

CRC170657: a water permit to dam up to 53M m³ of water outside of the riverbed.

	GLOSSARY OF TERMS & ABBREVIATIONS USED IN THIS RESOURCE CONSENT
0	<p>Appurtenant Structure means a structure at the dam site, other than the dam itself, which is designed and is required for the safe containment and control of the reservoir contents and reservoir discharges under all loading conditions (NZSOLD Guidelines 2015).</p> <p>Appropriately qualified and experienced expert(s) means a person or persons:</p> <ol style="list-style-type: none"> With a relevant and recognised tertiary qualification(s) to the topic being assessed; Whom is (are) recognised as a full member (or equivalent) of a relevant professional institution(s) (such as the Institution of Professional Engineers New Zealand), where such institutions exist; Has more than 10-years relevant experience in the topic being assessed; and For the purposes of the conditions 8.0 to 8.3 and 24.0 to 25.4, is a suitably qualified 'Chartered Professional Engineer', with experience in the design, construction and documentation required for large dams in accordance with the NZSOLD New Zealand Dam Safety Guidelines 2015 (Table 2.1 Module 5). <p>Certifies and Certification means a process whereby (it is noted that this provision does not apply to certification under the NZSOLD requirements):</p> <ol style="list-style-type: none"> The consent holder supplies a report, action plan, design plan, construction methodology, monitoring plan, commissioning plan, safety system or a management plan, and the Canterbury Regional Council appoints an appropriately qualified and experienced expert to assesses the documentation submitted to ensure that it achieves the requirements of the relevant condition(s) of consent; Should the documents supplied in accordance with condition 0(a), in the opinion of the expert appointed by the Council, achieve the intent of the relevant condition(s) of these resource consents, the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall issue a written certificate to the consent holder confirming that the requirements of the relevant condition(s) have been satisfied; If the expert appointed by the Council is not satisfied that the documents supplied in accordance with condition (a) achieves requirements of the relevant condition(s), the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall advise (in writing) the consent holder of the experts concerns and ask that the report, commissioning plan, monitoring plan, action plan, safety system or management plan be modified so as to address the concerns, and then be resubmitted; This process shall be repeated until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council is able (on the advice of the expert) to certify that the requirements of the applicable condition(s) of consent have been satisfied; and For the purposes of 8.0 and 8.1, and 24.0 to 25.4, the expert appointed by the Council to certify the commissioning plan, monitoring plan, action plan, safety system or management plan shall be a suitably qualified professional engineer, with experience in the design, construction and documentation required for large dams in accordance with the NZSOLD New Zealand Dam Safety Guidelines 2015. The expert shall be independent of the consent holder, the designers of the Proposal and contractors appointed to construct the Proposal. <p>CLG means the Community Liaison Group.</p> <p>CMP means Construction Management Plan.</p>

	<p>Construction site includes all areas, excluding gazetted and vested road reserves that contain formed roads, where construction works / activities authorised by these resource consents are being undertaken by the consent holder.</p> <p>Council means the Canterbury Regional Council.</p> <p>Dam means a barrier that is constructed or modified to divert, store or hold back water or other fluids.</p> <p>Designer means the primary engineering agency appointed to design the dam.</p> <p>Definition of Guid</p> <p>DSMS means Dam Safety Management System</p> <p>EAP means the Emergency Action Plan.</p> <p>ESCP means Erosion and Sediment Control Plan.</p> <p>Fish screen means the rotary fish screen and its associated bypass channel.</p> <p>FSVMP means Fish Screen Verification Monitoring Plan</p> <p>Flood flow take means a flood flow abstraction from the Rangitata River.</p> <p>Guidelines means the New Zealand Society on Large Dams (NZSOLD) New Zealand Dam Safety Guidelines (2015), or any subsequent revision.</p> <p>HSSMP means the Hazardous Substances Spill Management Plan</p> <p>Klondyke Pond Dam means the Lake Klondyke Water Storage Facility. This is the storage dam, its Appurtenant Structures and the reservoir only, and is separate from the existing or modified Rangitata Diversion Race.</p> <p>km/hr means kilometres per hour.</p> <p>l/s means litres per second</p> <p>m³ means cubic metres</p> <p>m³/s means cubic metres per second</p> <p>m means metre</p> <p>m/s means metres per second.</p> <p>mm/s means millimetres per second</p> <p>NZSOLD means New Zealand Society on Large Dams New Zealand.</p> <p>PPV means Peak Particle Velocity</p> <p>Reasonable Mixing Zone means, for the purposes of condition 18.0A, a reasonable mixing zone extending from the point of discharge from the Sluice Channel Outlet to a point that is 200 metres downstream of the discharge point.</p> <p>Regional Water Table means the upper surface of the full saturated groundwater system but does not, for the purposes of these resource consents, include perched groundwater (which is groundwater in saturated strata that occurs above the regional water table but is separated from it by a layer of unsaturated strata).</p> <p>RDR means the Rangitata Diversion Race.</p> <p>RDR mods means the modifications to the Rangitata Diversion Race.</p> <p>RL means the right bank when looking downstream.</p> <p>RMA means the Resource Management Act</p> <p>The Proposal means the Klondyke Pond, WWC, RDR mods, fish screen, SBR relocation, flood flow take and refuge, and all incidental work.</p> <p>TSP means total suspended particulate.</p> <p>WRMP means Works in the River Management Plan</p> <p>WSCP means Water Storage Commissioning Plan</p>
	<p><u>CERTIFICATION PROCESS</u></p>
0A-1	<p>Except where explicitly required otherwise by conditions of this consents, the consent holder shall:</p> <ul style="list-style-type: none"> a. Engage an appropriately qualified and experienced independent expert (or experts) to prepare the management plans, design plans, construction methodology, monitoring plans, action plan, commissioning plan and safety system specified in the conditions of this consent using the draft versions of these plans (which are attached as Annexure B) as a base document; b. Provide drafts of each of the documents required by condition 0A(a) to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, not less than three months prior to construction works / activities commencing in accordance with these resource consents;

	<p>e. Not commence any construction works / activities authorised by these resource consents until it has received a certificate from the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council that the management plan, design plan, construction methodology, monitoring plan, action plan, commissioning plan or safety system is consistent with the applicable conditions of this consent;</p> <p>d. For the purposes of conditions 8.0 to 8.3, and 24.0 to 25.4, the certifier shall confirm that documentation, design, system or processes produced in accordance with these conditions accords with good engineering practice and is consistent with the NZSOLD Dam Safety Guidelines 2015 and any updates, including any amendment or update that is current at the time of certification;</p> <p>e. Adhere to and implement the certified version of the management plan, design plans, construction methodology, monitoring plan, action plan, commissioning plan or safety system;</p> <p>f. Submit any proposed variations to the management plans, design plans, construction methodology, action plan, safety system, monitoring plans and commissioning plan to the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council, at least seven days prior to when the proposed change will be implemented by the consent holder. Any variations made shall not take effect until the Regional Leader: Compliance & Monitoring of the Canterbury Regional Council certifies that the variations accord with the applicable conditions of the resource consent;</p> <p>g. Appoint an appropriately qualified and independent expert (or experts) to review the management plans, action plan, safety system, monitoring plans and commissioning plan at the frequency set out in these resource consents. Should the conditions of these resource consents not set a frequency, the reviews shall be conducted annually. Such reviews are to ensure that the management plans, action plan, safety system, monitoring plans and commissioning plan continue to achieve the conditions of these resource consents;</p> <p>h. Any changes made as a result of the reviews conducted in accordance with condition 0A.1(g) shall be submitted to the Canterbury Regional Council and shall not take effect until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council certifies that the changes accord with the applicable conditions of these resource consents;</p> <p>i. Pay the costs of the expert(s) appointed by the Canterbury Regional Council to certify the management plans, design plans, construction methodology, monitoring plans, commissioning plan, action plan and safety system (and any variations or changes thereto) in accordance with conditions 0A.1(c) and 0A.1(h); and</p> <p>j. Ensure that copies of the certified commissioning plan, design plans, construction methodology and management plans, monitoring plans, action plan, safety system and management plans set out in these conditions are available on site at all times during the construction works / activities authorised by this consent; and</p> <p>k. Ensure that all key personnel are to be made aware of the content and requirements / obligations of the management plans, action plan, safety system, commissioning plan and monitoring plans;</p>
	SCOPE
1	All activities authorised by this consent shall be undertaken in general accordance with the Application submitted to Canterbury Regional Council on 15 July 2016, except where the Application and amendments are inconsistent with these conditions (in which case these conditions prevail.)
1A	The Proposal Dam shall be constructed, operated and maintained in accordance with the details contained within the following documents:

	<p>a. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u></p> <p>b. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u></p> <p><u>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</u></p>
1B	<p><u>Should the consent holder wish to construct the Klondyke Pond in stages, the consent holder shall:</u></p> <p>a. <u>Notify the Council of the design and size of the first stage, and then each subsequent stage, not less than 12 months prior to construction of each stage commencing. Each notice, which is be in writing, shall demonstrate that the stage complies the parameters set out within the document prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016", except where modified by specific conditions set out in these resource consents or by the plans authorised by the building consent for the Proposal;</u></p> <p>b. <u>Notify the Council of the construction period that is envisaged for the first stage and each subsequent stage;</u></p> <p>c. <u>Provide a copy the notification required by conditions 1B(a) and 1B(b) to the land owners that abut the construction site and the parties listed in Annexure B to these resource consents (being the submitters to the resource consent application for the Proposal); and</u></p> <p>d. <u>Construct the Fish screen, WWC (and the associated parking facilities and amenities) and the Refuge, and provide formal access to the margins of the Rangitata River (and the associated parking facilities) as part of the first stage.</u></p>
2	<p><u>Water shall only be dammed within the land contained in Lot 2 of Deposited Plan 482124, Part Lot 1 of Deposited Plan 2767 and RS 36179, and the portion of Shepherds Bush Road that is to be stopped prior to the construction of the Klondyke Storage Dam ("the Dam") as 'Klondyke Storage Dam' on Plan CRC170657 (and is located adjacent to Montalto Road at or about map reference Topo50 BY19:6150-4409), which forms part of this consent.</u></p>
3	<p><u>The dammed water shall only be water authorised by take and use consents, held or lawfully exercised by the consent holder, limited runoff from the Dam embankments, and rainfall over the Dam.</u></p>
4	<p><u>The Dam shall be constructed in accordance with the approved Plans and Specifications as authorised by the approved Building Consent for the Dam, including any Minor Variations and/or Amendments to the Building Consent approved in advance by the Building Consent Authority.</u></p>
5	<p><u>The Dam shall be investigated, designed, constructed, commissioned, operated and maintained in accordance with the New Zealand Dam Safety Guidelines (May 2015 including any amendment or update or replacement edition) (hereafter referred to as the Guidelines) published by the New Zealand Society On Large Dams as pertains to a High Potential Impact CategoryClassification (PIC) dam.</u></p>
6	<p><u>The Consent Holder shall, at its own cost, have the design documentation peer reviewed by an independent certifier for the purposes of determining whether the</u></p>

	<p>proposed building works will comply with the requirements of the Building Regulations (1992), the Guidelines and conditions (5), (7) to (11) of this consent. A copy of the reviewer's comments and any additional amendments or comments from the Consent Holder as a result of the review; and a certificate stating that the design complies with the Building Regulations (1992) and the Guidelines; shall be provided to the Canterbury Regional Council, Attention Regional Leader—Monitoring and Compliance at least 20 working days prior to works commencing on the construction of the Dam.</p> <p><u>If the Klondyke Pond is to be constructed in stages, the consent holder shall prepare and implement the relevant management plans, design plans, construction methodology, monitoring plans, action plan, commissioning plan and safety system specified in the conditions of the associated resource consents for each stage. The certification process set out in condition 0 shall also apply to each stage.</u></p>
7	<p>The Dam shall be fully lined with a system that includes a geomembrane, and the lining system shall be in accordance with the Guidelines.</p> <p>MAXIMUM VOLUME AND WATER DEPTH</p>
8	<p>The full supply or maximum normal operating level of the Dam (as defined by the Guidelines) shall not exceed 361 metres Reduced Level (RL) to Lyttleton 1937 (LYTTHT1937) vertical datum.</p>
9	<p>The maximum volume of water stored in the Dam at full supply or maximum normal operating level as defined by the Guidelines, shall not exceed 53.0 million cubic metres. <u>The maximum inflow into the Klondyke Storage Dam from the RDR canal shall not exceed 40.7m³/s.</u></p>
10	<p>For the purposes of controlling the maximum depth of water, the construction of the Dam shall be limited to the following parameters:</p> <ol style="list-style-type: none"> The maximum dam embankment <u>height</u>, as measured <u>from the dam crest to the lowest structural fill elevation at the toe of the embankment (excluding any excess material that is placed on the embankment for non- structural reasons)</u>, shall not exceed 31.5 metres and the dam crest level shall not exceed 362.5 metres <u>Reduced Level</u>; and The minimum freeboard shall be not be less than the larger of: <ol style="list-style-type: none"> 1.5 metres above the full supply or maximum normal operating level; or The maximum value determined in accordance with the Guidelines during design flood and wind conditions, including appropriate coincident design scenarios with the reservoir level above full supply level. <u>The reservoir invert shall not be less than 337.0 metres Reduced Level except locally in the immediate vicinity (within 30 metres) of Appurtenant Structures.</u>
	<p>SPILLWAY</p>
11	<p>The spillways <u>to the Rangitata River and RDR canal</u> shall be designed to:</p> <ol style="list-style-type: none"> accommodate the maximum flow rate expected during sluicing and any emergency discharges, both in regard to flow rate and flow duration; and reduce as far as practicable the potential for scouring of the spillway channel and the river bed <u>and/or the canal</u>.
	<p>CERTIFICATION</p>
12	<p>With regard to the certification requirements of condition 12A, Where Conditions (6), (15), (30)(e), (30)(f), (32), (40) and (41) refer to certification by an independent certifier, this shall mean the following:</p> <ol style="list-style-type: none"> the certifier shall be a Chartered Professional Engineer (CPEng), suitably qualified and experienced in the design, construction, surveillance and

	<p>documentation required for High PIC dams in accordance with the Guidelines, and shall be independent of the Consent Holder, dam designers and construction contractors;</p> <p>b. the certifier shall be authorised by Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, as meeting Condition (12)(a);</p> <p>c. the Consent Holder is responsible for appointing the certifier and all costs of certification;</p> <p>d. the Consent Holder shall implement any documentation changes and remedial actions recommended by the certifier <u>as agreed between the Consent Holder and the certifier</u>.</p>
12A	<p>a. <u>The Consent Holder shall provide to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, written certification from the certifier that the documentation, design, system or processes that are the subject of the respective consent conditions are in accordance with good engineering practice and are consistent with the NZSOLD New Zealand Dam Safety Guidelines 2015 and any updates, including any amendment or update current at the time of certification. Prior to first filling the certifier shall provide written certification that the construction is in accordance with the certified design documentation.</u></p> <p>b. <u>The WSCP (as required by condition 16), the DSMS (as required by conditions 29 and 35), and the EAP (as required by conditions 36 to 43) shall be certified by an independent certifier. Such certification shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, no less than 20 working days before the first filling of the dam commencing.</u></p> <p>c. <u>In addition to the first certification of the EAP required under condition (36), the consent holder shall appoint an independent certifier to review the EAP when it reviews the DSMS (refer to condition (32) for the frequency of the reviews). The review shall be timed to coincide with the review of the Civil Defence Emergency Management Group Plan and shall consider, as a minimum, the currency of:</u></p> <p>i. <u>The inundation modelling, including whether the downstream environment has changed since the modelling was last undertaken;</u></p> <p>ii. <u>The contact details for the downstream landowners and the notification procedures; and</u></p> <p>iii. <u>The actions identified within the EAP.</u></p> <p>d. <u>Prior to first filling of the Dam commencing, the Consent Holder shall obtain certification from an independent certifier that the construction of the Dam is in accordance with good engineering practice, including being entirely consistent with the Guidelines as pertains to a High PIC dam, and in accordance with the following requirements:</u></p> <p>a. <u>Certification of the design and construction of the dam shall certify that the investigations (e.g. geotechnical, seismic and flood hydrology assessments), the design parameters, assessments and details and construction including construction records are appropriate and consistent with the Guidelines for a High PIC dam.</u></p> <p>b. <u>This certificate shall be submitted to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, 10 working days prior to commencing the first filling of the dam.</u></p>
	BUILDING CONSENT PLANS
13	<p>At least one month prior to the commencement of construction of the Dam, the Consent Holder shall provide to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance the approved Building Consent Plans and Specifications.</p>

14	Within 12 months of the date that first filling of the Dam commences, detailed “as-built” engineering plans shall be provided to Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance.
	CERTIFICATION PROCUREMENT
15	<p>Prior to first filling of the Dam commencing, the Consent Holder shall obtain certification from an independent certifier that the construction of the Dam is in accordance with good engineering practice, including being entirely consistent with the Guidelines as pertains to a High PIC dam, and in accordance with the following requirements:</p> <ul style="list-style-type: none"> a. Certification of the design and construction of the dam shall certify that the investigations (e.g. geotechnical, seismic and flood hydrology assessments), the design parameters, assessments and details and construction including construction records are appropriate and consistent with the Guidelines for a High PIC dam. b. This certificate shall be submitted to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, 10 working days prior to commencing the first filling of the dam.
	WATER STORAGE COMMISSIONING PLAN
16	<p>The Consent Holder shall prepare a comprehensive Water Storage Commissioning Plan (WSCP) for the Dam. The objectives of the WSCP shall be to minimise risks from the initial filling and other commissioning of the Dam, in accordance with the Guidelines for a High PIC dam. The WSCP shall be certified by peer review input by an independent certifier in accordance with the Guidelines and condition 17. The WSCP shall include (but not be limited to) provisions for:</p> <ul style="list-style-type: none"> a. definition of the physical works that must be completed before commissioning can commence. b. definition of all parties involved and their responsibilities, the names of key personnel including backup personnel, and all personnel contact details. c. confirmation that all statutory requirements have been and will be met during commissioning. d. requirements for Designer input including inspections and input if performance is not as anticipated. e. the rate of reservoir filling, reservoir level hold points and their duration, and criteria for the continuation of reservoir filling. f. recording a set of initial (baseline) measurements for all instrumentation and survey marks immediately prior to commissioning. g. the establishment of expected performance ranges for instrumentation by the Designer, to provide a guide for evaluating actual dam performance during and following commissioning. h. commissioning procedures including at prescribed frequencies and/or reservoir elevations: <ul style="list-style-type: none"> i. walkover inspections to check for any indications of unexpected changes. ii. identification and measurement of seepage flows and clarity and changes in seepage behaviour. iii. measurement of piezometric pressures and groundwater levels. iv. measurement of settlements and deformations. v. inspections and/or monitoring of the dam. vi. reservoir shoreline and rip rap stability at specified hold points. i. testing of installed plant and equipment critical to dam safety (e.g. diversion gates from the Rangitata Diversion Race and low-level outlet gates) over an appropriate head and flow range including flushing and irrigation releases. j. testing of spillway and energy dissipation structure performance including but not limited to reinforced concrete chutes, stilling basins, rock lined channels and interface areas over an appropriate range of flow magnitude and duration. k. The recording and communication of monitored data, interpreting the monitored

	<p>data, and evaluating the performance of the Dam against acceptable performance criteria.</p> <p>l. actions to be taken in the event of a developing actual or potential dam safety emergency.</p> <p>m. the duration of commissioning and handover procedures.</p> <p>n. for a comprehensive Commissioning Report to be prepared by the Designer including interpretation of all surveillance data and confirmation that all surveillance data is in accordance with design expectations and/or discussion on the resolution of any matter that is outside of design expectations. The commissioning report shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance not more than 20 working days following the Designer certifying completion of commissioning.</p>
17	A copy of the WSCP that has been through the peer review process in accordance with the Guidelines and certified in accordance with condition 15, shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance at least 20 working days before the first filling or partial filling of the Dam commencing.
18	The initial filling of the Dam shall be undertaken in accordance with the WSCP referred to in condition 16. A copy of the WSCP shall be held on site at all times during commissioning.
19	<p>During first filling of the Dam:</p> <p>a. The consent holder shall ensure that the Designer of the Dam is present as required and notes any faults observed, and again inspects the Dam within five days of first filling reaching full supply level for the first time. The Designer is required to complete a comprehensive commissioning report.</p> <p>b. <u>The consent holder shall procure ensure that during commissioning the Designer of the Dam records any faults or findings that could potentially lead to dam failure, and recommends appropriate remedial works or other course of action. A report of these findings and recommended remedial actions shall be prepared and a copy shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, within one month of the inspection.</u></p> <p>c. The consent holder shall immediately undertake any remedial works or corrective action recommended by the Designer of the Dam and notify the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, within one week of completion.</p> <p>Advice note: Any remedial works or corrective action recommended by clause (c), may be subject to requirements under the Resource Management Act (1991) and/or the Building Act (2004) and other legislation.</p>
	CERTIFIED MANAGEMENT PLANS TO BE HELD ON SITE
20	<p>The Consent Holder shall ensure that a copy of this Consent, and a copy of the certified Emergency Action Plan, as required by Condition (39), are available on site at all times, and that all key personnel are made aware of the contents of each plan prior to first filling of the Dam.</p> <p>The operation of the Dam and associated activities shall be undertaken in accordance with the certified Dam Safety Management System at all times. The Consent Holder shall maintain on site at all times all aspects of the Dam Safety Management System that relate to operation and surveillance of all aspects of the Dam.</p>
	PUBLIC LIABILITY INSURANCE
21	The consent holder shall, at least three months prior to <u>construction</u> the initial filling of the Dam <u>commencing</u> under this resource consent, and at all times thereafter, have in place public liability insurance on terms suitable (in all respects) to the Canterbury Regional Council.
22	The public liability insurance required by Condition (21) shall be sufficient to cover all reasonable insurable contingent risks associated with the construction and operation of the Dam, including offsite impacts to third party property, including but not limited to any assets, infrastructure or otherwise of the Canterbury Regional

	Council, Ashburton District Council, Transpower, Kiwirail, Rangitata Water Limited and the New Zealand Transport Authority, associated with any reasonable foreseeable failure of any part of the proposed dam, together with a reasonable provision for reconstruction and reinstatement; and the proceeds of the insurance policy shall be applied for those purposes only.
23	<p>The public liability insurance required by condition (21) shall be on the following terms:</p> <ol style="list-style-type: none"> The Canterbury Regional Council <u>and Ashburton District Council</u> shall be an additional insured party of the insurance policy with respect to liability arising out of the actions of the consent holder and able to enforce its terms; The Consent Holder shall ensure that the insurer is required to copy all relevant information regarding the insurance to the Canterbury Regional Council <u>and Ashburton District Council</u>. This obligation includes an express term that the insurer must immediately notify the Canterbury Regional Council <u>and Ashburton District Council</u> of any non- performance of the terms of insurance by the Consent Holder. In the event of non-performance of any term of the insurance, the Canterbury Regional Council or <u>Ashburton District Council</u> shall be given the opportunity to rectify the non-performance before the insurance is cancelled.
24	The Consent Holder shall supply to Canterbury Regional Council: Attention Regional Leader Monitoring and Compliance, a Certificate of Currency within 10 working days after any premium payment is due.
25	The consent holder shall, prior to arranging the public liability insurance required by Condition (21), obtain advice from an appropriately qualified and experienced expert within the insurance industry (that is independent of the consent holder) to determine the limit of indemnity and coverage required to be provided for by the insurance policy. In providing that advice, that person is to ensure the purpose of the policy is met, which is to provide coverage and protection in the instance of a failure of the works authorised under this consent to third parties whose properties and possessions may be damaged.
26	The consent holder shall provide a copy of the advice required by condition (25) to the Regional Leader - Monitoring and Compliance at the Canterbury Regional Council for review and comment. The consent holder shall, when establishing the public liability insurance required by condition (21), take account of, and provide for any comments and suggestions that are made by the Canterbury Regional Council.
27	If the parties cannot agree on the terms of insurance cover, the coverage, or indemnity value, the dispute shall be referred to arbitration.
28	The limits of indemnity and coverage and terms of the public liability insurance policy put in place as a requirement of condition (22) are to be reviewed, by the consent holder, at least once every three years. If that review results in amendment or alteration to the insurance cover, then the consent holder shall provide a copy of the review and recommendations to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance for certification that the amendments still achieve the requirements of conditions (21), (22) and (23). Any amendments to the insurance cover may only occur after the consent holder has received the Regional Council's certification.
	DAM SAFETY MANAGEMENT SYSTEM
29	The Consent Holder shall engage a suitably experienced and qualified professional engineer to prepare a Dam Safety Management System (DSMS), in accordance with the Guidelines for a High PIC dam. The Objectives of the DSMS shall be to minimise risks from the ongoing operation of the Dam.
30	<p>The documented DSMS shall be strictly in accordance with the Guidelines for a High PIC dam and shall include but not be limited to the following components, in accordance with the Guidelines:</p> <ol style="list-style-type: none"> The governance structures that are to be put in place and personnel who will implement the directions from the governance structures, including but

