



Otago Regional Council

Section 42A Staff Recommending Report

Water Permit Application RM20.005.01

Wakefield Estates Limited, Rockburn Wines Limited, Pisa Holdings Limited, Mark II Limited, Stuart Douglas and Phillipa Mary Hawker, Albany Heights Limited and Chard Farm Trustees Limited.

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.

Kirstyn Lindsay
Consultant Planner

17 August 2020

Executive Summary

Wakefield Estates Limited, Rockburn Wines Limited, Pisa Holdings Limited, Mark II Limited, Stuart Douglas and Phillipa Mary Hawker, Albany Heights Limited and Chard Farm Trustees Limited (the applicants) have applied for a water permit (RM20.005.01) to replace a deemed permit to take and use water from the Amisfield Burn.

The key issues for this application are:

- Consent duration;
- Rate and volume of take; and
- The need for a residual flow.

After assessing the actual and potential effects of the applications, considering submissions, and considering all of the matters in section 104 of the Resource Management Act 1991, I recommend that this application be **granted** for a period of **15 years**, subject to the conditions listed at the end of this report.

Report Author

Please note that this report contains the recommendations of the Reporting Planner and represents the opinion of the writer. It is not a decision on the application.

Kirstyn Lindsay – Consultant Planner, Southern Planning Solutions Limited

I am the sole director and independent consultant planner of Southern Planning Solutions Limited. I hold a Masters in Planning with Distinction from the University of Otago. I have over 17 years' professional experience in district and regional planning. I am an accredited RMA Commissioner with Chairs Endorsement and hold full NZPI membership.

I have been engaged by the Otago Regional Council to report and make a recommendation on the above application. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. While this report has not been prepared for the Environment Court, it has been prepared in accordance with the practice note. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

I have been involved with the subject application since it was lodged and received.

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

ID Ref: A1343144
Application No(s): RM20.005.01
Prepared For: Hearings Panel
Prepared By: Kirstyn Lindsay, Consultant Planer
Date: 27 July 2020

Subject: Section 42A Recommending Report – Limited-notified Deemed Permit Replacement by Wakefield Estates Limited, Rockburn Wines Limited, Pisa Holdings Limited, Mark II Limited, Stuart Douglas and Phillipa Mary Hawker, Albany Heights Limited and Chard Farm Trustees Limited for a water permit to take and use water from the Amisfield Burn, Pisa Moorings.

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 the applicants. Local authorities may commission a consultant to prepare the Section 42A report and may consider the report at any hearing. The purpose of the report is to assist the Hearing Panel in making a decision on the applications.

The report assesses the application in accordance with Sections 104 and 104C of the Resource Management Act 1991 and makes a recommendation as to whether the application should be granted, and, if granted, 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 Commissioners. The report is evidence and will be considered along with any other evidence that the Hearing Commissioners will hear.

1.1 Overview

Applicants: Wakefield Estates Limited, Rockburn Wines Limited, Pisa Holdings Limited, Mark II Limited, Stuart Douglas and Phillipa Mary Hawker, Albany Heights Limited and Chard Farm Trustees Limited.

Applicant's Agent: Will Nicholson – Landpro Ltd

Site address or location: Amisfield Burn, lower flanks of the Pisa Range approximately 1.6 kilometres northwest of Pisa Moorings, Cromwell.

Legal description of the point of take: Lot 3 DP 343853

Legal description of the points of use:

- Lot 2 DP 526279 as held in Record of Title 844471 (Mark II Limited, 82.6 ha)
- Lot 2 DP 490342 as held in Record of Title 707767 (Albany Heights Limited, 32.9 ha)
- Lot 1 DP 522616 as held in Record of Title 829493 (Chard Farm Trustees Limited, 20.8 ha)
- Lot 5 DP 399543 as held in Record of Title 397154 (Chard Farm Trustees Limited, 10.5 ha)
- Lot 1 DP 27337 as held in Record of Title OT19A/535 (Rockburn Wines Limited, 33.6 ha)
- Lot 4 DP 27494 as held in Record of Title OT19A/907 (Rabbit Enterprises Limited, 48.2 ha)
- Lot 3 DP 481936 as held in Record of Title 677068 (Pisa Holdings Limited, 122.5 ha)
- Lot 1 DP 453152 as held in Record of Title 580085 (Wakefield Estates Limited, 6 ha)
- Lot 2 DP 453152 as held in Record of Title 580085 (Wakefield Estates Limited, 1 ha)
- Lot 3 DP 453152 as held in Record of Title 580086 (Wakefield Estates Limited, 6.3 ha)
- Lot 4 DP 453152 as held in Record of Title 580086 (Wakefield Estates Limited, 2.3 ha)
- Lot 1 DP 526279 as held in Record of Title 844470 (Mark II Limited, 8.5 ha) – advised about in email dated 30 July 2020

Map reference(s): NZTM 2000: 1300312E 5018963N

Consent sought: To take and use surface water

Purpose of take: irrigation, domestic, stock water and frost fighting

Deemed permit being replaced: 95789

Information requested: Brief summary

Notification:

The application was originally approved to be processed on a non-notified basis on 28 February 2020 subject to the applicant obtaining the written approval of the following affected parties:

- Aukaha Limited
- Te Ao Marama Incorporated
- Te Runanga o Ngai Tahu
- Department of Conservation
- Lowburn Land Holdings Limited
- Smallburn Limited

The applicant subsequently requested limited notification to those parties and the application was limited notified, under delegated authority, to the identified parties on 6 May 2020.

Site visit:

A site visit was undertaken on 7 February 2020 and attended by Kirstyn Lindsay, Reporting Planner and Pete Ravenscroft, Environmental Resource Scientist, and Ciaran Campbell, Freshwater Ecologist, representatives of the applicants and the applicant’s agent Will Nicholson of Landpro also attended.

2. Key Issues

I believe that the key issues with this application are:

- Consent duration;
- Rate and volume of take; and
- The need for a residual flow.

3. Description of the Proposed Activity

The applicant is seeking to replace Deemed Permit 95789, which expires on 1 October 2021. Deemed Permit 95789 authorises the applicant to take up to 166.7 l/s and 416,750 m³/month from the Amisfield Burn. This application is seeking less water (120 l/s, 255,390 m³/month and 1,257,818 m³/year) than that authorised by Deemed Permit 95789. The applicant is seeking a term of 35 years.

The water take and conveyance infrastructure associated with Deemed Permit 95789 traverses the flanks of the Pisa Range, with the intake located at an elevation of approximately 585 masl and the lowest point of the water race network terminating at around 200 masl. Most of the land on which the water is used is located between 360 and 280 masl, with irrigated land owned by Wakefield Estates Limited ranging from approx. 225 to 200 masl. The existing delivery system will continue to be used under this application. The applicant’s delivery system is shown in Images 1 and 2 below.

Water distribution and storage infrastructure relating to the application includes the intake via an instream diversion, main water race and branch races, piped sections across watercourses, and the various storage ponds operated by the applicants. The table below taken from the application summarises the various infrastructure.

Table 1: Water infrastructure summary

Infrastructure	Description	Average dimensions (approx.)	Materials	Estimated efficiency
Water races	9 Mile race—just over 6km, running from Amisfield Burn to the start of the Wakefield race.	Various	Earth/clay	≥90% (up to 10% losses)

	<p>Wakefield race—just under 4km long, running from the 9 Mile race to SH6.</p> <p>Branch race—approx. 3km long, from the end of the 9 Mile race to Pisa Holdings' southernmost orchard.</p>			
Storage ponds	5 existing storage ponds operated by the applicants within the command area.	<p>Albany Heights pond: average length 69m, average width 51m, approx. max. capacity 15,000m³ (Shared with Mark II & Chard Farm)</p> <p>Mark II pond 2: average length 98m, average width 40m, approx. max capacity 13,000m³.</p> <p>Rockburn pond: average length 64m, average width 48m, average depth 2.5m; approx. max capacity 13,000m³. outlet location: NZTM1303122E 5015958N</p> <p>PHL Pond 1: 13,000m capacity, average length 70m, average width 64m³</p> <p>PHL Pond 2: 12,000m³ capacity, average length 70m, average width 55m.</p>	Earth/clay	≥95% (up to 5% losses)
Piped race sections	In order to avoid mixing with other watercourses, the race is piped across	Park Burn pipe: 300mm diameter, 20m length.	Park Burn pipe: steel,	95-100%

	the Park Burn and Sawyers Gully	Sawyers Gully pipe: 600mm diameter, 10m length.	Sawyers pipe: iron.	
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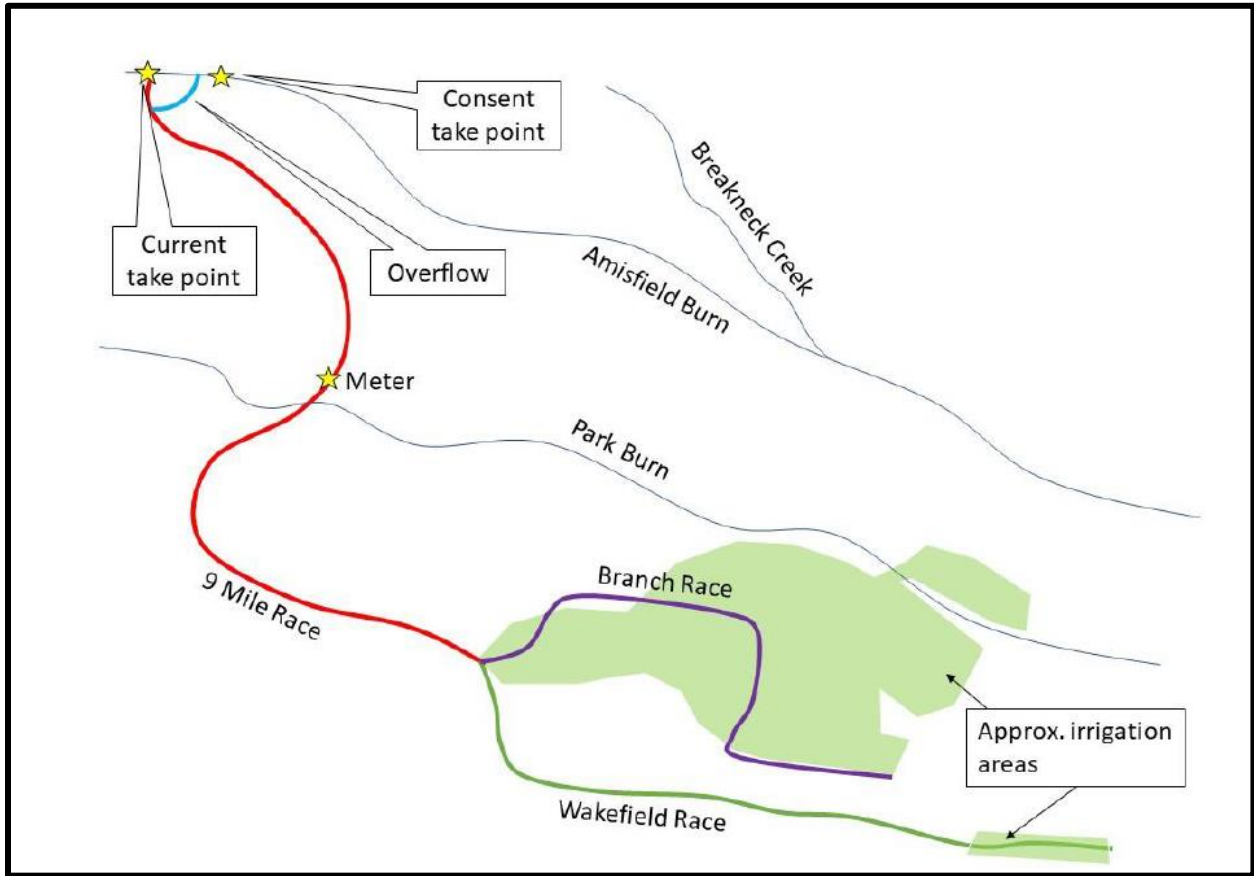


Image 1: Overview schematic of 95789 water take and use infrastructure (Source: Application)

Up to 166 ha is to be irrigated under this application with a range of irrigation methods including drip irrigation for the grapes and cherries and flood irrigation for pasture. Most of the irrigation areas are already established vineyards, cherry orchards and pasture, while proposed vineyards and orchards are to be located within relatively species-poor, high producing exotic grassland.

With regards to the general pastoral uses, this is comparatively small-scale, supporting a few livestock and is a remnant of Wakefield Estates Limited’s history in the area having previously been one of the largest landholdings in the region. Livestock numbers given in the application include approximately 300 sheep and 90 beef cattle. Domestic use of the water is also proposed in the form of two worker facilities with lunchrooms.

Topography varies across the irrigation areas, with vines and cherries situated on higher terraces at the foothills of the Pisa Range overlooking Lake Dunstan. These typically occupy the northern facing slopes in order to optimise sunshine hours and maximise growing/ripening potential.

