Decision Report

Pig Burn Gorge Limited, Natasha Lee Burrell, Ian Joseph Burrell and Canterbury Trustees (2016) Limited being trustees of the Duncan Cleugh Farming Trust, Janine Ruth Smith, En Hakkore Limited, Greenbank Pastoral Limited, Hamilton Runs Limited, Hamiltons Dairy Limited, Concept Farms Limited, Sophic Trust, Christopher Patrick Mulholland and Dale Evelyn Mulholland

RM19.039

Resource Consent Applications
to
Otago Regional Council

21 September 2021

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1 Introduction

[001] On 12 February 2020 Pig Burn Gorge Limited, Natasha Lee Burrell, Ian Joseph Burrell and Canterbury Trustees (2016) Limited (being trustees of the Duncan Cleugh Farming Trust), Janine Ruth Smith, En Hakkore Limited, Greenbank Pastoral Limited, Hamilton Runs Limited, Hamiltons Dairy Limited, Concept Farms Limited, Sophic Trust, Christopher Patrick Mulholland and Dale Evelyn Mulholland (Pig Burn Water Users Group or PBWUG or applicants) lodged an application with the Otago Regional Council (ORC) for seven new water permits replacing deemed permits[1] which allow the take and use of water from the Pig Burn and Harpers Creek for the purposes of domestic supply, stock drinking water supply and irrigation.

[002] The application also seeks to transfer the location of one existing water take permit.

[003] The existing deemed permits are able to be exercised under s124 of the RMA.

[004] The PBWUG initially sought a 35-year consent duration for the replacement of the deemed permits, but subsequently amended that to an expiry date of 1 January 2034.

The applications are granted for the reasons herein.

2 Appointment

[005] The ORC, acting under s34A of the Resource Management Act 1991, appointed independent hearing commissioner Rob van Voorthuysen[2] to hear and decide the applications.

3 Process Issues

3.1 Notification, submissions, written approvals, pre-hearing meetings, site visit and hearing

[006] The application was limited notified in June 2020 and submissions in opposition were received from:

- Aukaha on behalf Kati Huirapa Runaka ki Puketeraki and Te Runanga o Otakou (Ka Runaka)[3]; and
- The Otago Fish and Game Council (Fish and Game).

[007] The Director-General of Conservation was also limited notified but did not lodge a submission. The relief sought by the submitters is set out in section 3.4 of the Section 42A Report[4] and section 4.9 of this Decision.

[008] A pre-hearing meeting was held 30 July 2020 and I was provided with a copy of the resultant report.[5]

[009] The ORC Section 42A Report authored by Alexandra King, the applicant's opening legal submissions and evidence[6] and submitter evidence[7] was pre-circulated in conformance with a Minute I issued setting out a filing timetable. I posed several written questions to Ms King and her aquatic ecology technical advisor[8] on 31 August 2021 and written answers were provided to me on 10 September 2021.

[010] Additional written statements were tabled and read out at the hearing by Ms King, Mr Hickey, Dr Olsen, Mr Ellison, Mr Vial and Mr Paragreen.

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[1] Permits 2000.136, 2000.245, 2000.244, 2002.010, 96394, 97210, 96230.V1, 97128, 2000.498 and 96254.

[2] Commissioner van Voorthuysen is an experienced independent commissioner, having sat on over 330 hearings throughout New Zealand since 1998. He has qualifications in natural resources engineering and public policy. In 2020 he was appointed as a Freshwater Commissioner by the Minister for the Environment under Clause 65 of Schedule 1 to the RMA.

[3] The inclusion of Hokonui Rūnanga on the submission was an error. EIC Edward Ellison, paragraph 25.

[4] Otago Regional Council, Section 42A Staff Recommending Report, Alexandra King, Team Leader Consents, 24 August 2021.

[5] Report on a pre-hearing meeting held on 30 July 2020 at Otago Regional Council's offices, 70 Stafford Street, Dunedin; RM20.039; Peter Christophers.

[6] Counsel Bridget Irving, Matt Hickey, Dr Dean Olsen, Clair Perkins, Chris Mulholland, Janine Smith, James Herlihy, Rene Weir, Anthony Bradfield, Gavin Herlihy.

[7] Nigel Paragreen and Dr Robin Holmes (Fish and Game); Tim Vial and Edward Ellison (Aukaha).

[8] Dr Richard Allibone.

[011] Copies of the legal submissions and statements of evidence are held by ORC. I do not separately summarise the matters covered here, but I refer to or quote from that material as appropriate in the remainder of this Decision.

[012] The application documentation and Section 42A Report included numerous photographs of the points of take from both watercourses. However, to further assist with my understanding of the applications and the nature of the upper Pig Burn in particular, I undertook a site visit on 15 September 2021 accompanied by ORC Senior Consent's Planner Rebecca Jackson and applicant representative Gavin Herlihy.

3.2 Officer's recommendations

[013] Ms King recommended that the applications be granted. I discuss some of her more detailed recommendations in subsequent parts of this Decision.

3.3 Description of the Activity

[014] The details of the PBWUG's intakes, pipelines, storage ponds and irrigated areas are fully described in the PBWUG's AEE[9] and the Section 42A Report[10] (including photographs of the take sites and aerial photographs and maps of the irrigated areas) and there is no need for me to repeat that extensive level of detail here. Readers of this Decision should also read the AEE or the Section 42A Report for a full description of the PBWUG's current and proposed abstraction activities.

[015] The application involves seven existing takes as illustrated in Figure 1 below. The numbers in the aerial photograph relate to the following applicants and take sites:

1: Pigburn Gorge Ltd, Duncan Cleugh Farming Trust (DCFT) and Janine Smith
2: Bradfields / En Hakkore Limited
3: Herlihy Gorge Take / Greenbank Pastoral Limited
4: Weirs Take / Hamilton Runs Limited
5: Herlihy Ford Take / Hamilton Dairy Limited
6: New combined take / Sophic Trust, Mulholland and Hamilton Dairy
7: Concept North or Kirkwood North

[016] The PBWUG propose to move the existing Mulholland take (2000.498) to the location of the existing Sophic Trust Take. The Mulholland existing take point would then be decommissioned. The Herlihy Ford Take site would only be used by Hamilton Dairy Limited during high to moderate flows. At low flows Hamilton Dairy Limited would also abstract from the new combined take (site 6) location.

[017] While deferring to the more detailed descriptions of the applications referred to above, there are several important points to note regarding the existing regime:

- The hydrology of the Pig Burn is relatively complicated with two intermittent or drying reaches (an upper losing reach between the Gorge flow site and Hamilton Road Ford and a lower losing reach downstream of the Patearoa-Waipiata Road Bridge) with perennial gaining reaches downstream of each drying reach;
- The upper losing reach loses around 90 L/s to ground;
- The lower losing reach is thought to naturally lose around 30 to 40 L/s to ground and "*is unlikely to dry naturally aside from during dry summers although this reach is likely to be a natural low flow reach in most summers";*[11]
- The length of the dry reaches and the duration of drying in the losing reaches is extended by the current take regime which also causes perennial reaches to become intermittent;

[9] Section 2 Description of the Activity, Section 2.2 Overview of water takes and use
[10] Sections 4.2,2.1 Overview, 3 Description of the environment; and 4.1 Description of the site and surrounding environment.
[11] EIC Dean Olsen, paragraph 23.

- Take 1 is shared by three properties. The water is abstracted from an unnamed headwater tributary of the Pig Burn then conveyed in an open race for approximately 3 km through a saddle between the Pig Burn and Harpers Creek catchments before being discharged into Harpers Creek from which it is subsequently retaken. The conveyance from the Pig Burn take point to the augmented re-take is approximately 8km long;
- The holders of permits at Take sites 3, 5, 6 and 7 also utilise water from the Maniototo Irrigation Company (MIC) which is combined with water from the Pig Burn;
- The holders of the permit at Take site 3 also uses water from the Sow Burn (via a permit operated by the Sowburn Water Co Ltd);
- The holders of the permit at Take site 4 also use water from the Cap Burn;
- All of the applicants use the abstracted water for irrigation and stock water supply. The holders of the permits at take sites 2 and 4 additionally utilise the water for domestic supply; and
- Several of the existing deemed permits holders utilise flood irrigation over around 370ha of land in total.[12]

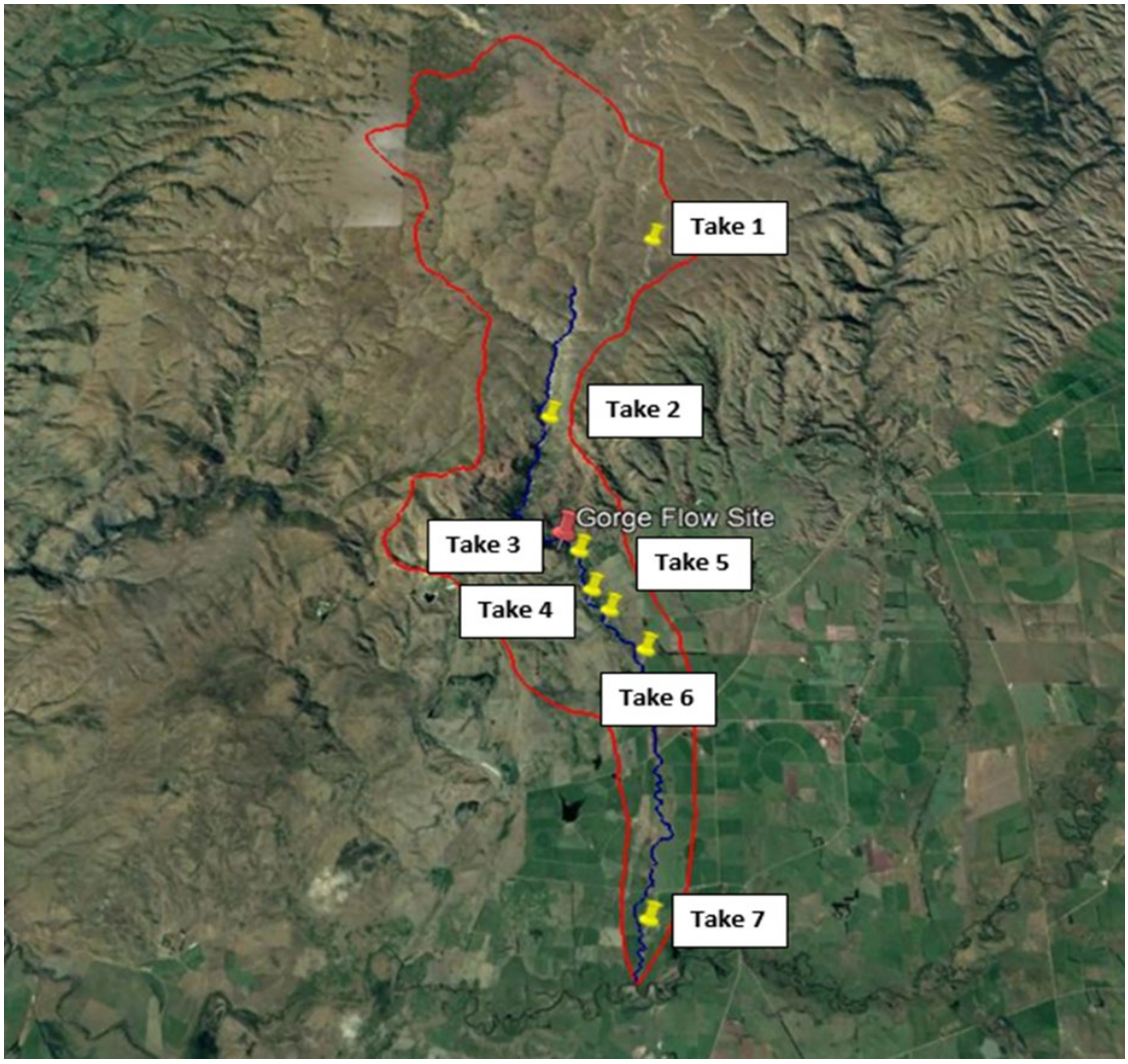


Figure 1: Take sites

[12] Duncan Cleugh Farming Trust (DCFT) own Tearoa Farm with 12ha of flood irrigation (Take 1); Janine Smith's farm with 60ha of flood irrigation (also Take 1); Greenbank Pastoral Ltd with 90ha of flood irrigation (Take 3); Hamilton Runs Ltd with ≈ 10ha of flood irrigation (Take 4); Mulholland with ≈ 200ha of flood irrigation (will now be taken from the new combined take site).

[018] The rates and volumes of take sought by each applicant are set out in the AEE[13] and in the Section 42A Report.[14]

[019] The Pig Burn is not specifically listed in Schedules 1A,[15] 1B, 1C, 1D[16] or 2 of the Regional Plan for Water: Otago (RPW:O). The Taiari[17] River (the Pig Burn is a tributary of the Taiari) is listed in Schedules 1A and 1D. The Concept North take is located approximately 800 m upstream of the Upper Taiari Wetland Complex which is a Regionally Significant Wetland.

[020] Schedule 2A of the RPW:O sets a minimum flow of 1,000 L/s in the Taiari River at Waipiata. PBWUG have agreed to be subject to this minimum flow.

3.4 Consent categories

[021] The replacement of a deemed permit with primary allocation is usually categorised as a restricted discretionary activity under Rule 12.1.4.4 of the RPW:O. Matters of discretion are set out in Rule 12.1.4.8. The retaking of water from Harpers Creek would usually be categorised as a restricted discretionary activity under Rule 12.1.4.1 which contains its own matters of discretion.

[022] However, the PBWUG AEE stated that the transfer of the Mulholland take to the new combined take location and the partial transfer of the Herlihy Ford take (Take 5) to the new combined location both required consent under Section 136(2)(b)(ii) of the RMA and a transfer is categorised as a discretionary activity. Both the PBWUG AEE[18] and Ms King therefore concluded that as the above activities are inseparable the bundling principle applies and the applications should be collectively categorised as a discretionary activity. The AEE confirmed this stating[19] that "*The applicants have accepted a bundling approach, on the basis that they are applying as an informal group, with a collective focus on management of effects on the Pigburn*."

[023] At the hearing I clarified this with Ms Irving. She advised that the section 136 transfer application for the existing Mulholland take was not withdrawn and it was intended to transfer it to the 'new combined take' location prior to the deemed permit expiry on 1 October 2021. Accordingly, I find that under the bundling principle the PBWUG applications are assessed collectively as a discretionary activity.

[024] The discharge from the Pig Burn tributary to Harpers Creek is a permitted discharge under Rule 12.C.1.1. The continued use, repair, alteration, maintenance of the intakes structures is permitted under various permitted activity rules in the RPW:O.[20]

[025] When forming an opinion for the purposes of subsection 104(1)(a) of the RMA I may disregard an adverse effect of the activity on the environment if a national environmental standard or a plan permits an activity with that effect.[21] I note that Rule 12.1.2.5 of the RPW:O permits the taking up to 25,000 litres per day at a rate of 1 L/s. I have not disregarded the specific effect of taking that amount of water for the simple fact that it would be indistinguishable from the effects related to the remainder of the abstractions.

[026] Under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 any future modifications to the intake structure may require consent under the NES-F as a discretionary activity if not covered by regulations 70 and 71.[22] If that is the case then I am satisfied any such consents

[13] Table 15 on page 50.
[14] Tables 2 and 6.
[15] Schedule 1A of the RPW identifies the natural and human use values of Otago's surface water bodies.
[16] Schedule 1D of the RPW identifies the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kai Tahu.
[17] Throughout this Decision I have used the spelling preferred by Aukaha – namely Taiari.
[18] Section 6.4.4 Bundling of Activities.
[19] Section 6.4.4 Bundling of Activities.
[20] AEE 6.4.6.1 Intake structures; Section 42A Report section 5.1.
[21] Section 104(2) of the RMA.
[22] Permitted activity rules for culverts and weirs.

can be applied for at a later date prior to any intake modification works being undertaken. It is not necessary to delay consideration of the replacement of the Deemed Permits in the meantime. I note that Ms King advised that no consents are currently required under the NES-F[23] and Ms Perkins agreed.[24]

[027] In March 2020 ORC notified PPC7 to the RPW:O and, having called it in, the EPA re-notified it in July 2020. Under PPC7 the applications are a non-complying activity under Rule 10A.3.2.1 However, under s88A(1A) of the RMA the consent categories outlined above continue to apply. On that basis I do not consider that a s104D analysis is required. The objectives and policies of PPC7 are however a relevant s104 matter and I discuss that later in this Decision.