	<p>not limited to details of appropriate management, training and information management systems;</p> <p>b. Dam and reservoir operation and maintenance; including monitoring of the performance of the liner that is chosen for the Dam;</p> <p>c. The surveillance protocols to be applied and the frequency of the associated surveillance activities, including but not limited to data review, trigger (design basis performance) and alert (recorded data set) levels, provisions for data telemetry and monitoring of the performance of the liner that is chosen for the Dam, as well as a requirement to ensure that surveillance activities are carried out by appropriately qualified and experienced people;</p> <p>d. Appurtenant Structures and Ggate and/or Vvalve Ssystems, including but not limited to <u>control systems</u>, procedures for inspection, maintenance and testing of gates, valves and other dam and reservoir safety systems;</p> <p>e. The approach to be adopted for the annual Intermediate Dam Safety Reviews (which are to be completed by an 'independent technical advisor' (where the term 'independent technical advisor' is as per the definition set out within the Guidelines);</p> <p>f. The approach to be adopted for the 5-yearly (five) Comprehensive Dam Safety Reviews, which are to be completed by an independent, experienced and qualified dam safety expert;</p> <p>g. The triggers for special inspections and dam safety reviews, and the approach to be adopted for such inspections and reviews, including providing for the immediate inspection of the Dam and its associated components and accessory structures as soon as practicable after any earthquake causing shaking with an intensity of VII (Very Strong) on the Modified Mercalli Scale at or in close proximity to the Dam. <u>To assist with assessing the performance of the Klondyke Storage Facility Dam following earthquakes, the consent holder shall, in accordance with good industry practice, install and operate a seismograph;</u></p> <p>h. The emergency preparedness systems that are to be established, and the frequency for any training exercises associated with the same;</p> <p>i. Identifying, managing and resolving potential and/or confirmed dam safety issues; and</p> <p>j. information management, including the reporting to the Canterbury Regional Council, attention: Regional Leader – Monitoring and Compliance, of the results of any safety reviews, including provision of copies of all Annual annual Intermediate Dam Safety Review and Comprehensive Dam Safety Review reports; and</p> <p>k. The frequency of, and approach to be adopted in auditing the DSMS and the outcomes of the reviews and any associated recommendations / actions.</p>
31	<p>The DSMS shall be certified by an independent certifier as complying with conditions (29) and (30) of this consent. Such certification shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, prior to first filling of the dam commencing.</p>
32	<p>The DSMS shall be reviewed as follows:</p> <p>a. The consent holder shall appoint a suitably qualified 'Chartered Professional Engineer', with experience in the design, construction and documentation required for large dams in accordance with the Guidelines to undertake the review of the DSMS;</p> <p>b. The reviews shall be undertaken <u>within three months of first filling reaching full supply level for the first time and</u> every twelve months thereafter for the first two years of operation of the Dam. The review of the DSMS shall then be timed to coincide with the five-yearly Comprehensive Dam Safety Reviews. <u>Additional reviews shall also be undertaken whenever a trigger event (as defined within the DSMS) occurs;</u></p> <p>c. The reviews shall evaluate the DSMS, the results of any inspections and any</p>

	<p>monitoring data and communications to or from the Ashburton District Council and the Canterbury Regional Council; and</p> <p>d. The results of the review shall be recorded in writing and forwarded to the Canterbury Regional Council, Attention: Regional Leader: Compliance and Monitoring within one month of each review being completed.</p> <p>e. The DSMS shall be re-certified by an independent certifier after any change that is more than a minor or inconsequential change, and not less than once every five years. Such re-certifications shall be provided to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance within fifteen working days of re-certification. <u>Note: re-certification will happen as a minimum with the CDSR, and reported with the CDSR</u></p>
33	<p>Each of the IDSR and CDSR required under conditions (30)(e) and (f) shall include a review of the terrace stability and the actual and potential retreat associated with river erosion of the high terrace situated between the Dam and the Rangitata River. The reviews shall clearly outline the potential requirements for river engineering and/or terrace stability works should they be necessary and the timeframe required for any works to be completed.</p>
34	<p>A copy of each IDSR and CDSR required under conditions (30)(e) and (f), including the additional review required under condition (33) shall be forwarded to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance within 30 days of the completion of each report.</p>
35	<p>In the event that the inspections required by conditions (30)(e) and (f) of this Consent show, in the opinion of the Engineer <u>engineer responsible for the inspection</u>, that there is an actual or potential dam safety concern, the consent holder shall immediately:</p> <p>a. Report the event to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance; and the Ashburton District Council, Attention: Roading and Street Services manager; and</p> <p>b. Consult a Chartered Professional Engineer (CPEng) who is suitably qualified and experienced in the design, construction, and maintenance of High PIC dams who shall be employed to take responsibility for:</p> <ol style="list-style-type: none"> further inspection of the Dam; the identification of remedial action required; the recording of the details of the inspection, reasons for the fault and remedial action required, in a report, a copy of which shall be forwarded to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance, and the Ashburton District Council, Attention: Roading and Street Services Manager, within one month of the inspection; and <p>c. <u>Undertake</u> any required remedial works or corrective action; and</p> <p>d. The consent holder shall notify the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance, and the Ashburton District Council, Attention: Roading and Street Services Manager, within one week of completion of the remedial action referred to above.</p> <p>Advice note: Any remedial works or corrective action recommended by clause (c), may be subject to requirements under the Resource Management Act (1991) and/or the Building Act (2004) and other legislation.</p>
	<p>EMERGENCY ACTION PLAN</p>
36	<p>No less than 40 working days before the first filling of the Dam, an Emergency Action Plan (EAP) shall be provided to the:</p> <ol style="list-style-type: none"> Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance; Canterbury Regional Council – Attention Harbourmaster; Canterbury Regional Council – Attention Flood Controller; Canterbury Regional Council - Regional Engineer; Ashburton District Council, <u>Timaru District Council;</u>

	<ul style="list-style-type: none"> g. the Canterbury District Health Board; h. NZ Police; i. Fire and Emergency New Zealand; j. Kiwirail; and k. the NZ Transport Agency. <p>Any input to the EAP those organisations provide shall be taken into account within the EAP by the Consent Holder prior to submission under condition (40).</p>
37	<p>The purpose of the EAP is to minimise the potential for dam failure through pre-planned or pre-conceived interventions and / or actions should a dam safety incident or emergency arise, and, in the event that a dam failure cannot be prevented, to minimise the effects of the dam failure on people, property and the environment. For the avoidance of doubt, these interventions and/or actions includes the emergency discharge to the Rangitata River as authorised under consent CRC182541.</p>
38	<p>The EAP shall be prepared in consultation with the Civil Defence Emergency Management Group, including the Ashburton District Council, <u>the Timaru District Council</u>, the Canterbury Regional Council, and shall, be consistent with the Guidelines for a High PIC dam, and any Civil Emergency Management Group Plan governing the Regional and District Councils pursuant to the Civil Defence Emergency Management Act 2002 or any replacement legislation.</p>
39	<p>The EAP shall be in accordance with Module 6 of the Guidelines for a High PIC dam and be based on the final dam design, and include (but not be limited to):</p> <ul style="list-style-type: none"> a. Maps of the areas of land identified (via modelling) as being subject to inundation in the event of abnormal or excess flow release from the Dam, and contact details for residents within those areas, and strategic infrastructure providers with infrastructure in those areas, where they can be ascertained. Inundation mapping will include illustration of inundation areas at scales sufficient for the identification of areas at risk and include inundation tables which show at key locations (e.g. dwellings, roads, key infrastructure and the like): <ul style="list-style-type: none"> i. The arrival time of the first flood waters; ii. The arrival time of the peak flood level; iii. The peak velocity and depth velocity (DV) parameter; iv. The peak flood elevation above mean sea level; and v. Flood levels as relative depths at key locations (e.g. bridges, dwellings) and the time at which key structures may become unusable. vi. <u>Assess the itinerants that could potentially be present within manageable areas across downstream properties, roads/rail, and the Rangitata River. Use the DV information to assess the Potential Loss of Life for the permanent residents and itinerants to assist with the emergency and evacuation planning (39 c.).</u> b. The contingency plans to be implemented by the consent holder for alerting: people and strategic infrastructure providers with infrastructure within the identified areas of inundation; and the relevant Civil Defence authorities; of the risk of such events. c. <u>A procedure that links with District and/or Regional Emergency Management Plans and/or Emergency Evacuation Plans</u> for the identification and implementation of alternative access routes for vehicles in the event of inundation or damage to a State Highway or local road, including procedures to close roads and divert vehicles away from the potential dam-break flood inundation zone in a dam safety emergency. d. Notification procedures.

40	The EAP shall be certified by an independent certifier as complying with conditions (36) to (39) of this consent. Such certification shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, no less than 20 working days before the first filling of the dam commencing.
40	The EAP shall be certified by an independent certifier as complying with conditions (36) to (39) of this consent. Such certification shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance, no less than 20 working days before the first filling of the dam commencing.
41	In addition to the first certification of the EAP required under condition (4), the consent holder shall appoint an independent certifier to review the EAP when it reviews the DSMS (refer to condition (32) for the frequency of the reviews). The review shall be timed to coincide with the review of the Civil Defence Emergency Management Group Plan and shall consider, as a minimum, the currency of: <ul style="list-style-type: none"> a. The inundation modelling, including whether the downstream environment has changed since the modelling was last undertaken; b. The contact details for the downstream landowners and the notification procedures; and The actions identified within the EAP.
42	The response to, and management of, any emergencies associated with the activities authorised by this consent shall be undertaken in accordance with the EAP and a copy of the EAP and this resource consent shall be made available to every person involved in the operation and maintenance of the Dam.
43	In the event of a dam safety emergency, including internal events, potential emergencies and imminent failure, the consent holder shall immediately: <ul style="list-style-type: none"> a. enact the EAP to the level appropriate to the event; and b. contact a Chartered Professional Engineer (CPEng) who is suitably qualified and experienced in the design, construction, and maintenance of High PIC dams who shall complete a report detailing the cause of the incident and the action taken. A copy of this report shall be forwarded to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance, and the Ashburton District Council, Attention: Roading and Street Services Manager, within one month of the event.
	WATER QUALITY MANAGEMENT PLAN
43B.1	The purpose of the Water Quality Monitoring Plan (WQMP) is to: <ul style="list-style-type: none"> a. <u>Assess the key water characteristics of the Klondyke Pond in advance of allowing activities where humans may come into contact with water from the Klondyke Pond (such as kayaking);</u> b. <u>Monitor the Trophic Lake Index (TLI) of the reservoir as a general indicator of water quality and lake ecosystem health;</u> c. <u>Set out the monitoring, management and reporting approaches to be undertaken by the consent holder in relation to the Klondyke Pond and discharges to the WWC.</u>
43B.2	The WQMP shall establish a monitoring regime that includes cyanobacteria, <i>E. coli</i> and TLI monitoring, with the following components: <ul style="list-style-type: none"> i. <u>Monitoring of the phytoplankton population to determine the presence of cyanobacteria taxa and their densities or biovolumes;</u> ii. <u>Weekly sampling of the water in the Klondyke Pond to determine the presence of cyanobacteria (type and density or biovolume) and <i>E. coli</i> (expressed as a concentration) from November to March;</u> iii. <u>Sampling for <i>E. coli</i> (expressed as a concentration) the week prior to holiday weekends from April to October;</u> iv. <u>Monthly monitoring of total nitrogen, total phosphorus and chlorophyll-a in the water column of the reservoir using the method outlined in Burns <i>et</i></u>

Commented [MOU1]: Ongoing discussions with CSIFG

	<p><u>al. (2000¹):</u></p> <p>v. <u>Annual monitoring of pond sediment near the spillway channel outlet gate for total carbon, total nitrogen, total phosphorus and sediment anoxia:</u></p> <p>vi. <u>Monitoring of water column dissolved oxygen, pH, temperature and visual clarity near the spillway channel outlet gate no more than 7 days prior to any planned discharge to the river via the spillway channel.</u></p> <p>vii. <u>Other than that required by condition 43B.3(iii) and 43B.3(vi), there will be no monitoring for recreation water quality outside the irrigation season and / or when the WWC is closed.</u></p>
43B.3	<p>The monitoring required by the WQMP in 43B.2 shall commence within <u>three months of the Klondyke Storage Dam is first filled, and shall continue for at least five consecutive years thereafter.</u></p>
43B.4	<p>The appropriately qualified and experienced expert appointed to prepare the WQMP shall also prepare the following documents, for the duration of the monitoring required in condition 43B.2:</p> <p>a. <u>A memorandum on the suitability of the use of water from the Klondyke Pond for contact recreation, drawing on the results yielded from monitoring undertaken in accordance with condition 43B.2 and recommending future monitoring requirements. This memorandum shall be issued to the Canterbury Regional Council, Attention: Regional Leader: Monitoring and Compliance and to the body that will administer the WWC by the 31st June each year;</u></p> <p>b. <u>An annual report, by no later than the 30th of June each year, to assess whether the purpose of the WQMP (as set out in condition 43B.1) is being achieved. If the findings of the expert are that changes to the operation of Lake Klondyke and / or to the WQMP are needed to achieve the purpose and / or the objective of the plan, they shall make recommendations to the consent holder as to the changes / additional measures / actions that are required and shall set out if all or part of the monitoring set out in condition 18.2 needs to be repeated to confirm that the effectiveness of any recommended operational changes. The consent holder shall submit an amended version of the WQMP to the Canterbury Regional Council, Attention: Regional Leader: Monitoring and Compliance for certification within two calendar months of receiving the final report from the Expert. Any changes to the WQMP shall be certified in accordance with condition 6.0 of these resource consents before they can be implemented, except that the monitoring required by condition 18.2 and the existing WQMP shall continue while the revisions are being certified.</u></p>
43B.5	<p>When preparing the reports required by condition 43B.4 the appropriately qualified and experienced expert shall base their recommendations on the <u>New Zealand Guidelines for Cyanobacteria in Recreational Fresh Waters – interim guidelines (or any subsequent revisions to the guidelines), the Ministry of Health/Ministry for the Environment microbiological water quality guidelines, the Burns <i>et al.</i> (2000) guidelines for monitoring lake trophic levels and on the protocols set out in condition 43B.2.</u></p>
	<p>ONGOING ENGAGEMENT</p>
44	<p>The consent holder shall establish and resource a Community Liaison Group (CLG) for the duration of this consent and shall as a minimum invite, in writing, its members and any other parties that express an interest in being involved in the CLG to annual meetings.</p>

¹ Burns, N., Bryers, G. and Bowman, E. 2000. *Protocols for monitoring trophic levels of New Zealand lakes and reservoirs*. Report prepared for the Ministry for the Environment by Lakes Consulting.

45	<p>The annual meetings conducted in accordance with condition (44) are for:</p> <ol style="list-style-type: none"> The consent holder to update the interested parties on the construction of the Proposal, its on-going operation, and on the outcomes of the monitoring conducted in accordance with consents CRC170651 to CRC170662, CRC182535 to CRC182631; The interested parties to provide feedback and comment on environmental issues related to the exercise of this consent and consents CRC170651 to CRC170662, CRC182535 to CRC182631; <p>The consent holder to provide details of any known additional existing irrigated land subject to intensification, and any known extensions to the existing irrigation network (to enable water to be supplied to unirrigated land) that are to be supplied water from the Dam. For the purposes of this consent condition, the term 'existing' shall mean 'as at the date when the resource consent commences'.</p>
46	<p>The annual meetings conducted in accordance with condition (44) shall be held in a suitable venue in the month of June each year. The interested parties shall include, but need not be limited to, representatives of Te Rūnanga o Ngāi Tahu, Te Rūnanga o Arowhenua, the Ashburton District Council, Canterbury Regional Council, and Central South Island Fish and Game.</p>
47	<p>The interested parties invited to the annual meetings required by condition (44) shall be provided with a copy the documents, reports and reviews produced in accordance with this consent, excluding any parts of the reports that the consent holder and Canterbury Regional Council, Attention: Regional Leader - Monitoring & Compliance agree are confidential and / or commercially sensitive. Copies of the reports shall be issued with the written invitations, and shall also be available at the annual meeting.</p>
48	<p>The meetings required by condition (44) need not occur if:</p> <ol style="list-style-type: none"> The parties listed in the condition (46) advise (in writing) the consent holder and the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance that the meeting is not required; or The consent holder advises (in writing) the Canterbury Regional Council, Attention: Regional leader - Monitoring and Compliance that there has been no response from any of the parties listed in condition (46) to an invitation to meet.
49	<p>The consent holder shall keep a record of the meetings held in accordance with condition (44). The record shall list the names of those who attended the meetings, the main topics of discussion and any agreed outcomes / areas of disagreement. The consent holder shall forward a copy of the meeting record to the Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance (on request) and to the meeting participants no later than four weeks after the meeting being held.</p>
49A	<p><u>Engagement Over Draft Reports</u></p> <p><u>In addition to the requirements of conditions 44 to 49 of these resource consents, the consent holder shall:</u></p> <ol style="list-style-type: none"> <u>Forward draft copies of the documents prepared in accordance with the Water Quality Management Plan, the Works in the River Management Plan (required by CRC182537 and CRC182539), and the Fish Screen Verification Management Plan (required by CRC182542) conditions of this consent to the Chair of Te Rūnanga o Arowhenua and Central South Island Fish and Game for their review and comment at least 6-weeks prior to the documents being submitted to the Canterbury Regional Council for certification. Any comments made by Te Rūnanga o Arowhenua and Central South Island Fish and Game shall be considered by the authors of the documents, and are to be attached as an appendix to the reports that are submitted to the Canterbury Regional Council for certification—in accordance with condition 6.0; and</u> <u>Forward final (certified) copies of all monitoring reports produced in accordance with 18.4 and 20.5 of these resource consents to Te Rūnanga o Arowhenua and Central South Island Fish and Game at the same time</u>

	<u>that the reports are forwarded to the Canterbury Regional Council.</u>
	WATERFOWL
50	The consent holder shall work with Fish and Game Central South Island to develop and then implement measures to actively deter waterfowl from using the Dam over the first two weeks of each year's duck hunting season, to reduce the likelihood of it becoming a waterfowl refuge. Methods to deter birds may include physical disturbance (by boat or unpiloted aerial vehicle), bird scaring devices (such as propane guns), or other methods as necessary.
51	<p>The consent holder shall carry out quarterly counts of the number of Canada Geese, <u>paradise ducks and other water fowl</u> on the surface of the Dam. Should the number of Canada Geese on the Dam be consistently at nuisance levels (being more than an average of 100 birds), the consent holder shall carry out culls to reduce Canada Geese numbers to levels deemed acceptable by the expert.</p> <p>Advice note: <i>When any culling of waterfowl occurs, care should be exercised to ensure that no damage to the dam liner occurs, e.g. bullet or shotgun shell damage.</i></p>
52	The requirement for Canada Geese culls (triggered by the consent holder complying with condition (51) of this consent) ceases if, in the opinion of an appropriately qualified and experienced expert, the numbers of Canada Geese on the surface of the Dam are no longer consistently at, or above, nuisance levels.
	ADMINISTRATION
53	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <ol style="list-style-type: none"> To deal 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; or To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.
54	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>
55	<u>This resource consent shall expire on 31 January 2042.</u>

CRC182541: the emergency discharge of water to the Rangitata River;

1	The discharge shall only be the emergency discharge of water, and associated dam safety testing, that has been dammed in the Klondyke Storage Dam, which is authorised under consent CRC170657 or any replacement consent.								
1A	<p><u>The Proposal discharge shall be constructed, operated and maintained in accordance with the details contained within the following documents:</u></p> <p>a. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u></p> <p>b. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u></p> <p><u>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</u></p>								
2	The discharge shall occur into the Rangitata River via the emergency spillway <u>or the lower level gate to the outlet channel as identified on the approved Building Consents Plans required under consent CRC170657.</u>								
2AA	<u>The maximum rate of discharge shall not exceed 40.7m³/s.</u>								
2A	<u>The discharge associated with the 10 yearly full gate opening required by condition 3B and any discharge associated with an emergency, discharges shall be preceded by a five-minute warning flow of 0.2 m³/s and shall be progressively increased to a full discharge flow over a 30-minute period.</u>								
3	The emergency discharge of water shall occur in accordance with the requirements set out in the Emergency Action Plan for the Dam, as set out in consent CRC170657 or any replacement consent.								
3A	<u>The consent holder shall erect suitable signage at the point of discharge to the river and at common points of recreational access to the river, warning of the potential for sudden increases in flow, and shall devise communication systems to warn known users of the river of the potential for a release. The signage and communication systems shall be developed with recreational user groups of the river including, as a minimum, Rangitata Rafts, Peel Forest Outdoor Centre, White Water New Zealand, Jet Boating New Zealand and ECAN Canterbury Regional Council Regional Area River Engineering (Hilary Fraser, Area Engineer Southern).</u>								
3B	<p><u>Discharges that are required for periodic testing of equipment related to the outlet gate to the Rangitata River as required by the New Zealand Society on Large Dams (NZSOLD) New Zealand Dam Safety Guidelines (2015) shall be undertaken as set out below:</u></p> <table border="1"> <thead> <tr> <th><u>Test</u></th><th><u>Minimum flow in the Rangitata River (m³/s)</u></th></tr> </thead> <tbody> <tr> <td><u>6 monthly minimal opening of the gate (cracking the gate)</u></td><td><u>140</u></td></tr> <tr> <td><u>5 yearly opening of gate to 15 % of maximum</u></td><td><u>250</u></td></tr> <tr> <td><u>10 yearly full opening of gate (full flow of up to 40.7 m³/s)</u></td><td><u>250</u></td></tr> </tbody> </table>	<u>Test</u>	<u>Minimum flow in the Rangitata River (m³/s)</u>	<u>6 monthly minimal opening of the gate (cracking the gate)</u>	<u>140</u>	<u>5 yearly opening of gate to 15 % of maximum</u>	<u>250</u>	<u>10 yearly full opening of gate (full flow of up to 40.7 m³/s)</u>	<u>250</u>
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3C	<p><u>Discharges that are required for periodic testing of equipment related to the outlet gate to the Rangitata River as required by the New Zealand Society on Large Dams (NZSOLD) New Zealand Dam Safety Guidelines (2015) shall be undertaken to ensure that, after reasonable mixing, the discharge of water from the Klondyke Storage Dam does not cause the following water standards to be exceeded in the Rangitata River:</u></p> <p><u>a. The average temperature of the receiving water shall not be increased by more than 2°C above the temperature of water, immediately upstream of the discharge, and shall at no time increase the temperature to more than 20°C in April, or 12°C in May or June;</u></p> <p><u>b. No reduction in the concentration of dissolved oxygen below 80% of saturation;</u></p> <p><u>c. The pH of the receiving water shall be within the range of 6.5 to 8.5;</u></p> <p><u>d. No conspicuous change in water colour or clarity shall be apparent in the receiving water;</u></p> <p><u>e. No conspicuous oil or grease films, scums, foams or floatable or suspended materials shall be produced as a result of the discharge;</u></p> <p><u>f. No significant change in the downstream river concentration of <i>E. coli</i> over the period of discharge relevant to the background concentration immediately upstream. This notwithstanding, the discharge shall not, after reasonable mixing, cause <i>E. coli</i> numbers to exceed 550 per 100 millilitres; and</u></p> <p><u>g. No significant adverse effects on aquatic life supported by the receiving water.</u></p> <p><u>Note: Condition 43B.2 of resource consent CRC170657 requires the consent holder to manage the quality of water in the Dam in accordance with the certified Water Quality Management Plan.</u></p>
4	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <p>a. To deal 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; or</p> <p>b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</p> <p>c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</p>
5	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>
5A	<p><u>This resource consent shall expire on 31 January 2042.</u></p>