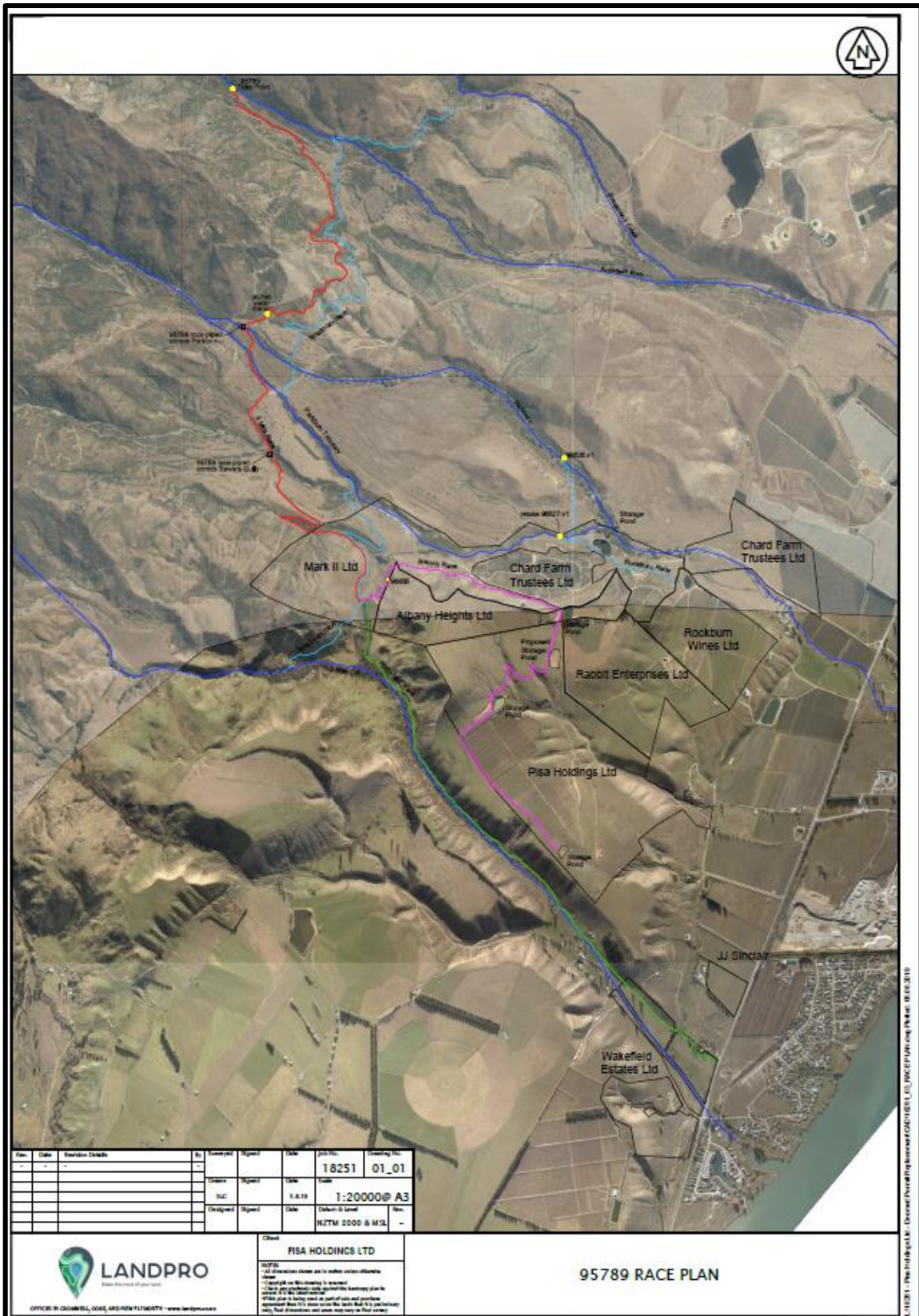


Image 2: 95789 Race Plan (Source: Application)

3.1 Rates and Volumes Applied For

Rate of take:	120 l/s
Monthly Volume:	255,390 m ³ /month
Annual volume:	1,257,818 m ³ /year

3.2 Details of Deemed Permit Being Replaced

The applicant is seeking to replace Deemed Permit 95789, which expires on 1 October 2021. As part of this application they are seeking to change the consented location of water abstraction to that where the water is currently physically taken from.

Deemed Permit 95789 authorises the applicant to take up to 166.7 l/s from the Amisfield Burn. The deemed permit is jointly held by the following parties as shown in the table below:

Table 2: Shares for Deemed Permit 95789 to take water from the Amisfield Burn

Holder	Share	L/s	L/hour	m ³ /month
Rockburn Wines Ltd	2/56	166.7 (calculated on hourly rate specified on 95789)	600,000	416,750
Pisa Holdings Limited	15/56			
Mark II Limited	10/56			
John Sinclair and Juliana Sinclair	2000 l/day domestic use only			
Chard Farm Trustees Limited	7/56			
Stuart Douglas and Phillipa Mary Hawker	1000 l/day stock water only			
Albany Heights Limited	8/56			
Wakefield Estates Limited	12/56			
Total	54/56¹			

Water is shared between the users on an agreed roster, and used for irrigation of vines, cherries and pasture. Water is used by Stuart and Phillipa Hawker for stock drinking purposes and 95789 specifies that J & J Sinclair hold a domestic share of this permit. Mark II Limited, Rockburn Wines Limited, Albany Heights Limited and Pisa Holdings Limited all have on-site storage. A total of 112 ha is currently under irrigation. All shareholders, except J & J Sinclair, are parties to this application.

¹ Around the time that the mining privilege was replaced by Deemed Permit 95789, 2/56 shares were transferred to Contact Energy Limited. These were subsequently surrendered and allocation was reduced accordingly (see decision for 2000/191)

Some users also hold permits to take water from other sources and these are discussed further below.

Mark II Limited

Mark II Limited is the first property to receive irrigation water from the Branch Race. Currently there are approximately 5 ha of vineyard, with a further 17 ha of vineyard proposed to be planted and irrigated within the property.

Mark II Limited also holds Deemed Permit 93177, which authorises water abstraction from the Park Burn. There are no records relating to the operation of 93177, and the application states that this permit has not been exercised due to difficult access to that water (being downhill of their property without pump facilities). Mark II Limited has advised that the consent has been exercised in association with 98526.V1 (98526.V1 is the subject of resource consent application RM20.003)

The Branch Race enters the water user's property to the north and traverses a gully which is located within the Park Burn catchment. The water race delivers water to an approximately 15,000 m³ storage pond shared with Albany Heights Ltd and Chard Farm Ltd. Mark II Limited then has the ability to directly irrigate from this pond, or send some of the water to another storage pond (approx. 13,000m³ capacity) for later use. This pond will likely be used to provide irrigation water for the proposed vineyard expansion areas, along with treated domestic water for future workers facilities.

Rockburn Wines Limited

Rockburn Wines Limited own and manage a large pinot noir vineyard to the northeast of Pisa Holdings Ltd and holds 2 out of 54 shares in Deemed Permit 95789. Rockburn Wines currently holds Water Permit 98526.V1 (subject of resource consent application RM20.003) and, Discharge Permit 98655 and Water Permit 98527.V1 which respectively authorise the discharge and subsequent re-take of 95789 water for 4 days per month. Deemed Permit 98527.V1 was surrendered in March 2020.

95789 water is delivered to a tributary of the Park Burn and is re-taken at the same take point as Deemed Permit 98526, then raced to a dam at the northern end of the property. 95789 water is used to augment 98526, as the Park Burn is known to dry up or go to ground, upstream of the intake, particularly during the height of the irrigation season when upstream abstraction is occurring. Rockburn Wines currently frost-fight via helicopter, but plan to install overhead sprinklers in future.

Chard Farm Trustees Limited

Chard Farm Trustees Limited recently purchased land from Mark II Limited, primarily composed of established vineyard along with smaller pockets of land earmarked for future vines. Chard Farm's vineyard to the south of the Park Burn is irrigated via water taken from the storage pond located on Albany Heights Limited's land and shared with Mark II Limited. The area of Chard Farmland to the north of the Park Burn was formerly irrigated by Mark II via Pisa Irrigation Company water, however this is now to be irrigated via water proposed to be taken under this application with the aid of a proposed storage pond. As part of the land sale, Mark II Limited have since transferred 7 out of 54 shares in 95789 to Chard Farm Trustees Limited for the irrigation of the existing and proposed vineyards.

Albany Heights Limited

Albany Heights Limited own a property between Mark II Limited and Pisa Holdings Limited. Albany Heights Limited receive water directly from a large storage pond located on their property which

is shared with Mark II Limited and Chard Farm Trustees Limited. Albany Heights currently operate a 2.06 ha pinot noir vineyard, and this storage pond provides all irrigation and frost fighting water to the vineyard. Water is gravity-fed via underground pipe to the vineyard. This pond was constructed in 2002 which is when the vines were also planted.

Much of the property has been dryland and the water user has around 20 sheep that graze the hillside and between the vines in the winter.

Frost fighting occurs as and when required and there are different temperature triggers for when the water user needs to frost fight depending on the stage of the grapes. Frost fighting provisions for the new cherry block will be via frost fan, however underground irrigation may be used in conjunction with the wind machines during more severe frosts.

There are no other water sources available to this property.

Pisa Holdings Limited

Pisa Holdings Limited take water from the Branch Race once it has travelled through the properties of Mark II Limited and Albany Heights Limited. The open race continues along the hillside and terminates in a pond known as 'Pond 1'. This pond was recently constructed and holds 13,000 m³ of water when full.

From Pond 1 the user pipes water to all of the irrigable areas planted in cherries via underground pipes. Currently there are 42 ha planted in cherries, with the potential for a further 13 ha to be planted in the future. There is a secondary pond called 'Pond 2' towards the southern end of the property which holds up to 12,000m³ and construction of this pond was completed in 2018. Water is conveyed from Pond 1 to Pond 2 via underground pipes. Future investment and plans also include the establishment of a third irrigation pond which will likely be located adjacent to the Branch Race, to the north east of Pond 1 and will hold another 20,000 m³ of water when full.

Frost fighting is undertaken via helicopters and not via water. The current ponds only provide for 14 days buffer of storage, which accounts for days when other shareholders are rostered to take their shares, and when there is not enough to go around. Pisa Holdings Limited have an on-site weather station which calculates the crop coefficient and daily evaporation to determine when irrigation should occur. There are no other sources of water available to this property.

S Hawker

Stuart Hawker operates a 48ha property which is partly planted in 18 ha of pinot noir and chardonnay vines. A bore provides irrigation water for the vines and potable drinking water for the house. The bore is located close to the south of the property and the corresponding groundwater permit is held by Number 925 Water Company Limited (RM14.064.01).

The user receives water from a large storage pond located on Albany Heights land and there is an open race which delivers water to this property for stock water.

A 30,000L storage tank captures this water, and a reticulated gravity-fed supply with water troughs provides water for stock drinking. Any water not drunk by the livestock is used for irrigating a small area of pasture, however there is typically very little available for this purpose. Stock consists of 12 cattle of various stock classes, a few heifers and a couple of calves. The user is also looking to bring on a dozen ewes to the property.

Wakefield Estates Limited

Robert (Bob) Perriam owns Wakefield Estates Limited which is located on the flats of Five Mile Gully at the intersection of Clarks Road and the Luggate-Cromwell Road, generally opposite the entrance to Pisa Moorings. This block of land is a remnant of the original Wakefield Farm which the Perriam family established in 1865. Wakefield Estates Limited run sheep and cattle on the productive irrigated flats, averaging 140 breeding ewes, 50 dry sheep and 20 dry cattle per year.

Water is scheduled to go to this property approximately one week per month during the irrigation season and is gravity fed along a subsidiary race (Wakefield Race) off the 9 Mile Race to the user's property. Given the lack of storage available, the small area of land irrigated and frequency of when they are scheduled to receive water, the water user flood irrigates here once a month throughout the irrigation season. The application notes that the method of irrigation will be upgraded over time. The race water enables enough feed to be grown for livestock and provides year-round stock water. It also provides amenity value via irrigated pasture to the water user's new accommodation units located on the other side of Clarks Road. These self-contained units provide accommodation for both visitors to the region and seasonal workers. The irrigated paddocks are directly within view of the new units. Currently pasture is to be maintained and there is potential to plant grapes along the hillside.

Wakefield Estates recently lodged a consent application with ORC to renew an expired groundwater take on the western side of the Luggate-Cromwell Road. The proposed groundwater take is to provide water for irrigation and other uses on both sides of the road, however there is no overlap between the proposed groundwater irrigated area and the water sought to be taken under this application.

J & J Sinclair

J&J Sinclair own a 4.6ha lot next to State Highway 6, which is completely planted in grapes and leased to Chard Farm Limited. These permit holders currently hold a domestic share only of Deemed Permit 95789. J & J Sinclair used to own the neighbouring house (Lot 1 DP311417) and the domestic supply of water was intended for that house. It is noted that the land area retained by J & J Sinclair, subdivided in 2002, does not contain a house and there are no legal arrangements to convey water to the house and that water has not been delivered to the house for a number of years. As such, the applicant is not seeking to renew this component of the application.

This application was lodged with the Council at least six months before the expiry date. In accordance with Section 124 of the Act, the applicant may continue to operate under Deemed Permit 95789 until a decision on this application is made and all appeals are determined.

Historic Rate and Use Data and Deemed Permit Conditions

Deemed Permit 95789 authorises the abstraction of water from the Amisfield Burn at or about NZTM 2000: 1300745E 5018568N. This point of take was relocated approximately 6 km upstream (NZTM 2000: 1300312E 5018963N) after the 1999 flood washed out the original intake. The applicant states that this relocation was verbally approved by an ORC officer but the Deemed Permit was never modified to reflect this new location for the point of take. The water is conveyed from the point of take via the 9 Mile Race. The race crosses multiple water courses and is piped across the Park Burn and Sawyers Gully.

The current Deemed Permit 95789 dates back to 1866, when Water Race licence 765 Cromwell (WR765Cr) was granted. The original authorisation of WR765Cr was for a take of 1,200,000

l/hour, however when Water Permit 2904 was issued in 1985 as a replacement for WR765Cr, it was noted that the race capacity was less than half this, and the water right was subsequently reduced to 600,000 l/hour.

