

HUNTER DOWNS IRRIGATION SCHEME
PROPOSED CONDITIONS OF CONSENT – 2ND RECONVENED HEARING

3 MARCH 2010

Track Changes show alterations since 15 April 2009 (5pm)

Water Permit to Take and Use Water from the Waitaki River

To take and use water from the Waitaki River.

Duration of this Water Permit – 35 years

Conditions of this Consent:

General

- 1 The water shall be taken from the Waitaki River at or about map reference NZMS 260 J40: 3610-9075.
- 2 The water shall be used for the irrigation of land within the Scheme Area generally in accordance with the attached plan entitled "Hunter Downs Irrigation – Scheme Area", and ancillary purposes associated with the operation of the Hunter Downs Irrigation Scheme.
- 3 The take and use of water permitted by this consent shall not be exercised until resource consents have been obtained for the construction and land use of an intake, a diversion channel and an irrigation delivery system; and for the divert and discharge of the water necessary for the operation of the Hunter Downs Irrigation Scheme.

Rate of Take of Water

- 4 The rate at which water is taken from the Waitaki River shall not exceed a maximum rate of 20.5 cubic metres per second, with a volume not exceeding 251 million cubic metres between 1st July and the following 30th June.
- 5 The rate at which water is taken from the Waitaki River shall not exceed a maximum rate of 17.5 cubic metres per second, with a volume not exceeding 213 million cubic metres per year between 1st July and the following 30th June, when the consent CRC040428 (Waihao Irrigation Limited) or any subsequent replacement consent is operative.
- 6 For the purposes of determining compliance with Conditions 4 and 5:
 - (a) The instantaneous rate of water take (in cubic metres per second) shall be recorded at least every 15 minutes;

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- (b) The average rate of water take (in cubic metres per second) over the previous 1-hour shall be recorded at least every 60 minutes, based on the above 15 minute instantaneous record;
- (c) In the event that any instantaneous rate of water take (under a. above) exceeds the maximum rates of water taken in Conditions 4 and 5, then the consent holder shall ensure that the subsequent 1-hour average starting with that 15 minute period does comply with the maximum rates of water take in Conditions 4 and 5. This shall be deemed to constitute compliance with Conditions 4 and 5.
- (d) Notwithstanding c. above, any instantaneous recorded rate of water take (under a. above) shall not be more than 10% greater than the maximum rates of water take specified in Conditions 4 and 5.

Cessation and Restriction of Water Take

7 Whenever the flow in the Waitaki River at the Kurow Gauge (Kurow Gauge flow map ref: 140:079-088) falls below 175.5 cubic metres per second, then the rate at which water is taken from the Waitaki River shall not exceed the rate determined in accordance with either Condition 7(a) or 7(b) below.

- (a) The rate at which water is taken from the Waitaki River shall not exceed that calculated using the formula below:

$$HDIS_{Restricted} = [Flow_{KR} - 152] * [HDIS_{max}]$$

[23.5]

Where:

HDIS_{Restricted} (m³/s) is the maximum rate at which water may be taken from the Waitaki River under this Condition.

Flow_{KR} (m³/s) is the calculated flow in the Waitaki River as Specified in Condition 7 above.

HDIS_{max} (m³/s) is the maximum rate at which water may be taken from the Waitaki River in accordance with either Condition 4 or 5 depending on the inclusion of consent CRC040428 (Waihao Irrigation Limited).

- (b) The rate at which water is taken from the Waitaki River shall not exceed that specified in a water sharing roster determined as follows:
 - (i) The water sharing roster has been prepared by all those consent holders who are sharing water in terms of this roster that shall include the holder of this consent and any one or more holders of other consents to take water or divert from the main stem of the Lower Waitaki River (hereafter referred to as the Water Sharing Group);
 - (ii) The water sharing roster specifies the consent holders in the Water Sharing Group to which the roster applies;

Deleted: <#>Whenever the flow in the Waitaki River at the Kurow Gauge (Kurow Gauge flow map ref: 140:079-088) falls below 100 cubic metres per second, the take of water from the Waitaki River shall cease. ¶

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 $HDIS_{Restricted} = [Flow_{KR} - \{100 + (EC * F)\}] * [HDIS_{max}]$ ¶
 $\{AC - (EC * F)\}$ ¶

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Deleted: 100 (m³/s) is the flow in the Waitaki River at which this water take shall cease in accordance with Condition 7. ¶
 EC (m³/s) is the sum of the actual requirements of the consented takes from the Waitaki River downstream of Waitaki Dam and all connected groundwater² existing at the date at which the Water Allocation Regional Plan became operative. See description of actual requirements below. ¶
 F (no units) is a factor from 0 to 1, with 1 meaning that existing consented takes do not share in any restrictions with this consent and 0 meaning that existing consented takes share restrictions equally with this consent. **[This factor is to be decided by the Commissioners.]** ¶

Deleted: AC (m³/s) is the sum of the actual requirements of all consented takes from the Waitaki River downstream of Waitaki Dam and all connected groundwater². See description of actual requirements below. ¶
 For the purposes of determining EC and AC above, the sum of the actual requirements of the consented takes shall be calculated as the sum of the flow rates for all actual net³ abstractive consented water takes at any time, as follows: ¶
 <#>The actual net measured water take flow rates, where water takes are measured; or ¶
 <#>The maximum net consented water take flow rates in respect of operating water takes, where water takes are not measured; or ¶
 <#>Zero for any individual water take, or part of a water take, that has been suspended or ceased, ¶
 up to a maximum of 90 cubic metres per second. ¶