CRC170654: Water permit to abstract and use 10m³/s/flood flow water from the Rangitata River to fill the Klondyke Storage Pond Dam;

OPTION A

1	<p>The Proposal water take and use shall be operated and maintained in accordance with the details contained within the following documents:</p> <p>a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "<u>Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016</u>"; and</p> <p>b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "<u>Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application</u>".</p> <p>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</p>																				
2	<p>Water shall only be taken from the Rangitata River into the Rangitata Diversion Race, from the Klondyke intake structure at surface water abstraction point (SWAP) J36/0020 at or about map reference NZTM2000: 1457979mE 5152788mN.</p>																				
3	<p>Water may only be taken from the Rangitata River at a rate not exceeding 10 m³/s.</p>																				
3A	<p>This consent shall not be exercised until the fish screen required by condition (6) of CRC011237 has been installed, and compliance with conditions (6) and (7) of CRC011237 has been demonstrated, in accordance with condition (10) of that consent.</p>																				
4	<p>Water taken in accordance with these under this resource consents shall be only used for the same purposes specified in consents CRC011237, CRC011245, CRC143165, CRC182536 and CRC182630 or any resource consents that replace those consents.</p>																				
5	<p>Notwithstanding condition 3, whenever:</p> <p>a. The mean flow in the Rangitata River for the 24-hour period ending at noon on any one day falls below 132.6 m³/s, the taking of water from the Rangitata River in accordance with conditions 2 and 3 shall cease;</p> <p>b. The mean flow in the Rangitata River for the 24-hour period falls below 142.6 m³/s, then the rate of water abstracted from the Rangitata River in accordance with the below table conditions 2 and 3 shall reduce to that shown on the attached Graph CRC170654, which is attached to, (refer to Annexure A) and forms part of these resource consents</p> <table border="1"> <thead> <tr> <th>Rangitata River flow</th><th>Abstraction (m³/s)</th></tr> </thead> <tbody> <tr> <td>132.6 – 133.5</td><td>1</td></tr> <tr> <td>133.6 -134.5</td><td>2</td></tr> <tr> <td>134.6 – 135.5</td><td>3</td></tr> <tr> <td>135.6 – 136.5</td><td>4</td></tr> <tr> <td>136.6 – 137.5</td><td>5</td></tr> <tr> <td>137.6 – 138.5</td><td>6</td></tr> <tr> <td>138.6 – 139.5</td><td>7</td></tr> <tr> <td>139.6 – 140.5</td><td>8</td></tr> <tr> <td>141.6 – 142.5</td><td>9</td></tr> </tbody> </table>	Rangitata River flow	Abstraction (m ³ /s)	132.6 – 133.5	1	133.6 -134.5	2	134.6 – 135.5	3	135.6 – 136.5	4	136.6 – 137.5	5	137.6 – 138.5	6	138.6 – 139.5	7	139.6 – 140.5	8	141.6 – 142.5	9
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141.6 – 142.5	9																				

	<div>142.6 +</div> <div>10</div>
	<p>; and</p> <p>c. <u>The Canterbury Regional Council issues a notice to the consent holder advising that the Council wishes to measure the flow in the Rangitata River, the taking of water from the Rangitata River in accordance with conditions 2 and 3 shall cease for up to 48 hours.</u></p>
6	<u>The flows referred to in condition 5 shall be the flow estimated by the Canterbury Regional Council in the Rangitata River at the Klondyke recorder site at map reference NZTM2000: 1456739 mE 5153169 mN.</u>
6A	<u>The consent holder shall not take water in accordance with condition 5 of this resource consent when the discharge from the sand trap associated with the Rangitata Diversion Race (as authorised by resource consent CRC011241 or any replacement resource consent) is occurring.</u>
7	<p><u>The consent holder shall surrender resource consent CRC134808 prior to it taking water in accordance with conditions 2 to 6.</u></p> <p><u>The consent holder shall surrender consent CRC134808 prior to the first exercise of this consent.</u></p>
8	<p><u>The consent holder shall before the first exercise of this consent:</u></p> <p>a. <u>Install a water meter(s) that:</u></p> <ol style="list-style-type: none"> <u>has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus ten percent at a location(s) that will ensure the total take of water is measured; and</u> <u>has a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).</u> <p>b. <u>The recording device(s) shall:</u></p> <ol style="list-style-type: none"> <u>be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and</u> <u>store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or</u> <u>shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.</u>
9	<p><u>The water metering and storage devices required by condition 8 shall be:</u></p> <ol style="list-style-type: none"> <u>Accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval;</u> <u>Installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions; and</u> <u>Kept fully functional at all times, to the extent that is practicable.</u>

10	<p><u>Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention: Regional Leader- Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</u></p> <ol style="list-style-type: none"> <u>The measuring and recording device(s) has been installed in accordance with the manufacturer's specifications; and</u> <u>Data from the recording device(s) can be readily accessed and/or retrieved in accordance with condition 8.</u>
10A	<p><u>The consent holder, shall within three months of the commencement of this consent, develop a River Sediment Monitoring Plan. The purpose of the River Sediment Monitoring Plan is to gather information on the deposition of fine sediment on the bed of the Rangitata River between the RDR intake at Klondyke and the Arundel Bridge upstream of the Rangitata Water Limited intake.</u></p> <p><u>The River Sediment Monitoring Plan shall include the following components:</u></p> <ol style="list-style-type: none"> <u>A requirement that the monitoring be undertaken by a suitably qualified and experienced person who can demonstrate that they understand and can implement the appropriate methods to use for sediment sampling.</u> <u>A description of the methods that are to be used for sampling and analysis and shall include information on the number of sample replicates made that are to be gathered / taken at each site and a description of the data analysis and reporting statistics that are to be used. The sampling methodology proposed shall employ those methods that are, in the opinion of the appropriately qualified and independent expert person, appropriate for monitoring river sedimentation^[1].</u> <ol style="list-style-type: none"> <u>Specify that the monitoring shall be undertaken for two full and consecutive years prior to the first abstraction of flood flow in accordance with this resource consent and shall continue for a further two full and consecutive years following the first abstraction of water authorised by this resource consent;</u> <u>State the minimum period between monitoring occasions; and</u> <u>Set out the environmental criteria to be met for monitoring to be triggered. The environmental criteria shall include, but not be limited to:</u> <ul style="list-style-type: none"> <u>the maximum number of days that monitoring is to be undertaken following a flow of magnitude 140 cumecs;</u> <u>river flow conditions under which monitoring is to be undertaken;</u> <u>triggers that may relate to monitoring following a prolonged period of high flow take; and</u> <u>Rangitata River benthic invertebrate population density, diversity and distribution.</u> <u>Monitoring locations, which shall be specified in the River Sediment Monitoring Plan (together with map references) and shall include representative sites along the river corridor between the RDR intake at Klondyke and the reach of the Rangitata River upstream of the Rangitata Water Limited's intake. If, in the opinion of the appropriately qualified and experienced person, control sites would be appropriate, the control sites shall be located in the Rangitata River, upstream of the RDR intake. All of the monitoring locations shall focus on a combination of 'dead zones' and riffle environments that are able to be easily accessed and repeatedly sampled over time^[2].</u>

Commented [MOU2]: Ongoing discussions with CSIFG

	<p>e. <u>The River Sediment Monitoring Plan shall include a list of the matters to be reported on and shall include, as a minimum:</u></p> <ul style="list-style-type: none"> <u>the existing levels of fine sediment deposition in the river;</u> <u>the daily flows in the river at Klondyke for the previous three years;</u> <u>the estimated daily flows in the river immediately upstream of the Arundel Bridge after RDR abstraction is taken into account;</u> <u>more detail of river flows leading up to each round of monitoring;</u> <u>a commentary on the relationship between sediment deposition, river flows and abstraction;</u> <u>Rangitata River benthic invertebrate population density, diversity and distribution; and</u> <u>any recommendations for changes to the monitoring programme to better enable the purpose of the plan to be met and to better understand the relationship between sediment deposition, river flows and the RDRML take and return flows.</u> <p>f. <u>The consent holder shall within three months of the monitoring required by condition 10A, being complete, prepare a report detailing the results of the monitoring that was undertaken, and shall:</u></p> <ol style="list-style-type: none"> <u>Set out an interpretation of sediment deposition in relation to that occurs in the Rangitata River at different flows;</u> <u>Record the abstraction of water from the Rangitata River by the RDR over the course of the investigations and the discharges of water by the RDR back to the river over this time period;</u> <u>Recommend if there is a need to develop and impose sediment thresholds that constrain when water may be abstracted in accordance with this resource consent (noting that any thresholds would be based on recognised sediment monitoring guidelines and good scientific practice); and</u> <u>Advise whether the abstraction of water in accordance with this resource consent causes a meaningful (in terms of its impacts on the water quality and ecology of the Rangitata River) increase in fine sediment deposition within the Rangitata River. Should the report conclude that fine sediment deposition is increasing as a result of the abstraction authorised by this resource consent and that it is having meaningful adverse consequences for the water quality and ecology of the Rangitata River, it shall recommend a cascade of management responses that it should, in the opinion of the appropriate qualified and independent person, apply to the abstraction flow regime.</u> <p><u>A copy of this report shall be provided to the Canterbury Regional Council, within one month of completion.</u></p> <p><u>The consent holder shall not take water in accordance with conditions 5 and 6 of this resource consent until two full and consecutive years of monitoring have been undertaken in accordance with condition 10A of this resource consent. The appropriately qualified and experienced expert undertaking the monitoring required by condition 10A(a) of this resource consent shall provide a certificate to the Canterbury Regional Council Regional Leader: Compliance and Monitoring, certifying that they have completed two years of the monitoring programme in advance of the consent holder taking any water in accordance with conditions 5 and 6.</u></p>
10B	<p><u>The consent holder shall, within three months of the commencement of this resource consent, both prepare and provide a River Geomorphology Monitoring Plan to the Canterbury Regional Council for certification. The purpose of the River Geomorphology Monitoring Plan is to gather information on the riverbed profile and surface bed material grading between the RDR intake and Arundel.</u></p>

Commented [MOU3]: Ongoing discussions with CSIFG

	<p><u>The River Geomorphology Monitoring Plan shall include the following components:</u></p> <ol style="list-style-type: none"> <u>A requirement that the monitoring be undertaken by a suitably qualified and experienced person;</u> <u>The proposed methodology for undertaking topographic surveys of river cross sections, surface-bed material grading and a riverbed long-profile;</u> <u>The number and location of survey sites and the frequency that the surveys will be undertaken;</u> <u>Require that at least one survey be conducted prior to the abstraction of water in accordance with this resource consent: and</u> <u>Require the consent holder to prepare an annual report (for the duration of monitoring required this by the River Geomorphology Monitoring Plan) detailing the results of the surveying required by the River Geomorphology Monitoring Plan. The report shall compare results from previous surveys. A copy of this report shall be provided to the Canterbury Regional Council, within one month of its completion.</u>
11	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <ol style="list-style-type: none"> <u>To deal 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; or</u> <u>To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</u> <u>To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</u>
12	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent and undertaking the activity as described in these conditions and/or application documents.</p>
12A	<p><u>The consent holder shall not exercise this resource consent in the following circumstances, when the flow in the Rangitata River is between the range of 132.6 m³/s to 400m³/s:</u></p> <ol style="list-style-type: none"> <u>Between the hours of 0600-1800 Saturday and 0600-1800 Sunday on two occasions during the period beginning 1 March and ending 31 May; and</u> <u>On two further occasions within the period identified in a) above, providing the level of water within the Klondyke Storage Facility Dam is in excess of 75% of its maximum operating capacity.</u> <p><u>The consent holder shall consider all requests from third parties for the implementation of the restrictions in a) and b) above.</u></p> <p><u>Please note: The restrictions in limbs a) and b) of this condition are not applicable when the flow in the Rangitata River exceeds 400m³/s.</u></p>
12B	<p><u>The consent holder shall take practical steps to notify White Water New Zealand at least 24 hours prior to commencing the flow restrictions identified in condition 12A above.</u></p>
13	<p><u>This resource consent shall expire on 31 January 2042.</u></p>

Commented [MOU4]: Ongoing discussions with WWNZ

Commented [MOU5]: Ongoing discussions with WWNZ

CRC170654: Water permit to abstract and use 10m³/s/flood flow water from the Rangitata River to fill the Klondyke Storage pond Dam;

OPTION B – Flow share

1	<p>The Proposal water take shall be operated and maintained in accordance with the details contained within the following documents:</p> <p>a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled “<u>Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016</u>”; and</p> <p>b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled “<u>Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application</u>”.</p> <p>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</p>														
2	<p>Water shall only be taken from the Rangitata River into the Rangitata Diversion Race, from the Klondyke intake structure at surface water abstraction point (SWAP) J36/0020 at or about map reference NZTM2000: 1457979mE 5152788mN.</p>														
3	<p>Water taken in accordance with these resource consents shall be used for the same purposes specified in consents CRC011237, CRC011245, CRC143165, CRC182536 and CRC182630 or any resource consents that replace those consents.</p>														
3A	<p>This consent shall not be exercised until the fish screen required by condition (6) of CRC011237 has been installed, and compliance with conditions (6) and (7) of CRC011237 has been demonstrated, in accordance with condition (10) of that consent.</p>														
4	<p>a. The consent holder may, subject to limbs (b.) to (d.) of this condition, take up to five (5) m³/s of water from the Rangitata River into the Rangitata Diversion Race, from the Klondyke intake structure at surface water abstraction point (SWAP) J36/0020 at or about map reference NZTM2000: 1457979mE 5152788mN.;</p> <p>b. Should the flow in the Rangitata River, measured at the Klondyke recorder site (map reference J36:666-149) fall below 132.6 m³/s, the taking of water from the Rangitata River in accordance with limb (a.) of this condition shall cease;</p> <p>c. When the flow in the Rangitata River is, when measured at the Klondyke recorder site (map reference J36:666-149) between 132.6 m³/s to 142.6 m³/s, then the rate that water is abstracted from the Rangitata River (in accordance with limb (a.) of this condition) shall be in accordance with the following table:</p> <table border="1"> <thead> <tr> <th>Rangitata River flow</th><th>abstraction (m³/s)</th></tr> </thead> <tbody> <tr> <td>132.6 – 134.5</td><td>0</td></tr> <tr> <td>134.6 - 136.5</td><td>1</td></tr> <tr> <td>136.6 – 138.5</td><td>2</td></tr> <tr> <td>138.6 – 140.5</td><td>3</td></tr> <tr> <td>140.6 – 142.5</td><td>4</td></tr> <tr> <td>142.6 +</td><td>5</td></tr> </tbody> </table>	Rangitata River flow	abstraction (m ³ /s)	132.6 – 134.5	0	134.6 - 136.5	1	136.6 – 138.5	2	138.6 – 140.5	3	140.6 – 142.5	4	142.6 +	5
Rangitata River flow	abstraction (m ³ /s)														
132.6 – 134.5	0														
134.6 - 136.5	1														
136.6 – 138.5	2														
138.6 – 140.5	3														
140.6 – 142.5	4														
142.6 +	5														

Commented [MOU6]: Flow share option, not proposed by RDRML (wording provided as alternative)

	<p>; and</p> <p>d. <u>Should the Canterbury Regional Council issue a notice to the consent holder advising that the Council wishes to measure the flow in the Rangitata River, the taking of water from the Rangitata River in accordance with limb (a.) of this condition shall cease for up to 48 hours</u></p> <p>e. <u>The consent holder shall not take water in accordance with condition 4(a) of this resource consent when the discharge from the sand trap associated with the Rangitata Diversion Race (as authorised by resource consent CRC011241 or any replacement resource consent) is occurring.</u></p>
5	<p>The consent holder shall surrender resource consent CRC134808 prior to it taking water in accordance with conditions 2 to 6.</p> <p><u>The consent holder shall surrender consent CRC134808 prior to the first exercise of this consent.</u></p>
6	<p><u>The consent holder shall before the first exercise of this consent:</u></p> <p>c. <u>Install a water meter(s) that:</u></p> <p>i. <u>has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus ten percent at a location(s) that will ensure the total take of water is measured; and</u></p> <p>iii. <u>has a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).</u></p> <p>d. <u>The recording device(s) shall:</u></p> <p>iv. <u>be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and</u></p> <p>v. <u>store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or</u></p> <p>vi. <u>shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.</u></p>
7	<p><u>The water metering and storage devices required by condition 8 shall be:</u></p> <p>a. <u>Accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval;</u></p> <p>b. <u>Installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions; and</u></p> <p>c. <u>Kept fully functional at all times, to the extent that is practicable.</u></p>
8	<p><u>Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention: Regional Leader- Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</u></p>

	<p>c. <u>The measuring and recording device(s) has been installed in accordance with the manufacturer's specifications; and</u></p> <p>d. <u>Data from the recording device(s) can be readily accessed and/or retrieved in accordance with condition 8.</u></p>
10A	<p><u>The consent holder, shall within three months of the commencement of this consent, develop a River Sediment Monitoring Plan. The purpose of the River Sediment Monitoring Plan is to gather information on the deposition of fine sediment on the bed of the Rangitata River between the RDR intake at Klondyke and the Arundel Bridge upstream of the Rangitata Water Limited intake.</u></p> <p><u>The River Sediment Monitoring Plan shall include the following components:</u></p> <p>a. <u>A requirement that the monitoring be undertaken by a suitably qualified and experienced person who can demonstrate that they understand and can implement the appropriate methods to use for sediment sampling.</u></p> <p>b. <u>A description of the methods that are to be used for sampling and analysis and shall include information on the number of sample replicates made that are to be gathered / taken at each site and a description of the data analysis and reporting statistics that are to be used. The sampling methodology proposed shall employ those methods that are, in the opinion of the appropriately qualified and independent expert person, appropriate for monitoring river sedimentation^[1].</u></p> <p>c. <u></u></p> <p>i. <u>Specify that the monitoring shall be undertaken for two full and consecutive years prior to the first abstraction of flood flow in accordance with this resource consent and shall continue for a further two full and consecutive years following the first abstraction of water authorised by this resource consent;</u></p> <p>ii. <u>State the minimum period between monitoring occasions; and</u></p> <p>iii. <u>Set out the environmental criteria to be met for monitoring to be triggered. The environmental criteria shall include, but not be limited to:</u></p> <ul style="list-style-type: none"> <u>• the maximum number of days that monitoring is to be undertaken following a flow of magnitude 140 cumecs;</u> <u>• river flow conditions under which monitoring is to be undertaken;</u> <u>• triggers that may relate to monitoring following a prolonged period of high flow take; and</u> <u>• Rangitata River benthic invertebrate population density, diversity and distribution.</u> <p>d. <u>Monitoring locations, which shall be specified in the River Sediment Monitoring Plan (together with map references) and shall include representative sites along the river corridor between the RDR intake at Klondyke and the reach of the Rangitata River upstream of the Rangitata Water Limited's intake. If, in the opinion of the appropriately qualified and experienced person, control sites would be appropriate, the control sites shall be located in the Rangitata River, upstream of the RDR intake. All of the monitoring locations shall focus on a combination of 'dead zones' and riffle environments that are able to be easily accessed and repeatedly sampled over time^[2].</u></p> <p>e. <u>The River Sediment Monitoring Plan shall include a list of the matters to be reported on and shall include, as a minimum:</u></p> <ul style="list-style-type: none"> <u>• the existing levels of fine sediment deposition in the river;</u> <u>• the daily flows in the river at Klondyke for the previous three years;</u> <u>• the estimated daily flows in the river immediately upstream of the Arundel Bridge after RDR abstraction is taken into account;</u> <u>• more detail of river flows leading up to each round of monitoring;</u>

Commented [MOU7]: Ongoing discussions with CSIFG

	<ul style="list-style-type: none"> • <u>a commentary on the relationship between sediment deposition, river flows and abstraction;</u> • <u>Rangitata River benthic invertebrate population density, diversity and distribution; and</u> • <u>any recommendations for changes to the monitoring programme to better enable the purpose of the plan to be met and to better understand the relationship between sediment deposition, river flows and the RDRML take and return flows.</u> <p>f. <u>The consent holder shall within three months of the monitoring required by condition 10A, being complete, prepare a report detailing the results of the monitoring that was undertaken, and shall:</u></p> <ol style="list-style-type: none"> <u>Set out an interpretation of sediment deposition in relation to that occurs in the Rangitata River at different flows;</u> <u>Record the abstraction of water from the Rangitata River by the RDR over the course of the investigations and the discharges of water by the RDR back to the river over this time period;</u> <u>Recommend if there is a need to develop and impose sediment thresholds that constrain when water may be abstracted in accordance with this resource consent (noting that any thresholds would be based on recognised sediment monitoring guidelines and good scientific practice); and</u> <u>Advise whether the abstraction of water in accordance with this resource consent causes a meaningful (in terms of its impacts on the water quality and ecology of the Rangitata River) increase in fine sediment deposition within the Rangitata River. Should the report conclude that fine sediment deposition is increasing as a result of the abstraction authorised by this resource consent and that it is having meaningful adverse consequences for the water quality and ecology of the Rangitata River, it shall recommend a cascade of management responses that it should, in the opinion of the appropriate qualified and independent person, apply to the abstraction flow regime.</u> <p><u>A copy of this report shall be provided to the Canterbury Regional Council, within one month of completion.</u></p> <p><u>The consent holder shall not take water in accordance with conditions 5 and 6 of this resource consent until two full and consecutive years of monitoring have been undertaken in accordance with condition 10A of this resource consent. The appropriately qualified and experienced expert undertaking the monitoring required by condition 10A(a) of this resource consent shall provide a certificate to the Canterbury Regional Council Regional Leader: Compliance and Monitoring, certifying that they have completed two years of the monitoring programme in advance of the consent holder taking any water in accordance with conditions 5 and 6.</u></p>
10B	<p><u>The consent holder shall, within three months of the commencement of this resource consent, both prepare and provide a River Geomorphology Monitoring Plan to the Canterbury Regional Council for certification. The purpose of the River Geomorphology Monitoring Plan is to gather information on the riverbed profile and surface bed material grading between the RDR intake and Arundel.</u></p> <p><u>The River Geomorphology Monitoring Plan shall include the following components:</u></p> <ol style="list-style-type: none"> <u>A requirement that the monitoring be undertaken by a suitably qualified and experienced person;</u> <u>The proposed methodology for undertaking topographic surveys of river cross sections, surface-bed material grading and a riverbed long-profile;</u>

Commented [MOU8]: Ongoing discussions with CSIFG

	<p>c. <u>The number and location of survey sites and the frequency that the surveys will be undertaken;</u></p> <p>d. <u>Require that at least one survey be conducted prior to the abstraction of water in accordance with this resource consent: and</u></p> <p>e. <u>Require the consent holder to prepare an annual report (for the duration of monitoring required this by the River Geomorphology Monitoring Plan) detailing the results of the surveying required by the River Geomorphology Monitoring Plan. The report shall compare results from previous surveys. A copy of this report shall be provided to the Canterbury Regional Council, within one month of its completion.</u></p>
9	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <p>d. <u>To deal 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; or</u></p> <p>e. <u>To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</u></p> <p>f. <u>To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</u></p>
10	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent and undertaking the activity as described in these conditions and/or application documents.</p>
12A	<p><u>The consent holder shall not exercise this resource consent in the following circumstances, when the flow in the Rangitata River is between the range of 132.6 m³/s to 400m³/s:</u></p> <p>c) <u>Between the hours of 0600-1800 Saturday and 0600-1800 Sunday on two occasions during the period beginning 1 March and ending 31 May; and</u></p> <p>d) <u>On two further occasions within the period identified in a) above, providing the level of water within the Klondyke Storage Facility Dam is in excess of 75% of its maximum operating capacity.</u></p> <p><u>The consent holder shall consider all requests from third parties for the implementation of the restrictions in a) and b) above.</u></p> <p><u>Please note: The restrictions in limbs a) and b) of this condition are not applicable when the flow in the Rangitata River exceeds 400m³/s.</u></p>
12B	<p><u>The consent holder shall take practical steps to notify White Water New Zealand at least 24 hours prior to commencing the flow restrictions identified in condition 12A above.</u></p>
13	<p><u>This resource consent shall expire on 31 January 2042.</u></p>

Commented [MOU9]: Ongoing discussions with WWNZ

Commented [MOU10]: Ongoing discussions with WWNZ

CRC170652 and CRC182540: a land use consent for earthworks over an aquifer to construct the 53M m³ storage dam; to upgrade part of the RDR Canal; and to construct a 460 metre long fish bypass channel.