Rates and volumes for this take have been recorded from 2015 – 2019 and are discussed below at Section 7.2 of this report.

Other Activities

A number of the shareholders water is stored in water reservoirs as detailed in Table 1 above.

As discussed above, some of the applicants are party to other water takes and/or discharge permits as discussed above. These are not the subject of this application and there is no overlap of command areas, except in the case of Rockburn Wines Limited (2/54 shares) where the water sought from this application is used to augment 98526.V1.

Maintenance and use of the intake infrastructure is a permitted activity pursuant to Rules in sections 13.1.1 and 13.5.1 of the RPW.

The storage reservoirs do not capture natural run-off and are not located within a watercourse. It does not meet the definition of large dam under the Building Act.

Byron Pretorius (Team Leader, Compliance) reviewed the Deemed Permit 95789 file. Compliance noted that R S Perriam (Wakefield Limited) has a race that discharges water into the Five Mile Catchment and that Wakefield Limited does not have a water permit granting the right to abstract water that is discharged into Five Mile Creek and sought clarification regarding the need for a consent for this retake. The applicant confirmed that the Wakefield Ltd race does flow alongside Five Mile Creek for some of its length, however at no point is there any direct discharge of Amisfield Burn water from the race to Five Mile Creek. From the main 95789 race, the Wakefield Race flows above and parallel to Five Mile Creek until it reaches the flats. From here, the race and the creek's paths diverge somewhat, with Five Mile Creek eventually flowing under SH6 and into Lake Dunstan. There is no defined end-point for the Wakefield Race, however there is a small possibility for some of the residual water at the end of the race to flow into the lower Five Mile Creek channel. There is no retake of water from Five Mile Creek.

3.3 Application Documents

The application was lodged with Council on 17 December 2019 and the application included the following documentation:

- Form 1 and Form 4
- Assessment of Environmental Effects – Landpro Limited dated 20 December 2019
- Soil map and efficient water use calculations – Landpro Limited
- Amisfield Burn hydrology report – Landpro Limited dated 28 May 2019
- Fish survey and residual flow report – Waterways Consulting Limited dated May 2019

Additional information relating to a residual flow for the Amisfield Burn and details of any retake from Five-mile Creek (discussed above) was requested on 27 February 2020. The applicant responded on 10 March 2020 and offered a 50/50 residual flow and confirmed that there is no retake of water from Five Mile Creek.

4. Notification and Submissions

4.1 Notification Decision

The applicant requested limited notification to those affected parties who were identified by Council on 28 February 2020. The application was limited notified on 6 May 2020. The application was notified to:

- Aukaha Limited on behalf of local runanga - Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou;
- Te Ao Marama on behalf of local runanga -Te Runanga o Waihopai
- Te Runanga o Ngai Tahu (TRONT);
- Department of Conservation on behalf of the Director General of Conservation (DoC);
- Lowburn Land Holdings Limited; and
- Smallburn Limited.

The reasons for these parties being considered affected are included in the notification recommendation (ORC Reference A1333162). The submission period closed on 4 June 2020.

4.2 Submissions Received

Submissions were received from the following:

- Aukaha Limited;
- Lowburn Land Holdings LP (subsequently withdrawn)

4.3 Summary of Submissions

Submitter	Submission Points	Wishes to be heard
Aukaha Limited (on behalf of Kati Huirapa Puketeraki and Te Runanga o Otakou)	<p>Nga Runanga are not confident in the regional planning framework and request a short-term consent to allow a new planning framework to be established before longer term consent is granted.</p> <p>Nga Runanga seek that the consent be declined or if granted then the following conditions imposed:</p> <ul style="list-style-type: none">• That the term of consent be no longer than 6 years• That at least 50% of the flow in the waterway is left in the waterway• That existing requirements for water meter(s) remain and results continue to be recorded and reported via telemetry.	Yes

5. Description of the Environment

5.1 Description of the Site and Surrounding Environment

The water take and conveyance infrastructure associated with Deemed Permit 95789 traverses the flanks of the Pisa Range, with the intake located at an elevation of approximately 585 masl and the lowest point of the water race network terminating at around 200 masl. Most of the land on which the water is used is located between 360 and 280 masl, with irrigated land owned by Wakefield Estates Limited ranging from approx. 225 to 200 masl.

The climate around the Cromwell area can be described as a typical Central Otago semi-arid landscape, with long sunshine hours, low rainfall and high summer temperatures coupled with significant temperature inversions in winter.

Aqualinc mean annual rainfall (MAR) classes across the application site ranges from with the 650 mm/year band at the intake site, 650 mm/year down to 350 mm/year across the length of the race and 450 mm/year band to 350 mm/year for the irrigation land.

Potential evapotranspiration during the growing season is given as approximately 620-640 mm between September and April according to GrowOtago. However, when compared with the NIWA evapotranspiration records the applicant considers that this may be an under estimation. According to modelling by NIWA undertaken in 2015, the site and surrounding area experience approximately 110-120 days per year of soil moisture deficit.

Frost is a significant issue for both cherries and grapes. GrowOtago indicates that most of the properties serviced by 95789, experience approximately 9-12 spring frosts each year.

The GNS Science New Zealand Geology Web Map indicates that virtually all of the land within the irrigation areas is underlain by either Middle Quaternary glacial outwash deposits (muddy to sandy gravel), Manuherikia Group claystone and siltstone, or Early Quaternary till deposits (pebbly to boulder gravel, sand, silt and mud). The geology uphill of the irrigated areas is primarily composed of much older Wanaka lithologic association TZIV schist.

Much of the land within the application area is classified within the New Zealand Land Cover Database as Low Producing Grassland, with lower elevation areas classified as High Producing Exotic Grassland and pockets of Orchards or Vineyards.

5.2 Description of Surface Water Body

The headwaters of the Amisfield Burn originate in the Pisa Range at an elevation of approximately 1880 masl, just adjacent to the Pisa Range Ridge Track. The Amisfield Burn picks up numerous small tributaries as it descends the steep eastern face of the Pisa Range, with the formerly confined bedrock channel opening out into a shallower-gradient channel composed of loose gravels on the terraces and alluvial fans above Lake Dunstan.

Breakneck Creek joins the Amisfield Burn approximately 3.5 km upstream of the Lake Dunstan confluence.

There are two other permits downstream of the applicants' water take: one held by Smallburn Limited (96321.V1) and one held by Lowburn Landholdings Limited Partnership (97232). All three

parties (combined consent holders of 97589 as one party) share Amisfield Burn water, as dictated by the historic priorities. The applicants hold the highest priority, however water has historically been allowed to flow past the intake in order to provide for downstream users Smallburn Limited and Lowburn Landholdings Limited Partnership. All of the water users on the Amisfield Burn have prepared their deemed permit replacement applications concurrently to facilitate a streamlined approach to discussions around water sharing in the catchment.

Table 3: Summary of other water users in the Amisfield Burn

Water Permit Number	Location	Rate of take (l/s)	Primary consent holder	Current replacement application
96321.V1	Approx. 700 m downstream of 95789 take	41.7L/s	Smallburn Limited	RM20.007
97232	Approx. 3 km downstream of 95789 take	83.3L/s	Lowburn Land Holdings LP	RM20.020

The Council has maintained a flow monitoring station just upstream of the applicants' point of take since October 2013. This continuous record demonstrates a typical steep headwater stream with rapid response event-specific hydrographs. In winter and through to the end of spring, the creek is fed primarily by snowmelt. Based on the ORC monitoring results, the 7-day mean annual low flow (MALF) for the Amisfield Burn upstream of all abstractions is 65 L/s, with a mean flow of 162 L/s.

Stream gauging was undertaken by the applicant's agent in January 2019 to determine the natural flow conditions of the Amisfield Burn throughout its lower reaches. Five gauging sites were selected on the main stem of the Amisfield Burn, with the first gauging site located 3 m upstream from the applicants' point of take. All abstractions on the Amisfield Burn and associated tributaries ceased 24 hours prior to, and during, the gauging exercise. The result showed that the Amisfield Burn was a naturally losing stream with a net loss of 210 l/s between the Amisfield Burn and Breakneck Creek confluence and the final gauging station located well above Lake Dunstan where the creek ran dry.

The New Zealand Freshwater Fish Database has eight records for the Amisfield Burn:

- The earliest three (1996) records report brown trout at all three sites, a single large koaro at the middle site, and a single upland bully in a lower tributary of the Amisfield Burn.
- 2001 surveys reported no fish at State Highway 6 and brown trout and a single koaro were present at the same site as the koaro was found in 1996.
- In 2018, three Amisfield Burn sites were fished with brown trout present at the lower two sites, upland bully at the lowest site, and no fish recorded at the uppermost survey site.

In April 2019, WaterWays Consulting Ltd also conducted three surveys on the Amisfield Burn and Breakneck Creek. The surveys found brown trout at two Breakneck Creek sites, while the

Amisfield Burn survey site (just upstream of the point of take) did not record any fish. No additional surveys of the lower reaches of the creek were possible, as the creek bed was dry at State Highway 6.

There are no Water Conservation Orders for the Amisfield Burn.

5.3 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.

The Amisfield Burn is identified in Schedule 1A with the following values listed:

- Weedfree (absence of aquatic pest plants)
- Rarefish (presence of indigenous fish species threatened with extinction).

In relation to the "rarefish" designation, the Amisfield Burn is identified within the Schedule as "significant habitat for koaro."

The Amisfield Burn is a tributary of Lake Dunstan/Te Wairere which is part of the Clutha River/Mata-Au catchment. The following Schedule 1A values are identified for Clutha River/Mata-Au:

- Size (large waterbody supporting high numbers of particular species or a variety of habitats)
- Bedrock and gravel beds
- Areas for spawning and juvenile fish development for trout and salmon
- Riparian vegetation
- Significant presence of trout, eel and salmon
- Presence of indigenous fish species.
- Significant habitat for flathead galaxid
- Presence of a significant range of indigenous waterfowl.

Schedule 1B of the RPW identifies water takes used for public supply purposes (current at the time the RPW was notified in 1998). The Amisfield Burn is not identified in Schedule 1B. However, Site 13 (Clyde Water Supply) and Site 14 (Cromwell Water Supply) of Schedule 1B are both within the Clutha River/Mata Au catchment downstream of the confluence of the Amisfield Burn and the Clutha River/Mata Au.

Schedule 1C identifies registered historic places which occur in, on, under or over the beds or margins of lakes and rivers. The Amisfield Burn is not identified in Schedule 1C. However, the Cromwell Bridge located downstream of the confluence of the Amisfield Burn and the Clutha River/Mata Au. is a registered historic place.

Schedule 1D of the RPW identifies the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kai Tahu. The Amisfield Burn is not listed within this Schedule, however the Clutha River/Mata Au (to which the watercourse flows) is identified as having the following values:

- **Kaitiakitanga:** the exercise of guardianship by Kai Tahu, including the ethic of stewardship.
- **Mauri:** life force.

- **Waahi tapu and/or Waiwhakaheke:** sacred places; sites, areas and values of spiritual values of importance to Kai Tahu.
- **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).

5.4 Schedule 2 of the Regional Plan: Water

The Amisfield Burn is not listed in Schedule 2 of the RPW.

5.5 Regionally Significant Wetlands

There are no regionally significant wetlands identified within or near this watercourse.

6. Status of the Application s77A and s87A

Resource consent is required under the RPW and proposed Plan Change 7 (Water Permits) of the RPW (PPC7).

Table 4: Planning Rules

Planning Instrument	Rule	Purpose	Activity Status
RPW	Rule 12.1.4.5	Taking and use of surface water as primary allocation	Restricted Discretionary
PPC7	Rule 10A.3.2.1	Taking and use of surface water as primary allocation which does not meet Rule 10A.3.1.1	Non-Complying

PPC7 was notified for submissions on 18 March 2020 and has immediate legal effect in accordance with section 86B(3) of the Act. PPC7 was renotified on 6 July 2020 by the Environmental Protection Agency (EPA). PPC7 introduces two new rules relating to water takes which have immediate legal effect upon notification.

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 a 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.

Overall, the proposal is assessed as a **Restricted Discretionary Activity**.

7. Section 104 Effects Evaluation

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.

7.1 Ecological Effects

I consider that the adverse effects of the activity on the environment relate to:

- Allocation availability
- Minimum flows
- Instream values
- Downstream users and competing demand for water
- Groundwater
- Cultural values

7.1.1 Surface Water Allocation Availability

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.”*

The sum of the consented primary allocation takes for the Amisfield Burn catchment is calculated as 291.7 l/s (including the take which is the subject of this application). The proposed take is assessed as primary allocation in accordance with Policy 6.4.2(b) and, as the application seeks to replace a consent which was granted prior to 28 February 1998 and because the applicants have applied to replace this consent within the statutory timeframes given in Section 124 of the Act, the take will retain primary allocation status.

7.1.2 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 Amisfield Burn. Any relevant consent within that catchment may be reviewed under Section 128 of the Act in order to impose conditions that will allow the minimum flow to be met.

7.1.3 Effects on Fish and Instream Values

With regard to the effects on the instream values of a surface water body, the following has been considered:

- the need for a residual flow at the point of take;
- the rate, volume, timing and frequency of water to be taken and used;
- the proposed methods of take;
- the need to prevent fish entering the intake;
- any effect on any Regionally Significant Wetland or on any regionally significant wetland value.

The Otago Regional Council installed a flow recorder (“Amisfield Burn at Top Take u/s”) in the Amisfield Burn in November 2013. The flow recorder is located immediately upstream of the proposed water take and is not impacted by any water abstraction or augmentation and, therefore, the recorded flows can be considered natural. Based on the flow data recorded, the following flow statistic has been generated by Council’s Environmental Resource Scientist Xiaofeng Lu:

- 69 L/s 7 day Mean Annual Low Flow (MALF) across all seasons – the average of the lowest seven-day flow for each year of record.