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- (iii) The water sharing roster specifies the period for the which the water sharing arrangements in the roster apply;
- (iv) The water sharing roster specifies the proportion of flows available for taking by each member of the Water Sharing Group when the flow in the Waitaki River at the Kurow Gauge greater than 100 cubic metres per second;
- (v) The water sharing roster ensures that:
 - the rate of water taken by any consent holder in the Water Sharing Group would not exceed the requirements of their resource consent, and
 - the combined rate of the water takes by all members of the Water Sharing Group would not exceed the combined rate of the water takes available to all those consent holders, as calculated in terms of the formula in Condition 7(a).
- (vi) The water sharing roster has been provided to Canterbury Regional Council no less than 10 working days before it is implemented in terms of Condition 7(b);

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8 For the purposes of determining compliance with Condition 7 :

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- (a) The flow in the Waitaki River shall be the calculated 24 hour average flow, measured and recorded at least every 15 minutes at, or in the immediate vicinity of, the Kurow Gauge⁴ (Kurow Gauge flow map ref: I40:079-088), and then calculated and recorded every 60 minutes as the average of the flows measured and recorded over the previous 24 hours;
- (b) The flow in the Waitaki River at the Kurow Gauge shall include any flow taken from the Waitaki catchment upstream of the Kurow Gauge and returned downstream of the Kurow Gauge but upstream of the Hunter Downs Irrigation Scheme point of take;
- (c) Any flow measuring and recording device for the purposes of Condition 8(a), which is not the Canterbury Regional Council's Kurow Gauge⁴, shall be available for inspection at all times by the Canterbury Regional Council; and
- (d) All data from the measuring and recording device and all calculated and recorded flows, in accordance with Condition 8(a) above, shall be provided to the Canterbury Regional Council on request and shall be accessible and available for downloading at all times by the Canterbury Regional Council.

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Timeframe for Exercise of Take of Water

9 The take permitted by this consent shall not be exercised during the period from 1 May until 31 August in each year, other than water required for maintenance and testing purposes. The consent holder will give 48 hours prior written notice to the Canterbury Regional Council before commencing such temporary use.

⁴ Canterbury Regional Council water level recording site number 71104

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Water Metering for Take of Water

- 10 (a) Prior to water being taken under this consent, the consent holder shall install a water flow measuring device that has an International accreditation, New Zealand or equivalent calibration endorsement, to continuously measure the taking of water in terms of this consent to within an accuracy of plus or minus 10 percent.
- (b) The measuring device shall, as far as is practicable, be installed at a site likely to retain a stable rating, i.e. a man-made channel, concrete, steel or fibreglass flume or pipe. Installation shall be in accordance with ISO 1100/1-1981 or equivalent by a suitably qualified or experienced person.
- (c) The rates and times of abstraction shall be recorded by electronic means, at not greater than fifteen minute intervals, with a tamper-proof recording device such as a data-logger kept for that purpose. The recorded data shall not be changed or deleted by any person, until after twelve months have passed since the date of recording.
- (d) The measuring and recording device shall be available for inspection at all times by the Canterbury Regional Council.
- (e) All data from the recording device described in Condition 10(a) shall be provided to the Canterbury Regional Council on request, and shall be accessible and available for downloading at all times by the Canterbury Regional Council.
- (f) Within six months of the commencement of this consent, and at five-yearly intervals thereafter, and at any other time when requested by Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council signed by a suitably qualified person certifying the accuracy of the measuring and recording devices installed in accordance with Conditions 10(a) and (b), and also certifying that data can be readily accessed.

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Fish Deflection Barrier / Fish Screen

- 11 (a) Prior to the taking of water pursuant to this consent, the consent holder shall install, operate and maintain a fish screen ("the screen") or deflection barrier across the intake designed in accordance with the certified plans approved by a person duly authorised by the Canterbury Regional Council in accordance with Condition 11(f).
- (b) The screen or deflection barrier shall as far as practicable prevent the entrainment, impingement and entrapment of salmonids including adults, fingerlings and fry and for the purposes of this condition this shall be achieved by installing, operating and maintaining a fish screen or deflection barrier in accordance with the certified design plans referred to in Condition 11(c).
- (c) The design plans for the screen or deflection barrier shall be certified by: a suitably qualified engineer with experience in the design and operation of fish screens and

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deflection barriers; and either a fisheries biologist with post-graduate qualifications in salmonid fisheries or a fisheries biologist with internationally recognised experience in salmonid fisheries research (“the Certifiers”).

- (d) The appointment of the Certifiers by the consent holder shall be subject to the prior written approval of the person duly authorised by the Canterbury Regional Council.
- (e) Prior to the commencement of construction of the fish screen or deflection barrier, the consent holder shall provide to the Canterbury Regional Council:
 - (i) The certified design plans including the screen or deflection barrier slot/aperture size, sweep velocity, approach velocity and, if relevant, an effective by-pass which returns fish to an actively flowing braid of the Waitaki River;
 - (ii) A report from the Certifiers which certifies and explains how the certified design and operation of the screen or deflection barrier:
 - Demonstrates best practice in achievement of Condition 11(b);
 - Takes into consideration regional or national guidelines in relation to fish screen and/or deflection barrier design and/or any international guidelines that the Certifiers consider relevant.
- (f) A person duly authorised by the Canterbury Regional Council shall give written notice to the consent holder stating whether or not it approves of the certified design plans within 20 working days of receipt of the plans and the certifiers report referred to in Condition 11(e) and such approval shall not be unreasonably withheld.
- (g) The consent holder shall, prior to commissioning, provide a certificate from a suitably qualified person confirming that construction of the screen or deflection barrier has occurred in accordance with the certified design plans approved in accordance with Condition 11(f).
- (h) After installation the consent holder shall commission an audit by an independent research organisation approved by the Canterbury Regional Council to determine the effectiveness of the screen or deflection barrier installed. The methodology to be adopted shall be approved by the Canterbury Regional Council. The consent holder shall provide the results of the audit to the Canterbury Regional Council within 18 months of the commissioning of the Hunter Downs Irrigation Scheme take.
- (i) The fish screen or deflection barrier shall be inspected for any damage causing fish to be entrained, impinged, entrapped or pass through the screen or device, within a 24 hour period and then at least once every following 48 hours, when the flow in the Waitaki River at the Kurow Gauge (Kurow Gauge flow map ref: 140:079-088) as estimated by the Canterbury Regional Council is greater than either:

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- (i) 600 cubic metres per second; or
 - (ii) 450 cubic metres per second if consent CRC071903 (Meridian Energy Limited – North Bank Tunnel) or any subsequent replacement consent is operative.
- (j) Within 24 hours of the fish screen or deflection device becoming ineffective, the consent holder shall notify the Canterbury Regional Council of the situation, any remedial measures to be implemented, and the likely timeframes for implementing those measures. The consent holder shall use its reasonable endeavours to restore the effectiveness of the fish exclusion measures in accordance with Condition 11(b) as soon as possible. This consent shall not be exercised if the effectiveness of the fish screen or deflection device in accordance with Condition 11(b) has not been restored within 30 days of the fish screen or deflection device first becoming ineffective.
- (k) The area(s) of the outfall(s) from the intake overflow channel(s) shall be monitored twice monthly during October to February inclusive for the first 3 years of the exercise of this consent to ensure that there is no accumulation of native fish in the vicinity of the outfall(s) from the overflow channel(s).

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Scheme Management Plan

12 Prior to exercise of this consent and the commissioning of the Hunter Downs Irrigation Scheme (the Scheme), the consent holder shall prepare and submit to the Canterbury Regional Council a Scheme Management Plan.

13 In general, the Scheme Management Plan shall provide details of the practices and procedures to be put into place to operate the water take and delivery of water to the Scheme area and to monitor and manage the environmental effects arising from the use of the water within the Scheme, in order to ensure compliance with the conditions of consent and to minimise the potential for adverse effects on the environment arising from the exercise of this consent.

14 The Scheme Management Plan shall, as a minimum, include the following matters:

- (a) Operational requirements for the take of water for the Scheme from the Waitaki River, including any water sharing arrangements with other abstractors during times of low flows in the Waitaki River;
- (b) Operational rules for the Scheme including responsibilities and arrangements for water management and distribution, including allocation during water shortages;
- (c) A Template to be used as the basis for individual Farm Management Plans. The Farm Management Plan Template shall have the following objectives:
 - (iii) To achieve technically efficient use of water, minimising runoff and drainage;

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- (iv) To minimise contamination of groundwater and surface water, particularly in terms of faecal contamination, Nitrogen and Phosphorus;
- (v) To minimise nutrient losses to water while managing soil fertility to optimise pasture and crop productivity;
- (vi) To minimise adverse effects on groundwater and surface water levels;
- (vii) Soil in good physical condition;
- (viii) To minimise adverse effects on water bodies and riparian areas through healthy riparian margins;
- (ix) To safeguard significant indigenous biodiversity and ecosystem values within the Scheme area;
- (x) To respect Ngai Tahu values in relation to freshwater;
- (xi) To provide information to the consent holder including land use, area irrigated, stock numbers, and fertiliser use.

The Template shall also include the requirements specified in Condition 19.

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- (d) Procedures to prepare, regularly review and update the Farm Management Plan Template, including provision for associated consultation with the Community and Ngai Tahu Liaison Groups and water users, and opportunity to receive, and give due consideration to, feedback from the these groups prior to finalising the initial Template, each review of, and any amendments to, the Template.
- (e) Procedures to ensure the preparation, implementation, regular review, updating and obtaining consent holder approval for individual Farm Management Plans for all properties receiving water in terms of this consent. Individual Farm Management Plans, at the time of consent holder approval, shall be based on the current version of that Farm Management Plan Template and include the requirements of the Farm Management Plan Template specified in Condition 19.
- (f) Provision for an annual internal audit of compliance with the provisions of the Farm Management Plans, including provision for consultation regarding the results of the audit with Community and Ngai Tahu Liaison Groups and water users. The annual audit is to be undertaken by a person who is independent of the consent holder. Such provision shall ensure that each individual Farm Management Plan is audited annually for each of the first 3 years following the initial delivery of water to that property or any increase in the quantity of water delivered to that property. After that time, every property which has received water for more than 3 years shall be audited at least once every 5 years, with at least 20% of Farm Management Plans being audited each year. The Scheme Management Plan shall ensure that a report of each audit is provided to

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the water users on each property audited and to the consent holder, and that an overall audit report is also prepared covering compliance generally on all properties audited.

- (g) Compliance monitoring and enforcement procedures for water users, including the circumstances under which the provision of water to any property is not initially provided, or is restricted or supply ceased, as a result of any individual non-compliance with the implementation requirements of the individual Farm Management Plan for that property. The enforcement procedures shall specify how the following shall be implemented:
- (i) That water from the Scheme not be provided by the consent holder, unless a Farm Management Plan has been prepared and the matters specified in Condition 19(c), (d) and (e), and Condition 19(a) where new irrigation infrastructure is to be installed, from the Farm Management Plan Template have been undertaken for the property to receive the water;
 - (ii) For minor non-compliance with no or minor short term actual adverse environmental effect, routine personal contact with the water user with follow-up written notification from the consent holder requiring compliance by water user with relevant provisions of the Farm Management Plan;
 - (iii) For significant non-compliance, or repeated minor non-compliance, with moderate actual or potential adverse environmental effect, immediate action from the consent holder requiring immediate compliance by water user with relevant provisions of Farm Management Plan including notification of water supply restriction within 10 days if non-compliance is not remedied;
 - (iv) For major and/or persistent non-compliance with serious or persistent actual or potential adverse environmental effects, immediate action from consent holder requiring immediate compliance by the water user with relevant provisions of Farm Management Plan including notification of water supply being ceased within 10 days if non-compliance is not remedied.
- (h) Provision for ongoing education, training and information to assist water users in preparation and implementation of individual Farm Management Plans, including efficient use of water, best practice farming and environmental management. Provision to extend this education, training and information to other properties within the overall Scheme Area that are not taking and using water under this consent, and make this available to properties within the Waitaki River catchment downstream from the location of the water take for this consent;
- (i) Procedures to maintain an ongoing consultative relationship with South Canterbury / North Otago Ngai Tahu and with the communities of Waimate and Timaru Districts as relevant to the Scheme area;
- (j) Procedures to receive, record and respond to public complaints;