4 Section 104 and 104B matters

[028] I now address relevant aspects of the application in terms of s104 and 104B of the RMA.

[029] I note that granting the applications will result in positive social and economic effects. These were summarised in the AEE,[25] the evidence of the PBWUG's lay witnesses and the Section 42A Report.[26] Unsurprisingly they relate to the provision of potable drinking water, the ongoing operation of dairy, sheep and beef farming activities and the associated employment and purchasing of good and services.[27] I accept that the value of investment by the various applicants in irrigation infrastructure is substantial.[28]

4.1 Appropriateness of volumes sought

[030] RPW:O Policy 6.4.0A is to ensure that the quantity of water granted is no more than that required for the purpose of use. As noted above the applicants use the abstracted water for irrigation, stock drinking and domestic use.

[031] Regarding irrigation, in Otago the irrigation demand is routinely determined from a report commissioned by ORC from Aqualinc to determine reasonable monthly and seasonal irrigation water requirements.[29] Ms King advised that for Otago a one in ten year drought or 90th percentile annual demand is the most appropriate when considering efficient water use.[30] I agree with that approach, noting it to be consistent with other recent deemed permit replacement applications that I have acted on as a decision-maker. Any monthly volume limit should be based on the estimated peak monthly demand for any one month, noting that only occurs for one to two months in an irrigation season.

[032] The PBWUG initially sought annual volumes of irrigation water based on meeting the 100-percentile annual demand (or maximum annual demand). However, in her evidence Ms Perkins advised that she agreed that the 90th percentile annual demand figures were appropriate for use here.[31]

[033] Some of the applicants use flood irrigation which is generally accepted as being inefficient in comparison to spray irrigation (whether by K-line pods, big guns or pivots). Allowing inefficient irrigation practices to continue indefinitely is inappropriate in a heavily overallocated catchment such as the Taiari River catchment. Accordingly, as has occurred for previous deemed permit replacement consents, I consider that a reasonably short period of time should be provided for the phasing out of flood irrigation (whether it be wild flood or border dyke). In this case I consider a five year period to be appropriate and note from the AEE that some of the current users of flood irrigation are already considering moving to spray irrigation.

[23] Section 8.3.
[24] EIC Claire Perkins, paragraph 80.
[25] Section 8.6.
[26] Section 7.8.
[27] EIC Porter, paragraph 2.6.
[28] A s104(2A) matter encompassing in this case water take, metering, conveyance, water storage and irrigation infrastructure. AAE, section 5. Existing Investment.
[29] Aqualinc, Guidelines for Reasonable Irrigation Water Requirements in the Otago Region, Prepared for Otago Regional Council, C15000, 2017/07/24
[30] Section 42A Report, section 7.10.3 Irrigation.
[31] EIC Claire Perkins, paragraph 32.

[034] I acknowledge that a five year window is an arbitrary period of time, but I base it on the evidence of Chris Mulholland who stated "*In the past the farm has been fully contour irrigated. In 2020 we built a dam to provide storage to enable more efficient spray irrigation to be installed. We had been preparing for this development for at least the past five years due to high expenditure and workload associated with this*"[32] and the verbal evidence of Ms Smith that she "*is ready to go with spray irrigation*" subject to receiving a reasonable consent duration, which she confirmed to be the January 2034 expiry date now sought by the PBWUG.

[035] As noted earlier, a number of the applicants (namely the holders of permits at take sites 3, 5, 6 and 7) also utilise water from sources other than the Pig Burn, including the MIC and Sowburn Water Co Ltd. It is therefore important to ensure that there is no 'double dipping' of irrigation allocations insofar as the volumes of water granted to those applicants from the Pig Burn should not be sufficient to meet the full annual demand for their respective irrigable areas. In theory it should be possible to determine how much of the seasonal demand is met from the Pig Burn for each applicant who uses multiple sources of water. However, that has not occurred.

[036] The next best (and only available in this case) option is to ensure that no such applicant receives any more than their maximum historical Pig Burn annual volume on the assumption that in the past the volume of water taken from the Pig Burn would have reflected the volume of water available from the other sources. From Table 6 of the Section 42A Report this is clearly the case for the permits at sites 3, 5 and 7 where the recommended annual volume is less than that used historically (sites 3 and 5) or is based on historical use (site 7). The situation with the combined take at site 6 is more complicated and so I asked Ms King about that. She confirmed that she had used the recorded historic water use for the Pig Burn takes as a guide to what water is available from other sources.

[037] Stock drinking water requirements are commonly based on figures derived from the Ministry for Primary Industry's guidelines. Domestic use volumes are commonly based on AS/NZS 1547:2012 standards for calculating wastewater volumes for small-scale on-site wastewater systems. On that basis the ORC considers 1,000 L/day during winter and 3,000 L/day during summer to be efficient volumes for each domestic residence. The additional volumes in summer provide for minor curtilage. I understand that the volumes of water recommended by Ms King in Table 6 of the Section 42A Report for stock drinking water and domestic use are consistent with these guidelines and standards.[33]

4.2 Available allocations

[038] The allowable allocation framework is set by the RPW:O which establishes a primary allocation limit (a maximum instantaneous rate of take) by way of Policy 6.4.2. The allocation is the greater of:

- under Policy 6.4.2(a), because the Pig Burn is not listed in RPW:O Schedule 2A, 50% of the respective 7-day mean annual low flow (MALF) for that watercourse; or
- under Policy 6.4.2(b) the sum of consented maximum instantaneous, or consented 7-day, takes of surface water from the watercourses as at 28 February 1998 plus any connected groundwater takes as at 10 April 2010 less any water that is immediately returned to the source water body.

[039] In this case the primary allocation is initially determined by Policy 6.4.2(b) as the applicants' existing deemed permits authorise rates of take that far exceed 50% of the estimated MALF at the ORC's Pig Burn Gorge flow recorder site. Ms King noted that the MALF at the Gorge flow recorder site was considered to be between 30 – 80 L/s at the pre-hearing meeting held 20 July 2020.[34]

[040] Ms King advised that the Taiari River catchment from the mouth to its headwaters is listed in Schedule 2A of the RPW:O as having a primary allocation limit of 4,860 L/s. However, there is 28,254 L/s of consented abstraction as primary allocation within the catchment.[35] The replacement consents can

[32] Paragraph 6.
[33] Section 42A Report, section 10.4.2 (sic) Communal Domestic Supply; section 7.10.5 Stock Water Supply.
[34] Section 42A Report, section 4.2 Description of Surface Water Body.
[35] Section 42A Report, section 7.1 Surface Water Allocation Availability.

therefore safely be categorised as primary allocation. I note that the PBWUG proposal will result in a reduction in the combined historic rate of abstraction of water from the Pig Burn by 122 L/s.

[041] RPW:O Policy 6.4.2 is however tempered by RPW:O Policy 6.4.2A which is to grant from within the primary allocation no more water than has been taken under the existing consents in at least the preceding five years (commonly referred to as historical use). Both the AEE[36] and the Section 42A Report[37] set out historical use figures. The ORC figures were been determined using Schedule 10A.4 of PPC7 to the RPW:O which utilises water meter data from the period 1 July 2012 to 30 June 2017.[38] I consider the ORC figures to be appropriate.

[042] Accordingly, the replacement consents can be granted as primary allocation with:

- Rates of take (L/s) that are the lesser of what was applied for or what was the historical maximum rate of take;
- Monthly volumes that are the lesser of what was applied for, what is considered to be reasonable use (for a combination of efficient pasture irrigation, stocking drinking water and domestic use), or what was the historical maximum monthly volume of abstraction[39];
- Annual or seasonal volumes that are the lesser of what was applied for, what is considered to be reasonable use, or what was the historical maximum annual volume of abstraction.

[043] Ms King has undertaken such an assessment and the results are presented in Table 6 of the Section 42A Report. For the PBWUG Ms Perkins agreed with Ms King's recommended monthly and seasonal volumes.[40] The allocations (maximum instantaneous rates in L/s and annual / seasonal volumes in m^3) that can be granted are summarised in my Table 1 below:

		Rate (L/s)	Annual Volume (m^3)
Take 1	Shared	56.0	500,000
Take 2	Bradfields / En Hakkore	7.0	70,000
Take 3	Herlihy Gorge / Greenbank Pastoral	42.0	454,120
Take 4	Weirs / Hamilton Runs	56.0	801,449
Take 5	Herlihy Ford / Hamiltons Dairy	70.0	459,875
Take 6	Sophic / Mullholland / Hamiltons Dairy	60.0	1,580,589
Take 7	Concept North	42.0	1,028,478
		333.0	4,894,511

Table 1: Allocation rates and volumes

[044] It should be noted that the combined maximum abstraction at the Take 6 site will be 110 L/s when a residual flow of 200 L/s can be maintained below that site. Therefore, the maximum cumulative rate of take across all sites will range between 333 L/s and 383 L/s.[41]

[045] In my Table 1:

- The Herlihy Ford / Hamilton's Dairy take is allowed 459,875m^3 per annum based on the volume applied for (which is less than their maximum historical use). However, that annual volume will not all be taken from one location. Some of it will be taken from the site of Take 5 but when a residual flow of at least 70 L/s cannot be maintained below that site the Herlihy Ford / Hamilton's Dairy

[36] Section 2.2 Overview of water takes and use.
[37] Table 6.
[38] Section 42A Report, section 7.10.1 Historical Water Access.
[39] Provided that monthly volume can actually be achieved by the granted rate of take.
[40] EIC Claire Perkins, paragraph 32, fourth bullet.
[41] Namely 333 L/s plus 50 L/s (110-60 L/s) = 383 L/s.

abstraction at Take site 5 will cease and their annual allocation (or what remains of it) will be taken from the new combined Take 6 site;

- Therefore, to avoid 'double counting' I have (solely for the sake of determining a total or cumulative annual volume) shown all of the Herlihy Ford / Hamilton's Run annual volume being taken from the Take 5 site. I have not then included any of that allocation in the Take 6 site annual volume;
- I have set the Mulholland annual volume at 764,070 m^3 based on their maximum historical take and not the 768,615 m^3 initially recommended by Ms King. I note that Ms King addressed that error in her written response to my Minute 2 questions and confirmed that a figure of 764,070 m^3 was appropriate; and
- In an Addendum tabled at the hearing Ms King advised that the correct historical maximum annual volume for Weirs / Hamilton Runs was 801,449 m^3 and not 465,044 m^3 as originally set out in the Section 42A Report.

[046] The Take 6 annual volume in my Table 1 above (again solely for the sake of determining a total annual volume rather than consent conditions) is therefore comprised of:

- Mulholland 764,070 m^3
- Concept / Sonic 816,519 m^3

[047] I note that for Fish and Game Dr Holmes appeared to be advocating an allocation that was based on 20% of MALF. Taking the estimated range of the 7-day MALF at the Gorge (30 to 80 L/s) that would result in a total allocation of between 6 to 16 L/s against the 333 L/s and 383 L/s actual range that can be granted as primary allocation. I find that an allocation of that order would be unduly onerous and not justified on the merits.

4.3 Residual flows

[048] RPW:O Policy 6.4.7 states "*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*." In general terms, imposing a residual flow that must be maintained[42] below a take site is important to ensure that streams are not excessively dewatered (or run dry in extreme cases) as a result of abstractions. Importantly, RWP:O Policy 5.4.8 requires me to have regard to the natural flow characteristics of the waterbody, subject to the extent to which use and development has influenced those characteristics.

[049] I received expert evidence on residual flows from Dr Richard Allibone for the ORC, Dr Dean Olsen for the PBWUG and Dr Robin Holmes for Fish and Game. In addition, Mr Hickey provided hydrological information for the Pig Burn. All are qualified and experienced scientists.

[050] The aquatic ecology of the Pig Burn is relevant to the setting of residual flows. Longfin eel (from the Lower Pig Burn) and brown trout (widely distributed in the Pig Burn catchment downstream of the Gorge flow gauging site) are the only two fish species to have been recorded from the Pig Burn catchment. Importantly, the Pig Burn does not have significant trout fishery values in its own right,[43] but it is thought to provide spawning and juvenile rearing habitat that supports the regionally significant trout fishery in the mainstem Taiari River.[44] In terms of indigenous fish, it is well known that long fin eels have high cultural importance as taonga and mahinga / mahika kai species.

[051] Dr Olsen advised that macroinvertebrate sampling had showed excellent habitat and water quality in the upper Pig Burn (upstream of Hamilton Road) while in the lower Pig Burn, close to its confluence with the Taiari River, it was generally consistent with good water and habitat quality.[45] On Dr Olen's evidence there does not seem to be any need to increase residual flows at the site of either Take 6 or Take 7 in

[42] Unless of course abstraction has ceased and natural low flow conditions mean that the residual flow set in conditions cannot occur.
[43] At the hearing Gavin Herlihy advised he had not seen anyone fishing on the Pig Burn in the 60 years he has been farming next to it.
[44] EIC Robin Holmes, paragraph 16.
[45] EIC, Dean Olsen, paragraphs 24, 25 and 53.

terms of macroinvertebrate community health or water quality. This was not contested by the other experts.

[052] Dr Allibone undertook a thorough assessment of appropriate residual flows that took into account the reported fishery values and the nature of the known gaining and losing reaches of the Pig Burn below the Gorge.[46] In summary he recommended

- Take 1: a connected visual flow;
- Take 2 (Bradfields / En Hakkore): none as it is in a gaining reach;
- Takes 3 and 4 (Herlihy Gorge / Green Bank Pastoral and Weirs / Hamilton Runs): no residual flows as they are located in the upper drying reach and a residual flow in excess of 90 L/s would be required to prevent the Pig Burn from the drying that will naturally occur in that reach in average and dry years;
- Take 5 (Herlihy Ford / Hamilton Dairy): the PBWUG's proposed 70 L/s residual flow as it was likely to be around 90% of the 7-day MALF at the Ford location; and
- Take 6 (Sophic / Mulholland / Hamiltons Dairy combined) and Take 7 (Concept North): increasing the PBWUG's proposed residual flow in increments from 10 L/s to 20 L/s and then to 30 L/s as that would provide a reasonable level of fish habitat and allow the Pig Burn to achieve the requirements of the NPSFM.

[053] The key matter of contention is the appropriate residual flow below the proposed new 'Combined Take' location (Take 6) and the 'Concept North' location (Take 7). The PBWUG proposed residual flows of 10 L/s below each of those sites. Dr Allibone initially suggested that the residual flows should vary between 10 L/s and 30 L/s depending on the consent duration granted. In my Minute 2 I queried the scientific rationale for such a variation and why the 30 L/s should not be imposed now. Dr Allibone provided very helpful written answers from which I note the following key points:

> *"…I considered setting a residual of 30 L/s will maintain groundwater levels and potentially provide for periods of connected flow through the drying reach. Alternatively, it will allow for connecting flows to be established through the drying reach when rainfall events occur as there will be little is any groundwater deficit to fill. I now note that in Mr Hickey's evidence in chief he now estimates this lower loosing reach to have losses to groundwater in the order of 40 L/s – 60 L/s and the ORC proposed residual flow of 30 L/s is unlikely to maintain the ground water levels and a higher residual flow of at least 40 L/s would be required"*
>
> *"Hickey (2020) reports the lowest [Gorge] flow recorded is 31 L/s. He also expects that flows in the neutral reaches below gaining areas to equal the gorge flow. … the 31 L/s flow is the lowest flow recorded and this sets a 'bottom line flow' below which the lower Pig Burn never naturally falls below, except in the drying reaches. Therefore, I would expect that to protect ecological health in the Pig Burn maintaining a flow at least as high as the lowest recorded flow is the minimum required."*
>
> *"… maintaining this [PBWUG's proposed] 10 L/s flow for an extended duration through the summer will be well outside the natural low flow condition and will not meet the requirements of NPS-FM (2020) for providing for the ecological health of the Pig Burn*."

[001] Regarding the new 'Combined Take' location Dr Olsen advised:[47]

> *"I expect an increase in residual flow from 10 l/s to 20 l/s would provide more habitat for all life stages of brown trout and longfin eel in the reach immediately downstream of the combined take, but this benefit would extend less than 400 m downstream of this take and less flow than 200m further than the proposed residual flow. I do not expect an increase in residual flows at the Combined Take to affect flows downstream of the lower drying reach."*
>
> *"The proposal to shift the Herlihy Ford take downstream to the Combined Take when flows are below 70 L/s will increase habitat availability for juvenile trout in the section between the Ford*

[46] Appendix 2 to the Section 42A Report comprising the "Evidence of Richard Mark Allibone".
[47] EIC Dean Olsen, paragraph 43 and Rebuttal Evidence, paragraph 31.