The application was assessed by Ciaran Campbell (Freshwater Ecologist), from the Council’s Resource Science Unit (evidence appended to this report). In assessing the ecological values of the Amisfield Burn, Mr Campbell combined NZFFD records with the recent survey report provided in the consent application, and on-site observations. The NZFFD provides presence/absence data for fish species at 13 sites in the Amisfield Burn catchment. Three records are in Breakneck Gully, a tributary of Amisfield Burn. Records exist for fish surveys from 1996, 2001, and 2018. There are three fish species recorded in Amisfield Burn and Breakneck Gully since 1996: brown trout (*Salmo trutta*), upland bully (*Gobiomorphus breviceps*) and kōaro (*Galaxias brevipinnis*).

Since 2018, a survey was completed in the Amisfield Burn and neighbouring catchments by Dr Richard Allibone of Waterways Consultants Ltd. Brown trout were detected at two sites in Breakneck Gully and no species were detected at one site in Amisfield Burn. Recent additional sampling has been completed and not recorded on the NZFFD, which only found brown trout and upland bullies. Sampling across Amisfield Burn and its tributary Breakneck Gully is not extensive, however in Mr Campbells opinion, there is sufficient data collated from multiple sources to determine fish values.

Mr Campbell notes that brown trout are an introduced sports fish that appear to have formed a self-supporting, stunted population in the Amisfield Burn catchment, which is highly unlikely to be

acting as a nursery to the downstream Lake Dunstan fishery due to the ephemeral nature of the Amisfield Burn. He also notes that upland bullies prefer lower velocity areas and typically have life histories that do not include migration. Mr Campbell advises that there are scattered populations of upland bullies in the Lake Dunstan catchment. The limited distribution of upland bullies in Amisfield Burn, coupled with their preference for low water velocity reduces the need to provide for upland bullies when establishing a suitable residual flow at the point of take.

Mr Campbell notes that kōaro are classified as At Risk and Declining with a qualifier of partial decline. This indicates that the threat classification panel consider kōaro are in decline only in some regions of New Zealand. There are only two records of kōaro, both adult fish, in the Amisfield Burn catchment from all surveys since 1996.

Mr Campbell advises that there are conservation concerns associated with predatory and competitive impacts caused by kōaro on threatened non-migratory fishes such as Clutha flathead galaxias (*Galaxias* “species D”) – which is classified as Threatened – Nationally Critical. Clutha flathead galaxias have been recorded in nearby catchments, however there is no evidence that suggests Clutha flathead galaxias are in Amisfield Burn. The expansion of kōaro upstream of inland lakes in Otago undermines conservation efforts for threatened fishes. Mr Campbell considered that it is not necessary to provide for kōaro when establishing a suitable residual flow, given limited records and their potential negative impact on threatened fish nearby.

Mr Campbell recommends a residual flow in the form of a 50:50 flow sharing regime as offered by the applicant in their response to the further information request (Objective Id A1357760). In his opinion, the 50:50 flow sharing regime would maintain flow connectivity through the point of take to allow invertebrates to drift downstream and move upstream. The applicant advises that the method of take allows for roughly 50% of the flow to pass the intake, even during low flows. This approach also appears to address the concerns raised by Aukaha Limited that seeks for at least 50% of the natural flow in the waterway to be retained.

The assessment of Mr Campbell is adopted for the purposes of this report and it is assessed that, subject to a condition which requires a 50:50 flow sharing regime, the effects on fish and instream values will be no more than minor. The 50:50 flow sharing approach is also consistent with that requested by Aukaha Limited in its submission point.

In respect of fish screening, the applicants note that no fish have been identified above the applicants’ point of take. Based on Mr Campbell’s advice, requiring a fish screen at the intake would not provide any ecological value as fish appear to move freely through the conveyance system and this movement is encouraged. However, it is recommended that a fish screen at the outflow of the storage ponds be installed to ensure that fish are not removed from the water system. A drum-shaped screen with 3mm mesh is recommended. The applicant is requested to provide accurate locations of the outflow or each storage pond to include in the recommended condition, should consent be granted.

7.2 Natural Character and Amenity Values

The taking of water can influence flows of a river thereby altering its natural character as well as adversely affect the amenity values associated with it. As noted previously, the Amisfield Burn is identified in Schedule 1A as having an absence of aquatic pest plants and the presence of indigenous fish species threatened with extinction. Specifically, the Amisfield Burn is identified within the Schedule as “significant habitat for koaro.” Mr Campbell’s assessment of the kōaro

population of the Amisfield Burn has been discussed above. DOC were served notice of the application but did not make a submission.

Mr Campbell assesses that the proposed residual flow in the form of a 50:50 flow sharing regime will provide for natural character and amenity values of the Amisfield Burn. Mr Campbell's assessment is adopted for the purposes of this report and the effects of the proposal are assessed as no more than minor.

7.3 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'. This case law advises that a cumulative effect is an effect that will occur as opposed to a 'potential effect' (*Dye v Auckland Regional Council (2001) 7 ELRNZ 209 (CA)*).

In respect of this application, it is noted that the Amisfield Burn is a tributary of the Clutha River – Mata Au and the proposed take is not expected to have a cumulative effect on the wider Clutha River Catchment.

In respect of the cumulative effects on the Amisfield Burn itself, the proposed take is assessed as primary allocation and is the uppermost point of take on the Amisfield Burn. The proposal represents an overall reduction in the rate of take and annual volume when compared to that currently allocated. As discussed below in Section 8.6, an agreement with LLHLP will ensure that there is sufficient water left within the Amisfield Burn to serve the most downstream user. Furthermore, according to the flow gauging survey and field observations provided by the applicant, the Amisfield Burn in its natural setting will not always reach Lake Dunstan. It is assessed that in respect of this take, there are no more than minor cumulative effects in relation to the abstraction of water from a pure volumetric point of view. However, there is a need to take a ki uta ki tai approach to these applications and needs to be considered under the relevant provisions of the NPS-FM. Hearing all three of these applications at once should help to ensure that a ki uta ki tai approach is taken.

7.4 Effects on Other Water Users

There are two downstream users on the Amisfield Burn:

- Smallburn Limited, who holds Water Permit 96321.V1. Water Permit 96321.V1 authorises a rate of take of 41.7/s and is located approximately 700m downstream of the applicants' point of take. Smallburn Limited have a current application RM20.007 lodged with Council to replace 96321.V1.
- Lowburn Landholding LP (LLHLP), who holds Water Permit 97232. Water Permit 97232 authorises a rate of take of 83.3 l/s is located approximately 3 km downstream of the applicants point of take. LLHLP have a current application RM20.020 lodged with Council to replace 97232.

The existing consent arrangement gives priority to the applicants' take over the two downstream takes. That said, the applicant and the downstream users work co-operatively and the applicants leave water in the Amisfield Burn to ensure the downstream users can access water.

Both parties were considered affected by the proposal and notice of the application was served on them. Smallburn Limited did not submit on the application. LLHLP made a neutral submission on the application but have withdrawn this submission, with the shareholders of 95789 agreeing that a residual flow will be maintained past their point of take, which is essentially a continuation of the status quo. Given that LLHLP has withdrawn their submission it is assumed that any residual flow to address the effects on this party will be addressed outside of this consent process.

Overall, it is considered that reduction in authorised rate of take from 166.7l/s to 120l/s along with the offered 50:50 flow sharing regime will ensure that effects on downstream water users are acceptable.

7.5 Effects on Groundwater

The effects of the proposed take on groundwater has been assessed by Pattle Delamore Partners Limited (PDPL) (evidence appended to this report). PDPL note that, according to the ORC database, there is a potentially affected draft/recommended aquifer (Pisa Groundwater Management Zone) flanking the western side of Lake Dunstan about 0.5 km downstream of the applicants' take. Although this groundwater management zone extent mostly corresponds to the extent of the Late Pleistocene river deposits (gravelly alluvium between Lake Dunstan and SH6) and Holocene river deposits (gravelly alluvium extending up the valleys of the lower foothills to the bedrock base of the Pisa Range metamorphic rocks flanked by glacial till deposits). PDPL note that this zone appears to be primarily delineated based on the topography of the land surface where the foothills extending from the Pisa Range transition into the lower flatter areas on the western side of Lake Dunstan and up the lower valley fill areas of Five Mile Creek, Park Burn, and Amisfield Burn.

PDPL advise that bores in the area appear to be primarily concentrated towards Lake Dunstan within the extent of the alluvium between SH6 and the lake. The hydrogeologic setting is such that any surface water flow within the Amisfield Burn that is lost to groundwater above (upgradient) and outside of the Pisa Groundwater Management Zone is expected to arrive as groundwater inflow on the northwest side of the zone. Additionally, surface water flow losses within the Pisa Groundwater Management Zone above the point of inflow into Lake Dunstan are expected to bolster the groundwater supply. PDPL note that the Amisfield Burn surface water catchment is overallocated and that the Amisfield Burn is likely to naturally run dry due to losses to groundwater. The applicant's take location from the Amisfield Burn appears to be just above and outside (0.5 km) of the Pisa Groundwater Management Zone, which has, according to ORC, 2,234,080 m³/year of groundwater available for allocation based on Policy 6.4.10A2.

PDPL notes the mid-summer flow gaugings (with all surface water abstractions ceased 24 hours prior to the survey) on 15 January 2019 provided by the applicant demonstrates that the Amisfield Burn gains within its upper reaches and then loses significantly to groundwater as it flows out of the hard rock (schist) Pisa Range over the gravelly alluvium towards the point of discharge into Lake Dunstan. According to the flow gauging survey and field observations provided by the applicant, the Amisfield Burn in its natural setting will not always reach Lake Dunstan as described below.

The flow gauging results show that the Amisfield Burn lost about a third of its flow (211 to 153 l/s) between the confluence with the Breakneck Creek (in the vicinity of the applicants' take) and the downstream site (about 2 km downstream above SH6). The relative rate of loss to groundwater then increased where about half of the flow was lost over about 600 m between the site above and below SH6 (153 to 72 l/s). Over the final stretch of Amisfield Burn all the remaining 72 l/s was lost to groundwater over about 700 m before reaching Lake Dunstan. The applicant has noted the ORC flow monitoring on the upper reaches of the Amisfield Burn since 2013 indicating a mean annual flow of 162 l/s and a mean annual 7-day low flow of 65 l/s. Given the gauging survey and the ORC statistics on flow, it is likely that the Amisfield Burn in its natural setting is generally lost to groundwater prior to reaching Lake Dunstan.

PDPL notes that surface water inflows from the Amisfield Burn, and other streams flowing towards Lake Dunstan, are included in ORC's calculation of allocation status for the proposed Pisa Groundwater Management Zone. ORC may therefore wish to consider accounting for the takes in the groundwater allocation block, in addition to surface water, to recognise the potential reduction in recharge. Given the amount sought by the Applicants (1,257,818 m³/year), the most conservative scenario is that all this proposed diversion of water would otherwise be lost to groundwater (recharged into the Pisa Groundwater Management Zone in the natural setting). This is less than the 2,234,080 m³/year of groundwater available for allocation according to ORC, so the effects on the overall groundwater resource are expected to be less than minor. Furthermore, PDLP note that this is not a new abstraction.

PDPL notes that the closest groundwater take consent is about 4.2 km to the southeast of the applicants' take and the applicant has stated that, based on the separation distance, that no adverse effects are expected. A review of bores on the ORC database shows that the closest potentially affected bores are about 5 km downstream in the vicinity of SH6 flanking each side of the Amisfield Burn. These bores are around 30 m deep. The bores transition to have slightly shallower depths with shallower depth to groundwater observations toward Lake Dunstan in the vicinity of the Amisfield Burn. This is most notably demonstrated by bore G41/0346 (15 m deep with a 3.5 m depth to groundwater) adjacent to Lake Dunstan and the Amisfield Burn point of discharge into the lake. Given that the Amisfield Burn is interpreted to only reach the lake on occasion during higher flow events (likely stormwater dominated flows) and that mounding effects associated with these flows in the relatively permeable alluvium would only be expected to be temporary (on the order of hours to days), it is unlikely that these bores rely on direct mounding effects specific to flows from the Amisfield Burn. PDPL consider that adverse effects on neighbouring bores due to lowered groundwater levels or reduced capacity for contaminant dilution are not expected to occur as a result of the proposed take from the Amisfield Burn.

Overall, PDPL consider that the taking of surface water is expected to reduce groundwater recharge. However, no residual flow specific to groundwater effects or specific groundwater conditions is considered necessary. PDPL's assessment is adopted for the purposes of this report and it is assessed that the effects of the take on groundwater are acceptable.

7.6 Effects on Cultural Values

The Amisfield Burn is a tributary of Lake Dunstan/Te Wairere which is part of the Clutha River/Mata-Au catchment. The Clutha River/Mata-Au is a Statutory Acknowledgement area. Te Runanga O Ngai Tahu (TRONT) were sent advice of the application.

Aukaha Limited on behalf of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga (Nga Runanga) made a submission on the application. The submission sets out the takiwa of each runanga, detail of the Deed of Settlement under the

The Ngāi Tahu Claims Settlement Act 1998 and the principles of the The Kāi Tahu ki Otago Natural Resource Management Plans 1995 and 2005. Kāi Tahu aspirations for freshwater management are recorded in the *Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999*, and the *Kāi Tahu ki Otago National Resource Management Plan 2005*.