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- (k) Reasonable measures to manage irrigation infrastructure that comprise the Scheme to:
- (i) Minimise water loss and protect water quality, including provision for the sealing of water canals where this is necessary to prevent excessive loss of water through seepage from the canals,
 - (ii) Minimise the potential for operational bywash from the main headrace canal, and
 - (iii) Ensure that any normal operational bywash from the secondary distribution network of canals and races is discharged to engineered wetlands and/or to land and not directly to any surface waterway.
- (l) How the fish deflection barrier / fish screen, constructed in accordance with Condition 1~~1~~, will be operated and maintained;
- (m) Details of the environmental monitoring requirements, including:
- (i) The procedures for the preparation, implementation, evaluation, and regular updating, of a Scheme Monitoring Plan for the take from the Waitaki River and the use of water within the Scheme Area, in accordance with Conditions 3~~1~~ and 3~~2~~;
 - (ii) The monitoring of the water take in order to determine compliance with Conditions 4 - ~~7~~;
- (n) Provisions for the establishment, collection and operation, by the consent holder, of a Scheme Environmental Management Fund, to be used by the consent holder to fund, firstly, environmental mitigation required as a result of the effects of the operation of the irrigation Scheme which is not otherwise required by the individual Farm Management Plan or specific consent conditions and, secondly, other environmental management projects within the area affected by the operation of the Scheme, including:
- (i) Fund structure and management;
 - (ii) The level of levy (initially at least \$2 per hectare of irrigated land per annum);
 - (iii) Criteria for selecting and approving projects involving fund expenditure, including receiving and having regard to recommendations from the Community and Ngai Liaison Groups;
 - (iv) Criteria for a rebate of the levy to recompense water users for the capital costs of environmental enhancement work on water users' own properties, which is not otherwise required by their Farm Management Plan or the consent conditions (up to 50% rebate of the levy paid by any one water user in any one year).

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(v) The criteria for increasing the levy over time.

Priority, for the distribution and use by the consent holder of the Scheme Environmental Management Fund, shall be provided to the following environmental mitigation which is not otherwise required by the individual Farm Management Plans or specific consent conditions, and shall also be informed by the results and analysis of the Scheme monitoring undertaken and reported in accordance with Conditions ~~31~~, ~~32~~ and ~~33~~:

- Physical protection of, stock exclusion from, weed management and indigenous vegetation planting along riparian margins and wetlands around Wainono Lagoon;
- Physical protection of, stock exclusion from, and indigenous vegetation planting along riparian margins of rivers and streams;
- Wetland enhancement and wetland creation, including the development of wetlands along intermittent streams;
- Permanent protection of wetland areas that could contain mudfish.

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15 The consent holder shall at all times comply with and implement the current provisions of the Scheme Management Plan, except to the extent that the Scheme Management Plan or any of its provisions are inconsistent with the conditions of this consent.

16 Following the commissioning of the scheme, the consent holder shall review the Scheme Management Plan annually by 31 July each year for the first five years, and then by 31 July every three years thereafter, in consultation with the Canterbury Regional Council. Each review will take into account the information gained from the monitoring required by the conditions of this consent. The review shall:

(a) assess whether management practices are resulting in compliance with the conditions of this consent, and whether the requirements of the Scheme Management Plan in Conditions ~~13~~ and ~~14~~ above are being met through the actions and methods undertaken to implement the Scheme Management Plan; and

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(b) propose any amendments that the consent holder considers necessary to better achieve the requirements of the Scheme Management Plan in Conditions ~~13~~ and ~~14~~ above.

17 Prior to finalising its initial Scheme Management Plan, and then prior to each review of, and any amendments to, the Scheme Management Plan, the consent holder shall provide the proposed Plan, the annual reviews, and any proposed amendments, to the Community and Ngai Tahu Liaison Groups. The consent holder shall then receive, and give due consideration to feedback from the Community and Ngai Tahu Liaison Groups prior to finalising the initial Scheme Management Plan, each review of, and any amendments to, the Scheme Management Plan.

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18 Following the completion of the process outlined in Conditions ~~16~~ and ~~17~~ above, the consent holder shall provide the initial Scheme Management Plan and each amended Scheme

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Management Plan to Canterbury Regional Council, along with the consent holder's Annual Environmental Report (refer Condition 3~~3~~ of this Schedule).