> *and the Combined Take intake. I anticipate that this will increase survival of juvenile trout in this section compared with status quo flows. These fish will not be able to out-migrate to the Taiari, except during high flow events."*

[002] Dr Hickey advised that with a 20 L/s residual flow below the new 'Combined Take' location (Take 6) there would still be around 1.9 km of dry riverbed in the lower drying reach.

[003] Regarding the residual flow below the Concept North (Take 7) site Dr Olsen advised:[48]

> *"An increase in residual flow downstream of the Kirkwood North take (referred to as Concept Farms in the s.42A report) would increase habitat for brown trout in the short segment between this take and the confluence with the Taieri, although I do not anticipate any effect to meaningfully increase juvenile recruitment from the Pig Burn to the upper Taieri."*

[004] The utility of any residual flow below the new 'Combined Take' location (Take 6) is clearly hampered by the lower drying reach. The evidence is that while an increase in the residual flow (from 10 L/s to 20 L/s) will not provide much benefit in terms of reducing the extent of drying it will "*provide more habitat for all life stages of brown trout and longfin eel in the reach immediately downstream of the combined take.*"[49]

[005] For Fish and Game Dr Holmes considered that an assessment of proposed flows relative to naturalised flows was required to determine how the Pig Burn aquatic ecosystem will be affected. He concluded that PBWUG's proposed allocation regime was extremely likely to have more than minor effects on instream ecology.[50] His evidence supported the setting of residual flows below the site of Take 6 that were greater than those offered by the PBWUG.

[006] As noted by Mr Vial, there is a need for any residual flow to provide for the life cycle needs of tuna, particularly the ability for elvers to migrate. That of course requires a continuous stream flow. Dr Allibone advised that upstream passage at the lower take sites was required for juvenile longfin eel from 1 December to 30 April each year as that is when elvers migrate upstream.[51] This was largely confirmed by Aukaha's cultural expert Mr Ellison who considered that the critical time for elver migration was December to February. There seemed to be consensus amongst the experts that a residual flow in the order of 30 to 40 L/s below the site of Take 6 was required to ensure that there would be flow connectivity throughout the lower drying reach.[52]

[007] Dr Allibone advised[53] that as elvers are small fish and are capable of using shallow wetted areas to progress upstream, large volumes of water were not required to provide passage for them, the key requirement was to provide a continuous flow path.[54] At the hearing Dr Allibone advised that even a "trickle" of flow at the bottom of the drying reach of around 1 – 2 L/s would be sufficient to provide for elver passage.

[008] On the weight of evidence, particularly that of Dr Allibone and the witnesses for Aukaha, I find that a residual flow of 30 L/s below the new 'Combined Take' location (Take 6) is appropriate. As Dr Allibone stated verbally at the hearing, the appropriate residual flow must be within the observed low flow range, not below it.

[009] I have pitched the residual flow it at the lower end of the above mentioned 30 to 40 L/s range in recognition of the adverse effect that imposing any residual flow will have on the current abstraction regime, given the absence of residual flow requirements to date. However, in saying that I note that Objective 2.1 of

[48] EIC Dean Olsen, paragraph 44.
[49] EIC Dean Olsen, paragraph 43.
[50] EIC Robin Holmes, paragraph 28.
[51] EIC Richard Allibone, paragraph 43.
[52] Although I note at the hearing Mr Hickey advised that losses in the lower drying reach could be as high as 50 L/s.
[53] All be it in the context of abstraction structures.
[54] EIC Richard Allibone, paragraph 43.

the NPSFM clearly prioritises the health and well-being of the Pig Burn and its freshwater ecosystem above the economic well-being of the applicants. I observe that the appropriateness of a 30 L/s residual flow can of course be monitored and reviewed and increased to 40 L/s or more if it turns out to be insufficient to provide for the health and well-being of the Pig Burn.

[010] Having set the residual flow for the site of Take 6 at 30 L/s is seems sensible to set the residual flow for the site of Take 7 at the same value, namely 30 L/s. As Take 7 is located in a gaining reach where the flow naturally increases by between 5 to 35 L/s,[55] I understand that adhering to a residual flow of 30 L/s at that location will be less onerous in terms of restrictions on abstractions.

[011] Regarding other stream flow matters, Dr Holmes considered that flood flows in the Pig Burn would largely be unaffected by the PBWUG's proposed abstraction regime. He advised that channel forming flows, as well as flows sufficient to flush periphyton and fine sediment, ought to be maintained under the proposed abstraction regime. He added that winter flow provisions meant that from May till September, around the time trout spawn in the catchment, fish passage and spawning habitat would be maintained.[56] There was no evidence suggesting otherwise.

[012] As noted above, RWP:O Policy 5.4.8 requires me to have regard to the natural flow characteristics of the Pig Burn, subject to the extent to which use and development has influenced those characteristics. Historical use and development (namely the PBWUG abstractions and very high level of allocation relative to MALF that they have enjoyed to date) have no doubt detracted from the natural flow characteristics of the Pig Burn and have resulted in 'unnatural' drying in the lower reach. Nevertheless, the PBWUG proposal will result in improvements to the Pig Burn's ecological health, a point conceded by Dr Holmes.[57] Increasing the residual flow below the sites of Takes 6 and 7 (from 10 L/s to 30 L/s) will further enhance those improvements.

[013] I note that Aukaha sought minimum flows (which I understand to be equivalent to a residual flow in their mind) of 90% of MALF. As noted above, the 70 L/s residual flow proposed by the PBWUG for the site of Take 5 (Herlihy Ford / Hamilton Dairy) is likely to be around 90% of the 7-day MALF at that location. Regarding the sites of Takes 6 and 7, taking the range of 7-day MALF estimates at the Gorge of 30 to 80 L/s, 90% of MALF would result in a residual flow of between 27 L/s to 54 L/s. I note that a residual flow of 30 L/s below the sites of Takes 6 and 7 falls within that range, albeit at the lower end.

[014] For completeness I record that Ms Irving suggested that it would be possible to discharge water from the MIC race into the Pig Burn to provide for enhanced residual flows and flow continuity in the lower drying reach. That may be so, but no such proposal is before me and I cannot of course impose any such requirements on a third party (namely the MIC).

[015] Finally, Ms Perkins recommended that any new residual flow measurement device not be required to be installed prior to 1 October 2023, a period of two years from now. I consider that to be too long a period of time as I understand[58] that the measuring of residual flows is most likely to be based on the use of staff gauges and associated rating of the stream using routine stream gauging techniques. I see no reason why such a simple system cannot be implemented prior to the commencement of the 2022 irrigation season, namely by 1 September 2022.

4.4 Taiari River minimum flow

[016] The RPW:O does not set a minimum flow for primary allocation abstractions from Pig Burn, but as noted earlier it does set one in its Schedule 2A for the Taiari River at Waipiata. The PBWUG's initial view, as stated in the AEE, was that the Taiari River minimum flow should not apply until the ORC carried out a review of all take consents in the Taiari River catchment. They therefore requested that the Taiari River

[55] EIC Hickey, Table 6.
[56] EIC Robin Holmes, paragraph 29.
[57] EIC Robin Holmes, paragraph 36.
[58] As described by Mr Herlihy during the site visit.

at Waipiata minimum flow not be imposed upon the replacement of the deemed permits, but instead after a collective review of all relevant consents in the Taiari River catchment.[59]

[017] However, by the time of the hearing the PBWUG conceded that the Taiari River at Waipiata minimum flow should be imposed upon the commencement of the replacement consents.[60] I agree.

4.5 Rationing at times of low flow

[018] The RPW:O discusses rationing in several places[61] but does not specify a preferred regime. Policy 6.4.12B states that the ORC may instigate its own water rationing regime. I understand that to mean I may impose a rationing regime if one is found to be appropriate. The applicant did not offer a rationing regime in their AEE and Ms King did not recommend one. That being the case the consent holders will nevertheless need to cease their takes when the Taiari River at Waipiata minimum flow is reached. They will also need to manage (or ration) their abstractions to ensure that Pig Burn residual flows are not breached.

4.6 Fish screens

[019] Dr Allibone considered the need for fish screens. He recommended:

- Take 1: none;
- Take 2 (Bradfields / En Hakkore): retention of the screen which is already in place;
- Take 5 (Herlihy Ford / Hamilton Dairy), Take 6 (Sophic Trust / Mulholland / Hamiltons Dairy combined) and Take 7 (Concept North): 3x3 mm mesh fish screens with appropriate sweeping velocities to prevent small fish entrainment. The screens should be sufficient to withstand higher flow events and maintain their screening function as downstream fish passage often occurs during high flow events; and
- Takes 3 and 4 (Herlihy Gorge / Green Bank Pastoral and Weirs / Hamilton Runs): less substantial fish screens that are capable of preventing the majority of juvenile salmonids entering the takes.

[020] Dr Olsen advised[62] that he generally agreed with Dr Allibone's fish screening recommendations.

[021] The only point of difference between Dr Allibone and Dr Olsen related to the Herlihy Ford / Hamilton's Dairy and new Combined Take sites. Those two takes feed into the Maniototo East Side Race, which flows into the Mathias Dam and other smaller dams which reportedly support trout fisheries, so juvenile trout entrained at those intakes would contribute to those fisheries. Ms Perkins considered that those dams provided habitat for trout and had high sport fishing values in their own right. On that basis she suggested that fish screens were not required at the sites for Takes 5 and 6.[63]

[022] At the hearing Mr Paragreen's tabled material helpfully advised that Fish and Game's preference was for the intakes at the sites for Takes 5 and 6 to be screened so that fish could not be entrained into the race systems.

[023] I find that it would be better meet the Objective of the NPSFM to keep the trout and eels in their natural habitat and so I prefer Dr Allibone's recommendation that fish screens be imposed on the intakes at sites 5 and 6. However, having viewed the Pig Burn at those locations and noting its volatile nature and apparent high bed load of boulders and jagged gravel, I am satisfied that less substantial fish screens such as were recommended by Dr Allibone for the sites of Takes 3 and 4 will also suffice at the sites of Takes 5 and 6.

[59] AEE, page 69.
[60] EIC Claire Perkins, paragraph 40.
[61] Including Policies 6.4.12, 6.4.12A, 6.4.12B, 6.4.12C and 6.4.13 and matter of discretion 12.1.4.8(x).
[62] EIC Dean Olsen, paragraph 49.
[63] EIC Perkins, paragraph 47.

[024] Having made that finding I am not persuaded that it is necessary to impose conditions requiring the fish screens to be fully functional at all times (my emphasis). That will be incapable of being complied with as flood flows can and do cause damage to the intake structures. Accordingly, I also consider it would be unduly onerous (in this specific case given the nature of the Pig Burn and the relatively remote location of some intakes, particularly in the upper reaches) to impose conditions that say if a fish screen is damaged and cannot be repaired or replaced immediately, then the intake must be shut down. Similarly I do not consider it necessary for each consent holder to keep records of all inspections of the fish screens and records of any screen maintenance undertaken. Instead, I consider it is sufficient to impose a requirement for the fish screens to be maintained so that they remain fit for purpose.

[025] Ms Perkins recommended that a period of two years be allowed to design, commission and install any new fish screens. I find that to be reasonable, particularly having viewed the upper intakes on my site visit and witnessing the damage recently caused to those sites (including the stream dramatically changing its course in some cases) by the recent January and June 2021 floods.

4.7 Conveyance system

[026] Ms King summarised each applicant's water transport, storage, infrastructure and application methods in Table 7 of the Section 42A Report. Most of the applicants use open water races which is a common feature of deemed permit takes. Ms King noted that while the water races are unlined, which causes losses due to seepage and evaporation, as most of the races are old it is likely their bases will have hardened and created a natural lining. Accordingly, I do not consider it necessary to require the races to be piped. In saying that I note that some of the applicants already use piped systems to some degree which is commendable.

[027] Ms King recommended conditions requiring the preparation of annual water use efficiency reports. These were opposed by the applicants. Ms Perkins suggested that to be an onerous obligation and that such reports should only be required only once every five years, if at all, or alternatively that the reports "*be replaced by a Certified Freshwater Farm Plan prepared in accordance with Part 9A of the Resource Management Act 1991, once these are required under the legislation*." I am not persuaded by that evidence and find that the annual water use efficiency reports should be required here as they have been for all other replacement consents granted to replace expiring deemed permits.

[028] Lending weight to my finding on this matter, at the hearing James Herlihy helpfully conceded that it was "*not that onerous*" to prepare a water use efficiency report.

4.8 Alternatives

[029] Policy 6.4.0C of the RPW:O requires consideration of whether the applied for source of water is the nearest practicable source, subject to a number of considerations. Ms King noted that some of the applicants have unsuccessfully investigated other sources including groundwater. That was reiterated by some of the applicants including Gavin Herlihy. Ms King concluded that there are no realistic alternative and reliable sources of supply for the purpose of irrigating these properties. I accept that advice.

4.9 Issues raised by the submitters

[030] As discussed earlier in this Decision a submission was lodged by Aukaha who opposed the application as lodged, but would support an amended application subject to the following:

- The consent term is no longer than 6 years;
- A minimum flow of 90% of the mean annual low flow (MALF) as calculated by the ORC;
- Above the minimum flow, at least 50% of the flow in the waterway is left in the waterway;
- A fish screen is installed over the intake structure at each point of take; and
- The water take is metered and results recorded and reported via telemetry.

[031] Fish and Game initially sought similar relief to that of Aukaha:

- The consent term is no longer than 6 years;

- The residual flow be increased;
- An additional residual flow be imposed to provide for brown trout spawning;
- A water harvesting regime be implemented which enables at least a 50:50 sharing of harvested flows; and
- Hydrology and ecology monitoring programmes are implemented over the life of the consent.

[032] However, in his tabled material at the hearing Mr Paragreen advised that Fish and Game's amended relief was now that the applications be declined unless a six year duration was imposed and fish screens were installed.

[033] I have dealt with the issues of residual flows and volumetric (annual) allocations in sections 4.3 and 4.2 of this Decision and fish screens in section 4.6. The PBWUG's takes are all currently measured with monitoring devices and that will continue to be the case. I deal with consent duration in section 6 of this Decision.

4.10 National environment standards and other regulations

[034] The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 apply and Ms King recommended conditions regarding metering and the submission of water take records to ORC to ensure compliance with both the regulations(and the 2020 Amendment Regulations) and Policy 6.4.16 of the RPW:O.

[035] I addressed the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 in section 3.4 of this Decision.

[036] No other relevant national environmental standards or regulations were brought to my attention and I am not aware of any.

4.11 National policy statements

[037] The New Zealand Coastal Policy Statement 2010 (NZCPS) is not relevant.

[038] The NPS for Freshwater Management 2020 (NPSFM) commenced on 3 September 2020 and so I have had regard to its objective and policies as set out in Part 2 of that document. I note that Part 3 of the NPSFM largely relates to implementation actions required by ORC in terms of its regional plan and other executive functions.

[039] The NPSFM was assessed by Ms King[64], Ms Perkins[65] and Mr Vail.[66] I have had regard to those assessments.

[040] The sole Objective 2.1 of the NPSFM 2020 is determinative in this case. It is:

> *(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:*
> *(a) first, the health and well-being of water bodies and freshwater ecosystems*
> *(b) second, the health needs of people (such as drinking water)*
> *(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future*

[041] The health and well-being of the Pig Burn is prioritised by adherence to the allocation limits established under the RPW:O, the imposition of appropriate residual flows, the use of fish screens, and adherence to the Taiari River minimum flow at Waipiata.

[64] Section 42A Report, section 8.4
[65] EIC Claire Perkins, paragraphs 80 to 104.
[66] EIC Tim Vial, primarily at paragraphs 43 to 48.

[042] I consider that relevant policies are Policy 1, 3, 7, 9, 10, 11 and 15.[67]

[043] Policy 1 is to manage freshwater in a way that gives effect to Te Mana o te Wai. The NPSFM states that Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. This largely replicates Objective 2.1.