Kāi Tahu has a cultural, spiritual, historic and traditional relationship with the Clutha Catchments/Mata-au. Kāi Tahu ki Otago used all areas of the Clutha/Mata-au Catchments as evidenced by the hundreds of mahika kai sites associated with the many waterways, lakes and wetlands in the Clutha/Mata-au catchments. Many of these waterways have been modified or lost as a result of mismanagement and misappropriation of this taoka. All water plays a significant role in Kāi Tahu spiritual beliefs and cultural traditions, the condition of water is seen as a reflection of the health of Papatūānuku.

The primary management principle for Nga Runanga is the maintenance and enhancement of the mauri or life-giving essence of a resource. Mauri can be tangibly represented in terms of elements of the physical health of the land, a river, or surrounding biodiversity. There are also many intangible qualities associated with the spiritual presence of a resource, elements of physical health which Nga Runanga 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

Nga Runanga consider that the application will prevent the protection and restoration of mahika kai habitats in the Clutha/Mata-au Catchment. To manage the effects on cultural values, Nga Runanga consider that it is appropriate for a short-term consent to be granted in this instance to avoid locking in unsustainable water use which would inhibit the Council from effectively implementing the outcomes of its intended new RPS (Regional Policy Statement) and the future LWRP (Land and Water Regional Plan). Nga Runanga consider that granting of a long-term consent in this instance would be inconsistent with the RMA, the planning framework, Kāi Tahu tikaka, rakatirataka and the exercise of kaitiakitaka.

Aukaha have sought the following relief:

- That the term of consent be no longer than 6 years
- That at least 50% of the flow in the waterway is left in the waterway
- That existing requirements for water meter(s) remain and results continue to be recorded and reported via telemetry.

The applicant has assessed the effects on cultural values by making an assessment against what they have assessed as the relevant iwi planning documents (Te Runanga o Ngai Tahu Freshwater Policy Statement and Kai Tahu ki Otago Natural Resource Management Plan). This assessment generally indicates that the application is in accordance with these plans, excluding fish screens and consent duration. The applicant modified their application to include a residual flow that leaves at least 50% of the flow in the waterway. The mauri of the water will be enhanced by the imposition of this residual flow. Fish screens at the intake point are not recommended by the applicant or considered necessary by RSU in their assessment or Aukaha within their submission. It is considered that the imposition of fish screens at the intake point would not mitigate any adverse effects on cultural values, although fish screen at the storage pond outflow points are recommended. The reasons for the consent duration recommended are discussed in section 10 of this report. Overall, the cultural effects of the proposed abstraction are considered to be minor and acceptable.

7.7 Water Use Assessment

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 a variety of applications including irrigation, domestic, stock water and frost fighting.

7.6.1 Historical Water Assessment

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:

- (a) *reflect only the water actually taken and the pattern of taking established under the existing consent; and/or*
- (b) *minimise conflict between those taking water; and/or*
- (c) *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.*

The applicant currently takes water from the Amisfield Burn under Deemed Permit 95789. Water meter WM1214 records the water take. The application states that historic use data shows that water is taken. Historically (based on the analyses of the 2015-2019 diversion records from the telemetered site), the applicants have taken up to 157 l/s, 226,438 m³/month, and 1,808,577 m³/year.

The Council has analysed the water data collected from WM1214 from January 2017 to June 2020. A total of 27,852 hourly measurements were recorded.

The 80th, 90th, and 95th percentiles for the flow rate were calculated, without modelling the distribution, for the raw data set, the filtered data set, and the high rate data set. The results are presented to three significant figures below.

Table 5: Percentiles for the flow rate

	80th %ile	90th %ile	95th %ile
Raw rate	73.8	84.8	94.4
Filtered rate	73.9	84.8	94.4
High use rate	79.8	91.3	103

Sarah McCorie (ORC Systems and Information Analyst) has analysed the data (appended to this report) and summarises that:

- The seasonal pattern is complex but is consistent with irrigation.
- The pattern of taking indicates that water may be being taken for domestic potable and stock drinking water.
- The maximum volume taken in any day is 11,100m³
- The maximum volume taken in any month is 229,000 m³.
- The maximum taken in any irrigation year is 1,829,600m³
- The applicant has applied for 120/s with a ±10% accuracy.
- The lowest rate at which water can be taken and still be in the range 120 l/s ±10% is 109 l/s.
- Historic data indicates that actual average maximum water use for the period 1 July 2012 to 30 June 2017 is 109 l/s.
- The highest rate at which water can be taken and still be in the range 109 l/s ±10% is 119.9 l/s.
- These ranges do overlap and are therefore they cannot be considered 'Different.

The applicant has applied for a rate of take of 120l/sec. a monthly volume of 255,390 and annual volume of 1,257,818m³. As shown above, the proposed rate of take falls within the range shown in the data records and the annual volume falls below the maximum taken in any irrigation year. However, the proposed monthly takes are greater than the maximum volume taken in any given month.

7.8 Efficiency of Water Take and Use

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 (80th percentile); a one in ten-year drought (90th percentile); and a maximum situation. For Otago, it is considered that a one in ten-year drought or 90th percentile is the most appropriate when considering efficient water use.

The applicant proposes to increase the area of land irrigated and convert the method of frost fighting for 27ha of land from wind machine or helicopter to overhead sprinklers. The applicants have set out their efficiency of use calculations at Appendix C of the application and are summarised in Table 6 below:

Table 6: Applicant's Frost fighting requirements (Source: Application)

Volume	Daily (m ³)	Monthly (m ³)	Annual (m ³)
Total Required (per Aqualinc calcs)	6,327	196,556	1,018,576
Aqualinc irrigation requirements - frost fighting areas	5,563		
Current paper allocation	<u>14,400[1]</u>	416,750	Not specified
<u>Frost-fighting requirements[2]</u>	8,100	64,800	170,100
Stock drinking requirements	5	152	1825
<u>Baseflow required outside irrigation season[3]</u>	-	-	83,376
Volume sought	13668	255390	1257818

The efficiency of the various specific uses is discussed in further detail below.

7.7.1 Frost fighting

A maximum of 3 mm/hour (30m³/ha) and a maximum frost fighting duration of 10 hours per event is recommended (ORC's resource consent application form 4). Based on the climate data for Central Otago there are an average total of 12 spring frost events (September –November) and a total of nine autumn frost events. Spring frost events impact grapes and cherries and the autumn frosts impact grapes only. Rockburn Wines Ltd and Wakefield Estate Ltd use (or plan to use) overhead sprinklers for frost fighting for a total of 27 ha of vineyard. All other vineyards and orchards use helicopters or wind machines for frost fighting.

The applicant has calculated the following frost fighting volumes as shown below:

- Daily frost fighting maximum: $30 \text{ m}^3/\text{ha} \times 10 \text{ hours/event} \times 27 \text{ ha} = 8,100 \text{ m}^3$.
- Monthly and annual volumes sought were calculated similarly, but monthly volume was calculated assuming a maximum of 8 frost days in any one month (based on NIWA climate data) and annual volume was calculated assuming a maximum of 21 frost days. The maximum monthly usage is calculated as $64,800 \text{ m}^3$ and the annual frost fight volume = $8,100 \text{ m}^3 \times 21 \text{ days} = 170,100 \text{ m}^3$.

The applicant states that as part of the calculations, it is assumed that no irrigation water is required on those properties with overhead sprinklers during frost events.

7.7.2 Stock drinking water

The applicants have calculated stock drinking water requirements based on current and proposed stock numbers (87 cows, 302 ewes).

Table 7: Stock water requirements (Source Application)

Stock units/water use	ORC guidelines (per Form 4)	Water required (l/day)
302 mixed age ewes	5 l/head/day	1,510
87 beef cattle	40 l/head/day	3,480
3 heifers	40 l/head/day	120
Total		5,110

Daily stock water requirements equate to a volume of 152 m^3 per month and 1825 m^3 annually. It is considered that the stock drinking water requirements are reasonable.

7.7.3 Baseflow

The applicants' scheme relies on gravity-fed races and, as such, a certain flow rate needs to be maintained in order to provide water to the offtakes. A nominal baseflow of 5l/s has been provided in the above calculations outside of the irrigation season to prevent the race channel from drying out and cracking, and to provide stock drinking water and future domestic water. As such, to be able to supply the users with the water that they need, it is therefore necessary to maintain a baseflow in the races. The base flow has been determined as 83.376 m^3 , annually being the minimum amount of water required to ensure a consistent flow. The applicant has confirmed that races will be well maintained to ensure no losses of water during conveyance but no conversion of the system to a piped system have been identified in the application.

7.7.4 Irrigation

The applicants propose to increase the area of irrigation from 112 ha to 165.7 ha. However, the overall water allocation is to reduce from that which is currently authorised. The irrigation soil types/uses and areas are as follows:

Table 8: Irrigation requirements (Source: Application)

Soil and crop	Current area (ha)	Additional area (ha)	Total area (existing plus proposed)
Molyneux Vines	8.7	12.83	21.53
Ardgour Cherries	14.1	3.9	18.00

Hinds Vines	0.6	9.6	10.20
Ardgour Vines	0	0.1	00.10
Clyde Cherries	0	19.6	19.60
Ranfurly Vines	16.7	1.1	17.80
Waenga Vines	22.3	3	25.30
Lowburn Vines	2.9	1.3	04.20
Ranfurly Pasture	15.9	0	15.90
Molyneux Cherries	4.9	2.24	07.14
Lowburn Cherries	26.8	0	26.80
	112.9	53.67	165.67

Based on the soil type and crop, the applicant seeks a monthly volume of 196,556 m³ and annual volume of 1,018,576m³ for irrigation purposes.

A daily volumetric limit is not being sought by the applicant. The application states that calculations assume that no irrigation water is needed for vineyards on days when frost fighting is required, meaning irrigation requirements for those crops have been subtracted from those particular days. The volumes are based on an assumed demand calculated at the 100 percentile Aqualinc calculation.

In respect of the use of the 100 percentile Aqualinc calculation, 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. As such, this 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 the norm in many other regions, then that could well exclude other parties from accessing that water in future decades.

As such, it is recommended that the 90th percentile Aqualinc calculation be applied for the irrigation demand as follows:

- Monthly demand: 176,900 m³
- Annual demand: 809,979 m³

7.7.5 Summary of water use

The farms and orchards of the scheme area play a major role in the economy of the Central Otago District, producing world-class cherries, stone fruit and grapes along with productive pastures for sheep and beef farming. The applicant is applying for less water than is currently allocated and less annual volume than has been established by the historic water use. However, when considering the 90th percentile Aqualinc calculation for the irrigation demand, stock water and frost fighting demand, a monthly allocation of 241,852m³ (excluding baseflow) is considered to be an efficient use of water.

Overall, the rate of take and the annual volumes applied for are less than what has been taken historically and the area of land to be served by the water is increased. However, when considering the actual use of water as shown in the data records, it is recommended that the monthly allocation is reduced to match the maximum monthly volume taken in the past five years being 229,000m³. The recommended volume of water will ensure that the current command area will continue to be irrigated and will provide for some additional land to be irrigated. Furthermore,

when considering the 90th percentile as recommended by Aqualinc for irrigation, it is recommended that the annual volume also be reduced as follows:

Table 9: Recommended Allocation Volumes

Purpose	Monthly	Annual
Irrigation	176,900	809,979 m ³
Frost fighting	64,800 m ³	170,100 m ³
Stock water	158.10 m ³	1861.5 m ³
Baseflow	-	83,376 m ³
Total	241,858.1m ³	981,940 m ³
Recommended Volume	229,000 m ³	1,065,316 m ³

When recognising the proposed adjustment to the monthly allocation volume, the application is assessed as being in accordance with Policy 6.4.2A, where no more water can be granted from within primary allocation than has been taken under the existing consent in at least the preceding five years.

7.9 Efficiency of Water Transport, Storage and Application System

The water takes are transported via open race. 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 applicants have indicated that improvements to the water race infrastructure and maintenance regimes are proposed but no details of the any race improvements have been provided.

It is recommended that if the consent is granted that a consent condition is imposed that a scheme management plan be developed within 12 months of the grant of the consent that describes the measures that have been implemented and are proposed to be implemented to improve the efficiency of the of distribution, storage and application infrastructure. The condition also requires the applicant to outline a timeframe for improvements to be made and to review the plan every 5 years.

The applicants primarily use efficient (spray) irrigation techniques with the viticultural and horticultural land uses within the command area use drippers and spray which are considered an efficient method of irrigation. A small area of pasture within the scheme still uses flood irrigation. Irrigation New Zealand state that boarder dyke and contour flood irrigation is used in older Central Otago schemes, however, provides no guidance for efficiency which implies that it is an out of date and inefficient application system. The application states that there are plans to convert the flood irrigation method to spray irrigation in the near future. It is recommended that the applicant undertake this conversion within the next 5 years and that this is secured by a consent condition.

There are communal storage ponds located outside the bed of waterway that have been constructed by individual property owners and additional storage ponds are proposed in the near future.

7.9 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 applied for source of water 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 water is proposed to be used locally. There is high demand for water along the Pisa Range face. The existing Amisfield Burn abstraction is long-established and the conveyance and storage infrastructure is already in place. The applicants' invest significantly to ensure that the current infrastructure is maintained in working condition. The scheme already exists in a highly modified landscape that has developed around the reliable water supply. With the ability to use gravity systems, the scheme has a relatively low carbon/energy footprint compared to many other irrigation systems.

The application notes that there are alternative sources of water within the take area including the Clutha River and groundwater. Both of these sources may provide viable irrigation and stock drinking water for the applicants, however both would require significant investment in order to establish a secure connection –particularly in the case of any Clutha River water as this would need substantial surveying, easements and resource consent investment along with pump and conveyance infrastructure capable of moving large volumes of water over a long distance (approx. 5 km) and up a steep ascent (approximately 180 m elevation gain). The application advises that many of the existing permit holders have also attempted to secure access to groundwater, but have been unsuccessful in finding a viable source.