	GLOSSARY OF TERMS & ABBREVIATIONS USED IN THIS RESOURCE CONSENT
0	<p>Appropriately qualified and experienced expert(s) means a person or persons:</p> <ol style="list-style-type: none"> With a relevant and recognised tertiary qualification(s) to the topic being assessed; Whom is (are) recognised as a full member (or equivalent) of a relevant professional institution(s) (such as the Institution of Professional Engineers New Zealand), where such institutions exist; Has more than 10-years relevant experience in the topic being assessed; and <p>Certifies and Certification means a process whereby:</p> <ol style="list-style-type: none"> The consent holder supplies a report, action plan, design plan, construction methodology, monitoring plan, commissioning plan, safety system or a management plan, and the Canterbury Regional Council appoints an appropriately qualified and experienced expert to assesses the documentation submitted to ensure that it achieves the requirements of the relevant condition(s) of consent; Should the documents supplied in accordance with condition 0(a), in the opinion of the expert appointed by the Council, achieve the intent of the relevant condition(s) of these resource consents, the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall issue a written certificate to the consent holder confirming that the requirements of the relevant condition(s) have been satisfied; If the expert appointed by the Council is not satisfied that the documents supplied in accordance with condition (a) achieves requirements of the relevant condition(s), the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall advise (in writing) the consent holder of the experts concerns and ask that the report, commissioning plan, monitoring plan, action plan, safety system or management plan be modified so as to address the concerns, and then be resubmitted; This process shall be repeated until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council is able (on the advice of the expert) to certify that the requirements of the applicable condition(s) of consent have been satisfied; and <p>CLG means the Community Liaison Group;</p> <p>CMP means Construction Management Plan.</p> <p>Construction site includes all areas, excluding gazetted and vested road reserves that contain formed roads, where construction works / activities authorised by these resource consents are being undertaken by the consent holder.</p> <p>Council means the Canterbury Regional Council.</p> <p>EAP means the Emergency Action Plan.</p> <p>ESCP means Erosion and Sediment Control Plan.</p> <p>Fish screen means the rotary fish screen and its associated bypass channel.</p> <p>FSVMP means Fish Screen Verification Monitoring Plan</p> <p>Flood flow take means a flood flow abstraction from the Rangitata River.</p> <p>HSSMP means the Hazardous Substances Spill Management Plan</p> <p>Klondyke Pond means the Lake Klondyke Water Storage Facility.</p> <p>km/hr means kilometres per hour.</p> <p>l/s means litres per second</p> <p>m³ means cubic metres</p> <p>m³/s means cubic metres per second</p> <p>m means metre</p> <p>m/s means metres per second.</p> <p>mm/s means millimetres per second</p>

	<p><u>NZSOLD means New Zealand Society on Large Dams New Zealand.</u></p> <p><u>PPV means Peak Particle Velocity</u></p> <p><u>Reasonable Mixing Zone means, for the purposes of condition 18.0A, a reasonable mixing zone extending from the point of discharge from the Sluice Channel to a point that is 200 metres downstream of the discharge point.</u></p> <p><u>Regional Water Table means the upper surface of the full saturated groundwater system but does not, for the purposes of these resource consents, include perched groundwater (which is groundwater in saturated strata that occurs above the regional water table but is separated from it by a layer of unsaturated strata).</u></p> <p><u>RDR means the Rangitata Diversion Race.</u></p> <p><u>RDR mods means the modifications to the Rangitata Diversion Race.</u></p> <p><u>RL means the right bank when looking downstream.</u></p> <p><u>RMA means the Resource Management Act</u></p> <p><u>The Proposal means the Klondyke Pond Storage Dam, WWC, RDR modifications, fish screen, Shepherds Bush Road relocation, flood flow take and refuge, and all incidental work.</u></p> <p><u>TSP means total suspended particulate.</u></p> <p><u>WRMP means Works in the River Management Plan</u></p>
	<u>CERTIFICATION PROCESS</u>
0A.1	<p>Except where explicitly required otherwise by conditions of this consents, the consent holder shall:</p> <ol style="list-style-type: none"> <u>Engage an appropriately qualified and experienced independent expert (or experts) to prepare the management plans, design plans, construction methodology, monitoring plans, action plan, commissioning plan and safety system specified in the conditions of this consent using the draft versions of these plans (which are attached as Annexure B) as a base document;</u> <u>Provide drafts of each of the documents required by condition 0A.1(a) to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, not less than three months prior to construction works / activities commencing in accordance with these resource consents;</u> <u>Not commence any construction works / activities authorised by these resource consents until it has received a certificate from the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council that the management plan, design plan, construction methodology, monitoring plan, action plan, commissioning plan or safety system is consistent with the applicable conditions of this consent;</u> <u>Adhere to and implement the certified version of the management plan, design plans, construction methodology, monitoring plan, action plan, commissioning plan or safety system;</u> <u>Submit any proposed variations to the management plans, design plans, construction methodology, action plan, safety system, monitoring plans and commissioning plan to the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council, at least seven days prior to when the proposed change will be implemented by the consent holder. Any variations made shall not take effect until the Regional Leader: Compliance & Monitoring of the Canterbury Regional Council certifies that the variations accord with the applicable conditions of the resource consent;</u> <u>Appoint an appropriately qualified and independent expert (or experts) to review the management plans, action plan, safety system, monitoring plans and commissioning plan at the frequency set out in these resource consents. Should the conditions of these resource consents not set a frequency, the reviews shall be conducted annually. Such reviews are to ensure that the management plans, action plan, safety system, monitoring plans and commissioning plan continue to achieve the conditions of these resource consents.</u> <u>Any changes made as a result of the reviews conducted in accordance with condition 0A.1(f) shall be submitted to the Canterbury Regional</u>

	<p><u>Council and shall not take effect until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council certifies that the changes accord with the applicable conditions of these resource consents:</u></p> <p><u>h. Pay the costs of the expert(s) appointed by the Canterbury Regional Council to certify the management plans, design plans, construction methodology, monitoring plans, commissioning plan, action plan and safety system (and any variations or changes thereto) in accordance with conditions 0A.1(c) and 0A.1(h); and</u></p> <p><u>i. Ensure that copies of the certified commissioning plan, design plans, construction methodology and management plans, monitoring plans, action plan, safety system and management plans set out in these conditions are available on site at all times during the construction works / activities authorised by this consent; and</u></p> <p><u>j. Ensure that all key personnel are to be made aware of the content and requirements / obligations of the management plans, action plan, safety system, commissioning plan and monitoring plans.</u></p>
	SCOPE
1	<p>The works shall be limited to the use of land to:</p> <p>a. Excavate material; and</p> <p>b. Deposit material</p> <p>for the purposes of and to the extent required for construction of the Klondyke Storage Dam, upgrade of the canal and fish bypass channel and associated infrastructure on land located at Shephards Bush Road, Monalto Road, Klondyke Road, and Klondyke Terrace, identified as the 'works area' on Plan CRC170652A, which forms part of this consent.</p>
1A	<p><u>The Proposal works shall be constructed, operated and maintained in accordance with the details contained within the following documents:</u></p> <p><u>a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u></p> <p><u>b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u></p> <p><u>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</u></p>
	PRE-CONSTRUCTION
2	<p>The consent holder shall:</p> <p>a. be responsible for all the contracted operations relating to the exercise of this consent including the Construction Works; and</p> <p>b. ensure compliance with consent conditions <u>including the Management Plans required by this resource consent and certified by the Canterbury Regional Council.</u></p>
3	<p>Prior to commencement of any physical works required for the activities described in Condition (1) (hereafter referred to as the 'Construction Works') the consent holder or its agent or contractor shall arrange and conduct a pre-construction site meeting between the Canterbury Regional Council and all persons involved in the Construction Works. At a minimum, the following shall be covered at the meeting:</p> <p>a. Scheduling and staging of the Construction Works;</p> <p>b. Responsibilities of all relevant parties;</p>

	<ul style="list-style-type: none"> c. Contact details for all relevant parties; d. Expectations regarding communication between all relevant parties; e. Procedures for implementing any changes to the Construction Works; f. Site inspection; and g. Confirmation that all persons involved in the Construction Works have copies of the contents of this consent document, the Erosion and Sediment Control Plan (ESCP) and all plans and methodologies associated with this consent.
4	Erosion and sediment control measures recommended in the ESCP prepared under Condition (5) shall be installed before any construction works occur on site.
	<u>COMPLAINTS REGISTER</u>
4A.1	<p>The consent holder shall keep a register of complaints lodged with it in respect of the exercise of these resource consents.</p> <p>The register prepared and maintained in accordance with this condition shall record the following details for each complaint that is made:</p> <ul style="list-style-type: none"> a. The date and time of the complaint; and b. The name and contact details of the complainant (if they are provided to the consent holder) and a description of the complaint; and c. The investigations (if any) that the consent holder undertook in response to each complaint; and d. Any action that was undertaken to address the concerns raised in the complaint; and e. The feedback provided to each complainant.
4A.2	The consent holder shall forward a copy of the register prepared and maintained in accordance with condition 4A.1 to the Canterbury Regional Council, Attention RMA Compliance and Monitoring Manager within five (5) working days of receiving a request to do so from the Council.
4A.3	The consent holder shall appoint a Liaison Officer for the Proposal prior to any construction works / activities authorised by these this resource consents commencing. The Liaison Officer shall be the point of contact for the public during construction of the Proposal. The name and contact details for the Liaison Officer shall be advertised at the main construction entrance for the Klondyke Pond Storage Dam, and on a notice at the Peel Forest Café and DoC Campsite booking office.
	<u>CONSTRUCTION MANAGEMENT PLAN</u>
4B.1	The purpose of the Construction Management Plan is to describe the measures that will be implemented to ensure that all construction related environmental effects are avoided, minimised, or managed in accordance with the conditions of these resource consents and engineering / environmental best practice.
4B.2	<p>The objectives of the CMP are to:</p> <ul style="list-style-type: none"> a. Avoid and / or minimise the magnitude of the adverse effects generated during the construction activities and / or works authorised by these resource consents; and b. Provide clarity as to how the Proposal is to be constructed by setting out the: <ul style="list-style-type: none"> i. Construction methodology that is to be employed to construct the Proposal; and ii. Staging, timing, duration and monitoring of construction works and / or activities; and iii. Measures that are to be applied, and when they are to be applied, to minimise the effects of the construction activities and / or works authorised by these resource consents. These measures shall include: <ul style="list-style-type: none"> * A requirement that all construction works / activities be in accordance with the Canterbury Regional Council's ESCG

	<p><u>(2007):</u></p> <ul style="list-style-type: none"> * <u>Measures necessary to provide for stormwater disposal and sediment removal;</u> * <u>The inclusion and / or maintenance of a vegetated strip (or other treatment system supported by the ESCG) between all areas of earthworks and water courses / water bodies / water races;</u> * <u>Controls on the siting of stockpiles to avoid sediment-entrained runoff entering water races / water courses / water bodies and to reduce the risk of fugitive dust emissions;</u> * <u>Measures to avoid the entrainment of oil, fuels or any other hazardous substances in stormwater, with particular emphasis on re-fuelling areas and repair areas; and</u> * <u>Requirements regarding the stabilisation and maintenance of all construction site entrances associated with the Proposal from public roads; and</u> <p>iv. <u>The means by which stakeholders are to be kept informed of the construction works / activities being undertaken by the consent holder and/or its contractor(s).</u></p>
4B.3	<p>The CMP shall contain the following sections:</p> <ul style="list-style-type: none"> a. <u>Purpose and Scope</u> b. <u>Personnel, Team Structure, Contact Details and Responsibilities. This will include the 24-hour contact details for the following personnel:</u> <ul style="list-style-type: none"> i. <u>The administrator of the complaints register (if required by conditions of this consent); and</u> ii. <u>The Liaison Officer (if required by conditions of this consent);</u> c. <u>Environmental Policy and Environmental Management System;</u> d. <u>Resource Consent and Building Consent Requirements;</u> e. <u>Accidental Discovery Protocol (if required by conditions of this consent);</u> f. <u>Environmental Management Sub-Plans including, as a minimum, the following plans:</u> <ul style="list-style-type: none"> i. <u>Erosion and Sediment Control Plan;</u> ii. <u>Hazardous Substances Spill Management Plan;</u> iii. <u>Vibration Management Plan;</u> iv. <u>Waste Management Plan;</u> v. <u>Works in the River Management Plan;</u> vi. <u>Smoke Management Plan;</u> vii. <u>Dust Management Plan; and</u> viii. <u>Contaminated Land Remediation Action Plan</u> g. <u>Construction Methodology;</u> h. <u>Training and Induction of Contractors and their Staff;</u> i. <u>Subcontractor Management;</u> j. <u>Monitoring and Site Inspections;</u> k. <u>Conformance and Corrective / Preventative Actions;</u> l. <u>Meetings Frequency and Purpose; and</u> m. <u>Environmental Systems Reviews.</u>
4B.4	<p><u>The CMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u></p>
	<p>EROSION AND SEDIMENT CONTROL PLAN</p>
5A	<p><u>The purpose of the Erosion and Sediment Control Management Plan is to ensure that the consent holder implements appropriate measures, as defined by the Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) (an equivalent industry guideline), to minimise all actual or potential erosion and sediment effects arising from the construction works / activities authorised by these resource consents.</u></p>
5	

	<p>The consent holder shall prepare an ESCP, subject to the following conditions:</p> <p>a. No less than one month before the commencement of any Construction Works, a copy of the ESCP shall be submitted to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance for review and certification. All activities authorised by this consent shall be carried out in accordance with the ESCP.</p>
	<p>b. Unless Canterbury Regional Council provides notice in writing that it is unable to certify the ESCP within 20 working days of receipt of a draft ESCP, it is deemed to be certified by the Canterbury Regional Council. For the purposes of this condition, "Certification" means that the ESCP contains all the information specified in Condition 5(c).</p> <p>c. The ESCP shall include but not be limited to:</p> <ol style="list-style-type: none"> i. A list of the staff and / or experts responsible for reviewing the ESCP; ii. A description of staff training and induction requirements that will be undertaken to ensure that the ESCP is followed by all acting in accordance with these resource consents; iii. A description of the site and local receiving environment; iv. A site drainage plan; v. Details of any anticipated earth excavation requirements; vi. A schedule detailing the anticipated staging of the Construction Works including: <ol style="list-style-type: none"> A. Site preparation works; B. Any equipment or plant mobilisation necessary for carrying out the construction works; C. Any field verification requirement. vii. A detailed description of how run on and run off water will be managed within the construction site; viii. Measures to avoid or minimise any sediment entering exposed groundwater or the Rangitata River or being tracked onto roadways or neighbouring properties; ix. A detailed description of how water will be treated prior to disposal to the various receiving environments; x. Details of compliance checks, and any maintenance necessary to ensure that measures required under the ESCP or this consent are performing effectively. xi. Identification of persons responsible for carrying out the actions within the ESCP including their contact details; xii. A detailed description of how vegetation stripping and replanting would be undertaken to manage the area of disturbed ground that will be open throughout the construction works / activities authorised by these resource consents. <p>d. The ESCP shall be prepared in accordance with:</p> <ol style="list-style-type: none"> i. <u>Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) Environment Canterbury's "Erosion and Sediment Control Toolbox for the Canterbury Region" (ESCT) http://esccanterbury.co.nz/</u>; or ii. An equivalent industry guideline. If an alternative guideline is used, the ESCP shall provide details of the relevant alternative methods used and an explanation of why they are more appropriate than the ESCT. <p>e. Any amendments or revisions to the ESCP shall be submitted to Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance.</p>
6	During construction, all practicable measures shall be undertaken to minimise exposed groundwater.
	<u>AIR QUALITY</u>

6A.1	<p><u>General Controls</u></p> <p><u>The contaminants that may be discharged to air when the consent holder is undertaking works/ activities in accordance with these this resource consents are limited to emissions from the following activities:</u></p> <ul style="list-style-type: none"> <u>a. Earthworks and activities associated with the construction of the Proposal;</u> <u>b. Combustion of diesel to power stationary engines;</u> <u>c. Crushing and screening of aggregate;</u> <u>d. Concrete batching;</u> <u>e. Revegetation of pond surrounds; and</u> <u>f. The operation of the Klondyke Pond Storage Dam.</u>
6A.2	<p><u>There shall be no discharge of dust, smoke or the products of combustion, as a result of the exercise of this consent (either during construction or following the completion of all construction) that is noxious, dangerous, offensive or objectionable beyond the property boundaries of the construction site on which the discharge occurs, and which are not owned by the consent holder.</u></p>
6B.1	<p><u>Smoke Management Plan</u></p> <p><u>The purpose of the Smoke Management Plan is to describe the procedures to be used to monitor and minimise the effects of smoke generated during the construction of the Klondyke Pond Storage Dam .</u></p> <p><u>The SMP shall include:</u></p> <ul style="list-style-type: none"> <u>a. A list of the staff and / or experts responsible for implementing and reviewing the SMP;</u> <u>b. A description of the staff training and induction requirements that will be undertaken to ensure that the SMP is followed by all acting in accordance with these resource consents;</u> <u>c. A description of the site and the local receiving environment;</u> <u>d. A description of the burning methodology that will be employed by the consent holder and its contractors;</u> <u>e. A description of the smoke monitoring that will be undertaken when the consent holder undertakes burning activities; and</u> <u>f. A description of the weather conditions when burning activities can and cannot take place.</u>
6B.2	<p><u>The smoke monitoring required by condition 6B.1 (e) shall, as a minimum, include:</u></p> <ul style="list-style-type: none"> <u>a. Visual monitoring of the smoke at the downwind boundary of the construction site;</u> <u>b. If the visual monitoring conducted in accordance with condition 6B.1 (a) identifies that smoke is visible beyond the boundary of the construction site, visual monitoring at the closest downwind residences; and</u> <u>c. Wind speed and direction, as measured by the site meteorological monitoring instruments (installed in accordance with condition 6H.1).</u>
6B.3	<p><u>The SMP shall be certified by the Canterbury Regional Council in accordance with condition 9A, prior to works commencing.</u></p>
6C.1	<p><u>Dust Management Plan</u></p> <p><u>The purpose of the Dust Management Plan is to describe the procedures to be used to monitor and minimise the effects of dust generated during the construction and operation of the Klondyke Pond Storage Dam in order to comply with conditions 6A.2 and 6D.1 to 6G.2.</u></p> <p><u>The DMP shall include:</u></p> <ul style="list-style-type: none"> <u>a. A list of the staff and / or experts responsible for implementing and reviewing the DMP;</u> <u>b. A description of staff training and induction requirements that will be undertaken to ensure that the DMP is followed by all acting in accordance with these resource consents;</u> <u>c. A description of the site and the local receiving environment;</u> <u>d. The dust mitigation and prevention methods that will be implemented to</u>

	<p><u>achieve condition 6D.1:</u></p> <p>e. <u>A description of the dust monitoring (that accords with conditions 6C.3 and 6H.1 to 6H.5) that will be undertaken by the consent holder during the construction works / activities associated with the Proposal;</u></p> <p>f. <u>The contingency methods that will be used by the consent holder for controlling dust when the TSP and wind speed alert levels included within conditions 6D.2 to 6D.5 (inclusive) are exceeded.</u></p>
6C.2	<p>The dust monitoring required by conditions this condition shall include, as a minimum:</p> <p>a. <u>Continuous instrumental monitoring of total suspended particulates at one location. The instrument shall be installed and operated at a location that provides a representative sample of the TSP concentrations at the boundary of the construction site in the immediate vicinity of the closest house to the construction activity associated with the Klondyke Pond;</u></p> <p>b. <u>An inspection of all actual and potential dust sources within the construction site at least once per day; and</u></p> <p>c. <u>Wind speed and direction, as measured by the site meteorological monitoring instruments (installed in accordance with condition 6H.1 of these resource consents).</u></p>
6D.1	<p><u>General Dust Mitigation Measures</u></p> <p>The methods used to mitigate and prevent fugitive dust emissions shall include, as a minimum, the following:</p> <p>a. <u>Carrying out earthworks in strips in the construction of the Klondyke Pond Storage Dam, where each strip is no more than 75 hectares in area;</u></p> <p>b. <u>That all potentially dusty surfaces (including roads) shall be stabilised using (as necessary) one or more of the following methods:</u></p> <p>i. <u>water;</u></p> <p>ii. <u>chemical dust suppressants;</u></p> <p>iii. <u>compaction;</u></p> <p>iv. <u>straw mulching;</u></p> <p>v. <u>temporary vegetation;</u></p> <p>vi. <u>gravelling; or</u></p> <p>vii. <u>other surface modification methods;</u></p> <p>c. <u>Existing vegetation is to be retained for as long as practicable and areas where works are complete shall be revegetated as soon as practicable;</u></p> <p>d. <u>Vehicle speeds are to be controlled on site to not more than 20 kilometres per hour;</u></p> <p>e. <u>The height and slope of stockpiles associated with the Proposal are not to exceed 3 m;</u></p> <p>f. <u>Paved roads and yard areas are to be kept clean using either washing or vacuum sweepers;</u></p> <p>g. <u>A rumble grid and a sealed area of road of at least 20 metres in length are to be provided prior to all the site exits onto public roads;</u></p> <p>h. <u>Drop heights are to be minimised when loading and unloading vehicles; and</u></p> <p>i. <u>An adequate on-site supply of water and equipment for watering all potentially dusty areas of the site shall be provided and maintained at all times.</u></p>
6D.2	<p>The consent holder:</p> <p>a. <u>Shall review dust sources and dust control measures and implement additional dust control methods when TSP concentrations (as measured by the instrument installed and operated in accordance with condition 6H.1):</u></p> <p>i. <u>Exceed a 1-hour average concentration of 200 µg/m³; or</u></p> <p>ii. <u>Exceed a 24-hour average concentration of 80 µg/m³.</u></p> <p>b. <u>Shall cease the works / activities authorised by these resource consents when TSP concentrations:</u></p> <p>i. <u>Exceed a 1-hour average concentration of 220 µg/m³; or</u></p>