[044] Regarding Objective 2.1's third priority of 'cultural well-being" (Objective 2.1(c)), Mr Elision advised that the Upper Taiari was a significant source of food and resources tūpuna in the past. Kāi Tahu developed seasonal trails that enabled them to access these resources and those practices, known as mahika kai, were a cornerstone practice of Kāi Tahu identity. In written answers to my pre-circulated questions Mr Elision[68] helpfully advised:

- the existence of a historical record of multiple sites close to the Pig Burn provided a strong indication that the Pig Burn itself was part of this network of activity;
- it is extremely likely that the entire segment of landscape surrounding the Pig Burn between the Taiari and Pāteaora/the Rock and Pillar Ranges was extensively used for mahika kai by Kāi Tahu associated with Te Motuhoui; and[69]
- much of the knowledge and many of the mahika kai practices associated with the Upper Taiari area were discontinued as a result of changes in land use and access, but also the many health and welfare issues faced by Kāi Tahu in the latter part of the 1800s. The impact of that was still felt today, through the associated loss of mātauraka and the practices associated with mahika kai in these areas. In other words there is no contemporary use of the Pig Burn as source of mahika kai.

[045] I find that the evidence of Mr Ellison lends weight to the setting of residual flows below the sites of Takes 6 and 7 that have a reasonable chance of ensuring continuity of flow in the lower drying reach. That will enhance the ability for long finned elvers to migrate up the Pig Burn at critical times and consequently with facilitating "*the re-engagement of Kāi Tahu with mahika kai practices in this catchment*". In that regard I note that I have imposed residual flows that are generally in line with what was sought by Aukaha in their submission.

[046] Regarding the 'cultural well-being' of the wider Upper Taiari River catchment, I note that the reduced allocations (from historical levels) and the introduction of residual flows will assist with restoring the mauri of that wider area, albeit not fully to the extent sought by Aukaha.

[047] Policy 3 is to manage freshwater in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis. Importantly, the applicants represent all of the surface water abstractors in the Pig Burn catchment and they have volunteered to manage their takes in a collective manner. Additionally, ensuring that the allocation for irrigation is limited to the 90-percentile annual (or seasonal) demand, as discussed in section 4.1 of this Decision, will assist with achieving Policy 3.

[048] Policy 7 is that the loss of river extent and values is avoided to the extent practicable and Policy 9 is that the habitats of indigenous freshwater species are protected. Policy 10 is that the habitat of trout and salmon is protected, insofar as this is consistent with Policy 9. This relates primarily to the imposition of residual flows which I discussed in section 4.3 of this Decision.

[049] Policy 11 is that freshwater is allocated and used efficiently and all existing over-allocation is phased out. I understand that some of the applicants utilise efficient centre pivot and K-line irrigation systems. There

[67] The remaining policies relate to procedural matters; ORC plan making, monitoring and information provision; or features that are not present here (natural inland wetlands and outstanding water bodies).

[68] Edward Ellison - Response to pātai from the Hearing Commissioner, provided on 14 September 2021.

[69] An inland mahika kai site on the Pig Burn side of the river adjacent to the Herlihy proposed pivot on the western side of Maniototo Road. Kai and resources known to be gathered at this site include tuna (eel), pātakitaki (paradise duck), parera (duck), and raupō (bullrush).

is significant over-allocation of the Taiari River primary allocation, in the order of a staggering 23,400 L/s (see section 4.2 of this Decision). The PBWUG proposal will result in a reduction in the combined historic rate of abstraction from the Pig Burn of 122 L/s. This will assist, albeit to a relatively minor degree, with phasing out the Taiari River over-allocation. I have also found that flood irrigation needs to be phased out with five years. I find these measures to be consistent with Policy 11.

[050] Policy 15 is that communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with the NPSFM. Allowing the water abstractions will enable the applicants to do just that.

[051] I am satisfied that having regard to the NPSFM does not weigh against the granting of consents, provided appropriate conditions are imposed.

4.12 Regional Policy Statement

[052] I understand that as of 15 March 2021 the former Regional Policy Statement for Otago 1998 has been completely revoked and the Partially Operative Otago Regional Policy Statement 2019 now comprises the Regional Policy Statement for Otago.

[053] I note that in a recent Environment Court decision the Court declined to assess a water take abstraction under the RPS stating "*There seems to be little point to the exercise if the Regional Policy Statement does not give effect to the National Policy Statement for Freshwater Management as amended in 2017 or the new National Policy Statement for Freshwater Management released in 2020. We understand that the Regional Council intends on a complete review of this policy document …*".[70]

[054] It is tempting to adopt the same approach as the Court, but out of an abundance of caution I briefly turn to the RPS 2019 which was also considered by Ms King.[71] In general, and unsurprisingly, the relevant provisions focus on recognising and providing for Kāi Tahu values; maintaining or enhancing the range and extent of habitats provided by fresh water and the natural functioning of rivers; ensuring the efficient allocation and use of water; and encouraging water harvesting and storage so as to reduce demand on water bodies during periods of low flows. I have considered those matters.

[055] On 26 June 2021 the ORC notified the new proposed Otago Regional Policy Statement. Ms King advised that the new PORPS 2021 gives effect to the NPSFM 2020 and includes freshwater visions, FMUs and rohe. She considered its provisions at some length.[72] I have had regard to those matters earlier in this Decision. I note that Ms King considered that the applications were consistent with the various PORPS 2021 provisions.[73] Ms Perkins agreed.[74]

[056] For Aukaha Mr Vial advised that there was insufficient information to conclude that the application was consistent with the provisions of the RPS 2019.[75] Regarding the PORPS 2021, Mr Vial concluded that the failure to provide for a connected flow in the lower drying reach would be inconsistent with IM-O2 Ki uta ki tai and would not preserve the integrity and natural function of the Pig Burn as required by IM-03.

[057] In particular, Mr Vial considered that LF-WAI-P3 requires that the use of freshwater and land is managed in accordance with tikaka and kawa, using an integrated approach.[76] As Policy 3 of the NPSFM also address integration, I record here that Mr Vial helpfully noted that the key elements of integrated management as expressed in the PORPS 2021 included:

[70] *Clutha District Council vs Otago Regional Council* ENV-2019-CHC-132 at [25].
[71] Section 42A Report, section 8.6.
[72] Section 42A Report, section 8.6, pages 53 to 57.
[73] Section 42A Report, section 8.6, pages 53 and 57.
[74] EIC Claire Perkins, , paragraphs 106 and 126.
[75] EIC Vial, paragraph 72.
[76] He emphasised the importance of integrated management in his tabled Speaking Notes (Summary of Evidence, paragraph 6).

a. Recognising and sustaining the connections and interactions between surface and groundwater, permanently flowing and intermittent reaches of water bodies (LF-WAI-P3(1));
b. Sustaining and wherever possible restoring the connections and interactions between land and water, from the mountains to the sea (LF-WAI-P3(2));
c. Sustaining and wherever possible restoring the habitats of mahika kai and indigenous species, including taoka species associated with the water body (LF-WAI-P3(3));
d. Managing the effects of the use and development of land to maintain or enhance the health and well-being of freshwater (LF-WAI-P3(4)); and
e. Having regard to cumulative effects and the need to apply a precautionary approach where there is limited information or uncertainty about potential adverse effects LF-WAI-P3(2)).

[058] Mr Vial concluded that the application, insofar as it was proposed by the PBWUG, was inconsistent with Policy LF-WAI-P3.

[059] Counsel for the PBWUG noted that submissions for the PRPS 2021 closed on 3 September 2021 which means that the it is in a very early stage of the development process.[77] I acknowledge and accept that affects the weight that should be afforded to the PORPS 2021, but I simply record that I agree with Mr Vial and that lends some weight to my conclusion in section 4.3 of this Decision that imposing a minimum flow of 30 L/s at the sites of Takes 6 and 7 is appropriate.

[060] For completeness I note that Ms Irving suggested I consider the 'intent' or 'end point' of the vision for the Taiari River FMU as espoused in the PORPS 2021 and that in her submission the PBWUG's proposal '*moves us in the right direction'*. I understood her to be advocating an approach whereby higher residual flows than those proposed by PBWUG would not be set now but perhaps sometime in the future. I do not consider that to be appropriate and indeed I consider that such an approach would not have appropriate regard to the NPSFM.

4.13 Regional plans

4.13.1 Operative Regional Plan

[061] The relevant operative plan is the RPW:O which I have had regard to in sections 4.1 to 4.9 of this Decision. The chapter of most relevance is Chapter 6 Water Quantity.[78] The introduction to Chapter 6 outlines that the water allocation and minimum flow provisions are intended to provide for the maintenance of aquatic ecosystems and natural character values while providing for sustainable use.

[062] Ms King addressed the provisions of the RPW:O, concluding that the application was consistent with them, subject to the imposition of suitable conditions of consent. [79] Mr Perkins agreed,[80] but differed from Ms King insofar as she did not agree that minor effects on cultural values made the application inconsistent with Objective 5.3.2.

[063] Mr Vial drew my attention to Policy 5.4.2A which has been inserted into the RPW:O in accordance with the requirement set out in the NPSFM. That policy is:

> *5.4.2A The loss of river extent and values is avoided, unless the council is satisfied: (a) that there is a functional need for the activity in that location; and (b) the effects of the activity are managed by applying the effects management hierarchy*
>
> *Advice note: Refer to clause 3.21 of the National Policy Statement for Freshwater Management 2020 for definitions on "loss of value", functional need" and "effects management hierarchy*

[77] Opening Submissions, paragraph 15.
[78] Also relevant are Chapter 4 (Kai Tahu ki Otago Water Perspective and Chapter 5 Natural and Human Use Values of Lakes and Rivers).
[79] Section 42A Report, section 8.7, pages 57 to 63 with her conclusion on page 63.
[80] EIC Claire Perkins, paragraph 127.

[064] The end result of Policy 5.4.2A is that I must avoid (namely do not allow or decline) the applications unless I am satisfied that the adverse effects on ecosystem health, indigenous biodiversity (which in this case comprises macroinvertebrates and long-finned eels), the Pig Burn's hydrological functioning and Māori freshwater values that result from the abstractions are minimised where practicable. I consider that the imposition of a residual flow of 30 L/s below the new combined take location (Take site 6), in combination with fish screens at the relevant intakes, will minimise those above listed adverse effects and that it is practicable to do so. Importantly, I consider the PBWUG's proposed residual flow of 10 L/s would not minimise those adverse effects and in that case the applications would need to be declined.

4.13.2 Proposed Plan Change 7

[065] PPC7 was notified by the ORC on 18 March 2020 and again by the EPA in July 2020. The PBWUG application was lodged in February 2020 and consequently under s88A(1A) of the RMA the application's consent categories are governed by the operative RPW:O which was in force when the application was lodged. However, the PPC7 rules affect water quantity and so under RMA s86B(3) the PPC7 rules have immediate legal effect. Consequently, PPC7 Rule 10A.3.2.1 (non-complying activity) also applies to the application. I discussed s104D matters in section 3.5 of this Decision.

[066] For the sake of certainty, I record that I agree with the analysis in the Wynn Williams Memorandum (Appendix 3 to the Section 42A Report) regarding the weight to be given to any ORC suggested amendments to PPC7. They have no status here and are not relevant. Counsel for the PBWUG agreed.[81]

[067] Under s88A(2)[82] the objectives and policies in PPC7 must be had regard to, notwithstanding that they have yet to proceed through the First Schedule process.

[068] PPC7 Objective10A.1.1 is procedural only.

[069] Policy 10A.2.1 applies to the replacement of the applicant's deemed permits. Importantly, Policy 10A.2.1(b) requires there to be no increase in the area under irrigation. That means that any land that was not currently being irrigated (namely land targeted for future development) cannot be allocated any water as primary allocation. I understand that to be the case here.

[070] Policy 10A.2.1(c) requires there to be no increase in the instantaneous rate of abstraction (namely the rate of take in L/s). That is the case here, in fact there is a decrease at some of the take sites.

[071] Policy 10A.2.1(d) requires any existing residual flow, minimum flow and take cessation conditions to essentially be 'rolled over'. There were no such conditions.

[072] Policy 10A.2.1(e) requires that there is a reduction in the volume of water allocated. In this case the applicant will be granted monthly and annual primary allocation limits that are lower than what the deemed permits would allow to be taken and on that basis the policy requirement is met.

[073] I discuss Policies 10A.2.2 and 10A.2.3 in section 6 of this Decision.

4.14 Iwi and hapū management plans

[074] The "Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 - The Cry of the People, Te Tangi a Tauira" is relevant, as are the Kāi Tahu ki Otago Natural Resource Management Plan 2005 and the Te Runanga o Te Ngāi Tahu's Freshwater Policy. I consider that the application is in general accordance with the provisions of those documents, particularly those relating to water take measuring devices, consent durations not exceeding 25 years, justifiable volumes of abstraction being used efficiently, and avoiding compromising fishery and biodiversity values. All of those matters have been considered earlier in this Decision.

[81] Opening Submissions, paragraph 51.
[82] Which cross-refers to RMA s104(1)(b).

5 Part 2 matters

[075] I note that in the recent *Lindis* decision the Court concluded that notwithstanding the Court of Appeal decision in *RJ Davidson Family Trust v Marlborough District Council,* it was desirable to assess Part 2 matters because of inconsistencies in the RPW:O. I take the same approach here, noting that s5 is not itself an operative provision.[83].

[076] The natural character values of the Pig Burn will be sustained by the allocation limits, residual flows and fish screens (s6(a)). Similar conclusions can be made regarding its amenity values (s7(c)), the quality of its environment (s7(f)) and its habitat for trout (s7(h)). Some of the applicants already utilise efficient irrigation methods and I have required inefficient flood irrigation to be phased out, so in that regard the efficient use of water is addressed (s7(b)). The imposition of allocation limits will have particular regard to the finite characteristics of the Pig Burn water resource (s7(g)). The abstractions will not affect any outstanding natural features or landscapes (s6(b)) and Pig Burn does not support any significant habitats of indigenous fauna that require protection, particularly Central Otago roundhead galaxias or Taiari flathead galaxies (s6(c)). I understand there is limited public access currently available (s6(d)). I have sought to recognise and provide for the relationship of Māori and their culture and traditions with the Pig Burn within the extent of the relief sought by submitter Aukaha (ss6(e), 7(a) and 8).

[077] I find that a consideration of Part 2 matters does not weigh against a grant of consent provided appropriate consent conditions are imposed.

6 Consent Duration

[078] The PBWUG initially sought a consent duration of 35 years. As set out in the evidence of Gavin Herlihy, the PGWUG now seek an expiry date of 1 January 2034 to align with the expiry of the water take consents held by the Maniototo Irrigation Company.

[079] Aukaha initially sought a duration of 6 years (based as I understand it on PPC7 Policy 10A.2.3 amongst other things) as did Fish and Game.

[080] Ms King initially recommended a duration of 14 years (expiring 31 December 2035) and at the hearing she supported the 1 January 2034 expiry date now sought by the PBWUG.

[081] Policy 6.4.19 of the RPW:O addresses consent durations for consents to take and use water. It does not recommend actual durations but instead contains seven criteria for me to consider. In this case the proposed long-term purpose of the abstractions is enduring, namely domestic use, stock drinking water and irrigation (criteria (a)). There is a Schedule 2A catchment minimum flow for the Taiari River at Waipiata and the PBWUG have agreed that this should be imposed now on the replacement consents (criteria (b)). So, criteria (a) and (b) favour a longer duration.

[082] Climatic variability is certain to occur (criteria (c)). Based on the climate change projections for the Otago region prepared by the Ministry for the Environment in 2018 and available on their website, temperatures (and therefore evapotranspiration) are expected to increase and while precipitation may also increase, changes in the timing (largest increases in winter and spring) and form (more rain and less snow) may reduce water security in the region. More frequent droughts are predicted, which may reduce instream flows. Despite those flow related uncertainties, the PBWUG has not proposed adaptive management (criteria (e)). Criteria (c) and (e) therefore favour a shorter duration in my view.

[083] On the evidence and subject to the imposition of residual flows, fish screens and the cessation of flood irrigation; I have found there are no significant adverse effects arising from the proposal (criteria (d)) and so that favours a longer duration. The applicants have all invested in irrigation infrastructure (criteria (f)) and some of them utilise efficient piped water conveyance and spray irrigation systems. Others do not (criteria (g)). These criteria favour a medium length duration.

[83] *Environmental Defence Society v NZ King Salmon* [2014] NZSC 38 at [8] and [149].

[084] In my subjective view Policy 6.4.19 alone would weigh in favour of a duration within the range of 10 to 15 years and so the 1 January 2034 expiry date proposed by the PBWUG is acceptable.

[085] However, as alluded to in section 4.13.2 of this Decision, PPC7 Policy 10A.2.3 is relevant.

