects on water quality.
  - This review condition should address the concerns of Bloomsbury Stud as raised in their submission.



Alexandra King  
Team Leader Consents – Coastal Otago

**Appendix 1: Recommended Conditions of Consent**

**Appendix 2: Technical review by Bryony Miller, e3 Scientific**

**Appendix 3: Technical review by Bas Veendrick, Pattle Delamore Partners**

**Appendix 4: Technical review by Hilary Lough, Pattle Delamore Partners**

**Appendix 5: Technical review by Wynn Williams**

**Appendix 6: Compliance report by Byron Pretorius**

**Appendix 7: Application documents**