	<ul style="list-style-type: none"> ii. <u>Exceed a 24-hour average concentration of 120 µg/m³.</u> c. <u>May only recommence works once TSP concentrations, measured over two consecutive ten-minute periods, are less than 200 µg/m³.</u>
6D.3	<u>Dust sources and dust control measures shall be reviewed and additional dust control measures shall be implemented when hourly average wind speeds exceed 5 (five) m/s and winds are blowing towards an inhabited dwelling located within 500 m of construction activities and potential sources of dust.</u>
6D.4	<p>The additional dust measures referred to in conditions 6D.2 and 6D.3 include, but are not limited to:</p> <ul style="list-style-type: none"> a. <u>Reducing vehicle speeds within the construction site;</u> b. <u>Increasing the water application rate on dusty surfaces within the construction site;</u> c. <u>Ceasing dusty activities within the construction site, such as the stripping and spreading of topsoil.</u>
6D.5	<p>Potentially dusty activities that are taking place within 500 m down upwind of an inhabited dwelling shall cease, except for dust mitigation activities, when gust wind speeds (two-minute average or less) exceed 10 m/s during two consecutive ten-minute periods. The term 'potentially dusty activities' means, for the purpose of these resource consents, the following activities:</p> <ul style="list-style-type: none"> a. <u>Stripping of potentially dusty materials such as topsoil and silt;</u> b. <u>Formation of embankments surrounding water storage facilities using soil or silt;</u> c. <u>Formation of soil and silt stockpiles;</u> d. <u>Spreading of topsoil;</u> e. <u>Movement or working of topsoil for the purpose of vegetating the embankments; and</u> f. <u>Placement of the clay for the pond Dam lining.</u> <p>The potentially dusty activities may recommence when wind gusts (two-minute average or less) are less than 7.5 m/s during the previous two consecutive ten-minute periods.</p>
6D.6	<u>The DMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u>
6E.1	<p><u>Concrete Batching Plant Specific Measures</u></p> <p><u>The capacity of any concrete batching plant used to construct the Proposal shall not exceed 70 cubic metres per hour.</u></p>
6E.2	<p>The consent holder shall take all practicable measures to minimise the discharge of dust from any concrete batching plant used to construct the Proposal. These measures shall include:</p> <ul style="list-style-type: none"> a. <u>The concrete batching plant cement silos are to be fitted with fabric filters to control the discharge of dust during filling and batching operations;</u> b. <u>The cement silo fabric filters are to be regularly maintained in order to maintain effective operation at all times in accordance with the manufacturer's instructions;</u> c. <u>The cement silos are to be fitted with over-fill warning devices;</u> d. <u>The filtration system on the cement silos operates at all times when the concrete batching plant is in operation;</u> e. <u>Aggregates being conveyed to and within the concrete batching plant are to be sprayed with water, as required, to minimise dust emissions;</u> f. <u>Fine aggregate materials such as crusher dust shall be stored in three sided bins;</u> g. <u>Cement transferred to trucks from the concrete batching plant is to be via an enclosed control system that collects and treats cement dust; and</u> h. <u>Any spillages associated with the handling of sand, aggregate or cement materials involved in the batching process shall be cleaned up as soon as practicable following the spill.</u>

	<u>i. Cement delivery trucks shall be covered.</u>
<u>6F.1</u>	<u>Crushing and Screening Specific Measures</u> <u>The rate of aggregate crushing and screening on site shall not exceed 200 tonnes per hour.</u>
<u>6F.2</u>	<u>The consent holder shall take all practicable measures to minimise the discharge of dust from crushing and screening aggregates. These measures shall include:</u> <u>a. Using water sprays on all transfer points and crushing and screening equipment;</u> <u>b. Wetting of the aggregate as required to reduce the discharge of dust to air; and</u> <u>c. Minimising 'drop heights' when the aggregates are being unloaded and/or stockpiled.</u>
<u>6G.1</u>	<u>Post Construction Mitigation Measures</u> <u>All exposed surfaces of soil on site at the completion of construction shall be stabilised either by being gravelled or planted. The objective of the stabilisation activities is to minimise the generation of dust from the sites where construction works / activities authorised by these resource consents have been undertaken.</u>
<u>6G.2</u>	<u>The internal banks of the Klondyke Pond Storage Dam shall be kept damp (by the use of measures such as sprinklers on the edge of the Klondyke Pond Storage Dam) when the Klondyke Pond Storage Dam is drawn down below the rock armouring layer and when it is not raining, to prevent the generation of dust.</u>
<u>6H.1</u>	<u>Air Quality Monitoring</u> <u>Prior to construction activities commencing on site, the consent holder shall install instruments capable of continuously monitoring and recording:</u> <u>a. The meteorological conditions, including wind speed, wind direction, rainfall, temperature and relative humidity. These instruments shall be maintained in good working order for the duration of these resource consents; and</u> <u>b. TSP's. This instrument shall be maintained in good working order for the duration of the construction works / activities associated with the Proposal, and shall be located on the south-eastern boundary of the Klondyke Pond, within the vicinity of the closest house to the construction activity</u>
<u>6H.2</u>	<u>The monitoring instruments installed in accordance with condition 6H.1(a) shall:</u> <u>a. Be installed at a height of at least six (6) metres above pre-construction ground level and in accordance with AS 2923- 1987 <i>Ambient Air Guide for Measurement of Horizontal Wind for Air Quality Applications</i>;</u> <u>b. Commence operating at least one month prior to the commencement of the construction works / activities authorised by these resource consents;</u> <u>c. Continuously record the meteorological conditions using an electronic data logging system with an averaging time for each parameter of not more than two minutes. The records collected shall be available to the consent holder in 'real time' and the logging system shall be able to send alerts via text message.</u> <u>The monitoring instruments installed in accordance with condition 6h.1(b) shall be maintained in good working order for the duration of the construction works / activities associated with the Proposal, and shall be located on the south-eastern boundary of the Klondyke Pond, within the vicinity of the closest house to the construction activity.</u>
<u>6H.3</u>	<u>The meteorological data recorded in accordance with conditions 6H.1(a) and 6H.2 shall be retained for the duration of these resource consents. Copies of the data shall be provided to the Canterbury Regional Council, Attention: Regional Leader - Compliance and Monitoring, upon request.</u>

6H.4	<p>The TSP monitoring instruments installed in accordance with condition 6H.1(b) shall:</p> <ul style="list-style-type: none"> a. Be a continuous monitoring instrument capable of providing real time data; b. Be of an appropriate standard and quality (and shall include regular calibration of the monitoring equipment) to enable compliance with the TSP trigger levels set in Conditions 6D.2 and 6D.3 to be determined; and c. Continuously record TSP data using an electronic data logging system with an averaging time for each parameter of not more than two minutes. The TSP records shall be available to the consent holder in real time and the logging system shall be able to send alerts via text message.
6H.5	<p>The TSP data recorded in accordance with conditions 6H.1(a) and 6H.3 shall be retained for the duration of the construction works / activities associated with the Proposal. Copies of the data shall be provided to the Canterbury Regional Council, Attention: Regional Leader: Compliance & Monitoring, upon request.</p>
6H.6	<p>The Consent Holder shall prepare a report which summarises the meteorological and TSP monitoring data for the previous 12-month period and provide this to Canterbury Regional Council prior to 1 (March) each year. The summary report shall include the following information:</p> <ul style="list-style-type: none"> a. Hourly and 24-hour average air temperature, wind speed, rainfall and relative humidity for the previous 12 months b. A summary of average, median, maximum and minimum 1 hour results for air temperature, wind speed, rainfall and relative humidity for each month c. A summary of average, median, maximum and minimum 24 hour results for air temperature, wind speed, rainfall and relative humidity for each month d. Hourly and 24-hour average TSP concentrations for the previous 12 months e. A summary of average, median and maximum hourly 1 hour and 24 hour average TSP concentrations for each month f. A summary of the number of exceedances recorded each month of the TSP concentration trigger values included in condition 6D.2 b and an explanation of the possible reason for the exceedance and any corrective actions taken. g. Windroses showing the 1-hour average wind speed and wind direction for each month
9	<p>Spoil sites shall be sown with grass within one month of the completion of Construction Works, if completed during period September through April. Should Construction Works be completed outside of this period, the embankments shall where necessary to prevent erosion be stabilised with suitable matting (or equivalent), and sown with grass no later than the following September.</p>
	<p>HAZARDOUS SUBSTANCE MANAGEMENT</p>
10	<p>The consent holder shall prepare a Hazardous Substances Spill Management Plan (HSSMP): The HSSMP shall include but is not limited to:</p> <ul style="list-style-type: none"> a. Identifying the hazardous substances that will be retained on the site during construction and the restrictions that apply to, and are to be followed, in relation to their storage and use; b. Identifying the potential situations and locations where hazardous substances may be accidentally spilled, and to ensure that the appropriate measures are implemented by the consent holder to ensure that all actual or potential hazardous substances effects arising from the construction activities are minimised. This includes, but is not limited to, measures to provide secondary containment around storage locations and refuelling

	<p>sites, to minimise the extent of soil contamination and to prevent run-off of spilled liquids from reaching surface water bodies;</p> <p>c. A list of the staff and/or experts responsible for reviewing the HSSMP;</p> <p>d. A description of staff / expert training and induction requirements that will be undertaken to ensure that the HSSMP is followed by all acting in accordance with this resource consent;</p> <p>e. A description of the site and local receiving environment;</p> <p>f. The procedures that are to be followed for the use of the hazardous substances within the construction site, including the construction personnel that are authorised to use them;</p> <p>g. The minimum requirements for spill management kits that are to be distributed throughout the construction site and the procedures that are to apply to the disposal of used spill management materials; and</p> <p>h. The procedures for corrective action in the event of a spill.</p>
11	<p>The consent holder shall take all practicable measures to avoid spills of fuel or any other contaminants. In the event of a spill of fuel or any other hazardous substances, the following corrective action shall be undertaken but is not limited to:</p> <p>a. All practicable measures shall be taken to prevent the spill being discharged into land via the stormwater system;</p> <p>b. The spill shall be cleaned up as soon as practicable and any contaminants that accumulate in the stormwater system shall be removed and the spill area shall be inspected and cleaned, and measures shall be taken to prevent reoccurrence;</p> <p>c. The consent holder shall provide the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, with the following information within 24 hours of a spill:</p> <p style="padding-left: 20px;">i. The date, time, location and estimated volume of the spill;</p> <p style="padding-left: 20px;">ii. The cause of the spill;</p> <p style="padding-left: 20px;">iii. The type of contaminant(s) spilled;</p> <p style="padding-left: 20px;">iv. Clean up procedures undertaken including evidence of appropriate disposal;</p> <p style="padding-left: 20px;">v. Details of the steps taken to control and remediate the effects of the spill on the receiving environment;</p> <p style="padding-left: 20px;">vi. An assessment of any potential effects of the spill; and</p> <p style="padding-left: 20px;">vii. Measures to be undertaken to prevent a reoccurrence.</p>
12	Any material, including sediment, hydrocarbons and other contaminants, removed in the exercising of this consent shall be disposed of at a location or facility authorised to receive such material.
12	<u>The HSSMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u>
	ACCIDENTAL DISCOVERY PROTOCOL - ARCHAEOLOGICAL MATERIALS
13	<p>In the event of any discovery of archaeological material the consent holder shall immediately:</p> <p>a. Cease work within 10 metres of any part of the discovery and mark off the affected area;</p> <p>b. Advise the Canterbury Regional Council and Ashburton District Council of the discovery; and</p> <p>c. Advise Heritage New Zealand Pouhere Taonga of the discovery.</p>
14	If the archaeological material is determined to be Kōiwi Tangata (human bones) of Māori origin or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the consent holder shall immediately:

	<ul style="list-style-type: none"> a. advise the office of Upoko Runanga o Arowhenua of the discovery; and b. consult Upoko Runanga o Arowhenua on any matters of tikanga (protocol) that are required in relation to the discovery and prior to the commencement of any investigation, and perform those requirements. c. Advise the New Zealand Police of the discovery in relation to Koiwi Tangata (human bones).
15	<p>Iwi representatives, Canterbury Regional Council, Attention: Regional Leader-Monitoring and Compliance and Heritage New Zealand Pouhere Taonga Trust shall be afforded the opportunity to visit the site within three working days of the discovery (if and as they consider it necessary), and such persons shall be given a reasonable time to record and recover archaeological features discovered before work may recommence on the site. The site inspection shall occur within six working days of the discovery being made.</p>
16	<p>The consent holder may recommence any work if Heritage New Zealand Pouhere Taonga (following consultation with Kaitiaki Runanga if the material is of Maori origin) provides a statement in writing to the Council that appropriate action has been undertaken in relation to the archaeological material discovered.</p> <p>Advice Notes</p> <ol style="list-style-type: none"> 1. <i>Under the Heritage New Zealand Pouhere Taonga Act 2014 an archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. For sites solely of Maori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles or broken glass, ceramics, metals, etc., may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/koiwi may date to any historic period.</i> 2. <i>It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction. An authority from Heritage New Zealand Pouhere Taonga Trust may be required.</i>
	ACCIDENTAL DISCOVERY PROTOCOL – WASTE MATERIALS/CONTAMINATED SOILS
17	<p>In the event of encountering visual or olfactory indicators of waste materials and/or soil contamination or an uncontrolled discharge of contaminants the consent holder or its contractors shall immediately comply with the Accidental Discovery Protocol (ADP). The ADP for unexpected contaminants shall include but not be limited to the following steps:</p> <ul style="list-style-type: none"> a. Earthworks within ten metres of unexpected contaminants shall cease immediately; and b. Immediate steps shall be taken to minimise exposure of the contaminated material, including covering the contaminants with an impervious cover where practicable; and c. Notification of the Canterbury Regional Council, by a Suitably Qualified and Experienced Practitioner (SQEP), Attention: Contaminated Sites Manager, within 24 hours of the discovery; d. Earthworks within ten metres of unexpected contaminants shall not recommence until a (SQEP) confirms to Canterbury Regional Council, Attention: Regional Leader-Monitoring and Compliance that it is safe to do so. e. The consent holder shall take all practicable steps to prevent the contaminated material becoming entrained in stormwater runoff. f. All records and documentation associated with the discovery shall be

	<p>kept and copies shall be provided to the Canterbury Regional Council upon request.</p> <p>In the event of encountering visual or olfactory indicators of waste materials and/or soil contamination or an uncontrolled discharge of contaminants the consent holder or its contractors shall immediately comply with the Accidental Discovery Protocol (ADP). The ADP for unexpected contaminants shall comply with the HSSMP.</p>
	ECOLOGICAL REFUGE PLANTING AND MANAGEMENT PLAN
18	The consent holder shall prepare an Ecological Refuge Planting and Management Plan (ERPMP). The ERPMP shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance at least three months prior to the commencement of construction works under this consent.
19	<p>The ERPMP shall meet the following objectives:</p> <ul style="list-style-type: none"> a. To establish a permanent ecological refuge comprising six hectares of wetland, native plantings, and lizard habitat; and b. To provide receptor habitat for lizards to assist in meeting the objectives of the Lizard Management Plan (LMP) required under this consent.
20	<p>The ERPMP shall include but not be limited to:</p> <ul style="list-style-type: none"> a. A detailed plan that shows the area and location of the habitats to be created. The detailed plan shall give effect to the concept plan for the Refuge, which is attached as Plan CRC170651B, which forms part of this consent; b. The location, density and species of native plants to be planted in the Refuge; c. A requirement that all plants planted as part of the Refuge are grown from seeds collected from local, naturally occurring indigenous vegetation; d. A requirement for ongoing weed control at the refuge and the timing and methods for weed control; e. A schedule setting out the timing of the site preparation, planting and maintenance activities (including specifying when replacement plantings are needed, and when maintenance activities can cease); f. The methods for site preparation prior to planting, including stock exclusion and clearing and disposal of existing weeds; g. The planting methods to be employed in establishing the Refuge; and h. The monitoring activities (and their frequency and duration) that are to be conducted by the consent holder to monitor the success of the activities that are undertaken to establish and maintain the ecological refuge LMP.
	LIZARD MANAGEMENT PLAN
21	The Consent Holder shall prepare and provide a Lizard Management Plan (LMP) to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance at least three months prior to the commencement of construction works under this consent.
22	<p>The LMP shall set out detailed methods and timeframes to ensure that the following objectives are achieved:</p> <ul style="list-style-type: none"> a. To provide an area of lizard habitat that is larger than one hectare and is consistent in size with the area identified on Plan CRC170652B as Open Shrubland with stone piles. b. To translocate lizards from the existing stone piles within the Klondyke Storage Dam's footprint to the Refuge using methods that will maximise the probability of survival and establishment of a viable population of lizards at the receptor habitat; and c. To monitor whether lizards have established successful populations at the receptor habitat.

23	<p>The LMP shall include but not be limited to:</p> <ul style="list-style-type: none"> a. The objectives set out in condition (22); b. Copies of, and a brief explanation of the permits secured under the Wildlife Act 1953 for the translocation of lizards from the Klondyke Storage Dam footprint to the Refuge and the conditions (if any) that apply to the relocation activities; c. A map showing the area, location and layout of the lizard habitat within the Refuge; d. The methods and timing to be employed by the consent holder for the removal of the existing stone piles from the footprint of the Klondyke Storage Dam and the re-establishment of stone piles within the Refuge; e. The methods and timing to be employed by the consent holder for translocating lizards to new or existing lizard habitat at the Refuge; f. The identification of suitable nearby unaffected lizard habitat to which lizards may be re-located, if such relocation proves necessary; g. The monitoring activities (and their frequency and duration) that are to be conducted by the consent holder to monitor the success of the activities that are undertaken to relocate the lizards and to establish and maintain a viable lizard habitat; h. Descriptions of the lizard habitat and fauna at the source site (the Klondyke Storage Dam) and the receptor site (being the Refuge); and i. Methods for collection of DNA from lizards captured for translocation.
	MONITORING OF ERPMP AND LMP
24	<p>The consent holder shall, at least three months prior to the commencement of any construction works authorised by this resource consent, appoint an appropriately qualified and experienced ecologist to undertake the monitoring required by the ERPMP and LMP.</p>
25	<p>The monitoring undertaken by the ecologist appointed in accordance with condition (24) shall occur at the frequency and using the methods set out in the ERPMP and LMP over the course of construction works / activities authorised by this resource consent, and shall continue for not less than five years after the stone pile and lizard relocation activities required by conditions (22) and (23) commence, and not less than three years after all construction is complete.</p>
26	<p>The ecologist appointed in accordance with condition (24) shall prepare an annual report as follows:</p> <ul style="list-style-type: none"> a. The report shall be prepared for the first four years of the monitoring required by condition (24) and then every two years thereafter until the completion of the monitoring; and b. All of the reports required by this condition shall be provided to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance by no later than the 30th of June each year; and c. Each monitoring report shall assess whether the ERPMP and LMP are achieving the purposes set out in conditions (19), (20), (22), and (23); and d. If the findings of the ecologist are that changes to the LMP and/or the ERPMP are required, including any additional measures or actions to achieve the purposes of the ERPMP and LMP plans, they shall make recommendations to the consent holder as to the changes and/or additional measures or actions that are required.

27	Where revisions are made to the ERPMP and /or LMP to give effect to the recommendations of the ecologist arising from condition (24) of this resource consent, the revisions shall be provided to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance at least 10 working days prior to the ERPMP and /or LMP being amended.
	DECOMMISSIONING
28	Once the Construction Works have been completed the consent holder shall decommission the sediment and erosion measures required by condition 5. Erosion and sediment control measures shall not be decommissioned until the site is stabilised and the stormwater system for the developed site is functioning.
28A	<p>BOND</p> <p>Environmental Bonding The Consent Holder shall, during the construction phase, in relation to Resource Consents numbered CRC170652, and CRC170651 provide and maintain in favour of the Canterbury Regional Council a bond on terms and conditions satisfactory to it in all respects.</p> <p>Form of Bond The bond shall be in a form generally used by a bank or insurance company registered to conduct business in New Zealand and approved by the Canterbury Regional Council.</p> <p>Content of Bond The bond shall apply until all construction works relating to the Resource Consents numbered CRC170652, and CRC170651, granted by the Canterbury Regional Council and shall provide that Consent Holder shall be liable and remain liable for meeting the lesser cost of: (a) Completion; or (b) Reinstating land affected by the construction including making safe and mitigating any adverse effects arising from the work undertaken during construction.</p> <p>Term The bond shall be executed before the commencement of any construction works associated with the Resource Consents numbered CRC170652, and CRC170651, granted by the Canterbury Regional Council, and may be renewed from time to time in accordance with this condition and shall remain in place until construction is complete.</p> <p>Amount (a) The bond may vary from time to time but at any given time shall be sufficient to cover the lesser of the estimated costs of completion (including any contingency), or compliance with all conditions, including: (i) Demolition and removing of any buildings or other structures; and (ii) Rehabilitation of land affected by the Scheme. (b) The bond shall be set prior to the commencement of construction by agreement between the Consent Holder and the Canterbury Regional Council, taking into account the estimated cost of meeting the obligations for which the bond is given. (c) In the event of the Consent Holder and the Canterbury Regional Council not reaching agreement on the initial bond amount it will be assessed by a suitably qualified and experienced independent bond assessor appointed by the Canterbury Regional Council, and the decision of that person shall be final and binding. (d) The amount of the bond will then be reviewed and reassessed by the Consent Holder and the Canterbury Regional Council every 12 months from the date the initial bond amount was lodged until construction works related to Resource Consents Numbered, CRC170652, and CRC170651, granted by the Canterbury Regional Council, is complete.</p>

Commented [MOU11]: Potential bond conditions not agreed by RDRML.

	<p>(e) <u>During the construction phase of the Scheme, a scope of works planned for the balance of the construction period will be provided by the Consent Holder to the Canterbury Regional Council, both prior to setting the initial bond amount, and again at each annual reassessment, to assist in setting the bond amount.</u></p> <p>(f) <u>In the event of the Consent Holder and the Canterbury Regional Council not reaching agreement on a bond amount within thirty (30) working days of the date the review and reassessment falls due, it will be assessed by a suitably qualified and experienced independent bond assessor appointed by the Canterbury Regional Council, and the decision of that person shall be final and binding.</u></p> <p>(g) <u>If at any time the amount of the bond is varied then the Consent Holder shall within thirty (30) working days of notification to the Consent Holder of the varied bond amount, execute and lodge with the Canterbury Regional Council a new bond for the varied amount or the additional amount required in excess of the existing bond.</u></p> <p>(h) <u>The Consent Holder shall not commence, or shall cease, any activity authorised under these consents until:</u></p> <p>(i) <u>The bond is executed by the Consent Holder and deposited with the Canterbury Regional Council; and</u></p> <p>(ii) <u>In respect of any varied bond referred to above, after thirty (30) working days has expired from the date the Consent Holder was notified of the terms of the varied bond by the Canterbury Regional Council, unless the varied bond has been executed by the Consent Holder and has been deposited with the Canterbury Regional Council, or the varied bond decreases the bond amount required to be provided by the Consent Holder.</u></p> <p>Section 109 <u>The provisions of Section 109 of the Act shall apply to any bond required pursuant to this condition.</u></p> <p>Costs <u>The Consent Holder shall meet the costs of providing any bond, including the costs of preparation of the bond and any substitute bond, and the costs of any professional bond assessor engaged to resolve the appropriate quantum of the initial bond to be provided or any varied bond on review and reassessment.</u></p>
	ADMINISTRATION
29	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <ul style="list-style-type: none"> a. To deal 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; or b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.
30	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>

CRC170653: a land use consent to disturb, and to remove vegetation from, the bed of the Rangitata River for the purposes of constructing and the maintenance of a sluice outlet and fish bypass channel.