[086] For the replacement of deemed permits, PPC7 Policy 10A.2.3 is to not grant a duration exceeding six years, irrespective of any other policies in the Plan, except where Rule 10A.3.2.1 applies and the abstraction 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 the resource consent granted will expire before 31 December 2035. PPC7 Rule 10A.3.2.1 does apply[84] and on the weight of evidence before me I have concluded that the applicants' primary allocation abstractions will have no more than minor adverse effects on the ecology and the hydrology of the Pig Burn, particularly due to the relative paucity of fishery values and the imposition of appropriate residual flows (which for the takes at sites 6 and 7 are significantly greater than those proposed by the PBWUG).

[087] That leaves Policy 10A.2.3(b) requiring the replacement consent to expire before 31 December 2035. PPC7 is at the midst of its RMA Schedule 1 process and normally that would lead me to assign it little weight. However, Policy 10A.2.3(b) is a very directive policy and so I consider it should be afforded determinative weight. Lending weight to my view, I note that in a recent Environment Court decision that addressed PPC7, the Court stated that PPC7 Policy 10A.3.2 is plainly directive and that to the extent that the matters listed in Policy 6.4.19 are relevant, they are to be considered in addition to Policy 10A.3.2. The Court decided to give weight to Policy 10A.2.3 and apply the policy according to its tenor.[85] Counsel advised[86] that decision is subject to appeal but it nevertheless stands at this point in time.

[088] Consequently, I find the expiry date of 1 January 2034 now sought by the PBWUG is appropriate.

[089] Having made that finding based on the provisions of the statutory instruments, I also acknowledge the evidence of Ms Perkins who advised:[87]

> *"As highlighted in the application, a longer consent term (i.e more than 6 years requested in the Aukaha submission) is required in order to be able to obtain funding for the investment needed to implement the proposed mitigation measures such as combined take points, residual and minimum flows, flow harvesting at higher flows and significantly reduced rates of take. The investment is required in particular for infrastructure associated with the combined intake for some of the users, installation of storage and upgrade of irrigation infrastructure."*

[090] Mr Vial expressed concern that a consent term longer than six years would prevent any new allocation regime included in the forthcoming Otago Land and Water Plan being implemented. I am not persuaded by that as Ms King has recommended, and the PBWUG has accepted, a very comprehensive s128 review condition that includes amendments to the granted allocation volumes and rates of take and "*ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement*." Ms Irving confirmed my understanding that the RMA s95 notification provisions apply to s128 reviews. Therefore, it is likely that Aukaha will be involved in any subsequent review process given that any such review is likely to be at least limited notified to submitters on these applications.

[84] Although it has no material effect as the applications remain a discretionary activity.
[85] *Clutha District Council vs Otago Regional Council* ENV-2019-CHC-132 at [35 and 36].
[86] Legal submissions, paragraph 27.
[87] EIC Claire Perkins, paragraph 69.

7 Consent Conditions

[091] I was provided with recommended consent conditions by Ms King.

[092] I have amended the conditions in light of my findings that are set out in this Decision. The amended conditions are attached as Appendix 1. Amendments I have made to the conditions that were included in the Section 42A Report are shown in strikeout, underlining and grey wash.

[093] I understand that the ORC will ensure that the consent documents issued will have updated consent condition numbering (including condition cross-references) to reflect the changes I have made and that a consistent numbering format and font will be used throughout the documents.

[094] Given the amendments that I have made to the recommended conditions, it is conceivable that they may contain errors including those of a numerical, grammatical or cross-referencing nature. Accordingly, should the applicant or the ORC identify any minor mistakes or defects in the attached conditions, then I am prepared to issue an amended schedule of conditions under s133A of the RMA correcting any such matters. Consequently, any minor mistakes or defects in the conditions should be brought to my attention prior to the end of the 20-working day period specified in section 133A of the RMA.

8 Determination

[095] My determination on the application is set out below. My reasons are detailed in the body of this Decision, but in summary they include:

(a) a reduction in the currently consented rates of primary allocation abstraction (L/s);
(b) the imposition of monthly and annual primary allocation limits;
(c) the setting of appropriate residual flows;
(d) requiring fish screens on relevant intakes;
(e) allocating water on the basis of efficient irrigation practices and requiring the phasing out of inefficient flood irrigation; and
(f) the imposition of the minimum flow set for the Taiari River at Waipiata below which the Pig Burn takes will not be able to occur.

[096] I **grant** the application lodged by Pig Burn Gorge Limited, Natasha Lee Burrell, Ian Joseph Burrell and Canterbury Trustees (2016) Limited (being trustees of the Duncan Cleugh Farming Trust), Janine Ruth Smith, En Hakkore Limited, Greenbank Pastoral Limited, Hamilton Runs Limited, Hamiltons Dairy Limited, Concept Farms Limited, Sophic Trust, Christopher Patrick Mulholland and Dale Evelyn Mulholland (applicants) for new water permits replacing deemed permits which allow the take and use of water from the Pig Burn and Harpers Creek for the purposes of domestic supply, stock drinking water supply and irrigation subject to the conditions contained in Appendix 1.

[097] I also grant the full transfer of the Mulholland deemed permit to the site of the new combined take and the partial transfer of the Hamilton Dairy Limited deemed permit to that that same new combined take site.

Signed by the commissioner:

Rob van Voorthuysen
Dated: 21 September 2021

APPENDIX 1: CONSENT CONDITIONS

Our Reference: A151767 Consent No. RM20.039.01

WATER PERMIT

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

Name:	Natasha Lee Burrell, Ian Joseph Burrell and Canterbury Trustees (2016) Limited being trustees of the Duncan Cleugh Farming Trust (Names of trustees updated 1 October 2018) (1/3 share)
Address:	c/- Polson Higgs, 139 Moray Place, Dunedin
Name:	Pig Burn Gorge Limited (1/3 share)
Address:	Andrew P Hayes Limited, Central Chambers, 19 Eden Street, Oamaru
Name:	Janine Ruth Smith (1/3 share)
Address:	c/- Fraser MacDonald Martin & Co, 13 Pery Street, Ranfurly

To take and use surface water as primary allocation from an unnamed tributary of the Pig Burn, and to retake from a tributary of the Taieri River known locally as Harpers Creek for the purpose of irrigation, domestic use and stock drinking water

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Take: Unnamed tributary of the Pig Burn, Rock and Pillar Range, approximately 7 kilometres south of the intersection of Roberts Road and Hamiltons Road. Retake: Unnamed tributary of the Taieri River known locally as Harpers Creek, approximately 2.25 kilometres south west of the intersection of Roberts Road and Hamiltons Road
Legal Description of land at point of abstraction:	Lease under s83 Land Act 1948, 1/1, Run 204D
Legal Description of land (s) where water is to be used:	Pig Burn Gorge Limited: Section 18 Block IV Upper Taieri Survey District, Section 6 Block IV Upper Taieri Survey District Duncan Cleugh Farming Trust: Part Section 23 Block IV Upper Taieri Survey District and Section 2 Block VIII Upper Taieri Survey District Smith: Section 1 Block IV Upper Taieri Survey District, Lot 1 Deposited Plan 415149, Section 14 Block IV Upper Taieri Survey District Janine Ruth Smith Section 1 Block IV Upper Taieri Survey District, Lot 1 Deposited Plan 415149, Section 14 Block IV Upper Taieri Survey District
Map Reference at point of abstraction (NZTM2000):	Take from Pig Burn: E1372797 N4978227 Re-take from Harpers Creek: E1372426 N4983118

Conditions

Specific

1. This consent must not commence until Consents 2000.136, 2000.244 and 2000.245 have been surrendered or expired.

2. The take and use of surface water as primary allocation from an unnamed tributary of the Pig Burn and the retake of primary allocation water from Harpers Creek at the map reference(s) specified above and the land legally described above for irrigation, domestic use and stock drinking water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.01.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

    If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn and then retaken from the unnamed tributary of Pig Burn must not exceed:

    a) 56 litres per second; and
    b) 500,000 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year.

4. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1,000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

4A The Consent Holders must cease the use of flood irrigation (both wild and border dyke) within 5 years of this consent commencing.

5. A continuous connected residual flow must be maintained at all times immediately downstream of the point of take at NZTM 2000 E1372797 N4978227 on the Pig Burn at all times when the Consent Holder is exercising this consent to abstract water.

Performance Monitoring

6. The Consent Holder must maintain a:

    i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 5% at NZTM E1372449 N4983161.The water meter must be capable of output to a datalogger.
    ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.

iii. a telemetry unit which sends all of the data to the Consent Authority.

a) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.

b) Within 20 working days of the installation of the datalogger/ telemetry unit, any subsequent replacement of the datalogger/ telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
   i. Each device is installed in accordance with the manufacturer's specifications;
   ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
   iii. that the water meter has been verified as accurate.

c) The datalogger/telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.

d) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.

e) The Consent Holder must report any malfunction of the datalogger/telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

7. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:

   a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;

   b) Annual summary of the monthly volume of water abstracted from the unnamed tributary of Pig Burn;

   c) Reasons why use may have varied from the previous year;

   d) 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;

e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
   (i) Upgrades to existing open races which may including piping;
   (ii) Establishment of any water storage infrastructure;
g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
h) Water conservation steps taken.

General

8. The Consent Holder must ensure that at all times:
   a) There is no leakage from pipes and structures;
   b) The use of water is confined to targeted areas, Appendix 1; and
   c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
   d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

   Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

9. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:
   a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
   b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
   c) Reviewing the frequency of monitoring or reporting required under this consent;
   d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
      a) the results of previous monitoring carried out under this consent and/or:
         I. water availability, including alternative water sources;
         II. actual and potential water use;
         III. surface water flow and level regimes;
         IV. groundwater or surface water quality;

V. efficiency of water use;
VI. Instream biota, including fish passage and the functioning of aquatic ecosystems; or
VII. new requirements for measuring, recording and transmission.

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) *The consent is given effect to; or*
    b) *The Consent Authority extends the period after which the consent lapses.*

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

    If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).

    Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

3. *Where information is required to be provided to the Consent Authority in condition/s 6 and 7 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.01 and the condition/s the information relates to.*

    It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.

4. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*

5. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 4.*

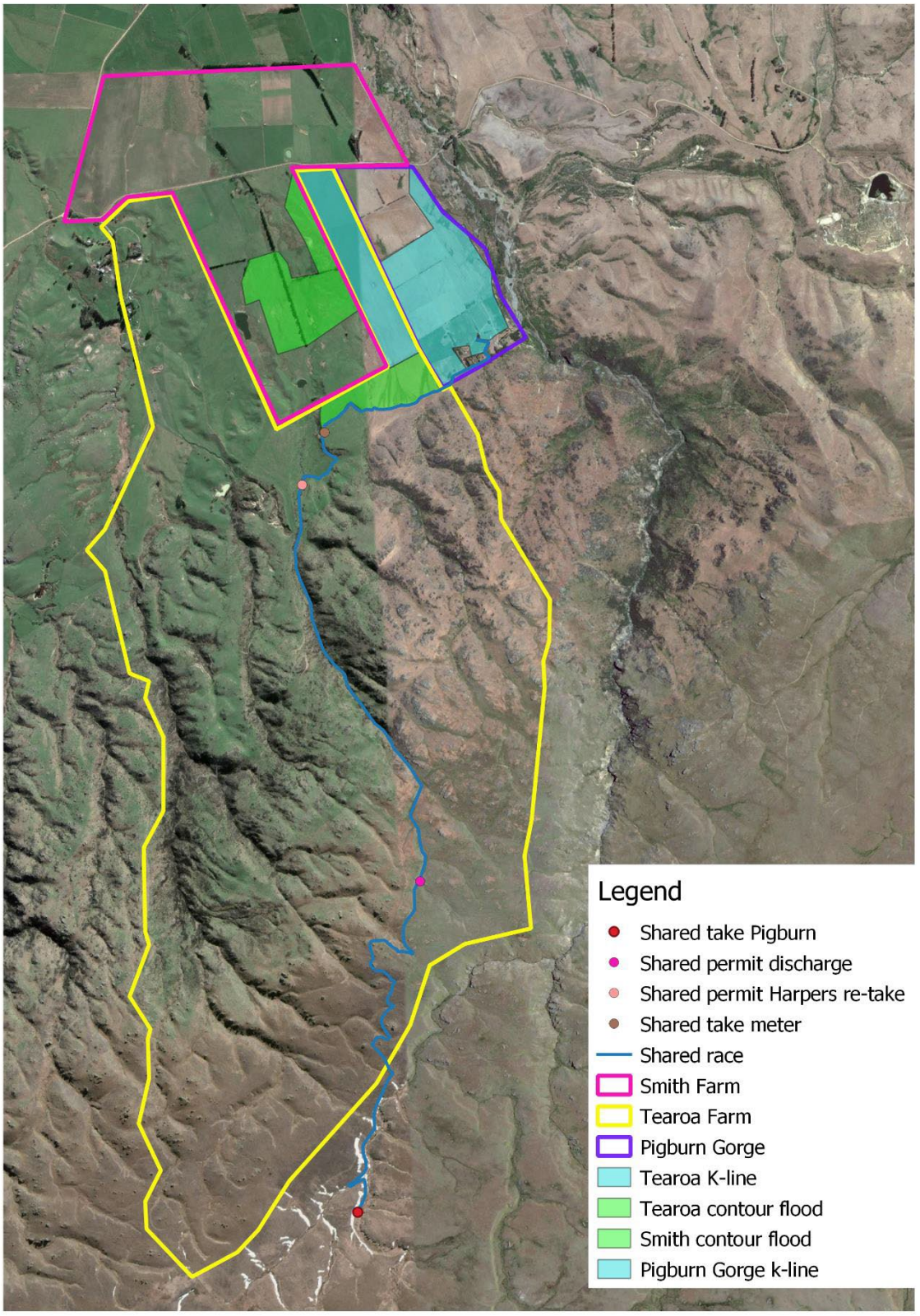
6. *This permit is subject to Water Metering Exemption WEX0238.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Otago Regional Council

Appendix 1. Irrigation Area



Our Reference: A1515767 Consent No. RM20.039.02

WATER PERMIT

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

Name: EN Hakkore Limited

Address: Deloitte Touche Tohmatsu, Level 8, Otago House, 481 Moray Place, Dunedin

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation, stock drinking water and domestic supply.

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Pig Burn, Rock and Pillar Range, approximately 3.6 kilometres south east of the of the intersection of Roberts Road and Hamiltons Road
Legal Description of land at point of abstraction:	Reserve through Part Run 204B Block I Rock & Pillar SD
Legal Description of land (s) where water is to be used:	Sec 64 Block I and Section 65 Block I Rock & Pillar SD and Part Sec 66, 81 Block I Rock & Pillar SD
Map Reference at point of abstraction (NZTM2000):	E1374521 N4981919

Conditions

Specific

1. This consent must not commence until Consent 2002.0101 has been surrendered or has expired.

2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, domestic supply and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.02.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

    If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn must not exceed:

    a) 7 litres per second;
    b) 18,600 cubic metres per month; and
    c) 70,000 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year.

4. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1,000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

5. The Consent Holder must ~~maintain~~ retain a mesh fish screen across the full width of the intake to ensure that fish ~~and fish fry~~ are prevented from passing through the intake screen. The fish screen must be maintained so that it remains fit for purpose ~~fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down~~.

Performance Monitoring

6. a) The Consent Holder must maintain a:
    i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 5% at NZTM 2000 E1375887 N4984873 The water meter must be capable of output to a datalogger.
    ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
    iii. a telemetry unit which sends all of the data to the Consent Authority.

    b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.

    c) Within 20 working days of the installation of the datalogger/telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
    i. Each device is installed in accordance with the manufacturer's specifications;
    ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
    iii. that the water meter has been verified as accurate.

    d) The datalogger/ telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.

    e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.

    f) The Consent Holder must report any malfunction of the datalogger/ telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired

within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

7. ~~The fish screen required by Condition 5 must be maintained in good working order, to ensure that the screen is performing. Records must be kept of all inspections and maintenance and these should be made available to the Consent Authority, on request~~.

8. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:
    a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;
    b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
    c) Reasons why use may have varied from the previous year;
    d) 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;
    e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
    f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
        (i) Upgrades to existing open races which may including piping;
        (ii) Establishment of any water storage infrastructure;
    g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
    h) Water conservation steps taken.