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Farm Management Plan Template

19 The Farm Management Plan Template included in the Scheme Management Plan and prepared, reviewed and updated in accordance with Conditions ~~14~~(c) and (d) above shall include the following requirements:

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- (a) That all new irrigation infrastructure is designed and accredited by a qualified professional, and installed in accordance with the accredited design. The design shall take into account the specific requirements of any individual fragile soils on the property;
- (b) That, for any property receiving water from the Scheme that is currently using existing irrigation infrastructure that has not received design approval from an accredited designer, the consent holder is provided with an evaluation report prepared by a certified irrigation evaluator within 12 months of the property first receiving water from the Scheme, and any upgrades identified in the report are implemented within the following 12 months, in order to achieve efficient water use.
- (c) That a nutrient budget is prepared and implemented for all properties receiving water from the Scheme;
- (d) That mechanisms are implemented to ensure that cattle, pigs, and deer are excluded from Rivers and Wetlands (as defined in the Resource Management Act 1991) adjoining land being irrigated;
- (e) That any potential mudfish sites, from which cattle, pigs, and deer are not otherwise excluded in terms of (d) above, are surveyed by an appropriately qualified person and, if found to be actual mudfish habitat, then mechanisms are implemented to ensure that cattle, pigs, and deer are excluded from such sites in accordance with (d) above, or an equivalent habitat is provided and the mudfish relocated to the alternative habitat;
- (f) That, for each property, for each 12 month period ending 30 June:
 - (i) either, it is demonstrated, via the nutrient budget required in (c) above, that the average total nitrogen (fertiliser and effluent) application has been less than 200 kgN/ha/yr; or
 - (ii) or, approved methods are used to undertake calculations or measurements of the average annual concentration of nitrate nitrogen in the soil drainage below the plant root zone and the actions in (iii), (iv) or (v) below are implemented depending on the calculated or measured nitrate concentration. For the purposes of this rule, approved methods shall be:

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- Calculations using either the most recent version of the OVERSEER® model or the most recent version of the Soil Plant Atmosphere Model (SPASMO); or
 - Any other method of calculation or measurement approved by the Canterbury Regional Council.
- (iii) where the average annual concentration of nitrate nitrogen in the soil drainage water below the plant root zone as calculated in accordance with clause (ii) or measured, for the property exceeds 8 grams per cubic metre, management practices are implemented to reduce the loss of nitrate nitrogen to soil drainage water. These may include but not be limited to:
- Split applications of nitrogen fertiliser
 - Timing of nitrogen fertiliser application to plant growth
 - Avoiding application of nitrogen fertiliser to saturated soil
 - Avoiding applying nitrogen fertiliser when the soil temperature at 10 cm depth is less than 10°C
- (iv) where the average annual concentration of nitrate nitrogen in the soil drainage water below the plant root zone calculated in accordance with clause (ii), exceeds 12 grams per cubic metre of nitrate nitrogen:
- Nitrification inhibitors, winter cover crops, or appropriate technology or management practice, implemented to reduce the loss of nitrate nitrogen to soil drainage water.
- (v) where the average annual concentration of nitrate nitrogen in the soil drainage water below the plant root zone calculated in accordance with clause (ii) or measured, exceeds 16 grams per cubic metre of nitrate nitrogen:
- The average total nitrogen (fertiliser and effluent) application to that property is limited to 200 kgN/ha/yr.
- (g) That the following records are kept for each property and made available to the consent holder, in a form that is suitable to be made available to Canterbury Regional Council on request:
- (i) Timing and rate of inorganic fertiliser applications;
 - (ii) Timing and rate of nitrification inhibitor applications;
 - (iii) Stocking rates (number and type of animals) on an annual basis; and
 - (iv) Land uses, including timing and type of cultivation activities.

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Water Supply Agreement between Consent Holder and Owners of Properties where Water is to be Used

20 No water from the Hunter Downs Irrigation Scheme shall be provided by the consent holder to any property unless, over that property, there is a written Water Supply Agreement on standard terms between the consent holder and the owner of that property. This Water Supply Agreement shall include the following:

(a) A requirement for an audit of the implementation of the individual Farm Management Plan for that property in accordance with the requirements of the Scheme Management Plan, and provision for access on to the property by the Scheme Manager or their nominated representative, in order to undertake such an audit and/or to undertake spot checks of compliance with the implementation requirements of the Farm Management Plan and/or to undertake environmental monitoring in accordance with the requirements of the resource consent for the Hunter Downs Irrigation Scheme;

(b) A provision enabling the consent holder to not initially supply, and once supply has commenced to restrict or cease the supply of water to that property in the circumstances specified in Conditions ~~22~~ and ~~23~~, and in accordance with the relevant provisions of the Scheme Management Plan;

~~(c) A requirement that the annual volume of irrigation water applied from all sources shall not exceed 6270 cubic metres per hectare of land over which the irrigation water is to be applied, as identified in the Farm Management Plan for that property.~~

21 Any change of party to a Water Supply Agreement under these conditions shall be notified to the Canterbury Regional Council.

Supply of Water from Consent Holder to Properties where Water is Used

22 No water from the Hunter Downs Irrigation Scheme shall be provided by the consent holder to a property unless, prior to first receiving water from the Scheme;

(a) a Farm Management Plan has been prepared for that property, in accordance with the Template contained in the Scheme Management Plan, and the Farm Management Plan has been approved by the consent holder; and

(b) the matters specified in Condition ~~19~~(c), (d) and (e), and Condition ~~19~~(a) where new irrigation infrastructure is to be installed, from the Farm Management Plan Template have been undertaken for that property.

23 In accordance with the procedures for restricting and/or ceasing supply of water set out in the Scheme Management Plan (Condition ~~14~~(g)), no water from the Hunter Downs Irrigation Scheme shall continue to be provided by the consent holder to a property where there is a continuing breach of the following requirements:

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- (a) that the current provisions of the individual Farm Management Plan, for each property receiving water from the Scheme, are at all times complied with and implemented; and
- (b) that the individual Farm Management Plan is regularly reviewed and updated in accordance with the current Farm Management Plan template, and each review of the Farm Management Plan is approved by the consent holder.

24 The annual volume of water provided to each property by the consent holder shall not exceed 6270 cubic metres per hectare of land over which the irrigation water is to be applied as identified in the Farm Management Plan for that property.