The application also sets out the alternative water sources currently used by the various shareholders and these are summarised again below:

Mark II Limited: Holds Deemed Permit 93177 – (largely) unexercised due to infrastructure limitations.

Rockburn Wines Limited: Holds 2 out of 54 shares in Water Permit 95789. Rockburn Wines Limited also holds Water Permit 98526.V1 (subject of resource consent application RM20.003) and, Discharge Permit 98655 and Water Permit 98527 which respectively authorise the discharge and subsequent re-take of 95789 water for 4 days per month. Deemed Permit 98527.V1 was surrendered in March 2020. 95789 water is delivered to Mark II Limited storage pond and then to a tributary of the Park Burn and is re-taken at the same take point as Deemed Permit 98526. 95789 water is used to augment 98526.V1, as the Park Burn is known to dry up or go to ground,

upstream of the intake, particularly during the height of the irrigation season when upstream abstraction is occurring. Rockburn Wines currently frost-fight via helicopter, but plan to install overhead sprinklers in future.

Chard Farm Trustees Limited:	Holds 7 out of 54 shares in 95789 with the aid of a proposed storage pond to irrigate an area of Chard Farmland to the north of the Park Burn.
Albany Heights Limited:	There are no other water sources available to this property.
Pisa Holdings Limited:	There are no other sources of water available to this property.
Stuart Hawker:	Groundwater Permit RM14.064.01 held by Number 925 Water Company Limited for the purpose of irrigation water for 18 ha of pinot noir vines and potable drinking water.
Wakefield Estates Limited:	Wakefield Estates recently lodged a consent application with ORC to renew an expired groundwater take on the western side of the Luggate-Cromwell Road. The proposed groundwater take is to provide water for irrigation and other uses on both sides of the road. There is no overlap between the proposed groundwater-irrigated area and the applicants' proposed irrigated area.

The farms and orchards of the scheme area play a major role in the economy of the Central Otago District, producing world-class cherries, stone fruit and grapes along with productive pastures for sheep and beef farming. It is considered that the applicants have reasonably explored alternative water sources and, where possible, secured access to these alternative water sources. Overall, it is considered that the Amisfield Burn is the most practicable means of taking water for the applicants' properties and can be conveyed to the irrigation areas by gravity without the need for pumping or other electrical requirements. The proposed source is the nearest practicable source given this information.

7.10 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. It is noted that given the number of shareholders involved with the take collaborative management appears to be occurring already. In addition, it is noted that despite the priority given to Deemed Permit 95789, the applicants' operate co-operatively with the downstream water users. The applicants are encouraged to formalise a water management group with LLHLP and Small Burn Limited to manage the takes from the Amisfield Burn.

8. 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 Applicants 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.*

8.1 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.

Positive effects

The proposal will have the following positive effects:

- Enabling the continued operation of world-class vineyards and cherry orchards which are considered to be key contributors to the local and regional economies.
- The water take and much of the irrigation systems from this source are gravity fed and as such, energy consumption is kept to a minimum resulting in a more sustainable operation.
- Supporting the community by providing job opportunities, supporting local businesses through equipment and supply acquisition, and improving land value.
- Contributing to local tourism, particularly in the case of the vineyards.

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.

The assessment and conclusion of the “permitted baseline” for the s95A adverse effects assessment are considered applicable to s104(2), and so are not repeated here.

The assessment of adverse effects undertaken for notification identified and evaluated adverse effects, and these are adopted for the purposes of s104(1)(a).

Summary

Taking into consideration the positive environmental effects above and the assessment of adverse effects done for notification purposes, actual and potential effects on the environment are considered to be no more than minor.

8.2 S104(1)(ab) – Offset or Compensation

The applicant has not proposed or agreed to any measures to offset or compensate for adverse effects that will or may result from allowing the activity.

8.3 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
- The National Policy Statement for Freshwater Management 2014 (amended 2017)
- The National Policy Statement for Freshwater Management 2020
-
- The National Policy Statement for Renewable Electricity Generation
- Resource Management (Measurement and Reporting of Water Takes) Regulations 2010
- 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)

8.4 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.

8.5 National Policy Statement Freshwater Management 2014 (amended 2017) (NPSFM)

The National Policy Statement for Fresh Water Management 2014, revised 2017 (“NPS-FM”) provides a National Objectives framework to assist regional councils and communities to more consistently and transparently plan for freshwater objectives. The NPS-FM also directs how regional councils are to manage freshwater through their planning documents, and in the consideration of resource consent applications.

The Council has decided to progressively implement the policies in the NPS-FM in accordance with Policy E1, as set out in its Progressive Implementation Programme. The Council’s

Progressive Implementation Programme provides that the Council will carry out a plan review to the RPW to implement the policies in the NPS-FM (including establishing freshwater management units, freshwater objectives, and attributes in accordance with Policy CA), to be notified by December 2023.

The objectives and policies in the NPS-FM are relevant when considering an application to replace a deemed permit.

Objective AA1 is to consider and recognise Te Mana o te Wai in the management of fresh water. Referring to the Environment Court's interim decision on the Southland Regional Water and Land Plan, I consider Te Mana o te Wai to mean the need to provide for the health of the waterways. In this case the issue of residual flows is most relevant to the health of the waterways. In section 7.1, I discussed the need to impose residual flows and have specifically considered the relief sought in the submission of Aukaha in respect of the retention of the 50% of the natural flow in the waterways. On the basis of the natural flow regimes and the values supported by Amisfield Burn, I am of the opinion that the residual flow proposed (leaving 50% of the natural flow in the waterway) is an appropriate mitigation measure.

As the RPW is not an NPS-FM compliant plan, Objective B1 (safeguarding the life supporting capacity, ecosystem processes and indigenous species in sustainably managing the taking of freshwater), Objective B3 (improve and maximise the efficient allocation and use of water) and Objective B4 (protect significant values of wetlands and outstanding freshwater bodies) require consideration. It is considered that the proposed volumes of water, the efficient use of water, and the recommended consent duration will result in the activity being consistent with these Objectives.

The objectives and policies in the NPS-FM are relevant when considering an application to replace a deemed permit. Part B of the NPS-FM relates to water quantity. Objective B2 is particularly important in the case of over-allocated catchments as allocation is not currently fully addressed in the RPW. Objective B2 seeks to "avoid any further over-allocation of fresh water and phase out existing over-allocation".² If a particular catchment is considered to be over allocated, and the Council was to grant a new permit for the same volume as authorised under the current deemed permit, the decision would not avoid further over allocation in line with Objective B2 or phase out existing over allocation. This proposal sees the total rate of take reduce from 166.7 l/s to 120 l/s and, as such, the application is considered to be consistent with part 1 of Objective B2.

Furthermore, the 50;50 flow share approach is expected to safeguard the life supporting capacity, ecosystem processes and indigenous species in sustainably managing the taking of freshwater and in this regard the application is considered to be consistent with Objective B1.

Objective B3 seeks to improve and maximise the efficient allocation and use of water and the assessment above demonstrate that the application is consistent with this objective.

Objective B4 seeks to protect significant values of wetlands and outstanding freshwater bodies and the application is considered to be consistent with this objective.

² *The NPSFM defines over-allocation as: the situation where the resource: a) has been allocated to users beyond a limit; or b) is being used to a point where a freshwater objective is no longer being met. This applies to both water quantity and quality.*

With regard to Objective B5 which seeks “*to enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing fresh water quantity, within limits.*” It is considered that proposed water takes will enable the continued operation of vineyards and cherry orchards which are considered to be key contributors to the local and regional economies, while the supporting infrastructure provides for a low energy consumptive operation. The water use directly contributes to job opportunities, tourism, support of local businesses and land value improvements.

Policies B5 and B7, set out clear direction that decisions must not result in future overallocation. In this case if the applications are granted as recommended will not result in any future over allocation and represent reduced primary allocation from what is currently authorised under the deemed permits.

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.

8.6 National Policy Statement Freshwater Management 2020

The National Policy Statement Freshwater Management 2020 replaces the National Policy Statement for Freshwater Management 2014 (as amended in 2017). It comes into force on 3 September 2020. It is a relevant consideration when making a decision on this application as a decision will be made after this date.

The NPS-FM 2020 strengthens the concept of Te Mana o te Wai. This 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. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

The NPS-FM 2020 outlines that Te Mana o te Wai encompasses 6 principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform the NPS-FM 2020 and its implementation. The 6 principles are:

- (a) Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater
- (b) Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations
- (c) Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others
- (d) Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future
- (e) Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations
- (f) Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.

It is noted that all decisions in respect of the NPS-FM 2020 should be made based on the best and scientifically robust information available.

The objective of the NPS-FM 2020 is to ensure that natural and physical resources are managed in a way that prioritises: first, the health and well-being of water bodies and freshwater ecosystems second, the health needs of people (such as drinking water) and third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

In this case, the proposals seek to maintain and improve the health and well-being of the water bodies and associated freshwater ecosystems by the provision of residual flows. There are no current demands to use the resource for the health needs of people and the takes provide for people and communities to provide for their economic development.

The relevant policies of the NPS-FM 2020 are detailed below and assessed:

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

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

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.

Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.

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

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

Policy 8: The significant values of outstanding water bodies are protected.

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.

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

Policy 12: The national target (as set out in Appendix 3) for water quality improvement is achieved.

Policy 13: The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.

10 National Policy Statement for Freshwater Management 2020

Policy 14: Information (including monitoring data) about the state of water bodies and freshwater ecosystems, and the challenges to their health and well-being, is regularly reported on and published.

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.

It is noted that in respect of Te Mana o te Wai the NPS-FM 2020 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. The NPS-FM outlines that regional councils must give effect to Te Mana o te Wai, and outlines what must be involved in giving effect to. It is noted that the majority of this will occur as Otago Regional Council goes through the national objectives framework (NOF) process. By way of summary, the NOF process requires regional councils to undertake the following steps: (a) identify FMUs in the region, (b) identify values for each FMU, (c) set environmental outcomes for each value and include them as objectives in regional plans, (d) identify attributes for each value and set baseline states for those attributes, (e) set target attribute

states, environmental flows and levels, and other criteria to support the achievement of environmental outcomes, (f) set limits as rules and prepare action plans (as appropriate) to achieve environmental outcomes. The ORC has identified FMUs in the region and this take is part of the Clutha River/Mata-Au FMU and Dunstan rohe. The Council is in the early stages of identifying the values for this FMU and rohe. Council will undertake the remaining steps in the NOF process in upcoming years and plans to notify the Land and Water Plan in accordance with the NPS-FM 2020 in late 2023. This will outline the limits that apply to these catchments. These will be considered when this replacement permit is replaced or via the review conditions that are recommended to be imposed.

In respect of Policy 3, *ki uta ki tai* is a relevant concept and requires that local authorities must: recognise the interconnectedness of the whole environment, from the mountains and lakes, down the rivers to *hāpua* (lagoons), *wahapū* (estuaries) and to the sea; and recognise interactions between freshwater, land, water bodies, ecosystems, and receiving environments; and manage freshwater, and land use and development, in catchments in an integrated and sustainable way to avoid, remedy, or mitigate adverse effects, including cumulative effects, on the health and well-being of water bodies, freshwater ecosystems, and receiving environments; and also encourage the co-ordination and sequencing of regional or urban growth. Consideration of the effects the takes have on the adjacent groundwater system and the Clutha River/Mata-Au itself has been given and recommended conditions, if consent were to be granted, require water use to be efficient, which should minimise associated water quality effects in the wider catchment. Implementation of Plan Change 8 to the RPW and the NES for Freshwater will also manage interrelated effects from the activity.

In respect of the other policies, it considered that *tangata whenua* have been involved in the consent process by being considered an affected party and the Maori values have been identified within their submission. Not all of the relief within their submission has been provided for notably in respect of minimum flows and allocation volumes and these will 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 (Policy 2). The proposal will not result in the loss of natural inland wetlands nor is there any information to suggest that natural inland wetlands will be adversely affected by the activities (Policy 6). The takes will maintain or improve river values (the residual flows proposed for the Amisfield Burn will improve and maintain habitat availability for invertebrates and fish) (Policy 7). No significant outstanding water bodies will be affected (Policy 8). The activities as proposed will not affect the habitats of indigenous freshwater fish species including koaro and the habitat of trout is protected, given the nature of current trout habitat and mitigation proposed (Policy 8 and 9). Future overallocation is avoided and water will be used efficiently in accordance with best practice (Policy 11).

It is noted that in terms of water allocation the NPS-FM 2020 directs that every regional council must make or change its regional plan(s) to include criteria for deciding applications to approve transfers of water take permits; and deciding how to improve and maximise the efficient allocation of water (which includes economic, technical, and dynamic efficiency). Further every regional council must include methods in its regional plan(s) to encourage the efficient use of water. It is recognised that these policies and methods will be developed as part of the Land and Water Plan. These applications have been assessed in accordance with the existing objectives and policies and efficiency of water use has been considered. Recommended conditions, if the consents were to be granted, require ongoing improvement to the efficiency of water distribution and use during the consent term.

Overall, it is considered that the application is in general accordance with the NPS-FM 2020 insofar as the objective and policies can be considered at this point.

8.7 National Policy Statement on Renewable Electricity Generation

The National Policy Statement on Renewable Electricity Generation (NPSREG) 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 Amisfield Burn is a tributary of Lake Dunstan which is dammed by Contact Energy for renewable electricity generation.

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.

No adverse effect on renewable electricity generation has been identified and the proposal is considered to be consistent with the NPSREG.