General

9. The Consent Holder must ensure that at all times:
    a) There is no leakage from pipes and structures;
    b) The use of water is confined to targeted areas, Appendix 1; and
    c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and

d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

10. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

    e) 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 which becomes evident after the date of commencement of the consent;
    f) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
    g) Reviewing the frequency of monitoring or reporting required under this consent;
    h) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
        I. the results of previous monitoring carried out under this consent and/or:
        II. water availability, including alternative water sources;
        III. actual and potential water use;
        IV. surface water flow and level regimes;
        V. groundwater or surface water quality;
        VI. efficiency of water use; or
        VII. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission.;

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to*

continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).

Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

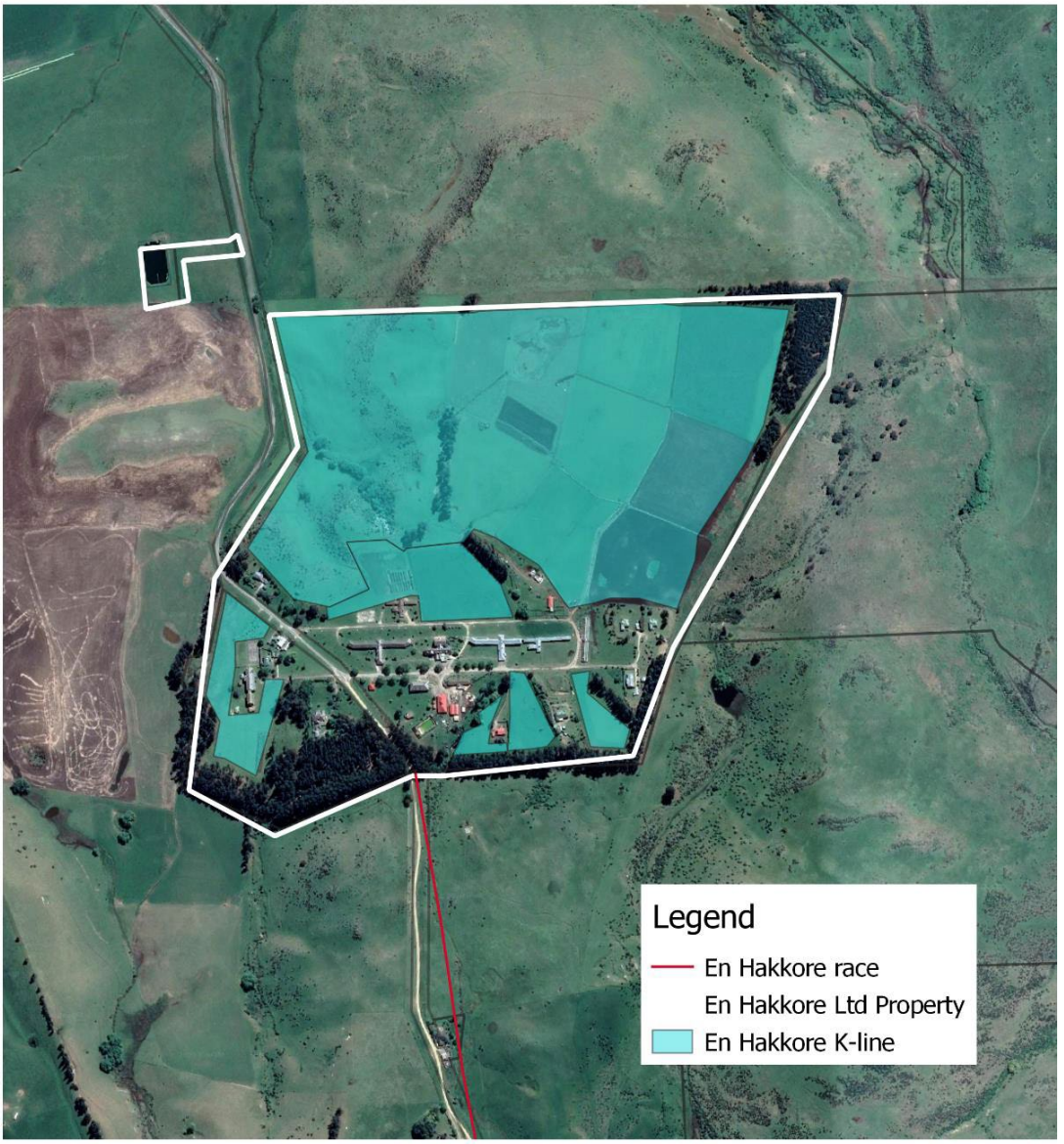
4. *Where information is required to be provided to the Consent Authority in condition/s 6, 7 and 8 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.02 and the condition/s the information relates to.*
5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*
6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*
7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 4.*
8. *This permit is subject to Water Metering Exemption WEX0232.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Otago Regional Council

Appendix 1. Irrigation Area



Our Reference: A1515767 Consent No. RM20.039.03

WATER PERMIT

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

Name: Greenbank Pastoral Limited

Address: C/- Ibboston Cooney Limited, Level 1, 69 Tarbert Street, Alexandra

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation, and stock drinking water ~~and dairy shed use~~.

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Pig Burn, approximately 1.6 kilometres south east of the intersection of Roberts Road and Hamilton Road, Patearoa
Legal Description of land at point of abstraction:	Pt Run 204B
Legal Description of land (s) where water is to be used:	Lot 2 DP 441480 Sec 13 Blk 4 Upper Taieri
Map Reference at point of abstraction (NZTM 2000):	E1374119 N4983920

Conditions

Specific

1. This consent must not commence until Consent 96394 has been surrendered or has expired.

2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, diary shed use and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.03.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

    If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn must not exceed:

    a) 42 litres per second;
    b) 111,820 cubic metres per month; and

c) 454,120 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year.

4. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

4A The Consent Holder must cease the use of flood irrigation (both wild and border dyke) within 5 years of this consent commencing.

5. Prior to 30 June 2023 ~~exercising the consent~~, the Consent Holder must submit a fish screen design to the Consent Authority. The design certified by the Consent Authority must be installed at the point of take prior to 1 September 2023 ~~the first exercise of this consent~~. The fish screen must be maintained so that it remains fit for purpose ~~fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down~~.

Performance Monitoring

6. a) The Consent Holder must maintain a:
   i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM E1372488 N4985934 The water meter must be capable of output to a datalogger.
   ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
   iii. a telemetry unit which sends all of the data to the Consent Authority.

   b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.

   c) Within 20 working days of the installation of the datalogger/ telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
   i. Each device is installed in accordance with the manufacturer's specifications;
   ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
   iii. that the water meter has been verified as accurate.

   d) The datalogger/ telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.

   e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.

f) The Consent Holder must report any malfunction of the datalogger/ telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

7. ~~The fish screen as required by Condition 5 must be maintained in good working order, to ensure the fish screen is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request~~.

8. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:
   a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;
   b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
   c) Reasons why use may have varied from the previous year;
   d) 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;
   e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
   f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
      (i) Upgrades to existing open races which may including piping;
      (ii) Establishment of any water storage infrastructure;
   g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
   h) Water conservation steps taken.

General

9. The Consent Holder must ensure that at all times:
   a) There is no leakage from pipes and structures.
   b) The use of water is confined to targeted areas, Appendix 1 and

c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

10. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

    a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
    b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
    c) Reviewing the frequency of monitoring or reporting required under this consent;
    d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
        I. the results of previous monitoring carried out under this consent and/or:
        II. water availability, including alternative water sources;
        III. actual and potential water use;
        IV. surface water flow and level regimes;
        V. groundwater or surface water quality;
        VI. efficiency of water use; or
        VII. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission.

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).*

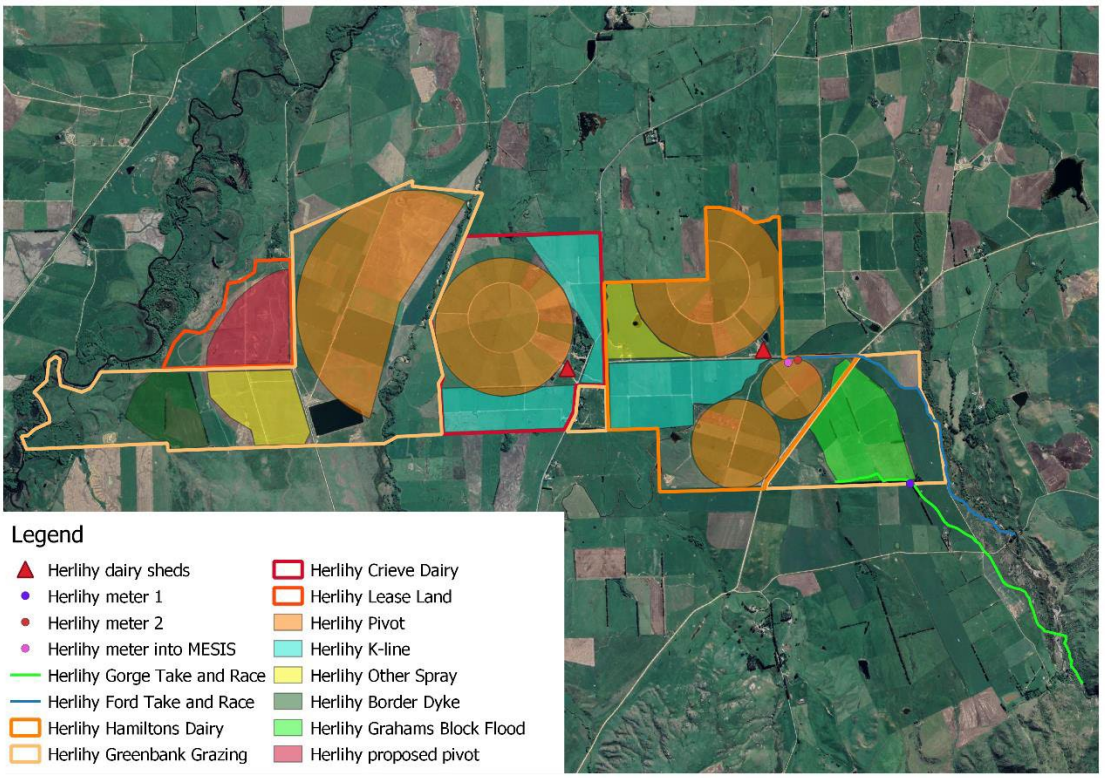
   Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

4. *Where information is required to be provided to the Consent Authority in condition/s 6,7 and 8 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.03 and the condition/s the information relates to.*
5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*
6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*
7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 4.*
8. *This permit is subject to Water Metering Exemption WEX0063.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Appendix 1. Irrigation Area



Our Reference: A1515767 Consent No. RM20.039.04

WATER PERMIT

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

Name: Hamiltons Dairy Limited

Address: C/- Ibbotson Cooney Ltd, 69 Tarbert Street, Alexandra

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation, dairy shed use and stock drinking water

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Pig Burn, immediately adjacent to Hamilton Road, approximately 348 metres north east of the intersection of Hamilton Road and Roberts Road, Patearoa.
Legal Description of land at point of abstraction:	Pt Run 204B
Legal Description of land (s) where water is to be used:	Lot 1 DP 397751, Lot 1 DP 431784, Lot 1 DP 500044 Sec 48 Blk 1 Sec 12, Blk II Upper Taieri SD, Sec 18 Blk XIII Maniototo SD, Lots 2-5,7-9 84DP 4317, Sec 4 SD 24830, Sec 7 Blk I Upper Taieri SD, Sec 14 Blk XIII Maniototo SD, Lot 2 DP 427338, Lot 1 DP 441480 Upper Taieiri SD
Map Reference at point of abstraction (NZTM2000):	E1373417 N4985319

Conditions

Specific

1. This consent must not commence until Consent 96230.V1 has been surrendered or has expired.

2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, dairy shed use and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.04.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and

c) Amended application 11 September 2020.

If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn must not exceed:
   a) 70 litres per second;
   b) 177,017 cubic metres per month combined with RM20.039.06; and
   c) 459,875 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year combined with RM20.039.06.

4. The Consent Holder must not take water under this consent at the same time as taking water under Water Permit RM20.039.06. This condition only applies to abstraction undertaken by Hamiltons Dairy Limited under Water Permit RM20.039.06.

4A The Consent Holder must cease the use of flood irrigation (both wild and border dyke) within 5 years of this consent commencing.

5. The Consent Holder must maintain a residual flow of at least 70 litres per second below the intake on the Pig Burn at NZTM 2000 E1373417 N4985319 at all times when the Consent Holder is exercising this consent to abstract water.

6. a) Prior to 30 June 2022 ~~exercising the consent~~, the Consent Holder must submit a residual flow measurement design to the Consent Authority;
   b) The design certified by the Consent Authority must be installed immediately below the point of take prior to 1 September 2022 ~~the first exercise of this consent~~ to ensure the residual flow specified in Condition 5 can be maintained; and
   c) The measurement must be fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down.

7. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

8. Prior to 1 June 2023 ~~exercising the consent~~, the Consent Holder must submit a fish screen design to the Consent Authority. The design certified by the Consent Authority must be installed at the point of take prior to 1 September 2023 ~~install a fish screen across the instream intake to avoid fish ingress and uptake that complies with the following:~~

   ~~a) The maximum water velocity into the entry point of the intake structure is no greater than 0.12 metres per second;~~
   ~~b) The apertures on the intake screen are no greater than 3 millimetres side of square or no greater than 2 millimetres bar or slot width~~
   ~~c) Sweeping velocity is equal or greater than approach velocity;~~

The fish screen must be maintained so that it remains fit for purpose. ~~fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down.~~

Performance Monitoring

9. The Consent Holder must maintain a:

   i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 5% at NZTM 2000 E1371293 N4987097 The water meter must be capable of output to a datalogger.
   ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
   iii. if telemetry is required a telemetry unit which sends all of the data to the Consent Authority.

   a) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.
   b) Within 20 working days of the installation of the datalogger/ telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
   i. Each device is installed in accordance with the manufacturer's specifications;
   ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
   iii. that the water meter has been verified as accurate.
   c) The datalogger/ telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
   d) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.
   e) The Consent Holder must report any malfunction of the datalogger/ telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

   Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

   The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

10. ~~The fish screen as required by Condition 8 must be maintained in good working order, to ensure the fish screen is performing as designed. Records must be kept~~

~~of all inspections and maintenance and these should be available to the Consent Authority on request.~~

11. The authorised design to measure the residual flow required by Conditions 5 and 6 must be maintained in good working order to ensure the weir is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request.

12. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:

    a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;
    b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
    c) Reasons why use may have varied from the previous year;
    d) 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;
    e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
    f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
        i. Upgrades to existing open races which may including piping;
        ii. Establishment of any water storage infrastructure;
    g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
    h) Water conservation steps taken.