	<u>GLOSSARY OF TERMS & ABBREVIATIONS USED IN THIS RESOURCE CONSENT</u>
0	<p><u>Appropriately qualified and experienced expert(s)</u> means a person or persons:</p> <ol style="list-style-type: none"> <u>With a relevant and recognised tertiary qualification(s) to the topic being assessed;</u> <u>Whom is (are) recognised as a full member (or equivalent) of a relevant professional institution(s) (such as the Institution of Professional Engineers New Zealand), where such institutions exist;</u> <u>Has more than 10-years relevant experience in the topic being assessed; and</u> <p><u>Certifies and Certification</u> means a process whereby:</p> <ol style="list-style-type: none"> <u>The consent holder supplies a report, action plan, design plan, construction methodology, monitoring plan, commissioning plan, safety system or a management plan, and the Canterbury Regional Council appoints an appropriately qualified and experienced expert to assesses the documentation submitted to ensure that it achieves the requirements of the relevant condition(s) of consent;</u> <u>Should the documents supplied in accordance with condition 0(a), in the opinion of the expert appointed by the Council, achieve the intent of the relevant condition(s) of these resource consents, the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall issue a written certificate to the consent holder confirming that the requirements of the relevant condition(s) have been satisfied;</u> <u>If the expert appointed by the Council is not satisfied that the documents supplied in accordance with condition (a) achieves requirements of the relevant condition(s), the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall advise (in writing) the consent holder of the experts concerns and ask that the report, commissioning plan, monitoring plan, action plan, safety system or management plan be modified so as to address the concerns, and then be resubmitted;</u> <u>This process shall be repeated until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council is able (on the advice of the expert) to certify that the requirements of the applicable condition(s) of consent have been satisfied; and</u> <p><u>CLG</u> means the Community Liaison Group;</p> <p><u>CMP</u> means Construction Management Plan.</p> <p><u>Construction site</u> includes all areas, excluding gazetted and vested road reserves that contain formed roads, where construction works / activities authorised by these resource consents are being undertaken by the consent holder.</p> <p><u>Council</u> means the Canterbury Regional Council.</p> <p><u>EAP</u> means the Emergency Action Plan.</p> <p><u>ESCP</u> means Erosion and Sediment Control Plan.</p> <p><u>Fish screen</u> means the rotary fish screen and its associated bypass channel.</p> <p><u>FSVMP</u> means Fish Screen Verification Monitoring Plan</p> <p><u>Flood flow take</u> means a flood flow abstraction from the Rangitata River.</p> <p><u>HSSMP</u> means the Hazardous Substances Spill Management Plan</p> <p><u>Klondyke Pond</u> means the Lake Klondyke Water Storage Facility.</p> <p><u>km/hr</u> means kilometres per hour.</p> <p><u>l/s</u> means litres per second</p> <p><u>m³</u> means cubic metres</p> <p><u>m³/s</u> means cubic metres per second</p> <p><u>m</u> means metre</p> <p><u>m/s</u> means metres per second.</p> <p><u>mm/s</u> means millimetres per second</p>

	<p><u>NZSOLD means New Zealand Society on Large Dams New Zealand.</u></p> <p><u>PPV means Peak Particle Velocity</u></p> <p><u>Reasonable Mixing Zone means, for the purposes of condition 18.0A, a reasonable mixing zone extending from the point of discharge from the Sluice Channel to a point that is 200 metres downstream of the discharge point.</u></p> <p><u>Regional Water Table means the upper surface of the full saturated groundwater system but does not, for the purposes of these resource consents, include perched groundwater (which is groundwater in saturated strata that occurs above the regional water table but is separated from it by a layer of unsaturated strata).</u></p> <p><u>RDR means the Rangitata Diversion Race.</u></p> <p><u>RDR mods means the modifications to the Rangitata Diversion Race.</u></p> <p><u>RL means the right bank when looking downstream.</u></p> <p><u>RMA means the Resource Management Act</u></p> <p><u>The Proposal means the Klondyke Pond Storage Dam, WWC, RDR modifications, fish screen, Shepherds Bush Road relocation, flood flow take and refuge, and all incidental work.</u></p> <p><u>TSP means total suspended particulate.</u></p> <p><u>WRMP means Works in the River Management Plan</u></p>
	<u>CERTIFICATION PROCESS</u>
0A.1	<p>Except where explicitly required otherwise by conditions of this consents, the consent holder shall:</p> <ol style="list-style-type: none"> <u>Engage an appropriately qualified and experienced independent expert (or experts) to prepare the management plans, design plans, construction methodology, monitoring plans, action plan, commissioning plan and safety system specified in the conditions of this consent using the draft versions of these plans (which are attached as Annexure B) as a base document;</u> <u>Provide drafts of each of the documents required by condition 0A.1 (a) to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, not less than three months prior to construction works / activities commencing in accordance with these resource consents;</u> <u>Not commence any construction works / activities authorised by these resource consents until it has received a certificate from the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council that the management plan, design plan, construction methodology, monitoring plan, action plan, commissioning plan or safety system is consistent with the applicable conditions of this consent;</u> <u>Adhere to and implement the certified version of the management plan, design plans, construction methodology, monitoring plan, action plan, commissioning plan or safety system;</u> <u>Submit any proposed variations to the management plans, design plans, construction methodology, action plan, safety system, monitoring plans and commissioning plan to the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council, at least seven days prior to when the proposed change will be implemented by the consent holder. Any variations made shall not take effect until the Regional Leader: Compliance & Monitoring of the Canterbury Regional Council certifies that the variations accord with the applicable conditions of the resource consent;</u> <u>Appoint an appropriately qualified and independent expert (or experts) to review the management plans, action plan, safety system, monitoring plans and commissioning plan at the frequency set out in these resource consents. Should the conditions of these resource consents not set a frequency, the reviews shall be conducted annually. Such reviews are to ensure that the management plans, action plan, safety system, monitoring plans and commissioning plan continue to achieve the conditions of these resource consents.</u> <u>Any changes made as a result of the reviews conducted in accordance with condition 0A.1(f) shall be submitted to the Canterbury Regional</u>

	<p><u>Council and shall not take effect until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council certifies that the changes accord with the applicable conditions of these resource consents:</u></p> <p><u>h. Pay the costs of the expert(s) appointed by the Canterbury Regional Council to certify the management plans, design plans, construction methodology, monitoring plans, commissioning plan, action plan and safety system (and any variations or changes thereto) in accordance with conditions 0A.1(c) and 0A.1(h); and</u></p> <p><u>i. Ensure that copies of the certified commissioning plan, design plans, construction methodology and management plans, monitoring plans, action plan, safety system and management plans set out in these conditions are available on site at all times during the construction works / activities authorised by this consent; and</u></p> <p><u>j. Ensure that all key personnel are to be made aware of the content and requirements / obligations of the management plans, action plan, safety system, commissioning plan and monitoring plans.</u></p>
	SCOPE
1	<p>The activities shall be limited to:</p> <ol style="list-style-type: none"> Disturbance and excavation of the bed of the Rangitata River; and Removal of vegetation from the bed of the Rangitata River <p>For the purposes of constructing a sluice outlet and fish bypass channel on land located at Shephards Bush Road, Monalto Road, Klondyke Road, and Klondyke Terrace, identified as the 'works area' on Plan CRC170653, which forms part of this consent, <u>and maintenance activities up to 500 metres upstream and downstream of this point.</u></p>
1A	<p><u>The Proposal activity shall be constructed, operated and maintained in accordance with the details contained within the following documents:</u></p> <ol style="list-style-type: none"> <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u> <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u> <p><u>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</u></p>
	PRE-CONSTRUCTION
2	<p>The consent holder shall:</p> <ol style="list-style-type: none"> be responsible for all the contracted operations relating to the exercise of this consent including the Construction Works; and ensure compliance with consent conditions, <u>including the Management Plans required by this resource consent and certified by the Canterbury Regional Council.</u>
3	<p>Prior to commencement of any physical works required for the activities described in Condition (1) (hereafter referred to as the 'Construction Works') the consent holder or its agent or contractor shall arrange and conduct a pre-construction site meeting between the Canterbury Regional Council and all persons involved in the Construction Works. At a minimum, the following shall be covered at the meeting:</p> <ol style="list-style-type: none"> Scheduling and staging of the Construction Works; Responsibilities of all relevant parties;

	<ul style="list-style-type: none"> c. Contact details for all relevant parties; d. Expectations regarding communication between all relevant parties; e. Procedures for implementing any changes to the Construction Works; f. Site inspection; and g. Confirmation that all persons involved in the Construction Works have copies of the contents of this consent document, the Erosion and Sediment Control Plan (ESCP) and all plans and methodologies associated with this consent.
	GENERAL
4	<p>Prior to any works authorised by this consent being carried out in the period 1 September to 1 February, the consent holder shall ensure that:</p> <ul style="list-style-type: none"> a. a suitably qualified and independent person inspects the proposed area of works, no earlier than eight days prior to any works being carried out, and locates any bird breeding sites of birds listed in Appendix A, which forms part of this consent; b. the person carrying out the inspection prepares a written report that identifies all the located bird breeding or nesting sites and provides copies of that report to the consent holder and the Canterbury Regional Council, attention Regional Leader - Monitoring and Compliance; c. the name and qualifications of the person carrying out the inspection are provided to the Canterbury Regional Council with the report; d. any person carrying out works authorised by this consent are informed of any bird breeding or nesting sites and their location; and e. where work ceases for more than eight days, the site shall be re-inspected for bird breeding and nesting sites in accordance with parts (a) to (d) of this condition
5	<p>Vehicles and/or machinery shall not operate within 100 metres of birds which are nesting or rearing their young in the bed of the river, except as identified by the inspection undertaken in accordance with condition (4) and detailed in the report. For the purposes of this condition birds are defined as those bird species listed in Appendix A, which forms part of this consent.</p>
6	<p>To prevent the spread of pest species, including but not limited to Didymo, the consent holder shall ensure that activities authorised by this consent are undertaken in accordance with the Biosecurity New Zealand's hygiene procedures and that machinery shall be free of plants and plant seeds prior to use in the riverbed.</p> <p>Advice Note: You can access the most current version of these procedures from the Biosecurity New Zealand website http://www.biosecurity.govt.nz</p>
7	<p>All practicable measures shall be undertaken to minimise:</p> <ul style="list-style-type: none"> a. erosion of the bed and banks of the Rangitata River; and b. the discharge of sediment to the Rangitata River; as a result of the works.
8	<p>All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery including but not limited to:</p> <ul style="list-style-type: none"> a. There shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of the bed of a river. b. Fuel shall be stored securely or removed from site overnight <p>Advice Note: In addition to this consent, the consent holder will also need to ensure that the activity complies with LWRP Rule 5.145 (Refuelling in Lake and Riverbeds). If the activity does not comply with Rule 5.145 of the LWRP, an additional consent will be required pursuant to section 15 of the Resource Management Act 1991.</p>
9	<p>Works shall:</p> <ul style="list-style-type: none"> a. not be carried out on Sundays or public holidays.

	<p>b. only occur between the hours of 6:30 am and 8:00 pm inclusive</p> <p>Advice Note: The consent holder should also check compliance with District Council regulations.</p>
	<u>COMPLAINTS REGISTER</u>
9A.1	<p>The consent holder shall keep a register of complaints lodged with it in respect of the exercise of these resource consents.</p> <p>The register prepared and maintained in accordance with this condition shall record the following details for each complaint that is made:</p> <ol style="list-style-type: none"> The date and time of the complaint; and The name and contact details of the complainant (if they are provided to the consent holder) and a description of the complaint; and The investigations (if any) that the consent holder undertook in response to each complaint; and Any action that was undertaken to address the concerns raised in the complaint; and The feedback provided to each complainant.
9A.2	The consent holder shall forward a copy of the register prepared and maintained in accordance with condition 9A.1 to the Canterbury Regional Council, Attention RMA Compliance and Monitoring Manager within five (5) working days of receiving a request to do so from the Council.
9A.3	The consent holder shall appoint a Liaison Officer for the Proposal prior to any construction works / activities authorised by these this resource consents commencing. The Liaison Officer shall be the point of contact for the public during construction of the Proposal. The name and contact details for the Liaison Officer shall be advertised at the main construction entrance for the Klondyke Pond Storage Dam and on a notice at the Peel Forest Café and DoC Campsite booking office.
	<u>CONSTRUCTION MANAGEMENT PLAN</u>
9B.1	The purpose of the Construction Management Plan is to describe the measures that will be implemented to ensure that all construction related environmental effects are avoided, minimised, or managed in accordance with the conditions of these resource consents and engineering / environmental best practice.
9B.2	<p>The objectives of the CMP are to:</p> <ol style="list-style-type: none"> Avoid and / or minimise the magnitude of the adverse effects generated during the construction activities and / or works authorised by these resource consents; and Provide clarity as to how the Proposal is to be constructed by setting out the: <ol style="list-style-type: none"> Construction methodology that is to be employed to construct the Proposal; and Staging, timing, duration and monitoring of construction works and / or activities; and Measures that are to be applied, and when they are to be applied, to minimise the effects of the construction activities and / or works authorised by these resource consents. These measures shall include: <ul style="list-style-type: none"> * A requirement that all construction works / activities be in accordance with the Canterbury Regional Council's ESCG (2007); * Measures necessary to provide for stormwater disposal and sediment removal; * The inclusion and / or maintenance of a vegetated strip (or other treatment system supported by the ESCG) between all areas of earthworks and water courses / water bodies / water

	<p><u>races;</u></p> <ul style="list-style-type: none"> * <u>Controls on the siting of stockpiles to avoid sediment-entrained runoff entering water races / water courses / water bodies and to reduce the risk of fugitive dust emissions;</u> * <u>Measures to avoid the entrainment of oil, fuels or any other hazardous substances in stormwater, with particular emphasis on re-fuelling areas and repair areas; and</u> * <u>Requirements regarding the stabilisation and maintenance of all construction site entrances associated with the Proposal from public roads; and</u> <p>iv. <u>The means by which stakeholders are to be kept informed of the construction works / activities being undertaken by the consent holder and/or its contractor(s).</u></p>
9B.3	<p>The CMP shall contain the following sections:</p> <ul style="list-style-type: none"> a. <u>Purpose and Scope</u> b. <u>Personnel, Team Structure, Contact Details and Responsibilities.</u> <u>This will include the 24-hour contact details for the following personnel:</u> <ul style="list-style-type: none"> i. <u>The administrator of the complaints register (if required by conditions of this consent); and</u> ii. <u>The Liaison Officer (if required by conditions of this consent);</u> c. <u>Environmental Policy and Environmental Management System;</u> d. <u>Resource Consent and Building Consent Requirements;</u> e. <u>Accidental Discovery Protocol (if required by conditions of this consent);</u> f. <u>Environmental Management Sub-Plans including, as a minimum, the following plans:</u> <ul style="list-style-type: none"> i. <u>Erosion and Sediment Control Plan;</u> ii. <u>Hazardous Substances Spill Management Plan;</u> iii. <u>Vibration Management Plan;</u> iv. <u>Waste Management Plan;</u> v. <u>Works in the River Management Plan;</u> vi. <u>Smoke Management Plan;</u> vii. <u>Dust Management Plan; and</u> viii. <u>Contaminated Land Remediation Action Plan</u> g. <u>Construction Methodology;</u> h. <u>Training and Induction of Contractors and their Staff;</u> i. <u>Subcontractor Management;</u> j. <u>Monitoring and Site Inspections;</u> k. <u>Conformance and Corrective / Preventative Actions;</u> l. <u>Meetings Frequency and Purpose; and</u> m. <u>Environmental Systems Reviews.</u>
9B.4	<p><u>The CMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u></p>
	<p>Erosion and Sediment Control Plan</p>
10A	<p><u>The purpose of the Erosion and Sediment Control Management Plan is to ensure that the consent holder implements appropriate measures, as defined by the Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) (an equivalent industry guideline), to minimise all actual or potential erosion and sediment effects arising from the construction works / activities authorised by these resource consents.</u></p>
10	<p>The consent holder shall prepare an ESCP, subject to the following conditions:</p> <ul style="list-style-type: none"> a. No less than one month before the commencement of any Construction Works, a copy of the ESCP shall be submitted to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance for

	<p>review and certification. All activities authorised by this consent shall be carried out in accordance with the ESCP.</p> <p>b. Unless Canterbury Regional Council provides notice in writing that it is unable to certify the ESCP within 20 working days of receipt of a draft ESCP, it is deemed to be certified by the Canterbury Regional Council. For the purposes of this condition, "Certification" means that the ESCP contains all the information specified in Condition 4(c).</p> <p>c. The ESCP shall include but not be limited to:</p> <ul style="list-style-type: none"> i. A list of the staff and / or experts responsible for reviewing the ESCP; ii. A description of staff training and induction requirements that will be undertaken to ensure that the ESCP is followed by all acting in accordance with these resource consents; iii. A description of the site and local receiving environment; iv. A site drainage plan; v. Details of any anticipated earth excavation requirements; vi. A schedule detailing the anticipated staging of the Construction Works including: <ul style="list-style-type: none"> A. Site preparation works; B. Any equipment or plant mobilisation necessary for carrying out the construction works; C. Any field verification requirement. vii. A detailed description of how run on and run off water will be managed within the construction site; viii. Measures to avoid or minimise any sediment entering exposed groundwater or the Rangitata River or being tracked onto roadways or neighbouring properties; ix. A detailed description of how water will be treated prior to disposal to the various receiving environments; x. Details of compliance checks, and any maintenance necessary to ensure that measures required under the ESCP or this consent are performing effectively. xi. Identification of persons responsible for carrying out the actions within the ESCP including their contact details; xii. A detailed description of how vegetation stripping and replanting would be undertaken to manage the area of disturbed ground that will be open throughout the construction works / activities authorised by this resource consent. <p>d. The ESCP shall be prepared in accordance with:</p> <ul style="list-style-type: none"> i. <u>Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) Environment Canterbury's "Erosion and Sediment Control Toolbox for the Canterbury Region" (ESCT) http://esccanterbury.co.nz/; or</u> ii. An equivalent industry guideline. If an alternative guideline is used, the ESCP shall provide details of the relevant alternative methods used and an explanation of why they are more appropriate than the ESCT. <p>e. Any amendments or revisions to the ESCP must be submitted to Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance.</p>
10A	<u>The ESCP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u>
	Hazardous Substance Management
11	<p>The consent holder shall prepare a Hazardous Substances Spill Management Plan (HSSMP): The HSSMP shall include but is not limited to:</p> <ul style="list-style-type: none"> a. Identifying the hazardous substances that will be retained on the site during construction and the restrictions that apply to, and are to be followed, in relation to their storage and use; b. Identifying the potential situations and locations where hazardous

	<p>substances may be accidentally spilled, and to ensure that the appropriate measures are implemented by the consent holder to ensure that all actual or potential hazardous substances effects arising from the construction activities are minimised. This includes, but is not limited to, measures to provide secondary containment around storage locations and refuelling sites, to minimise the extent of soil contamination and to prevent run-off of spilled liquids from reaching surface water bodies;</p> <ul style="list-style-type: none"> c. A list of the staff and/or experts responsible for reviewing the HSSMP; d. A description of staff / expert training and induction requirements that will be undertaken to ensure that the HSSMP is followed by all acting in accordance with these resource consents; e. A description of the site and local receiving environment; f. The procedures that are to be followed for the use of the hazardous substances within the construction site, including the construction personnel that are authorised to use them; g. The minimum requirements for spill management kits that are to be distributed throughout the construction site and the procedures that are to apply to the disposal of used spill management materials; and h. The procedures for corrective action in the event of a spill.
12	<p>The consent holder shall take all practicable measures to avoid spills of fuel or any other contaminants. In the event of a spill of fuel or any other hazardous substances, the following corrective action shall be undertaken but is not limited to:</p> <ul style="list-style-type: none"> a. All practicable measures shall be taken to prevent the spill being discharged into land via the stormwater system; b. The spill shall be cleaned up as soon as practicable and any contaminants that accumulate in the stormwater system shall be removed and the spill area shall be inspected and cleaned, and measures shall be taken to prevent reoccurrence; c. The consent holder shall provide the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, with the following information within 24 hours of a spill: <ul style="list-style-type: none"> i. The date, time, location and estimated volume of the spill; ii. The cause of the spill; iii. The type of contaminant(s) spilled; iv. Clean up procedures undertaken including evidence of appropriate disposal; v. Details of the steps taken to control and remediate the effects of the spill on the receiving environment; vi. An assessment of any potential effects of the spill; and i. Measures to be undertaken to prevent a reoccurrence.
13	<p>Any material, including sediment, hydrocarbons and other contaminants, removed in the exercising of this consent shall be disposed of at a location or facility authorised to receive such material.</p>
13	<p><u>The HSSMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u></p>
	<p>Works in the River Management Plan</p>
14	<p>The consent holder shall prepare and adhere to a 'works in the River Management Plan' (WRMP). The WRMP primary objective is to ensure that the appropriate measures, as defined by <u>Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007)</u> Canterbury Regional Council's Erosion and Sediment Control Toolbox for Canterbury are implemented by the consent holder such that all actual or potential riverbed effects arising from the construction and any recurrent maintenance activities are minimised.</p>

15	<p>The WRMP shall include but not be limited to:</p> <ul style="list-style-type: none"> a. Identification of the staff and / or experts responsible for reviewing the WRMP; b. A description of staff training and induction requirements that will be undertaken to ensure that the WRMP is followed by all acting in accordance with these resource consents; c. A description of the site and local receiving environment; d. An assessment of flood events, water levels and their return periods; e. A requirement for the consent holder to monitor the weather throughout the construction of the Proposal and to set the necessary trigger events that are to be used as an early warning system (where work would be ceased and plant removed from the riverbed); and f. A description of how works (including any recurrent maintenance works that are conducted following the first filling of the Klondyke Storage Dam) in the Rangitata River shall be managed in order to minimise the risk of adverse environmental effects, and how those effects will be remedied and/or mitigated.
16	A copy of the WRMP shall be provided to the Canterbury Regional Council, attention Regional Leader - Monitoring and Compliance; at least 10 days prior to the activities authorised under this consent commencing.
	ACCIDENTAL DISCOVERY PROTOCOL - ARCHAEOLOGICAL MATERIALS
17	<p>In the event of any discovery of archaeological material the consent holder shall immediately:</p> <ul style="list-style-type: none"> a. Cease work within 10 metres of any part of the discovery and mark off the affected area; b. Advise the Canterbury Regional Council and Ashburton District Council of the discovery; and c. Advise Heritage New Zealand Pouhere Taonga of the discovery.
18	<p>If the archaeological material is determined to be Kōiwi Tangata (human bones) of Māori origin or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the consent holder shall immediately:</p> <ul style="list-style-type: none"> a. advise the office of Upoko Runanga o Arowhenua of the discovery; and b. consult Upoko Runanga o Arowhenua on any matters of tikanga (protocol) that are required in relation to the discovery and prior to the commencement of any investigation, and perform those requirements. c. Advise the New Zealand Police of the discovery in relation to Kōiwi Tangata (human bones).
19	Iwi representatives, Canterbury Regional Council, Attention: Regional Leader-Monitoring and Compliance and Heritage New Zealand Pouhere Taonga Trust shall be afforded the opportunity to visit the site within up to three working days of the discovery (if and as they consider it necessary), and such persons shall be given a reasonable time to record and recover archaeological features discovered before work may recommence on the site. The site inspection shall occur within six working days of the discovery being made.
20	<p>The consent holder may recommence any work if Heritage New Zealand Pouhere Taonga (following consultation with Kaitiaki Runanga if the material is of Māori origin) provides a statement in writing to the Council that appropriate action has been undertaken in relation to the archaeological material discovered.</p> <p>Advice Notes</p> <p>1. Under the Heritage New Zealand Pouhere Taonga Act 2014 an</p>

	<p>archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. For sites solely of Maori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles or broken glass, ceramics, metals, etc., may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/koiwi may date to any historic period.</p> <p>2. It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction. An authority from Heritage New Zealand Pouhere Taonga Trust may be required.</p>
	AFTER WORKS
21	All accumulated debris and other waste material shall be removed from the site no later than 7 days after works have been completed.
22	The Canterbury Regional Council, Attention: Regional Leader - Monitoring and Compliance shall be notified within seven working days after the completion of any works authorised by this consent.
	ADMINISTRATION
23	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <ul style="list-style-type: none"> a. To deal 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; or b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.
24	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>
25	<u>This resource consent shall expire on 31 January 2042.</u>
	<p>Appendix A - list of bird species referred to in bird nesting conditions (5) South Island</p> <p>Pied oystercatcher Black stilt Pied stilt Wrybill Banded dotterel Black-fronted dotterel Blue duck Paradise shelduck Grey duck NZ shoveler Grey teal NZ scaup Black-billed gull Red-billed gull Caspian tern White-fronted tern Black-fronted tern White-winged Black tern Australasian bittern Marsh crake Spotless crake Cormorant/shag colonies Royal spoonbill Crested grebe</p>

CRC170662: to temporarily discharge water and sediment in the Rangitata River as a result of the works to be undertaken under resource consent CRC170653.