8.8 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

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 regulations apply to holders of water permits (resource consents) which allow fresh water to be taken at a rate of 5 litres/second or more, specifically:

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

The applicants currently monitor the water take and uses both data logger and telemetry. The applicants have proposed consent conditions to ensure they are consistent with the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010. This approach would appear to satisfy the submission point raised by Aukaha Limited.

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 are to be amended by the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020, which come 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.

8.9 Regional Policy Statement, Proposed Regional Policy Statement and Partially Operative Regional Policy Statement

The 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 14 January 2019 (PO-RPS), with the exception of all provisions and explanatory material in Chapter 3: Otago has high quality natural resources and ecosystems. The provisions that are the subject of court proceedings and are not made operative are shaded in grey below. Full consideration is given to the operative provisions of the PORPS. Weighted consideration is given to the provisions that have not been made operative in conjunction with the remaining operative provisions of the RPS, outlined above.

The relevant provisions of the pRPS/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)*
- *Managing for freshwater values including*
 - *Maintain or enhance ecosystem health in all Otago aquifers, and rivers, lakes, wetlands, and their margins*
 - *Maintain or enhance the range and extent of habitats provided by fresh water, including the habitat of trout and salmon*
 - *Recognise and provide for the migratory patterns of freshwater species, unless detrimental to indigenous biological diversity*

- *Avoid aquifer compaction and seawater intrusion in aquifers*
- *Maintain good water quality, including in the coastal marine area, or enhance it where it has been degraded*
- *Maintain or enhance coastal values*
- *Maintain or enhance the natural functioning of rivers, lakes, and wetlands, their riparian margins, and aquifers*
- *Maintain or enhance the quality and reliability of existing drinking and stock water supplies*
- *Recognise and provide for important recreation values*
- *Maintain or enhance the 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*
- *Avoid, remedy, or mitigate adverse effects on existing infrastructure that is reliant on fresh water (Policy 3.1.1)*
- *Ensure the efficient allocation and use of water (Policy 3.1.3)*
- *Manage for water shortage by*
 - *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*
 - *Encouraging water harvesting and storage, 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 applicants to continue to irrigate their land, resulting in their own economic wellbeing. Cultural and Kai Tahu values have been considered and Aukaha and TAMI on behalf of the local Runanga were considered affected in accordance with Section 95E of the Act. Freshwater values have been considered in this report, and the adverse effects of them are considered to be no more than minor. Maintaining the residual 50;50 flow share will maintain and enhance natural character and aquatic values. The volumes sought have been compared with the Aqualinc recommendations and are considered an efficient use of water. The annual volume of water sought also does not exceed what has historically been taken, and the proposed reduction in the primary allocation in the catchment is considered a positive environmental change.

For the above reasons the applications are considered consistent with the provisions of both the RPS and PO-RPS.

8.10 Regional Plan: Water for Otago

Regional Plan Water (Operative)

Resource consent is required under the RPW.

As the original permit (95789) was granted prior to 28 February 1998 and the applicant has applied more than 6 months prior to the consent expiring, the water take retains primary allocation status in accordance with Policy 6.4.2.

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.*

Overall, the application is considered to be a **restricted discretionary** activity under the RPW. All other relevant permitted activity rules set out in the operative plan are complied with.

Relevant objectives and policies from the RPW are considered below:

- Objective 5.3.1 *To maintain or enhance the natural and human use values, identified in Schedules 1A, 1B and 1C that are supported by Otago's lakes and rivers.*

Objective 5.3.2 To maintain or enhance the spiritual and cultural beliefs, values and uses of significance to Kai Tahu, identified in Schedule 1D, as these relate to Otago's lakes and rivers.

The application has less than minor effect on the values listed in Schedules 1A, 1B, 1C and 1D of the RPW and detailed in section 5.3 of this report. The application is therefore consistent with these objectives.

Objective 5.3.3 To protect the natural character of Otago's lakes and rivers and their margins from inappropriate subdivision, use or development.

Objective 5.3.4 To maintain or enhance the amenity values associated with Otago's lakes and rivers and their margins.

The location of the point of take is on private property or have easements, is not considered to be an inappropriate use of the Amisfield Burn and will have less than minor effect on the natural character and amenity values. It is therefore considered that the application is consistent with these objectives.

Objective 5.3.6 To provide for the sustainable use and development of Otago's water bodies, and the beds and margins of Otago's lakes and rivers.

The applicants are proposing to increase amount of land irrigated with less water than is currently allocated. The irrigation methods are considered to be efficient, except for a small portion of flood irrigated land which is to be converted to spray irrigation in the near future. It is considered that the application offers a more sustainable use of the water resource and the proposed use of the water is consistent with this objective.

Policy 5.4.2 In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding, in preference to remedying or mitigating:

- (1) Adverse effects on:
 - (a) Natural values identified in Schedule 1A;*
 - (b) Water supply values identified in Schedule 1B;*
 - (c) Registered historic places identified in Schedule 1C, or archaeological sites in, on, under or over the bed or margin of a lake or river;*
 - (d) Spiritual and cultural beliefs, values and uses of significance to Kai Tahu identified in Schedule 1D;*
 - (e) The natural character of any lake or river, or its margins;*
 - (f) Amenity values supported by any water body; and**
- (2) Causing or exacerbating flooding, erosion, land instability, sedimentation or property damage.*

Policy 5.4.3 In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding adverse effects on:

- (a) Existing lawful uses; and*
- (b) Existing lawful priorities for the use, of lakes and rivers and their margins.*

Policy 5.4.4 To recognise Kai Tahu's interests in Otago's lakes and rivers by promoting opportunities for their involvement in resource consent processing.

Policy 5.4.8 To have particular regard to the following features of lakes and rivers, and their margins, when considering adverse effects on their natural character:

- (a) The topography, including the setting and bed form of the lake or river;*

- (b) *The natural flow characteristics of the river;*
- (c) *The natural water level of the lake and its fluctuation;*
- (d) *The natural water colour and clarity in the lake or river;*
- (e) *The ecology of the lake or river and its margins; and*
- (f) *The extent of use or development within the catchment, including the extent to which that use and development has influenced matters (a) to (e) above.*

Policy 5.4.9 To have particular regard to the following qualities or characteristics of lakes and rivers, and their margins, when considering adverse effects on amenity values:

- (a) *Aesthetic values associated with the lake or river; and*
- (b) *Recreational opportunities provided by the lake or river, or its margins.*

The effects on Kai Tahu values are explained by Aukaha in their submission. To address the effects on cultural values Aukaha Limited conditions which required water metering, a 50/50 flow share regime and a term of six years. The 50/50 flow share regime is supported by the applicant and ORC RSU and it is considered that this flow share regime will protect both natural values and cultural values of the Amisfield Burn. DOC were served notice of the application but did not submit. Overall, the proposed activity will have a no more than minor effect on the values listed in Schedule 1A. The two downstream users were assessed as affected parties; one did not submit on the application and one withdrew their submission. Due to the nature of the location of the takes, the effect on amenity, aesthetic, recreational or heritage values will be in accordance with the above policies.

Objective 6.3.1 To retain flows in rivers sufficient to maintain their life-supporting capacity for aquatic ecosystems, and their natural character.

Objective 6.3.2 To provide for the water needs of Otago's primary and secondary industries, and community domestic water supplies.

Policy 6.4.0A To ensure that the quantity of water granted to take is no more than that required for the purpose of use taking into account:

- (a) *How local climate, soil, crop or pasture type and water availability affect the quantity of water required; and*
- (b) *The efficiency of the proposed water transport, storage and application system.*

The applicants are proposing to take no more water than required for the purpose of the uses specified in their application, and the use of the water has been assessed as efficient taking local climate, soil, pasture type and water availability into consideration. A 50;50 flow share residual flows has been offered by the applicant and this is consistent with that requested by Aukaha Limited and ORC RSU. It is considered that this residual flow is sufficient to maintain the life-supporting capacity for aquatic ecosystems and their natural character. The water is to be used for the needs of Otago's primary industries. The recommended rate of take has been reduced from that applied for to reflect historic use. Therefore, the proposed takes are consistent with these objectives and this policy.

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.

The proposed take seeks a reduced rate of take and less water than has been historically allocated. The reduced rate of take and proposed annual allocation is consistent with the data

records has in the previous five years. However, the monthly volume sought is more than has been taken in the last five years and more than calculated as efficient at Section 7.7 of this report. A condition of consent is recommended which reduce the monthly allocation to that which is consistent with the maximum monthly volume for the past five years. Therefore, the application is consistent with Policy 6.4.2A

Objective 6.3.3 To minimise conflict among those taking water.

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 6.4.12C Where appropriate, to include in water permits to take water a condition that consent holders comply with any Council approved rationing regime.

Policy 6.4.13 To restrict the taking of water in accordance with any Council approved rationing regime.

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.

The current consent operates similar to a water management group, in that water is allocated according to a share system with water divided among shareholders on a roster basis. It is recommended that a voluntary wider management group be created to include the two downstream takes LLHLP and Small Burn Limited. Overall, it is considered that the application is consistent with the objective and policies listed above.

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.

The applicants have investigated alternative water sources and the proposed water take is to be taken from the nearest practicable source and used locally. Therefore, the application is consistent with Policy 6.4.0C.

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.*

This application to take surface water has primary allocation status, is not subject to a minimum flow and the applicants have proposed a residual flow. Therefore, the application is consistent with this policy.

Policy 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.

No minimum flow has currently been established for the catchments. It is recommended that a review condition is imposed to enable a minimum flow condition to be applied should a minimum flow be set via a plan change, in accordance with Policy 6.4.4.

Policy 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.

Residual flows have been proposed, considered and recommended, to allow for the protection of the aquatic habitat and natural character of this water body. The application is assessed as consistent with this policy.

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 applicants have been and propose to continue to measure the water taken using a water meter, the data recorded electronically using a datalogger and sent to Council via telemetry. This should be secured by a condition of consent.

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 been unexercised in accordance with this policy, the consent may be cancelled. A condition to this effect has been recommended.

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 Environment³ following Professor Skelton's investigation of freshwater management and allocation functions at Otago Regional Council.⁴

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.

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.

³ 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).

⁴ Peter Skelton "Investigation of freshwater management and allocation functions at Otago Regional Council: (report to the Minister for the Environment, November 2019).

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.*

Rule 10A.3.2.1 Despite any rule or rules in this Plan:

- a) Any activity that is the replacement of an activity authorises under a deemed permit; or*
- b) The take and use of surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) that is the replacement of a take and use authorised by an existing water permit where that water permit expires prior to 31 December 2025;*

*That does not meet any one or more of the conditions of Rule 10A.3.1.1. is a **non – complying** activity.*

As these applications are for water permits to replace deemed permits, Policies 10A.2.1 and 10A.2.3 apply. Policy 10A.2.2 is not applicable as it only applies to new permits.

As PPC7 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 context. 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 gathered from case law as relevant for the decision maker to consider the weight to be applied to proposed provisions:

- The extent that it has progressed through the plan-making process⁵;
- The extent that the proposed measure has been subject to independent testing or decision making⁶;
- Circumstances of injustice⁷;
- The extent to which a new measure, or the absence of one, might implement a coherent pattern of objectives and policies in a plan⁸; and
- Whether there has been a significant change in Council policy and the new provisions are in accordance with Part 2 of the RMA⁹.

Based on these matters outlined above, it is considered 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 plan. As these provisions have been proposed in response to the Minister's recommendations as set out above, following an independent investigation undertaken by Professor Skelton with a particular focus on the management of freshwater, it is considered that they may 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.

While it is recognised that PPC7 is only an interim step to achieving the purpose of the RMA and giving full effect to the NPS-FM, the section 32 report for PPC7, identifies that it is a critical measure in order to achieve this purpose in a timely manner and ensures the current planning framework is more in accordance with Part 2 of the RMA in the interim period.¹⁰ Furthermore, it is assessed that PPC7 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.

It is recognised that this application was lodged prior to notification of PPC7 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. Rather, the applicant has engaged several experts to prepare a comprehensive assessment of environmental effects which considers the adverse effects are no more than minor. Furthermore, the application to take and use water from the Amisfield Burn are one of three users within this water body. The consent is operated among its shareholders in a collaborative manner already. This approach enables the applicants to communicate in times of low flow and follow a methodology to cut back when necessary. It is recommended that this management be extended to include the two downstream water users.

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

⁵ *Queenstown Central Ltd v Queenstown Lakes District Council* [2013] NZHC 815 at [9].

⁶ *Hanton v Auckland City Council* [1994] NZMRA 289 (PT).

⁷ *Keystone Ridge Ltd v Auckland City 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].

⁸ *Keystone Ridge Ltd v Auckland City 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].

⁹ *Keystone Ridge Ltd v Auckland City Council* (HC Auckland, AP24/01, 3 April 2001) at [16].

¹⁰ Section 32 Evaluation Report for PPC7 dated 18 March 2020, p 18.

the outcomes of its intended new regional policy statement and land and water plan. As such, it is assessed that some weight should be placed, on the notified provisions 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 permit (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. These policies are considered 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*¹¹ 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 avoid granting the consent, unless all of the provisions of (a) – (e) are met. In relation to these matters:

- (a) the water permit that is to be replaced is 'valid';
- (b) there is an increase to the area of irrigation;
- (c) there is no increase to the instantaneous rate of take;
- (d) there was no existing residual or minimum flow on the current water permit (however residual flows have been proposed); and
- (e) there is a reduction in the volume of water allocated of abstraction.

Clause (b) of Policy 10A.2.1 is not met, due to the increase in area of irrigation. Therefore the granting of this application is contrary to this policy, specifically due to the directive nature of the 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. Notwithstanding the adverse effects, the applicant is seeking a duration of 35 years and the application is considered to be contrary to this policy in its current form. These policies are considered 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 lodged prior to the notification of PPC7. 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 PPC7 it retains the operative rule and its corresponding activity status and no further consideration to S104D is given.