General

13. The Consent Holder must ensure that at all times:

    a) There is no leakage from pipes and structures;
    b) The use of water is confined to targeted areas, Appendix 1 and
    c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
    d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

    Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

14. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months

either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
c) Reviewing the frequency of monitoring or reporting required under this consent;
d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
    I. the results of previous monitoring carried out under this consent and/or:
    II. water availability, including alternative water sources;
    III. actual and potential water use;
    IV. surface water flow and level regimes;
    V. groundwater or surface water quality;
    VI. efficiency of water use;
    VII. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission;

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).*

    Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

4. *Where information is required to be provided to the Consent Authority in condition/s 9,10,11 and 12 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.05 and the condition/s the information relates to.*

5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*

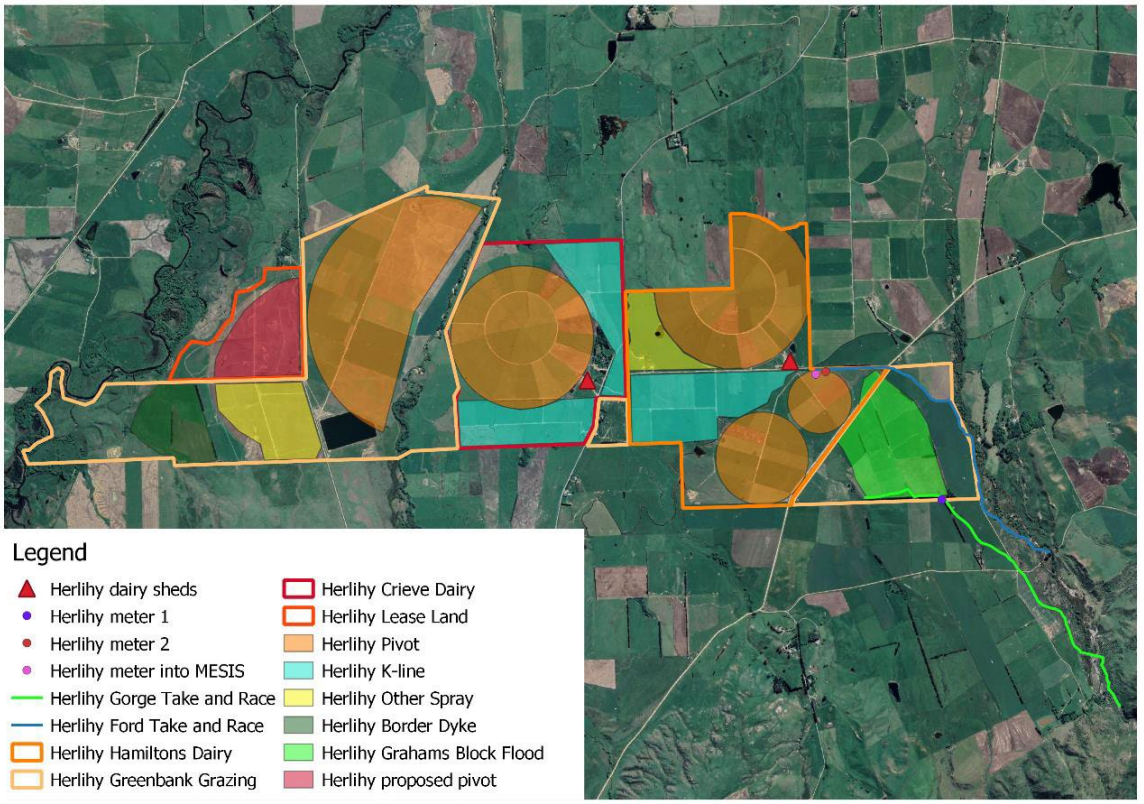
6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*

7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 7.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Appendix 1: Irrigation area



Our Reference: A1515767 Consent No. RM20.039.05

WATER PERMIT

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

Name: Hamilton Runs Limited

Address: C/- Ibbotson Cooney Limited, Level 1, 69 Tarbert Street, Alexandra

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation and stock drinking water

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Pigburn, approximately 450m upstream of Hamilton's Road, Waipiata
Legal Description of land at point of abstraction:	Crown land Blk IV Upper Taieri Survey District, SO 1827
Legal Description of land (s) where water is to be used:	Secs 7,8, 9-10, 11, 21,22 Block IV Upper Taieri SD, Part Run 204b and Sec 25-26 Block IV Upper Taieri SD, Sec 16-18 and Part Sec 15 Block XIV Maniototo SD, Lot 2 DP 313479 and Sec 35 Block I and Secs 62, 67, 69, 71, 75-76, 79-80, 85-87, 89 Block I Rock & Pillar SD
Map Reference at point of abstraction (NZTM2000):	E1373719 N4985082

Conditions

Specific

1. This consent must not commence until Consent 97210 has been surrendered or has expired.
2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, domestic supply and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.05.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn must not exceed:

   a) 56 litres per second;
   ~~b) 77,844 cubic metres per month; and~~
   c) ~~465,044~~ 801,449 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year.

4. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

4A The Consent Holder must cease the use of flood irrigation (both wild and border dyke) within 5 years of this consent commencing.

5. Prior to 30 June 2023 ~~exercising the consent~~, the Consent Holder must submit a fish screen design to the Consent Authority. The design certified by the Consent Authority must be installed at the point of take prior to 1 September 2023 ~~the first exercise of this consent~~. The fish screen must be maintained so that it remains fit for purpose ~~fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down~~.

Performance Monitoring

6. a) The Consent Holder must maintain a:
      i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM E1371293 N4987084. The water meter must be capable of output to a datalogger.
      ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
      iii. a telemetry unit which sends all of the data to the Consent Authority.
   b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.
   c) Within 20 working days of the installation of the datalogger/ telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
      i. Each device is installed in accordance with the manufacturer's specifications;
      ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
      iii. that the water meter has been verified as accurate.

d) The datalogger/ telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.
f) The Consent Holder must report any malfunction of the datalogger/ telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

7. ~~The fish screen as required by Condition 5 must be maintained in good working order, to ensure the fish screen is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request~~.

8. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:
    a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;
    b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
    c) Reasons why use may have varied from the previous year;
    d) 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;
    e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
    f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
        (i) Upgrades to existing open races which may including piping;
        (ii) Establishment of any water storage infrastructure;
    g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
    h) Water conservation steps taken.

General

9. The Consent Holder must ensure that at all times:

    a) There is no leakage from pipes and structures;
    b) The use of water is confined to targeted areas, Appendix 1 and
    c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
    d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

    Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

10. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

    a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
    b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
    c) Reviewing the frequency of monitoring or reporting required under this consent;
    d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
        i. the results of previous monitoring carried out under this consent and/or:
        ii. water availability, including alternative water sources;
        iii. actual and potential water use;
        iv. surface water flow and level regimes;
        v. groundwater or surface water quality;
        vi. efficiency of water use; or
        vii. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission.

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).*

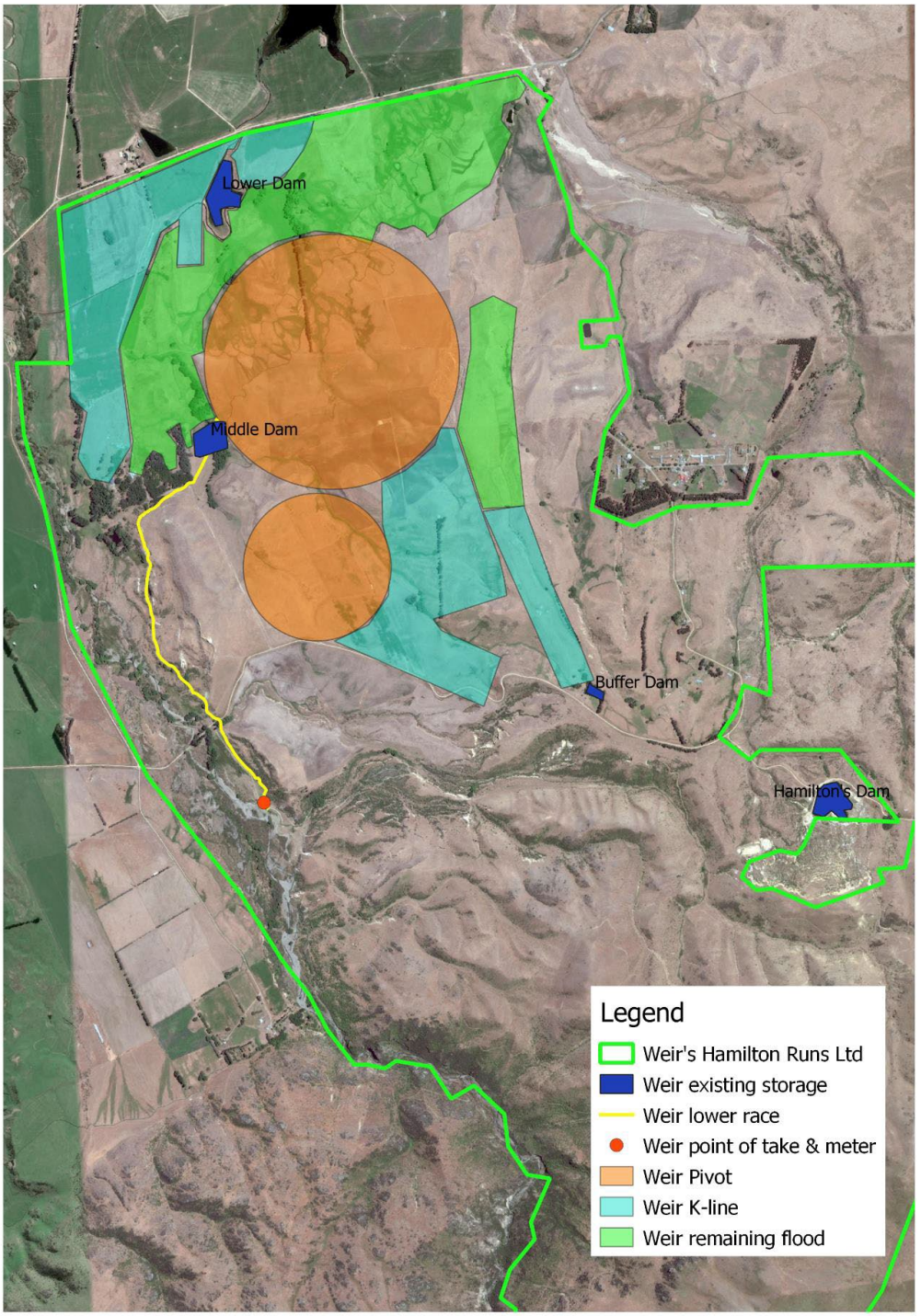
   Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

4. *Where information is required to be provided to the Consent Authority in condition/s 6, 7 and 8 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.05 and the condition/s the information relates to.*
5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*
6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*
7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 4.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Appendix 1. Irrigation Area



Our Reference: A1515767 Consent No. RM20.039.06

WATER PERMIT

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

Name:	Christopher Patrick Mulholland and Dale Evelyn Mulholland
Address:	969 Ranfurly-Patearoa Road, RD 4, Ranfurly
Name:	~~Concept Farms Limited and~~ Sophic Trust
Address:	CEG Limited, 110 Vogel Street, Dunedin and 949 Highcliff Rd, Dunedin
Name:	Hamiltons Dairy Limited
Address:	C/ Ibbotson Cooney Limited, Level 1, 69 Tarbert Street, Alexandra

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation, stock drinking water and diary shed use.

For a term expiring ~~31 December 2035~~ 1 January 2034

Location of Point of Abstraction:	Pig Burn, approximately 930 metres north northwest of the intersection of Roberts Road and Hamilton Road, Waipiata, Maniototo
Legal Description of land at point of abstraction:	Marginal Strip (Crown land Blk IV Upper Taieri Survey District, SO12392) adjacent to Sec 25, Blk IV Upper Taieri Survey District.
Legal Description of land (s) where water is to be used:	~~**Concept Farms Ltd/**~~**Sophic Trust:** Sec 19, 31 and Pt Sec 32 Blk XIV Maniototo SD and Sec 2 SO 24830, Sec 11 and Sec 12 Blk XIV Maniototo SD, Secs 33 – 35 Blk XIV Maniototo SD, Sec 23 Blk XIV Maniototo SD, Pt Lot 3 DP 340765 **Mulholland:** Sec 1 SO Plan 23520, Section 1 SO Plan 23521, Lot 1 DP 427338 **Hamiltons Dairy Limited:** Lot 1 DP 397751, Lot 1 DP 431784, Lot 1 DP 500044 Sec 48 Blk 1 Sec 12, Blk II Upper Taieri SD, Sec 18 Blk XIII Maniototo SD, Lots 2-5,7-9 84DP 4317, Sec 4 SD 24830, Sec 7 Blk I Upper Taieri SD, Sec 14 Blk XIII Maniototo SD, Lot 2 DP 427338, Lot 1 DP 441480 Upper Taieri SD
Map Reference at point of abstraction (NZTM2000):	E1372833 N4986146

Conditions

Specific

1. This consent must not commence until Consents 96230.V1, 97128 and 2000.498 have been surrendered or expired.

2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, domestic supply and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.06.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

    If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate of abstraction as primary allocation from the Pig Burn must not exceed:

    a) 60 litres per second combined total between Consent Holders when the residual flow specified in Condition 7 can be maintained; or
    b) 110 litres per second combined total between Consent Holders when the residual flow specified in Condition 8 can be maintained.~~;~~

4. The quantity of abstraction as primary allocation from the Pig Burn must not exceed:

~~**Concept** Farms Ltd/~~**Sophic Trust**	148,800 cubic metres per month ~~on their month (specified in Appendix 2)~~	816,519 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year. ~~on their year (specified in Appendix 2)~~
Mulholland	114,000 cubic metres per month ~~on their month (specified in Appendix 2)~~	~~768,615~~ 764,070 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year. ~~on their year (specified in Appendix 2)~~
Hamiltons Dairy Limited	117,017 cubic metres per month ~~on their month (specified in Appendix 2)~~	459,875 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year. ~~on their year (specified in Appendix 2)~~ as a combined total with the annual volume authorised to be taken by Water Permit RM20.039.04.

5. Hamiltons Dairy Limited must only take water under this consent when flows immediately below the point of take authorised by Water Permit RM20.039.04 located at NZTM2000 E1373417 N4985319 are less than 70 litres per second.

6. Hamiltons Dairy Limited must not take water under this consent at the same time as taking water under Water Permit RM20.039.04. This condition only applies to abstraction undertaken by Hamiltons Dairy Limited, and does not affect the ability of ~~Concept Farms Ltd~~ Sophic Trust or Mulholland to take water under this consent.

7. ~~a)~~ The Consent Holders must maintain a residual flow of at least ~~10~~ 30 litres per second below the intake on the Pig Burn at NZTM 2000 E1372749 N4990742 at all times ~~in the years 2021 -2026~~ when the Consent Holders are ~~is~~ exercising this consent to abstract water under Condition 3(a).
~~b) In the years 2026 – 2035 the Consent Holder must maintain a residual flow of at least 20 litres per second below the intake on the Pig Burn at NZTM 2000 E1372749 N4990742 at all times when the Consent Holder is exercising this consent to abstract water under Condition 3(a).~~

8. The Consent Holders must maintain a residual flow of at least 200 litres per second below the intake on the Pig Burn at NZTM 2000 E1372749 N4990742 at all times in when the Consent Holders are ~~is~~ exercising this consent to abstract water under Condition 3(b).

9. a) Prior to 30 June 2022 ~~exercising the consent~~, the Consent Holders must submit a residual flow measurement design to the Consent Authority;
   b) The design certified by the Consent Authority must be installed immediately below the point of take prior to 1 September 2022 ~~the first exercise of this consent~~ to ensure the residual flows specified in Conditions 7 and 8 ~~5~~ can be maintained; and

   The measurement device must be fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down.

10. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1,000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

11. The Consent Holders must cease the use of flood irrigation (both wild and border dyke) within 5 years of this consent commencing ~~being exercised. at least 100 hectares of area on the Mulholland property (Sec 1 SO Plan 23520, Section 1 SO Plan 23521, Lot 1 DP 427338) must be spray irrigated~~.

12. Prior to 30 June 2023 ~~exercising the consent~~, the Consent Holders must submit a fish screen design to the Consent Authority. The design certified by the Consent Authority must be installed at the point of take prior to 1 September 2023. The fish screen must be maintained so that it remains fit for purpose ~~install a fish screen across the instream intake to avoid fish ingress and uptake that complies with the following:~~

    ~~a) The maximum water velocity into the entry point of the intake structure is no greater than 0.12 metres per second;~~
    ~~b) The apertures on the intake screen are no greater than 3 millimetres side of square or no greater than 2 millimetres bar or slot width~~

~~c) Sweeping velocity is equal or greater than approach velocity;~~

~~The fish screen must be fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down.~~

Performance Monitoring

13. a) The Consent Holders must maintain for both takes a:
    i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM E1372900 N4987395. The water meter must be capable of output to a datalogger.
    ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
    iii. a telemetry unit which sends all of the data to the Consent Authority.

    b) The Consent Holders must provide telemetry data once daily to the Consent Authority. The Consent Holders must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.

    c) Within 20 working days of the installation of the telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holders must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
    i. Each device is installed in accordance with the manufacturer's specifications;
    ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
    iii. that the water meter has been verified as accurate.

    d) The telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.

    e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.

    f) The Consent Holders must report any malfunction of the telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holders must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

    Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

    The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

14. The authorised design to measure the residual flow required by Conditions 7 and 8 ~~9 and 6~~ must be maintained in good working order to ensure it ~~the weir~~ is

performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request.

15. ~~The fish screen as required by Condition 12 must be maintained in good working order, to ensure the fish screen is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request~~.

16. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:
    a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing;~~
    b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
    c) Reasons why use may have varied from the previous year;
    d) 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;
    e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
    f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
        (i) Upgrades to existing open races which may including piping;
        (ii) Establishment of any water storage infrastructure;
    g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
    h) Water conservation steps taken.