1	The activities shall be limited to the discharge of sediment and water generated as a result of the works carried out as authorised under consent CRC170653.
1A	<p>The discharges Proposal shall be constructed, operated and maintained in accordance with the details contained within the following documents:</p> <p>a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</p> <p>b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</p> <p>except where modified by specific conditions set out in this these resource consents or by the plans authorised by the building consent for the Proposal.</p>
2	The discharge shall only occur to the Rangitata River adjacent to the works area identified on Plan CRC170662.
3	<p>All practicable measures shall be undertaken to minimise:</p> <p>a. erosion of the bed and banks of the Rangitata River; and</p> <p>b. the amount of sediment discharged of sediment to the Rangitata River.</p>
4	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <p>a. To deal 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; or</p> <p>b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</p> <p>c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</p>
5	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>

CRC170651: a land use consent for earthworks on the lower terrace

	GLOSSARY OF TERMS & ABBREVIATIONS USED IN THIS RESOURCE CONSENT
0	<p>Appropriately qualified and experienced expert(s) means a person or persons:</p> <ol style="list-style-type: none"> With a relevant and recognised tertiary qualification(s) to the topic being assessed; Whom is (are) recognised as a full member (or equivalent) of a relevant professional institution(s) (such as the Institution of Professional Engineers New Zealand), where such institutions exist; Has more than 10-years relevant experience in the topic being assessed; and <p>Certifies and Certification means a process whereby:</p> <ol style="list-style-type: none"> The consent holder supplies a report, action plan, design plan, construction methodology, monitoring plan, commissioning plan, safety system or a management plan, and the Canterbury Regional Council appoints an appropriately qualified and experienced expert to assesses the documentation submitted to ensure that it achieves the requirements of the relevant condition(s) of consent; Should the documents supplied in accordance with condition 0(a), in the opinion of the expert appointed by the Council, achieve the intent of the relevant condition(s) of these resource consents, the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall issue a written certificate to the consent holder confirming that the requirements of the relevant condition(s) have been satisfied; If the expert appointed by the Council is not satisfied that the documents supplied in accordance with condition (a) achieves requirements of the relevant condition(s), the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council shall advise (in writing) the consent holder of the experts concerns and ask that the report, commissioning plan, monitoring plan, action plan, safety system or management plan be modified so as to address the concerns, and then be resubmitted; This process shall be repeated until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council is able (on the advice of the expert) to certify that the requirements of the applicable condition(s) of consent have been satisfied; and <p>CLG means the Community Liaison Group.</p> <p>CMP means Construction Management Plan.</p> <p>Construction site includes all areas, excluding gazetted and vested road reserves that contain formed roads, where construction works / activities authorised by these resource consents are being undertaken by the consent holder.</p> <p>Council means the Canterbury Regional Council.</p> <p>EAP means the Emergency Action Plan.</p> <p>ESCP means Erosion and Sediment Control Plan.</p> <p>Fish screen means the rotary fish screen and its associated bypass channel.</p> <p>FSVMP means Fish Screen Verification Monitoring Plan.</p> <p>Flood flow take means a flood flow abstraction from the Rangitata River.</p> <p>HSSMP means the Hazardous Substances Spill Management Plan.</p> <p>Klondyke Pond Storage Dam means the Lake Klondyke Water Storage Facility.</p> <p>km/hr means kilometres per hour.</p> <p>l/s means litres per second</p> <p>m³ means cubic metres</p> <p>m³/s means cubic metres per second</p> <p>m means metre</p> <p>m/s means metres per second.</p> <p>mm/s means millimetres per second</p> <p>NZSOLD means New Zealand Society on Large Dams New Zealand.</p>

	<p>PPV means Peak Particle Velocity</p> <p>Reasonable Mixing Zone means, for the purposes of condition 18.0A, a reasonable mixing zone extending from the point of discharge from the Sluice Channel to a point that is 200 metres downstream of the discharge point.</p> <p>Regional Water Table means the upper surface of the full saturated groundwater system but does not, for the purposes of these resource consents, include perched groundwater (which is groundwater in saturated strata that occurs above the regional water table but is separated from it by a layer of unsaturated strata).</p> <p>RDR means the Rangitata Diversion Race.</p> <p>RDR mods means the modifications to the Rangitata Diversion Race.</p> <p>RL means the right bank when looking downstream.</p> <p>RMA means the Resource Management Act</p> <p>The Proposal means the Klondyke Pond Storage Dam, WWC, RDR modifications, fish screen, Shepherds Bush Road relocation, flood flow take and refuge, and all incidental work.</p> <p>TSP means total suspended particulate.</p> <p>WRMP means Works in the River Management Plan</p>
	<p>CERTIFICATION PROCESS</p>
0A.1	<p>Except where explicitly required otherwise by conditions of this consents, the consent holder shall:</p> <ol style="list-style-type: none"> Engage an appropriately qualified and experienced independent expert (or experts) to prepare the management plans, design plans, construction methodology, monitoring plans, action plan, commissioning plan and safety system specified in the conditions of this consent using the draft versions of these plans (which are attached as Annexure B) as a base document; Provide drafts of each of the documents required by condition 0A.1(a) to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, not less than three months prior to construction works / activities commencing in accordance with these resource consents; Not commence any construction works / activities authorised by these resource consents until it has received a certificate from the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council that the management plan, design plan, construction methodology, monitoring plan, action plan, commissioning plan or safety system is consistent with the applicable conditions of this consent; Adhere to and implement the certified version of the management plan, design plans, construction methodology, monitoring plan, action plan, commissioning plan or safety system; Submit any proposed variations to the management plans, design plans, construction methodology, action plan, safety system, monitoring plans and commissioning plan to the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council, at least seven days prior to when the proposed change will be implemented by the consent holder. Any variations made shall not take effect until the Regional Leader: Compliance & Monitoring of the Canterbury Regional Council certifies that the variations accord with the applicable conditions of the resource consent; Appoint an appropriately qualified and independent expert (or experts) to review the management plans, action plan, safety system, monitoring plans and commissioning plan at the frequency set out in these resource consents. Should the conditions of these resource consents not set a frequency, the reviews shall be conducted annually. Such reviews are to ensure that the management plans, action plan, safety system, monitoring plans and commissioning plan continue to achieve the conditions of these resource consents. Any changes made as a result of the reviews conducted in accordance with condition 0A.1(f) shall be submitted to the Canterbury Regional Council and shall not take effect until the Regional Leader: Compliance and Monitoring of the Canterbury Regional Council certifies that the changes accord with the applicable conditions of these resource consents;

	<p>h. Pay the costs of the expert(s) appointed by the Canterbury Regional Council to certify the management plans, design plans, construction methodology, monitoring plans, commissioning plan, action plan and safety system (and any variations or changes thereto) in accordance with conditions 0A.1(e) and 0A.1(h); and</p> <p>i. Ensure that copies of the certified commissioning plan, design plans, construction methodology and management plans, monitoring plans, action plan, safety system and management plans set out in these conditions are available on site at all times during the construction works / activities authorised by this consent; and</p> <p>j. Ensure that all key personnel are to be made aware of the content and requirements / obligations of the management plans, action plan, safety system, commissioning plan and monitoring plans.</p>
0A.2	<p>Notwithstanding conditions 0A.1(c), 0A.1(e), 0A.1(f) and 0A.1(g), if the consent holder has not received a written response from the Canterbury Regional Council on or after the 30th working day of it providing a management plan, monitoring plan, action plan, commissioning plan or safety system for certification (or variations / changes to these documents), the works / activities authorised by these this resource consents may commence in accordance with the document that was provided to the Canterbury Regional Council.</p>
	SCOPE
1	<p>The works shall be limited to the use of land to:</p> <ul style="list-style-type: none"> a. Excavate material; and b. Deposit material <p>for the purposes of and to the extent required for construction of an ecological refuge, gully race, drop structure and river outlet channel and associated infrastructure on land contained in Lot 2 of Deposited Plan 482124, Part Lot 1 of Deposited Plan 2767 and RS 36179 on Shepherds Bush Road, identified as the 'works area' on Plan CRC170651A, which forms part of this consent.</p>
1A	<p>The Proposal works shall be constructed, operated and maintained in accordance with the details contained within the following documents:</p> <ul style="list-style-type: none"> • The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and • The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application". <p>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</p>
	PRE-CONSTRUCTION
2	<p>The consent holder shall:</p> <ul style="list-style-type: none"> a. be responsible for all the contracted operations relating to the exercise of this consent including the Construction Works; and b. ensure compliance with consent conditions, <u>including the Management Plans required by this resource consent and certified by the Canterbury Regional Council.</u>
3	<p>Prior to commencement of any physical works required for the activities described in Condition (1) (hereafter referred to as the 'Construction Works') the consent holder or its agent or contractor shall arrange and conduct a pre-construction site meeting between the Canterbury Regional Council and all persons involved in the</p>

	<p>Construction Works. At a minimum, the following shall be covered at the meeting:</p> <ol style="list-style-type: none"> Scheduling and staging of the Construction Works; Responsibilities of all relevant parties; Contact details for all relevant parties; Expectations regarding communication between all relevant parties; Procedures for implementing any changes to the Construction Works; Site inspection; and Confirmation that all persons involved in the Construction Works have copies of the contents of this consent document, the Erosion and Sediment Control Plan (ESCP) and all plans and methodologies associated with this consent.
4	Erosion and sediment control measures recommended in the ESCP prepared under Condition (5) shall be installed before any excavation occurs on site.
	<u>COMPLAINTS REGISTER</u>
4A.1	<p><u>The consent holder shall keep a register of complaints lodged with it in respect of the exercise of these this resource consents.</u></p> <p><u>The register prepared and maintained in accordance with this condition shall record the following details for each complaint that is made:</u></p> <ol style="list-style-type: none"> <u>The date and time of the complaint; and</u> <u>The name and contact details of the complainant (if they are provided to the consent holder) and a description of the complaint; and</u> <u>The investigations (if any) that the consent holder undertook in response to each complaint; and</u> <u>Any action that was undertaken to address the concerns raised in the complaint; and</u> <u>The feedback provided to each complainant.</u>
4A.2	<u>The consent holder shall forward a copy of the register prepared and maintained in accordance with condition 4A.1 to the Canterbury Regional Council, Attention RMA Compliance and Monitoring Manager Regional Leader – Monitoring and Compliance within five (5) working days of receiving a request to do so from the Council.</u>
4A.3	<u>The consent holder shall appoint a Liaison Officer for the Proposal prior to any construction works / activities authorised by these this resource consents commencing. The Liaison Officer shall be the point of contact for the public during construction of the Proposal. The name and contact details for the Liaison Officer shall be advertised at the main construction entrance for the Klondyke Pond Storage Dam and on a notice at the Peel Forest Café and DoC Campsite booking office.</u>
	<u>CONSTRUCTION MANAGEMENT PLAN</u>
4B.1	<u>The purpose of the Construction Management Plan (CMP) is to describe the measures that will be implemented to ensure that all construction related environmental effects are avoided, minimised, or managed in accordance with the conditions of these resource consents and engineering / environmental best practice.</u>
4B.2	<p><u>The objectives of the CMP are to:</u></p> <ol style="list-style-type: none"> <u>Avoid and / or minimise the magnitude of the adverse effects generated during the construction activities and / or works authorised by these resource consents; and</u> <u>Provide clarity as to how the Proposal is to be constructed by setting out the:</u>

	<ul style="list-style-type: none"> i. <u>Construction methodology that is to be employed to construct the Proposal; and</u> ii. <u>Staging, timing, duration and monitoring of construction works and / or activities; and</u> iii. <u>Mitigation Measures that are to be applied, and when they are to be applied, to minimise the effects of the construction activities and / or works authorised by these resource consents. These measures shall include:</u> <ul style="list-style-type: none"> * <u>A requirement that all construction works / activities be in accordance with the Canterbury Regional Council's ESCG (2007);</u> * <u>Measures necessary to provide for stormwater disposal and sediment removal;</u> * <u>The inclusion and / or maintenance of a vegetated strip (or other treatment system supported by the ESCG) between all areas of earthworks and water courses / water bodies / water races;</u> * <u>Controls on the siting of stockpiles to avoid sediment-entrained runoff entering water races / water courses / water bodies and to reduce the risk of fugitive dust emissions;</u> * <u>Measures to avoid the entrainment of oil, fuels or any other hazardous substances in stormwater, with particular emphasis on re-fuelling areas and repair areas; and</u> * <u>Requirements regarding the stabilisation and maintenance of all construction site entrances associated with the Proposal from public roads; and</u> iv. <u>The means by which stakeholders are to be kept informed of the construction works / activities being undertaken by the consent holder and/or its contractor(s).</u>
4B.3	<p><u>The CMP shall contain the following sections:</u></p> <ul style="list-style-type: none"> a. <u>Purpose and Scope</u> b. <u>Personnel, Team Structure, Contact Details and Responsibilities.</u> <u>This will include the 24-hour contact details for the following personnel:</u> <ul style="list-style-type: none"> i. <u>The administrator of the complaints register (if required by conditions of this consent); and</u> ii. <u>The Liaison Officer (if required by conditions of this consent);</u> c. <u>Environmental Policy and Environmental Management System;</u> d. <u>Resource Consent and Building Consent Requirements;</u> e. <u>Accidental Discovery Protocol (if required by conditions of this consent);</u> f. <u>Environmental Management Sub-Plans including, as a minimum, the following plans:</u> <ul style="list-style-type: none"> i. <u>Erosion and Sediment Control Plan;</u> ii. <u>Hazardous Substances Spill Management Plan;</u> iii. <u>Vibration Management Plan;</u> iv. <u>Waste Management Plan;</u> v. <u>Works in the River Management Plan;</u> vi. <u>Smoke Management Plan;</u> vii. <u>Dust Management Plan; and</u> viii. <u>Contaminated Land Remediation Action Plan</u> g. <u>Construction Methodology;</u> h. <u>Training and Induction of Contractors and their Staff;</u> i. <u>Subcontractor Management;</u> j. <u>Monitoring and Site Inspections;</u> k. <u>Conformance and Corrective / Preventative Actions;</u> l. <u>Meetings Frequency and Purpose; and</u> m. <u>Environmental Systems Reviews.</u>
4B.4	<u>The CMP shall be certified by the Canterbury Regional Council in accordance with</u>

	<u>condition 0A, prior to works commencing.</u>
	EROSION AND SEDIMENT CONTROL PLAN
5A	<u>The purpose of the Erosion and Sediment Control Management Plan is to ensure that the consent holder implements appropriate measures, as defined by the Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) (an equivalent industry guideline), to minimise all actual or potential erosion and sediment effects arising from the construction works / activities authorised by these resource consents.</u>
5	<p>The consent holder shall prepare an ESCP, subject to the following conditions:</p> <ol style="list-style-type: none"> a. No less than one month before the commencement of any Construction Works, a copy of the ESCP shall be submitted to the Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance for review and certification. All activities authorised by this consent shall be carried out in accordance with the ESCP. b. Unless Canterbury Regional Council provides notice in writing that it is unable to certify the ESCP within 20 working days of receipt of a draft ESCP, it is deemed to be certified by the Canterbury Regional Council. For the purposes of this condition, "Certification" means that the ESCP contains all the information specified in Condition 5(c). c. The ESCP shall include but not be limited to: <ol style="list-style-type: none"> a. A list of the staff and / or experts responsible for reviewing the ESCP; b. A description of staff training and induction requirements that will be undertaken to ensure that the ESCP is followed by all acting in accordance with these resource consents; c. A description of the site and local receiving environment; d. A site drainage plan; e. Details of any anticipated earth excavation requirements; f. A schedule detailing the anticipated staging of the Construction Works including: <ol style="list-style-type: none"> i. Site preparation works; ii. Any equipment or plant mobilisation necessary for carrying out the construction works; iii. Any field verification requirement. g. A detailed description of how run on and run off water will be managed within the construction site; h. Measures to avoid or minimise any sediment entering exposed groundwater or the Rangitata River or being tracked onto roadways or neighbouring properties; i. A detailed description of how water will be treated prior to disposal to the various receiving environments; j. Details of compliance checks, and any maintenance necessary to ensure that measures required under the ESCP or this consent are performing effectively. k. Identification of persons responsible for carrying out the actions within the ESCP including their contact details; l. A detailed description of how vegetation stripping and replanting would be undertaken to manage the area of disturbed ground that will be open throughout the construction works authorised by this resource consent.

	<p>d. The ESCP shall be prepared in accordance with:</p> <ol style="list-style-type: none"> <u>Canterbury Regional Council's Erosion and Sediment Control Guidelines (2007) Environment Canterbury's "Erosion and Sediment Control Toolbox for the Canterbury Region" (ESCT) http://esc.canterbury.co.nz/; or</u> An equivalent industry guideline. If an alternative guideline is used, the ESCP shall provide details of the relevant alternative methods used and an explanation of why they are more appropriate than the ESCT. Any amendments or revisions to the ESCP must be submitted to Canterbury Regional Council: Attention Regional Leader – Monitoring and Compliance.
6	During construction, all practicable measures shall be undertaken to minimise exposed groundwater.
	<u>AIR QUALITY</u>
6A.1	<p><u>General Controls</u></p> <p><u>The contaminants that may be discharged to air when the consent holder is undertaking works / activities in accordance with these this resource consents are limited to emissions from the following activities:</u></p> <ol style="list-style-type: none"> <u>Earthworks and activities associated with the construction of the Proposal;</u> <u>Combustion of diesel to power stationary engines;</u> <u>Crushing and screening of aggregate;</u> <u>Concrete batching;</u> <u>Revegetation of pond surrounds; and</u> <u>The operation of the Klondyke Pond Storage Dam;</u>
6A.2	<u>There shall be no discharge of dust, smoke or the products of combustion, as a result of the exercise of this consent (either during construction or following the completion of all construction) that is noxious, dangerous, offensive or objectionable beyond the property boundaries of the construction site on which the discharge occurs, and which are not owned by the consent holder.</u>
6B.1	<p><u>Smoke Management Plan</u></p> <p><u>The purpose of the Smoke Management Plan (SMP) is to describe the procedures to be used to monitor and minimise the effects of smoke generated during the construction of the Klondyke Pond Storage Dam in order to ensure compliance with the permitted activity standards of the Canterbury Air Regional Plan.</u></p> <p><u>The SMP shall include:</u></p> <ol style="list-style-type: none"> <u>A list of the staff and / or experts responsible for implementing and reviewing the SMP;</u> <u>A description of the staff training and induction requirements that will be undertaken to ensure that the SMP is followed by all acting in accordance with these resource consents;</u> <u>A description of the site and the local receiving environment;</u> <u>A description of the burning methodology that will be employed by the consent holder and its contractors;</u> <u>A description of the smoke monitoring that will be undertaken when the consent holder undertakes burning activities; and</u> <u>A description of the weather conditions when burning activities can and cannot take place.</u>

6B.2	<p>The smoke monitoring required by condition 6B.1 (e) shall, as a minimum, include:</p> <ol style="list-style-type: none"> Visual monitoring of the smoke at the downwind boundary of the construction site; If the visual monitoring conducted in accordance with condition 6B.1 (a) identifies that smoke is visible beyond the boundary of the construction site, visual monitoring at the closest downwind residences; and Wind speed and direction, as measured by the site meteorological monitoring instruments (installed in accordance with condition 6H.1).
6B.3	<p>The SMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</p>
6C.1	<p><u>Dust Management Plan</u></p> <p>The purpose of the Dust Management Plan (DMP) is to describe the procedures to be used to monitor and minimise the effects of dust generated during the construction and operation of the Klondyke Pond Storage Dam in order to comply with conditions 6A.2 and 6D.1 to 6G.2 in order to ensure compliance with the permitted activity standards of the Canterbury Air Regional Plan.</p> <p>The DMP shall include:</p> <ol style="list-style-type: none"> A list of the staff and / or experts responsible for implementing and reviewing the DMP; A description of staff training and induction requirements that will be undertaken to ensure that the DMP is followed by all acting in accordance with these resource consents; A description of the site and the local receiving environment; The dust mitigation and prevention methods that will be implemented to achieve condition 6D.1; A description of the dust monitoring (that accords with conditions 6C.3 and 6H.1 to 6H.5) that will be undertaken by the consent holder during the construction works / activities associated with the Proposal; The contingency methods that will be used by the consent holder for controlling dust when the Total Suspended Particulate (TSP) and wind speed alert levels included within conditions 6D.2 to 6D.5 (inclusive) are exceeded.
6C.2	<p>The dust monitoring required by condition 6H.1 of this condition consent shall include, as a minimum:</p> <ol style="list-style-type: none"> Continuous instrumental monitoring of total suspended particulates at one location. The instrument shall be installed and operated at a location that provides a representative sample of the TSP concentrations at the boundary of the construction site in the immediate vicinity of the closest house to the construction activity associated with the Klondyke Pond Storage Dam; An inspection of all actual and potential dust sources within the construction site at least once per day; and Wind speed and direction, as measured by the site meteorological monitoring instruments (installed in accordance with condition 6H.1 of these resource consents).
6D.1	<p><u>General Dust Mitigation Measures</u></p> <p>The methods used to mitigate and prevent fugitive dust emissions shall include, as a minimum, the following:</p> <ol style="list-style-type: none"> Carrying out earthworks in strips in the construction of the Klondyke Pond Storage Dam, where each strip is no more than 75 hectares in area; That all potentially dusty surfaces (including roads) shall be stabilised using (as necessary) one or more of the following methods: <ol style="list-style-type: none"> water; chemical dust suppressants; compaction; straw mulching; temporary vegetation;

	<ul style="list-style-type: none"> vi. <u>gravelling; or</u> vii. <u>other surface modification methods;</u> c. <u>Existing vegetation is to be retained for as long as practicable and areas where works are complete shall be revegetated as soon as practicable;</u> d. <u>Vehicle speeds are to be controlled on site to not more than 20 kilometres per hour;</u> e. <u>The height and slope of stockpiles associated with the Proposal are not to exceed 3 m;</u> f. <u>Paved roads and yard areas are to be kept clean using either washing or vacuum sweepers;</u> g. <u>A rumble grid and a sealed area of road of at least 20 metres in length are to be provided prior to all the site exits onto public roads;</u> h. <u>Drop heights are to be minimised when loading and unloading vehicles; and</u> i. <u>An adequate on-site supply of water and equipment for watering all potentially dusty areas of the site shall be provided and maintained at all times.</u>
6D.2	<p>The consent holder:</p> <ul style="list-style-type: none"> a. <u>Shall review dust sources and dust control measures and implement additional dust control methods when TSP concentrations (as measured by the instrument installed and operated in accordance with condition 6H.1):</u> <ul style="list-style-type: none"> i. <u>Exceed a 1-hour average concentration of 200 µg/m³; or</u> ii. <u>Exceed a 24-hour average concentration of 80 µg/m³.</u> b. <u>Shall cease the works / activities authorised by these resource consents when TSP concentrations:</u> <ul style="list-style-type: none"> i. <u>Exceed a 1-hour average concentration of 220 µg/m³; or</u> ii. <u>Exceed a 24-hour average concentration of 120 µg/m³.</u> c. <u>May only recommence works once TSP concentrations, measured over two consecutive ten-minute periods, are less than 200 µg/m³.</u>
6D.3	<p>Dust sources and dust control measures shall be reviewed and additional dust control measures shall be implemented when hourly average wind speeds exceed 5 (five) m/s and winds are blowing towards any occupied-inhabited dwellings located within 500m of construction activities and potential sources of dust.</p>
6D.4	<p>The additional dust measures referred to in conditions 6D.2 and 6D.3 include, but are not limited to:</p> <ul style="list-style-type: none"> a. <u>Reducing vehicle speeds within the construction site;</u> b. <u>Increasing the water application rate on dusty surfaces within the construction site;</u> c. <u>Ceasing dusty activities within the construction site, such as the stripping and spreading of topsoil.</u>
6D.5	<p>Potentially dusty activities that are taking place within 500 m down upwind of an inhabited occupied dwelling shall cease, except for dust mitigation activities, when gust wind speeds (two-minute average or less) exceed 10 m/s during two consecutive ten-minute periods. For the purposes of this consent the term 'potentially dusty activities' are limited to the means, for the purpose of these resource consents, the following activities:</p> <ul style="list-style-type: none"> a. <u>Stripping of potentially dusty materials such as topsoil and silt,</u> b. <u>Formation of embankments surrounding water storage facilities using soil or silt;</u> c. <u>Formation of soil and silt stockpiles;</u> d. <u>Spreading of topsoil;</u> e. <u>Movement or working of topsoil for the purpose of vegetating the embankments; and</u> f. <u>Placement of the clay for the pond lining.</u> <p>The potentially dusty activities shall only may recommence when wind gusts (two-</p>