8.11 Section 104(1)(c) - Any other matters

¹¹ *Environmental Defence Society Incorporated v The New Zealand King Salmon Company Limited* [2014] NZSC 38 (King Salmon).

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 Tauria is 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 these applications:

- 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 application has been assessed to be in general accordance with this plan. The applicants have applied for a term more than 25 year which is inconsistent with the plan and would not be taking a precautionary approach. The applicants are seeking a rate and volume of water that is less than their historic use and has been assessed as efficient for the amount of land being irrigated. The applicants current meter their takes and this will continue. The Applicants currently use a number of different irrigation methods, most of which are an efficient method by industry best standard. Te Ao Marama, Aukaha and TRONT were all given the opportunity to be involved in the process. Aukaha has submitted opposing the application.

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 because the RPW is yet to be amended to take into account the NRMP. The NRMP 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.

The granting of these consents with the recommended terms and conditions is generally consistent with these requirements. The applicants are seeking an amount that has been assessed as efficient and have proposed to meter the take. The applicants currently use a number of different irrigation methods, the majority of which are an efficient method by industry best standard, and the other small area of land which is not considered to be irrigated efficiently will be converted to an efficient method in the near future.

A term of 35 years has been applied for which is inconsistent with the NRMP and would not be adopting a precautionary approach. Aukaha Limited has submitted opposing the application requesting a term no longer than 6 years.

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) and stated that a resource's mauri is desecrated if it no longer supports 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. A 50:50 flow share residual flow has been proposed for the take and this is considered to be consistent with the submission made by Aukaha Limited.

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 has stated in its submission that the Clutha/Mata-au River was part of ara tawhito, mahika kai trail that led inland. Mahika kai sourced from the Clutha/Mata-au Catchment includes indigenous ika and manu such as: tuna, kanakana, kōkōpu, moa, inaka, weka. As noted above the 50:50 flow share residual flow is considered to be consistent with the submission made by Aukaha Limited.

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

Professor Skelton's Report and Minister's Recommendations

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 202 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 recently 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.

8.12 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 applicants have provided the following evidence of the value of current and proposed investment as follows:

Mark II Ltd have invested heavily in infrastructure on the property, with around \$15,000/ha on subsoil irrigation (\$75,000 total), \$50,000/ha on above-ground vineyard works (\$250,000 total), \$150,000 towards the shared storage pond, another \$50,000 on the smaller private pond, and approximately \$100,000 on pump infrastructure and electrical connections. Proposed vineyard expansions and associated infrastructure will push the investment total significantly higher.

Rockburn Wines Ltd currently frost-fight via helicopter, but plan to invest in overhead sprinklers in future.

Chard Farm Trustees Ltd recently purchased land from Mark II Limited, primarily composed of established vineyard along with smaller pockets of land earmarked for future vines.

Albany Heights Ltd has advised that current investment in the existing activities at this farm are in the order of \$2 million, with future investment in cherries, new storage and associated infrastructure (netting, fencing, transformers, pumps, electrical connections, pipes, sprinklers etc.) being in the order of \$3 million. Future investment comprises a new ~12,000m³ storage pond which will be used solely by the applicant for the irrigation of a new 12.5ha cherry block. The cherry trees have been ordered and are to be planted on-site in the winter of 2020, while the new storage pond will be constructed either late 2019 or early 2020. Water will be pumped up from the existing dam to the new dam in future and will be filled when the water user is rostered to receive water according to their share on the deemed permit. Once the block has been planted, irrigation lateral pipes and sprinklers will be installed prior to the 2020/21 irrigation season.

Pisa Holdings Ltd estimates irrigated land planted in cherries is estimated to be worth \$150,000 per ha (including land value, trees and infrastructure). With around 42ha already planted in cherries, Pisa Holdings have invested in the order of \$6.3 million in orchard development, with a further \$300,000 invested in existing dams and ~\$20,000 invested in race maintenance to date. With up to 13ha of cherries still to be planted and a new \$250,000 dam proposed, Pisa Holdings estimate a total investment in the subject property of close to \$9 million.

8.13 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 within Section 124 timeframes, 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:

- (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.

While there are no such other applications currently before the Council, the factors have been assessed for completeness and in the event any other application is lodged before this application is determined.

The applicants have applied for irrigation water which is considered efficient by Aqualinc plus frost fighting, stock water and domestic water. The applicants seek to take less water than currently allocated and will apply it to a greater land area. The use of the water includes base flow to ensure the transport of water through-out the scheme and maintenance of the conveyance system. There is use of inefficient irrigation practices such as boarder dyke/flood irrigation for a small area but the Applicants have proposed that this irrigation method will be upgraded to spray irrigation. All other irrigation methods for the majority of the land is considered to be efficient. The shareholders have invested a significant amount of capital to improve efficiency such as race maintenance and water storage options and further improvements are proposed.

No enforcement orders have been issued against the holders of Deemed Permit 95789.

8.14 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):¹²

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.

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.

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. I have assessed matters in Part 2 as to assist the decision maker.

The relevant matters under section 6 of the Act, have been recognised and provided for. The natural character of the waterbody will be preserved by the imposition of the proposed residual flow is (section 6(a)). The proposal will not affect any outstanding natural features or landscapes (section 6(b)). The Amisfield Burn provides habitat for kōaro. The proposal is not considered to adversely affect this habitat (section 6(c)). 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 affected parties. 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 and proposed residual flows 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 it is considered that the fish screening will be an appropriate measure to do this (section 7(h)). With the recommended conditions, particularly fish screening and the requirement to provide water efficiency reporting, I consider the application is consistent with the "other matters" of Section 7 of the Act.

The principals 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

¹² *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316.

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.

8.15 Section 108 and 108AA of the Act

The attached conditions on RM20.005.01 are recommended in accordance with Sections 108 and 108AA of the Act. As discussed above, it is considered appropriate to reduce the monthly allocation sought to reflect the actual maximum monthly take as recorded in the past five years as follows:

The rate of take must not exceed 120 l /second

The monthly volume must not exceed 229,000 m³

The annual volume must not exceed 1,065,316 m³

In addition to rate and volume conditions, the following conditions have been offered by the applicant:

•The consent holder shall maintain a water meter to record the water take, at or close to the point of take, within an error accuracy of +/-5% over the meter's nominal flow range, and a telemetry compatible datalogger with at least 24 months data storage and a telemetry unit to record the rate and volume of take, and the date and time this water was taken. The datalogger must record the date, time and flow in L/s. Data shall be provided to the Consent Authority by means of telemetry. The consent holder must ensure data compatibility with the Consent Authority's time-series database. The water meter must be installed according to the manufacturer's specifications and instructions. There must be enough space in the pipe/flume to allow for verification of the accuracy of the meter under Condition (X).

•The Consent Holder must ensure the full operation of the water meter, data logger and telemetry unit at all times during the exercise of this consent. All malfunctions of the water meter and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs must be performed within 5 working days. Once the malfunction has been remedied, a Water Measuring Device Verification Form completed with photographic evidence must be submitted to the Consent Authority within 5 working days of the completion of repairs.

•If a mechanical insert water meter is installed it shall be verified for accuracy each and every year from the first exercise of this consent. An electromagnetic or ultrasonic flow meter shall be verified for accuracy every 5 years from the first exercise of this consent. Each verification must be undertaken by a Consent Authority approved operator and a Water Measuring Device Verification Form must be provided to the Consent Authority within 5 days of the verification being performed, and at any time upon request.

•The consent holder shall take all practicable steps to ensure that:

- There is no leakage from pipes and structures;*
- The use of water is confined to the target areas.*

•The Consent Authority may, in accordance with Sections 128 and 129 of the RMA 1991, serve notice on the consent holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:

- Adjusting the consented rate or volume of water under Conditions X and X, should monitoring under Condition X or future changes in water use indicate that the consented rate or volume is not able to be fully utilised; or
- Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
- Ensuring the conditions of this consent are consistent with any NES, relevant plans and/or the Otago RPS; or
- Adjusting or altering the method of water take data recording and transmission.

In addition, the applicant offers a 50/50 flow share regime for the Amisfield Burn.

The above conditions are considered appropriate and it is recommended that these be applied to the consent apart from minor adjustments to ensure consistency with ORC standard formatting.

With regard to fish screening, the ORC RSU recommends that screens are installed at the outlet of each storage pond to ensure that fish are not pumped out of the conveyance system.

Finally, conditions requiring an annual water use efficiency report to be prepared and submitted which addresses:

- a) Area, crop type, number of harvests per year, and timing;
- b) Annual summary of water usage (month by month, and related to crops in the ground);
- c) Reasons why use may have varied from the previous year;
- d) A record of frost fighting events (date, duration, volume of water used)
- e) Information demonstrating irrigation equipment that has been used and decision-making regarding efficiency of use (e.g. soil moisture data, irrigation scheduling, meter accuracy checks, computer control of irrigation) and any changes planned for the coming year;
- f) Any changes or modifications to irrigation (and water conveyance) infrastructure; and
- g) Water conservation steps taken.

9. Recommendation

9.1 Reason for Recommendation

It is recommended that this consent application is approved subject to the appended conditions and for the recommended term of 15 years because:

- a. The adverse effects are no more than minor as the various proposed provisions such as residual flows will avoid, remedy or mitigate adverse effects.

- b. The proposed activity is consistent with the objectives and policies of the operative Regional Plan: Water specifically as the applicants are applying for less allocation than that which was previously consented as primary allocation.
- c. The use of the water is efficient and the volumes applied for have been shown to be efficient through Aqualinc and other calculations.
- d. No additional water beyond that taken in the past five years (as confirmed by data analysis) is recommended.
- e. The application is consistent with the NPS-FM as the proposed take is not causing any further allocation and is reducing any allocation as the recommended instantaneous rate of take is less than that currently consented.
- f. 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.
- g. No matters have arisen in the assessment of the application that would indicate the application should have been publicly notified.

10. Term of Consent (Section 123)

The Applicants have requested a duration of 35 years to ensure financial security and reflect the existing and proposed level of investment. It is considered that a duration of 15 years is more appropriate. In reaching this recommendation the following relevant factors have been considered:

- 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 states that when considering the duration of a resource consent to take and use water the following are considered:

- The duration of the purpose of use;
- The presence of a catchment minimum flow or aquifer restriction level;
- Climatic variability and consequent changes in local demand for water;
- The extent to which the risk of potentially significant adverse effects arising from the activity may be adequately managed through review conditions;
- Conditions that allow for the adaptive management of the take and use of water;
- The value of the investment in infrastructure; and
- 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.

Policy 6.4.19 of the RPW addresses consent duration for consents to take and use water. It does not recommend actual durations but instead contains seven criteria for to consider. In this case:

- Criteria (a) - the proposed purposes of the abstractions are enduring; being irrigation, stock water, frost fighting and domestic uses.
- Criteria (b) - there are no minimum flows on the catchments within the application.
- Criteria (c) - climatic variability is certain to occur but no detailed evidence of its relevance has been supplied.
- Criteria (d) - potential adverse effects (such as inadequate residual flows or downstream minimum flow) 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 longer term of 35 years which relies on a review condition to manage effects is not considered appropriate.

- Criteria (e) - the applicant has not proposed adaptive management, although review conditions will allow allocation and residual flow matters to be addressed in the future should the need arise.
- Criteria (f) -the applicants have invested heavily in irrigation infrastructure and will need to continue to invest in water storage options and conversion from the small area of flood irrigation to spray irrigation in the near future,
- Criteria (g) - there is small area of inefficient irrigation practices (flood irrigation) but the applicants have proposed that there will be upgrades to this system in the near future. According to the application the shareholders have invested a significant amount of capital to improve efficiency over the last few years. These efficiency improvements include race maintenance and water storage solutions.

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 25 years. Therefore, the recommended term of 15 years is consistent with the relevant iwi management plans. It should be noted that Aukaha requested a 6 year term.

As noted in Section 8.10, Policy 10A.2.3 proposed by PPC7 relates to the duration of new resource consents that replace deemed permits:

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.

Policy 10A.2.3 of PPC7 directs that new consents to replace deemed permits only be granted for no more than 6 years except where there are no more than minor adverse effects (including 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 irrespective of any other policies in the Plan concerning consent duration, i.e. Policy 6.4.19. Considering this direction, granting the consent duration sought by the applicants would be contrary to the provisions of PPC7. Given the overall effects conclusion that the adverse effects (including cumulative effects) on aquatic ecology and hydrology are no more than minor, a duration of 15 years would be consistent with Policy 10A.2.3. As discussed in Section 8.10, while some weight can be given to PPC7, it is appropriate to continue to give weight to Policy 6.4.19 of the RPW.

In this instance, I consider that a 15 year consent term is appropriate for all activities on the basis that

- 15-year duration will provide the applicants with security of access to surface water resources,
- ensures efficient use of water and safeguards the life-sustaining capacity of the watercourses.
- It strikes an appropriate balance between the term sought by the applicants and the significant shift in Council policy under PPC7 to have 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 adverse effects of the proposed take are no more than minor and ultimately acceptable; and
- Unforeseen adverse effects can be managed by review conditions during the consent term

Appended: Recommended Conditions of Consent

Appended: Evidence of Ciaran Campbell – ORC Freshwater Ecologist

Appended: Analysis of Sarah McCorrie – ORC Systems and Data Analysis

Appended: Assessment of Cameron Jasper – Pattle Delamore Partners Limited

Kirstyn Lindsay
Consultant Planner
Southern Planning Solutions