Community Liaison Group

- 25 (a) The consent holder shall, prior to the exercise of this consent, undertake an open, public process to offer membership positions on a Community Liaison Group.
- (b) The Community Liaison Group shall consist of a maximum of five persons with a preference for representatives who can each demonstrate skills or knowledge in at least one of the following:
- (i) Recreational uses of the Lower Waitaki River and South Canterbury Region;
 - (ii) Sustainable irrigated agricultural practices;
 - (iii) Water quality and sustainable land management;
 - (iv) Community and/or business in South Canterbury;
 - (v) Lowland drainage network operation;
 - (vi) Management of indigenous biodiversity.
- (c) The members of the Community Liaison Group shall be offered the opportunity to meet every 6 months, or less frequently as determined by the Community Liaison Group, an annual inspection of the Scheme area, and the provision of any information to which Canterbury Regional Council is entitled by virtue of this consent, at the consent holder's expense.
- (d) If the Community Liaison Group elects to hold a meeting in accordance with Condition 25(c), then the Scheme Manager or their nominated representative shall attend the meeting.
- (e) At least one representative from each of Canterbury Regional Council (in its resource consent regulatory capacity); Canterbury Regional Council (in its river and drainage management capacity); and Waimate District Council shall be invited to attend meetings.

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- (f) The main purposes of the meetings of the Community Liaison Group are to:
- (i) Provide input and feedback into the preparation, implementation, review and amendment of the Scheme Management Plan and the Farm Management Plan templates;
 - (ii) Be presented by, and discuss with, the consent holder the Scheme Monitoring Plan and the results of monitoring and reporting as required by the conditions of this consent, including the Annual Environmental Report and the annual overall audit report on compliance with the Farm Management Plans, prepared by the consent holder;
 - (iii) Discuss, as far as practicable, any community concerns regarding the operation of the Hunter Downs irrigation scheme.
 - (iv) Review and recommend to the consent holder projects for the distribution of funds from the environmental levy to environmental mitigation projects in accordance with Condition 14(n).
- (g) In particular, the members of the Community Liaison Group shall be offered the opportunity to review and comment on the initial Scheme Management Plan and the initial Farm Management Plan templates, the reviews of and any amendments to the Scheme Management Plan and Farm Management Plan templates, the consent holder's Annual Environmental Report including the annual overall audit report on compliance with the Farm Management Plans.
- (h) The Community Liaison Group will be provided with the opportunity to submit information to the Canterbury Regional Council annually in relation to the review of the Scheme Management Plan and the template for the Farm Management Plans.

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Ngai Tahu Liaison Group

- 26 (a) The consent holder shall, prior to the exercise of the consent, offer Te Runanga o Ngai Tahu, Te Runanga o Arowhenua, Te Runanga o Waihao, Te Runanga o Moeraki and other manawhenua the opportunity to establish a Ngai Tahu Liaison Group of up to six persons.
- (b) The members of the Ngai Tahu Liaison Group shall be offered the opportunity to meet, every 6 months, or less frequently as determined by the Ngai Tahu Liaison Group, an annual inspection of the Scheme area, and the provision of any information to which Canterbury Regional Council is entitled by virtue of this consent, at the consent holder's expense.
- (c) If the Ngai Tahu Liaison Group elects to hold a meeting in accordance with Condition 26(b), then the Scheme Manager or their nominated representative shall attend the meeting.

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- (d) The main purposes of the meetings of the Ngai Tahu Liaison Group are to:
- (i) Provide input and feedback into the preparation, implementation, review and amendment of the Scheme Management Plan and the Farm Management Plan templates;
 - (ii) Be presented by, and discuss with, the consent holder the Scheme Monitoring Plan and the results of monitoring and reporting as required by the conditions of this consent, including the Annual Environmental Report and the annual overall audit report on compliance with the Farm Management Plans, prepared by the consent holder;
 - (iii) Discuss, as far as practicable, any Ngai Tahu concerns regarding the operation of the Hunter Downs irrigation scheme.
 - (iv) Review and recommend to the consent holder projects for the distribution of funds from the environmental levy to environmental management projects in accordance with Condition 14(n).
- (e) In particular, the members of the Ngai Tahu Liaison Group shall be offered the opportunity to review and comment on the initial Scheme Management Plan and the initial Farm Management Plan templates, the reviews of and any amendments to the Scheme Management Plan and Farm Management Plan templates, the consent holder's Annual Environmental Report including the annual overall audit report on compliance with the Farm Management Plans.
- (f) The Ngai Tahu Liaison Group will be provided with the opportunity to submit information to the Canterbury Regional Council annually in relation to the review of the Scheme Management Plan and the Farm Management Plan templates.

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Costs of the Liaison Groups

- 27 The consent holder shall meet the reasonable costs of the Community and Ngai Tahu Liaison Groups undertaking their functions in accordance with the conditions of this consent.

Suitable Person for Scheme Management, Management Plans, Monitoring and Environmental Reporting

- 28 The consent holder shall retain a suitably qualified and/or experienced person or persons to operate the Hunter Downs Irrigation Scheme, to supervise the preparation, review and implementation of the Scheme Management Plan and the Farm Management Plan template, to assist with the preparation, review and implementation of the individual Farm Management Plans, to ensure compliance with the conditions of this consent, the implementation and review of the monitoring required by these consent conditions, and the preparation of the Annual Environmental Report.