General

17~~6~~. The Consent Holders must ensure that at all times:

    a) There is no leakage from pipes and structures;
    b) The use of water is confined to targeted areas, Appendix 1 and
    c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
    d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

18. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its

intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;
b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
c) Reviewing the frequency of monitoring or reporting required under this consent;
d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
    i. the results of previous monitoring carried out under this consent and/or:
    ii. water availability, including alternative water sources;
    iii. actual and potential water use;
    iv. surface water flow and level regimes;
    v. groundwater or surface water quality;
    vi. efficiency of water use;
    vii. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission;

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).*

    Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

4. *Where information is required to be provided to the Consent Authority in condition/s 13, 14, 15 and 16 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.039.06 and the condition/s the information relates to.*

5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*

6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*

7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 10.*

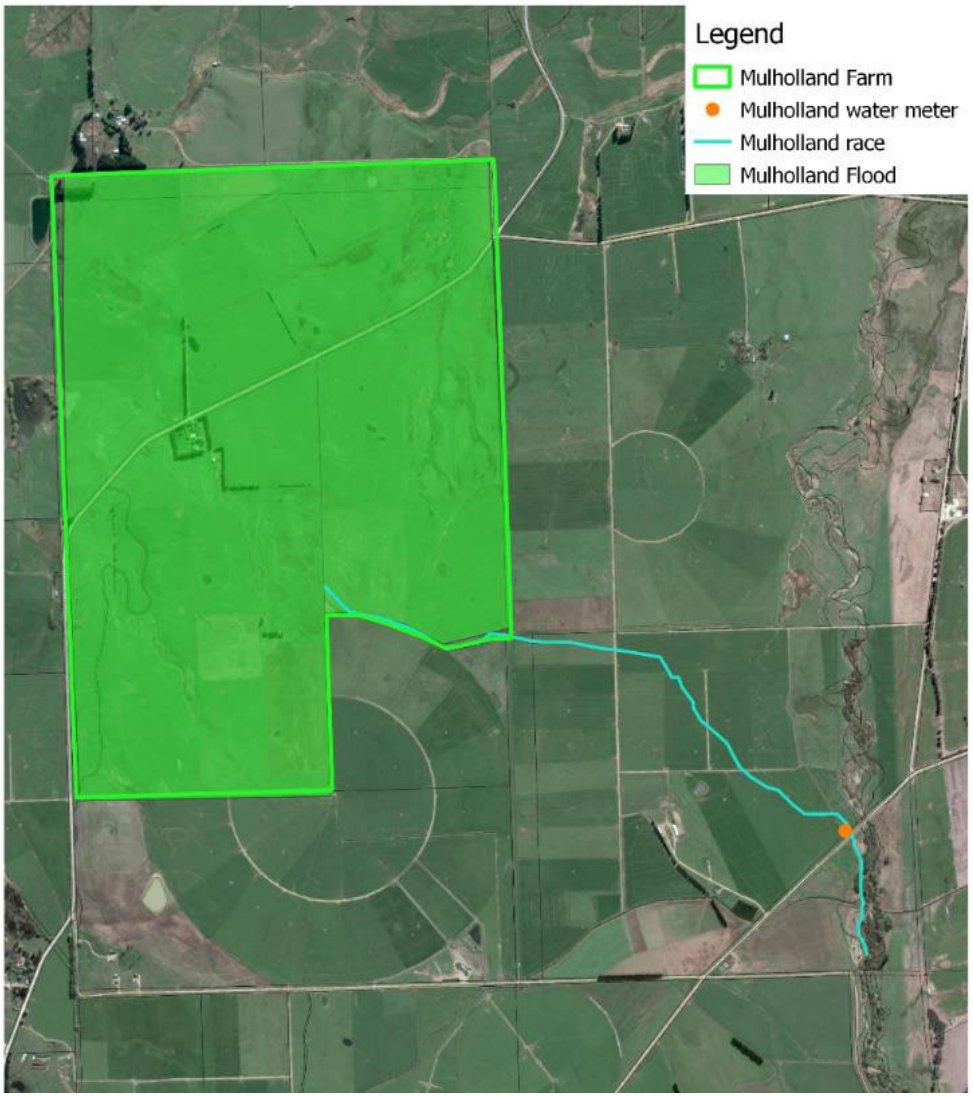
8. *This permit is subject to Water Metering Exemption WEX0168 and WEX0049.*

Issued at Dunedin this day of

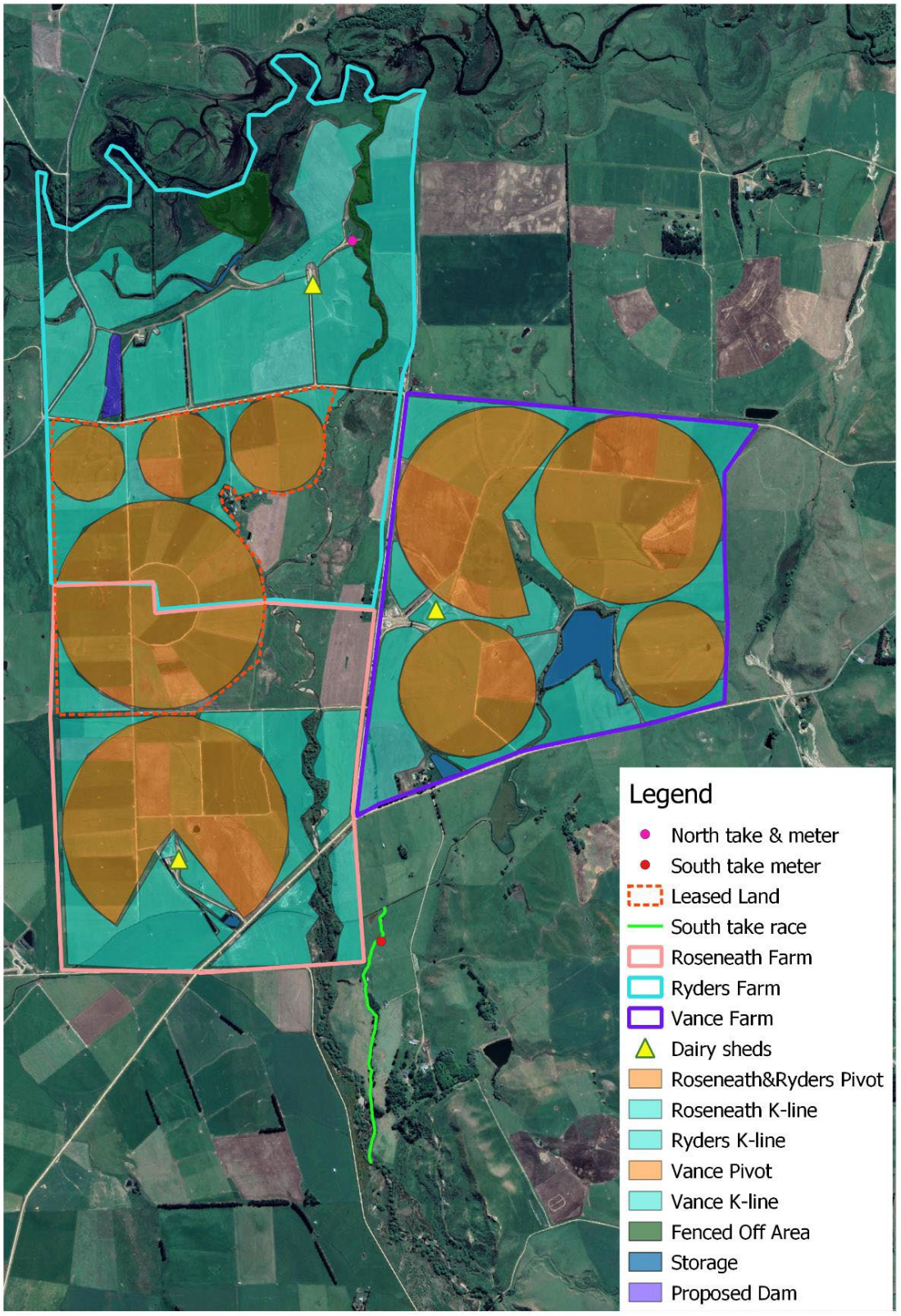
Joanna Gilroy
Manager Consents

Otago Regional Council

Appendix 1: Irrigation area



Otago Regional Council



~~Appendix 2: Irrigation take year~~

~~Year~~	~~Consent Holder taking~~
~~2021~~	~~Concept/Sophic Trust~~
~~2022~~	~~Mullholland~~
~~2023~~	~~Hamilton~~
~~2024~~	
~~2025~~	
~~2026~~	
~~2027~~	
~~2028~~	
~~2029~~	
~~2030~~	
~~2031~~	
~~2032~~	
~~2033~~	
~~2034~~	
~~2035~~	

Our Reference: A1515767 Consent No. RM20.039.07

WATER PERMIT

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

Name: Concept Farms Limited

Address: CEG Limited, 123 Vogel Street, Dunedin

To take and use surface water as primary allocation from the Pig Burn for the purpose of irrigation, dairy shed use and stock drinking water

For a term expiring 31 December 2035 1 January 2034

Location of Point of Abstraction:	On the left bank of the Pig Burn, approximately 700 metres upstream of the confluence of the Pig Burn and the Taieri River, Waipiata, Maniototo
Legal Description of land at point of abstraction:	Sec 35 Blk XIV Maniototo Survey District
Legal Description of land (s) where water is to be used:	Sec 19, Sec 31 and Pt Sec 32 Blk XIV Maniototo SD and Sec 2 SO 24830, Sec 11 and Sec 12 Blk XIV Maniototo SD, Secs 33 – 35 Blk XIV Maniototo SD, Sec 23 Blk XIV Maniototo SD, Pt Lot 3 DP 340765
Map Reference at point of abstraction (NZTM 2000):	E1372749 N4990742

Conditions

Specific

1. This consent must not commence until Consent 96254 has been surrendered or has expired.

2. The take and use of surface water as primary allocation from Pig Burn at the map reference specified above and the land legally described above for irrigation, dairy shed use and stock water must be carried out in accordance with the plans and all information submitted with the application, detailed below, and all referenced by the Consent Authority as consent number RM20.039.07.

    a) Application form, and assessment of environmental effects dated 12 February 2020;
    b) Further information was requested on 24 February 2020 and a response was received on 3 April 2020; and
    c) Amended application 11 September 2020.

    If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

3. The rate and quantity of abstraction as primary allocation from the Pig Burn must not exceed:

   a) 42 litres per second;
   b) 112,344 cubic metres per month; and
   c) 1,028,478 cubic metres in each 12 month period, commencing 1 July of any year and ending 30 June of the following year.

4. ~~a)~~ The Consent Holder must maintain a residual flow of at least ~~10~~ 30 litres per second below the intake on the Pig Burn at NZTM 2000 E1372749 N4990742 at all times ~~in the years 2021 -2026~~ when the Consent Holder is exercising this consent to abstract water.
~~b) In the years 2026 – 2035 the Consent Holder must maintain a residual flow of at least 20 litres per second below the intake on the Pig Burn at NZTM 2000 E1372749 N4990742 at all times when the Consent Holder is exercising this consent to abstract water~~.

5. a) Prior to 30 June 2022 ~~exercising the consent~~, the Consent Holder must submit a residual flow measurement design to the Consent Authority;
   b) The design certified by the Consent Authority must be installed immediately below the point of take prior to 1 September 2022 ~~the first exercise of this consent~~ to ensure the residual flow specified in Condition 4 ~~5~~ can be maintained; and
   c) The measurement device must be fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down.

6. No abstraction, other than for reasonable domestic and stock drinking water purposes, must occur when flows in the Taieri River are less than the minimum flow of 1,000 litres per second at the Taieri River at Waipiata flow monitoring site MS5. When the minimum flow is reached, water must not be used for other uses such as domestic irrigation, car washing or filling spas or swimming pools.

7. Prior to 30 June 2023 ~~exercising the consent~~, the Consent Holder must submit a fish screen design to the Consent Authority. The design certified by the Consent Authority must be installed at the point of take prior to 1 September 2023. The fish screen must be maintained so that it remains fit for purpose ~~install a fish screen across the instream intake to avoid fish ingress and uptake that complies with the following:~~

   ~~a) The maximum water velocity into the entry point of the intake structure is no greater than 0.12 metres per second;~~
   ~~b) The apertures on the intake screen are no greater than 3 millimetres side-of-square or no greater than 2 millimetres bar or slot width~~
   ~~c) Sweeping velocity is equal or greater than approach velocity;~~

~~The fish screen must be fully functional at all times. If it is damaged and cannot be repaired or replaced immediately, the intake must be shut down~~.

Performance Monitoring

8. a) The Consent Holder must maintain a:
      i. Water meter(s) that which will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM E1372736 N49990803The water meter must be capable of output to a datalogger.

ii. a datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
iii. a telemetry unit which sends all of the data to the Consent Authority.

b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.
c) Within 20 working days of the installation of the telemetry unit, any subsequent replacement of the telemetry unit and at five yearly intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
    i. Each device is installed in accordance with the manufacturer's specifications;
    ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
    iii. that the water meter has been verified as accurate.
d) The telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.
f) The Consent Holder must report any malfunction of the telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.

Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.

The water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

9. The authorised design to measure the residual flow required by Condition~~s~~ 4 ~~and 5~~ must be maintained in good working order to ensure it is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request.

10. ~~The fish screen as required by Condition 7 must be maintained in good working order, to ensure the fish screen is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request~~.

11. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year). The report must assess the water use over the previous 12

months in respect of the efficient use of water for the purpose(s) consented. This report must include, but not be limited to:

a) Area and crop type irrigated including a scaled map, aerial photo (or Google Earth image) of the irrigated areas, ~~number of harvests per year, and timing~~;
b) Annual summary of the monthly volume of water abstracted from Unnamed tributary of Pig Burn;
c) Reasons why use may have varied from the previous year;
d) 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;
e) Any changes or modifications to irrigation (and water conveyance) infrastructure;
f) A description of water use efficiency or conveyance upgrades that have taken place since the commencement of this consent including any:
    (i) Upgrades to existing open races which may including piping;
    (ii) Establishment of any water storage infrastructure;
g) A description of water use efficiency or conveyance upgrades that are planned within the next 3 years and the timeframes proposed for their implementation; and
h) Water conservation steps taken.

General

12. The Consent Holder must ensure that at all times:

a) There is no leakage from pipes and structures;
b) The use of water is confined to targeted areas, Appendix 1 and
c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

Note: Field Capacity is the amount of water that is able to be held in the soil after excess water has run off.

Review

13. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period of three months either side of the date of granting of this consent each year, or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this consent, for the purpose of:

a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the consent;

b) Ensuring the conditions of this consent are consistent with any National Environmental Standards, relevant regional plans, and/or the Otago Regional Policy Statement;
c) Reviewing the frequency of monitoring or reporting required under this consent;
d) Varying the consented quantities and rates of take and monitoring, operating and reporting requirements, and performance requirements to respond to:
    I. the results of previous monitoring carried out under this consent and/or:
    II. water availability, including alternative water sources;
    III. actual and potential water use;
    IV. surface water flow and level regimes;
    V. groundwater or surface water quality;
    VI. efficiency of water use;
    VII. Instream biota, including fish passage and the functioning of aquatic ecosystems; or new requirements for measuring, recording and transmission;

Notes to Consent Holder

1. *Under section 125 of the Resource Management Act 1991, this consent lapses 5 years after the date of commencement of the consent unless:*

    a) The consent is given effect to; or
    b) The Consent Authority extends the period after which the consent lapses.

2. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

3. *If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).*

    Primary allocation may be lost if an application is not made at least 6 months prior to expiry and will be lost if an application is not made at least 3 months prior to expiry. A late application will likely result in the application being treated as supplementary allocation, if any such allocation is available.

4. *Where information is required to be provided to the Consent Authority in condition/s 8, 9 , 10 and 11 this is provided in writing to watermetering@orc.govt.nz , and the email heading is to reference RM20.39.07 and the condition/s the information relates to.*
5. *It is the responsibility of the consent holder to ensure that the water abstracted under this resource consent is of suitable quality for its intended use. Where water is to be used for human consumption, the consent holder should have the water tested prior to use and should discuss the water testing and treatment requirements with a representative of the Ministry of Health and should consider the New Zealand Drinking Water Standards.*

6. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*

7. *The Consent Holder is responsible for accessing all relevant water flow information including the flow phone or the Consent Authority's website information to comply with the minimum flow(s) set out in Condition 6.*

Issued at Dunedin this day of

Joanna Gilroy
Manager Consents

Otago Regional Council

Appendix 1: Irrigated area