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Scheme Pre-commissioning Monitoring Plan

29 Within one year of the granting of the consents for the intake and pumping facilities and main headrace canal for the Hunter Downs Irrigation Scheme, the consent holder shall submit to Canterbury Regional Council a Scheme Pre-commissioning Monitoring Plan for the Scheme Area. The Scheme Pre-commissioning Monitoring Plan shall specify the monitoring which shall be undertaken prior to the commissioning of the Scheme. This monitoring shall maintain and update the data used in the assessments of effects for this consent so that sufficient data is available at consistent locations and sampling frequency in order to provide current and comprehensive existing environmental baseline information at the time of Scheme commissioning, against which to compare post-commissioning monitoring undertaken in terms of Conditions 30 and 31. Prior to submitting the Scheme Pre-commissioning Monitoring Plan to Canterbury Regional Council, the consent holder shall consult with Canterbury Regional Council (both in its resource consent regulatory capacity and its river and drainage management capacity) regarding the pre-commissioning monitoring proposed to be undertaken. The Scheme Pre-commissioning Monitoring Plan shall include the following, amongst other matters:

- (a) Physical and chemical ground and surface water quality;
- (b) Macrophytes and periphyton in rivers and streams;
- (c) Phytoplankton in Wainono Lagoon;
- (d) Macroinvertebrates in surface waters;
- (e) Native fish, in particular Canterbury mudfish, whitebait and long-finned eels;
- (f) Trout;
- (g) Riparian vegetation and habitat;
- (h) Wetlands, including birds and sedgeland and turfland communities at Wainono Lagoon;
- (i) Groundwater and surface water levels and the operation of drainage/flood protection infrastructure associated with the Wainono Lagoon catchment;
- (j) Sedimentation of Wainono Lagoon.

30 Prior to the exercise of this consent, the consent holder will undertake monitoring in accordance with the Scheme Pre-commissioning Monitoring Plan. A summary of the results and the analysis of all monitoring undertaken in terms of the Scheme Pre-commissioning Monitoring Plan is to be provided annually to the Canterbury Regional Council by no later than 31 July for each year that it is required from the date specified in Condition 29 above until the Scheme is commissioned.

Scheme Monitoring Plan

31 At least six months prior to the commissioning of the Hunter Downs Irrigation Scheme and the exercise of this consent, the consent holder shall submit to Canterbury Regional Council a Scheme Monitoring Plan for the Scheme Area. The Scheme Monitoring Plan shall identify the location, sampling and frequency of monitoring throughout the exercise of this consent, and any analyses that will be undertaken on the basis of the proposed monitoring information.

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Prior to submitting the Scheme Monitoring Plan to Canterbury Regional Council, the consent holder shall consult with Canterbury Regional Council (both in its resource consent regulatory capacity and its river and drainage management capacity), and offer to consult with the Community and Ngai Tahu Liaison Groups, regarding the monitoring proposed to be undertaken. The monitoring program shall include:

(a) Ground and surface water quality for the purposes of monitoring, and identifying the potential cause of, any changes in relation to ecological, contact recreation and potable water supply parameters as a result of the exercise of this consent. The water quality monitoring programme for the Scheme area shall be undertaken at representative sites in each of the following catchments and shall include monitoring for the parameters listed below:

- Waihao River Catchment, including its Dead Arm
- Waimate Creek Catchment
- Wainono Lagoon and its Catchment, including its associated drainage/flood protection infrastructure
- Hook River Catchment
- Makikihi River Catchment
- Kohika River Catchment
- Otaio River Catchment
- Pareora River Catchment

Parameters shall include:

- Nitrate – Nitrogen;
- Ammonia – Nitrogen;
- Total Nitrogen;
- Dissolved Inorganic Nitrogen (for surface water samples only);
- Total Phosphorus (for surface water samples only);
- Dissolved Reactive Phosphorus (for surface water samples only);
- Conductivity;
- Temperature (surface water sites only);
- pH;
- Dissolved Oxygen (surface water sites only);
- *E-Coli*, including at 3 recognised swimming sites in the Lower Pareora River (at Brassells Bridge), Waihao River (at Black Hole) and Lower Waihao River (at Bradshaws Ponds);
- Colour and clarity (surface water sites only);

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- Emergent macrophytes, filamentous algae and algae mats (surface water sites only);
 - Vegetation in drains and other waterways that are part of the drainage/flood protection system associated with the Wainono Lagoon catchment;
 - Embeddedness of bed substrate (surface water sites only);
 - Chlorophyll a concentration (Wainono Lagoon only);
 - Works undertaken by Canterbury Regional Council to control vegetation in the grassed waterways associated with the Lower Pareora River Control Scheme.
- (b) Monitoring of the following species and ecological communities, in the catchments specified in (a) above, in order to provide a periodic comparison with baseline information from pre-commissioning monitoring:
- Macroinvertebrates;
 - Native fish, in particular Canterbury mudfish, whitebait and long-finned eels;
 - Trout;
 - Riparian vegetation habitat;
 - Wetlands, including birds and sedgeland and turfland communities at Wainono Lagoon, using MfE Guidance on monitoring wetlands (Clarkson et. Al., 2004), or equivalent.
- (c) Monitoring effects on groundwater and surface water levels and on drainage/flood protection infrastructure associated with the Wainono Lagoon catchment, including:
- Groundwater levels in locations that are representative of the Wainono Lagoon Catchment, the low-lying areas around Wainono Lagoon, its drainage/flood protection infrastructure, and the land adjoining the Dead Arm of the Waihao River;
 - Representative climate data;
 - Surface water levels at the Waihao River outlet in vicinity of the Waihao Box, and from the existing Poingdestres Road water level recorder on the Dead Arm of the Waihao River, including the relationship with surface water levels in Wainono Lagoon;
 - Frequency, timing and duration of opening of the Waihao Box, and relationship with surface water levels in Wainono Lagoon and in the Dead Arm of the Waihao River;
 - Information from Canterbury Regional Council regarding maintenance requirements relating to vegetation control in and around Wainono Lagoon and its associated drains and streams.
- (d) Monitoring to establish an estimate of the rate of sedimentation of Wainono Lagoon, to assist with future understanding of the Wainono Lagoon ecosystems, using Lagoon depth and water levels from the existing Poingdestres Road water level recorder.

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- (e) Monitoring to establish an understanding of the relationship between changes in the surface water levels and the extent of Wainono Lagoon.

32 The consent holder shall undertake monitoring in accordance with the Scheme Monitoring Plan.

Annual Environmental Report

33 The consent holder shall complete an Annual Environmental Report and provide it to the Canterbury Regional Council, by 31 July each year following the commissioning of the Hunter Downs Irrigation Scheme, covering the following matters:

- (a) A summary of the operation of the water take and use, and the associated river flows, in the preceding 12 months, based on the monitoring undertaken as part of the exercise of this consent, in particular Condition 10.
- (b) An overall audit report covering compliance generally of all water users with the provisions of their Farm Management Plans in accordance with Condition 14(f).
- (c) The results of the monitoring undertaken as part of the exercise of this consent in accordance with Conditions 11, 31 and 32.
- (d) Explanations of any changes in the preceding 12 months from the previous Annual Environmental Report.
- (e) A description of the off-farm environmental mitigation, monitoring and reporting intended to be carried out in the next 12 months with an approximate timetable of activities.
- (f) A description and analysis of any unexpected adverse effect on the environment that has arisen as a result of the exercise of this consent in the last 12 months, the steps taken in response to that effect, and the results of those steps.

Copies of each Annual Environmental Report shall also be made available by the consent holder to all water users, the Regional Engineer of the Canterbury Regional Council, and the Community and Ngai Tahu Liaison Groups.

34 In addition to the Annual Environment Report required in terms of Condition 32, the consent holder shall prepare reports for the Regional Engineer of the Canterbury Regional Council regarding the monitoring of effects on groundwater and surface water levels and drainage/flood protection infrastructure associated with the Wainono Lagoon catchment in accordance with Condition 30(c). These shall record, analyse and report on the results of this monitoring work. Reports shall be completed and provided to the Regional Engineer when the Hunter Downs Irrigation Scheme reaches the point of 75% uptake of consented water for irrigation or at 5 years from the commissioning of the Scheme, whichever is sooner, and then at a frequency of 5 yearly thereafter.

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Record Keeping and Provision of Information to Canterbury Regional Council

35 All data measured and calculated in accordance with Conditions 6, 10, and 11, shall be provided to the Canterbury Regional Council on request, and shall be accessible and available for downloading by the Council.

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36 The consent holder shall keep records of timing and rate of water supply to each property and shall make these available to Canterbury Regional Council on request.

Financial Contribution

37 The consent holder shall pay a contribution of \$XXX to the Canterbury Regional Council, prior to the exercise of this consent, towards the following monitoring and mitigation in relation to the Lower Waitaki River downstream of the Hunter Downs Irrigation Scheme intake. This contribution reflects the extent to which the effects of the take of water authorised in terms of this consent contributes to the cumulative effects of all other activities on these matters:

Monitoring:

- (a) Monitoring of the location of Waitaki River mouth and water levels in the Waitaki River lagoon in order to improve information about the link between river flows and mouth outlet location;
- (b) Monitoring of adult salmon runs to determine if action is needed to preserve juvenile salmon when there is a large salmon run followed by an extended dry period. This would involve surveys to determine fish losses in small channels during dry years (e.g. 1:15 yr survey); and observation of the spatial distribution of juvenile salmon in different sized channels in order to confirm predictions on responses to changes in flow regime at low flows.

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Mitigation:

- (c) Increased level of vegetation clearance within the fairway of the Lower Waitaki River downstream of Stonewall (over and above that which was undertaken by the Canterbury Regional Council prior to the exercise of this consent) in order to mitigate any increased vegetation encroachment into the fairway as a result of the reduced normal flows due to the water take, with corresponding increased dry riverbed exposure and increased risk of vegetation growth.
- (d) Provision of high-quality braided river bird breeding habitat by way of more intensive vegetation control (than was able to be carried out by the Canterbury Regional Council prior to the exercise of this consent) on up to three suitable islands with protective flows around them that are likely to be used for breeding by white fronted tern, black-billed gull and/or black-fronted tern. The main methods of vegetation control on these islands are to be ground application of herbicides using existing best practice. Woody weeds are also to be physically removed where necessary to provide open nesting habitat. Methods shall be revised over time in accordance with ongoing best-practice. Alternative methods such as hand removal, flame weeding, and fire are not to be ruled out, but experience to date has shown none of these methods to be more cost-effective than the existing best practice methods.
- (e) If monitoring indicates that the water levels in the Welcome Stream wetlands, that are known or potential habitat of Canterbury mudfish, are substantially dependent on mainstem river flows, fencing to exclude stock from, and thereby improve the habitat for Canterbury mudfish in, those wetlands.

Review of Conditions

- 38 Canterbury Regional Council may, on the last working day of June each year, serve notice of its intention to review conditions of this consent for the purposes of dealing with any adverse effects on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage. However, this condition shall not be exercised for the first 3 years from the time at which this consent is first exercised, and shall not be exercised to review the same condition more than once in any 3 year period.

Giving Effect to this Consent

- 39 Pursuant to Section 125 of the Resource Management Act 1991, the period within which the consent holder may give effect to this consent shall be 10 years from the grant of this consent provided that this condition will lapse automatically;

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The lapsing provisions of section 125 of the Resource Management Act 1991 shall not apply until after the expiry of 10 years from the date of grant of all the consents necessary for the construction and use of the intake, diversion channel and irrigation delivery system, and for the use and discharge of the water necessary for the operation of the Hunter Downs Irrigation Scheme.

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(a) unless within five years of the date of this consent the consent holder lodges with the Canterbury Regional Council:

(i) evidence that it has commenced complying with the pre-commissioning conditions; and

(ii) complete applications for all primary consents necessary for the construction and use of the intake, diversion channel and the primary irrigation delivery system for the Hunter Downs Irrigation Scheme, and/ or

(b) if the necessary primary consents for the construction and use of the intake, diversion channel and the primary irrigation delivery system for the Hunter Downs Irrigation Scheme have been refused and all rights of appeal exhausted.

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