	<u>minute average or less) are less than 7.5 m/s during the previous two consecutive ten-minute periods.</u>
<u>6D.6</u>	<u>The DMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u>
<u>6E.1</u>	Concrete Batching Plant Specific Measures <u>The capacity of any concrete batching plant used to construct the Proposal shall not exceed 70 cubic metres per hour.</u>
<u>6E.2</u>	<u>The consent holder shall take all practicable measures to minimise the discharge of dust from any concrete batching plant used to construct the Proposal. These measures shall include:</u> <ul style="list-style-type: none"> <u>a. The concrete batching plant cement silos are to be fitted with fabric filters to control the discharge of dust during filling and batching operations;</u> <u>b. The cement silo fabric filters are to be regularly maintained in order to maintain effective operation at all times in accordance with the manufacturer's instructions;</u> <u>c. The cement silos are to be fitted with over-fill warning devices;</u> <u>d. The filtration system on the cement silos operates at all times when the concrete batching plant is in operation;</u> <u>e. Aggregates being conveyed to and within the concrete batching plant are to be sprayed with water, as required, to minimise dust emissions;</u> <u>f. Fine aggregate materials such as crusher dust shall be stored in three sided bins;</u> <u>g. Cement transferred to trucks from the concrete batching plant is to be via an enclosed control system that collects and treats cement dust; and</u> <u>h. Any spillages associated with the handling of sand, aggregate or cement materials involved in the batching process shall be cleaned up as soon as practicable following the spill.</u> <u>i. Cement delivery trucks shall be covered.</u>
<u>6F.1</u>	Crushing and Screening Specific Measures <u>The rate of aggregate crushing and screening on site shall not exceed 200 tonnes per hour.</u>
<u>6F.2</u>	<u>The consent holder shall take all practicable measures to minimise the discharge of dust from crushing and screening aggregates. These measures shall include:</u> <ul style="list-style-type: none"> <u>a. Using water sprays on all transfer points and crushing and screening equipment;</u> <u>b. Wetting of the aggregate as required to reduce the discharge of dust to air; and</u> <u>c. Minimising 'drop heights' when the aggregates are being unloaded and/or stockpiled.</u>
<u>6G.1</u>	Post Construction Mitigation Measures <u>All exposed surfaces of soil on site at the completion of construction shall be stabilised either by being gravelled or planted. The objective of the stabilisation activities is to minimise the generation of dust from the sites where construction works / activities authorised by these resource consents have been undertaken.</u>
<u>6G.2</u>	<u>The internal banks of the Klondyke Storage Dam Pond shall be kept damp (by the use of measures such as sprinklers on the edge of the Klondyke Storage Dam Pond) when the Klondyke Storage Dam Pond is drawn down below the rock armouring layer and when it is not raining, to prevent the generation of dust.</u>
<u>6H.1</u>	Air Quality Monitoring <u>Prior to construction activities commencing on site, the consent holder shall install instruments capable of continuously monitoring and recording:</u> <ul style="list-style-type: none"> <u>a. The meteorological conditions, including wind speed, wind direction, rainfall, temperature and relative humidity. These instruments shall be maintained in good working order for the duration of these resource</u>

	<p><u>consents; and</u></p> <p><u>b. TSP's. This instrument shall be maintained in good working order for the duration of the construction works / activities associated with the Proposal, and shall be located on the south-eastern boundary of the Klondyke Pond, within the vicinity of the closest house to the construction activity</u></p>
6H.2	<p>The monitoring instruments installed in accordance with condition 6H.1(a) shall:</p> <p>a. <u>Be installed at a height of at least six (6) metres above pre-construction ground level and in accordance with AS 2923- 1987 <i>Ambient Air Guide for Measurement of Horizontal Wind for Air Quality Applications</i>;</u></p> <p>b. <u>Commence operating at least one month prior to the commencement of the construction works / activities authorised by these resource consents;</u></p> <p>c. <u>Continuously record the meteorological conditions using an electronic data logging system with an averaging time for each parameter of not more than two minutes. The records collected shall be available to the consent holder in 'real time' and the logging system shall be able to send alerts via text message.</u></p> <p><u>The monitoring instruments installed in accordance with condition 6H.1(b) shall be maintained in good working order for the duration of the construction works / activities associated with the Proposal, and shall be located on the south-eastern boundary of the Klondyke Pond, within the vicinity of the closest house to the construction activity</u></p>
6H.3	<p><u>The meteorological data recorded in accordance with conditions 6H.1(a) and 6H.2 shall be retained for the duration of these resource consents. Copies of the data shall be provided to the Canterbury Regional Council, Attention: Regional Leader - Compliance and Monitoring, upon request.</u></p>
6H.4	<p>The TSP monitoring instruments installed in accordance with condition 6H.1(b) shall:</p> <p>a. <u>Be a continuous monitoring instrument capable of providing real time data;</u></p> <p>b. <u>Be of an appropriate standard and quality (and shall include regular calibration of the monitoring equipment) to enable compliance with the TSP trigger levels set in Conditions 6D.2 and 6D.3 to be determined; and</u></p> <p>c. <u>Continuously record TSP data using an electronic data logging system with an averaging time for each parameter of not more than two minutes. The TSP records shall be available to the consent holder in real time and the logging system shall be able to send alerts via text message.</u></p>
6H.5	<p><u>The TSP data recorded in accordance with conditions 6H.1(a) and 6H.3 shall be retained for the duration of the construction works / activities associated with the Proposal. Copies of the data shall be provided to the Canterbury Regional Council, Attention: Regional Leader: Compliance & Monitoring, upon request.</u></p>
6H.6	<p><u>The Consent Holder shall prepare a report which summarises the meteorological and TSP monitoring data for the previous 12-month period and provide this annually to Canterbury Regional Council prior to 1 (March) each year. The summary report shall include the following information:</u></p> <p>a. <u>Hourly and 24-hour average air temperature, wind speed, rainfall and relative humidity for the previous 12 months</u></p> <p>b. <u>A summary of average, median, maximum and minimum 1 hour results for air temperature, wind speed, rainfall and relative humidity for each month</u></p> <p>c. <u>A summary of average, median, maximum and minimum 24 hour results for air temperature, wind speed, rainfall and relative humidity for each month</u></p> <p>d. <u>Hourly and 24-hour average TSP concentrations for the previous 12 months</u></p> <p>e. <u>A summary of average, median and maximum hourly 1 hour and 24 hour</u></p>

	<p><u>average TSP concentrations for each month</u></p> <p>f. <u>A summary of the number of exceedances recorded each month of the TSP concentration trigger values included in condition 6D.2 b and an explanation of the possible reason for the exceedance and any corrective actions taken.</u></p> <p>g. <u>Windroses showing the 1-hour average wind speed and wind direction for each month</u></p>
	CONSTRUCTION
7	Any imported materials for the Construction Works shall comprise of clean material(s). For the purposes of this consent, 'clean materials' are defined as material not sourced from a site listed on Canterbury Regional Council's Listed Land Use Register and/or Schedule 3 of the Land and Water Regional Plan.
8	No maintenance of vehicles, refuelling or fuel storage shall take place in or within twenty metres of the excavated area, exposed groundwater or any water course.
9	Spoil sites shall be sown with grass within one month of the completion of Construction Works, if completed during the period September through April. Should Construction Works be completed outside of this period, the embankments will where necessary to prevent erosion be stabilised with suitable matting (or equivalent), and sown with grass no later than the following September.
	HAZARDOUS SUBSTANCE MANAGEMENT
10	<p>The consent holder shall prepare a Hazardous Substances Spill Management Plan (HSSMP): The HSSMP shall include but is not limited to:</p> <ul style="list-style-type: none"> a. Identifying the hazardous substances that will be retained on the site during construction and the restrictions that apply to, and are to be followed, in relation to their storage and use; b. Identifying the potential situations and locations where hazardous substances may be accidentally spilled, and to ensure that the appropriate measures are implemented by the consent holder to ensure that all actual or potential hazardous substances effects arising from the construction activities are minimised. This includes, but is not limited to, measures to provide secondary containment around storage locations and refuelling sites, to minimise the extent of soil contamination and to prevent run-off of spilled liquids from reaching surface water bodies; c. A list of the staff and/or experts responsible for reviewing the HSSMP; d. A description of staff / expert training and induction requirements that will be undertaken to ensure that the HSSMP is followed by all acting in accordance with this resource consent; e. A description of the site and local receiving environment; f. The procedures that are to be followed for the use of the hazardous substances within the construction site, including the construction personnel that are authorised to use them; g. The minimum requirements for spill management kits that are to be distributed throughout the construction site and the procedures that are to apply to the disposal of used spill management materials; and h. The procedures for corrective action in the event of a spill.
11	<p>The consent holder shall take all practicable measures to avoid spills of fuel or any other contaminants. In the event of a spill of fuel or any other hazardous substances, the following corrective action shall be undertaken but is not limited to:</p> <ul style="list-style-type: none"> a. All practicable measures shall be taken to prevent the spill being discharged into land via the stormwater system; b. The spill shall be cleaned up as soon as practicable and any contaminants that accumulate in the stormwater system shall be removed and the spill area shall be inspected and cleaned, and measures shall be taken to

	<p>prevent reoccurrence.</p> <p>c. The consent holder shall provide the Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance, with the following information within 24 hours of a spill event exceeding five litres:</p> <ul style="list-style-type: none"> i. The date, time, location and estimated volume of the spill; ii. The cause of the spill; iii. The type of contaminant(s) spilled; iv. Clean up procedures undertaken including evidence of appropriate disposal; v. Details of the steps taken to control and remediate the effects of the spill on the receiving environment; vi. An assessment of any potential effects of the spill; and vii. Measures to be undertaken to prevent a reoccurrence.
12	Any material, including sediment, hydrocarbons and other contaminants, removed in the exercising of this consent shall be disposed of at a location or facility authorised to receive such material.
12	<u>The HSSMP shall be certified by the Canterbury Regional Council in accordance with condition 0A, prior to works commencing.</u>
	ACCIDENTAL DISCOVERY PROTOCOL - ARCHAEOLOGICAL MATERIALS
13	<p>In the event of any discovery of archaeological material the consent holder shall immediately:</p> <ul style="list-style-type: none"> a. Cease work within 10 metres of any part of the discovery and mark off the affected area; b. Advise the Canterbury Regional Council and Ashburton District Council of the discovery; and c. Advise Heritage New Zealand Pouhere Taonga of the discovery.
14	<p>If the archaeological material is determined to be Kōiwi Tangata (human bones) of Māori origin or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the consent holder shall immediately:</p> <ul style="list-style-type: none"> a. advise the office of Upoko Runanga o Arowhenua of the discovery; and b. consult Upoko Runanga o Arowhenua on any matters of tikanga (protocol) that are required in relation to the discovery and prior to the commencement of any investigation, and perform those requirements. c. Advise the New Zealand Police of the discovery in relation to Kōiwi Tangata (human bones).
15	<p>Iwi representatives, Canterbury Regional Council, Attention: Regional Leader Monitoring and Compliance and Heritage New Zealand Pouhere Taonga Trust shall be afforded the opportunity to visit the site within three working days of the discovery (if and as they consider it necessary), and such persons shall be given a reasonable time to record and recover archaeological features discovered before work may recommence on the site. The site inspection shall occur within six <u>three</u> working days of the discovery being made.</p>
16	<p><u>Other than in circumstances where an Authority has been granted by Heritage New Zealand Pouhere Taonga,</u> the consent holder may recommence any work if Heritage New Zealand Pouhere Taonga (following consultation with Kaitiaki Rūnanga if the material is of Māori origin) provides a statement in writing to the Canterbury Regional Council that appropriate action has been undertaken in relation to the archaeological material discovered.</p> <p>Advice Notes</p> <p>1. <i>Under the Heritage New Zealand Pouhere Taonga Act 2014 an archaeological site is defined as any place associated with pre-1900 human activity, where there is material evidence relating to the history of New Zealand. For sites solely of Māori origin, this evidence may be in the form of accumulations of shell, bone, charcoal, burnt stones, etc. In later sites, artefacts such as bottles</i></p>

	<p>or broken glass, ceramics, metals, etc., may be found or evidence of old foundations, wells, drains, tailings, races or other structures. Human remains/koiwi may date to any historic period.</p> <p>2. It is unlawful for any person to destroy, damage, or modify the whole or any part of an archaeological site without the prior authority of Heritage New Zealand Pouhere Taonga. This is the case regardless of the legal status of the land on which the site is located, whether the activity is permitted under the District or Regional Plan or whether a resource or building consent has been granted. The Heritage New Zealand Pouhere Taonga Act 2014 provides for substantial penalties for unauthorised damage or destruction. An authority from Heritage New Zealand Pouhere Taonga Trust may be required.</p>
	ACCIDENTAL DISCOVERY PROTOCOL – WASTE MATERIALS/CONTAMINATED SOILS
17	<p>In the event of encountering visual or olfactory indicators of waste materials and/or soil contamination or an uncontrolled discharge of contaminants the consent holder or its contractors shall immediately comply with the Accidental Discovery Protocol (ADP). The ADP for unexpected contaminants shall include but not be limited to the following steps:</p> <ol style="list-style-type: none"> Earthworks within ten metres of unexpected contaminants shall cease immediately; and Immediate steps shall be taken to minimise exposure of the contaminated material, including covering the contaminants with an impervious cover where practicable; and Notification of the Canterbury Regional Council, by a Suitably Qualified and Experienced Practitioner (SQEP), Attention: Contaminated Sites Manager, within 24 hours of the discovery; Earthworks within ten metres of unexpected contaminants shall not recommence until a (SQEP) confirms to Canterbury Regional Council, Attention: Regional Leader-Monitoring and Compliance that it is safe to do so. The consent holder shall take all practicable steps to prevent the contaminated material becoming entrained in stormwater runoff. All records and documentation associated with the discovery shall be kept and copies shall be provided to the Canterbury Regional Council upon request. <p>In the event of encountering visual or olfactory indicators of waste materials and/or soil contamination or an uncontrolled discharge of contaminants the consent holder or its contractors shall immediately comply with the Accidental Discovery Protocol (ADP). The ADP for unexpected contaminants shall comply with the HSSMP.</p>
	ECOLOGICAL REFUGE PLANTING AND MANAGEMENT PLAN
18	The consent holder shall prepare an Ecological Refuge Planting and Management Plan (ERPMP). The ERPMP shall be provided to the Canterbury Regional Council, Attention Regional Leader – Monitoring and Compliance at least three months prior to the commencement of construction works under this consent.
19	<p>The ERPMP shall meet the following objectives:</p> <ol style="list-style-type: none"> To establish a permanent ecological refuge comprising six hectares of wetland, native plantings, and lizard habitat; and To provide receptor habitat for lizards to assist in meeting the objectives of the Lizard Management Plan (LMP) required under this consent.
20	<p>The ERPMP shall include but not be limited to:</p> <ol style="list-style-type: none"> A detailed plan that shows the area and location of the habitats to be created. The detailed plan shall give effect to the concept plan for the Refuge, which is attached as Plan CRC170651B, which forms part of this consent;

	<ul style="list-style-type: none"> b. The location, density and species of native plants to be planted in the Refuge; c. A requirement that all plants planted as part of the Refuge are grown from seeds collected from local, naturally occurring indigenous vegetation; d. A requirement for ongoing weed control at the refuge and the timing and methods for weed control; e. A schedule setting out the timing of the site preparation, planting and maintenance activities (including specifying when replacement plantings are needed, and when maintenance activities can cease); f. The methods for site preparation prior to planting, including stock exclusion and clearing and disposal of existing weeds; g. The planting methods to be employed in establishing the Refuge; and h. The monitoring activities (and their frequency and duration) that are to be conducted by the consent holder to monitor the success of the activities that are undertaken to establish and maintain the ecological refuge LMP.
	LIZARD MANAGEMENT PLAN
21	The Consent Holder shall prepare and submit a Lizard Management Plan (LMP) to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance at least three months prior to the commencement of construction works under this consent.
22	<p>The LMP shall set out detailed methods and timeframes to ensure that the following objectives are achieved:</p> <ul style="list-style-type: none"> a. To provide an area of lizard habitat that is larger than one hectare and is consistent in size with the area identified on Plan CRC170651B as Open Shrubland with stone piles. b. To translocate lizards from the existing stone piles within the Klondyke Storage Dam's footprint to the Refuge using methods that will maximise the probability of survival and establishment of a viable population of lizards at the receptor habitat; and c. To monitor whether lizards have established successful populations at the receptor habitat.
23	<p>The LMP shall include but not be limited to:</p> <ul style="list-style-type: none"> a. The objectives set out in condition (22); b. Copies of, and a brief explanation of the permits secured under the Wildlife Act 1953 for the translocation of lizards from the Klondyke Storage Dam footprint to the Refuge and the conditions that apply to the relocation activities; c. A map showing the area, location and layout of the lizard habitat within the Refuge; d. The methods and timing to be employed by the consent holder for the removal of the existing stone piles from the footprint of the Klondyke Storage Dam and the re-establishment of stone piles within the Refuge; e. The methods and timing to be employed by the consent holder for translocating lizards to new or existing lizard habitat at the Refuge; f. The identification of suitable nearby unaffected lizard habitat to which lizards may be re-located, if such relocation proves necessary; g. The monitoring activities (and their frequency and duration) that are to be conducted by the consent holder to monitor the success of the activities that are undertaken to relocate the lizards and to establish and maintain a viable lizard habitat; h. Descriptions of the lizard habitat and fauna at the source site (the Klondyke Storage Dam) and the receptor site (being the Refuge); and

	i. Methods for collection of DNA from lizards captured for translocation.
	MONITORING OF ERPMP AND LMP
24	The consent holder shall, at least three months prior to the commencement of any construction works authorised by this resource consent, appoint an appropriately qualified and experienced ecologist to undertake the monitoring required by the ERPMP and LMP.
25	The monitoring undertaken by the ecologist appointed in accordance with condition (24) shall occur at the frequency and using the methods set out in the ERPMP and LMP over the course of construction works / activities authorised by this resource consent, and shall continue for not less than five years after the stone pile and lizard relocation activities required by conditions (22) and (24) commence, and not less than three years after all construction is complete.
26	The ecologist appointed in accordance with condition (24) shall prepare an annual report as follows: <ul style="list-style-type: none"> a. The report shall be prepared for the first four years of the monitoring required by condition (24) and then every two years thereafter until the completion of the monitoring; and b. All of the reports required by this condition shall be provided to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance by no later than the 30th of June each year; and c. Each monitoring report shall assess whether the ERPMP and LMP are achieving the purposes set out in conditions (19), (20), (22), and (23); and d. If the findings of the ecologist are that changes to the LMP and/or the ERPMP are required, including any additional measures or actions to achieve the purposes of the ERPMP and LMP plans, they shall make recommendations to the consent holder as to the changes and/or additional measures or actions that are required.
27	Where revisions are made to the ERPMP and /or LMP to give effect to the recommendations of the ecologist arising from condition (24) of this resource consent, the revisions shall be provided to the Canterbury Regional Council, attention Regional Leader – Monitoring and Compliance at least 10 working days prior to the ERPMP and /or LMP being amended.
	DECOMMISSIONING
28	Once the Construction Works have been completed the consent holder shall decommission the sediment and erosion measures required by condition (5) <u>the conditions of this consent</u> . Erosion and sediment control measures shall not be decommissioned until the site is stabilised and the stormwater system for the developed site is functioning.
	ADMINISTRATION
29	Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes: <ul style="list-style-type: none"> a. To deal 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; or b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.

30	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>
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CRC170655: a water permit to take and use surface water at a rate not exceeding 0.5 cumecs from the RDR canals for construction purposes (i.e. dust suppression).

1	<p>Water shall only be taken from the Rangitata Diversion Race canal located between map reference NZTM2000: 1461632 mE 5145242 mN and 1462093 mE 5144893 mN coordinates: 43°49'59.16"S, 171°16'43.69"E; 43°50'10.46"S, 171°17'4.83"E, on Plan CRC170655 which forms part of this consent.</p> <p>Advice note: This consent does not authorise the taking of surface water from the Rangitata River; only the RDR canal and is covered under the consent holder's consents to take water which discharge into the canal.</p>
1A	<p>The Proposal water take shall be constructed, operated and maintained in accordance with the details contained within the following documents:</p> <p>a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</p> <p>b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</p> <p>except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.</p>
2	<p>Water may be taken under this consent at a rate not exceeding 500 litres per second and a volume not exceeding 43,200 cubic metres per day.</p>
3	<p>Water taken in accordance with conditions 5.7C and 5.7D 2 shall only be used for construction purposes within the area shown on Plan A, which forms part of these resource consents, which includes:</p> <ul style="list-style-type: none"> a. Dust suppression; b. Concrete batching; c. Vehicle/plant cleaning; and <u>d. Storage in ponds able to store no more than 14,000 m³; and</u> e. Firefighting.
4	<p>The consent holder shall before the first exercise of this consent:</p> <ul style="list-style-type: none"> a. Install a water meter(s) that: <ul style="list-style-type: none"> i. has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus ten percent at a location(s) that will ensure the total take of water is measured; and ii. has a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least one season's data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii). b. The recording device(s) shall: <ul style="list-style-type: none"> i. be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e.

	<p>cyclic recording); and</p> <p>ii. store the entire season's data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or</p> <p>iii. shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.</p> <p>c. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.</p> <p>d. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.</p> <p>e. All practicable measures shall be taken to ensure that the water meter and recording device(s) are fully functional at all times.</p>
5	<p>Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention: Regional Leader- Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</p> <p>a. The measuring and recording device(s) has been installed in accordance with the manufacturer's specifications; and</p> <p>b. Data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition (54).</p>
6	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <p>a. To deal 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; or</p> <p>b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</p> <p>c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</p>
7	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>

CRC170656; a water permit to take groundwater for dewatering purposes. Dewatering will only be required on the lower terrace where earthworks are being undertaken to create the ecological habitat, the works associated with the reservoir inlet and outlet structures and works associated with the Rangitata Diversion Race Canal modifications.

1	Groundwater shall only be taken for dewatering purposes during the construction of the ecological refuge identified on Plan CRC170656, the works associated with the reservoir inlet and outlet structures and works associated with the Rangitata Diversion Race Canal modifications authorised in CRC170652 , which forms part of this resource consent.
1A	The Proposal groundwater take shall be constructed, operated and maintained in accordance with the details contained within the following documents: a. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and b. The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application". except where modified by specific conditions set out in these this resource consents or by the plans authorised by the building consent for the Proposal.
2	All water taken in accordance with this resource consent shall be discharged in accordance with resource consent CRC170660.
3	All practicable measures shall be taken to avoid land subsidence on adjacent properties not owned by the applicant that may occur as a result of the dewatering activities.
4	The consent holder shall cease the dewatering operation or amend the dewatering procedure if there is evidence of land subsidence on adjacent properties that have occurred as a proven result of dewatering activities at the site.
5	A record of all dewatering procedures that occur within the site shall be kept and provided to the Canterbury Regional Council on request. This record shall include: a. The date, time and duration of the water take; b. The rate of the groundwater take; and c. The location of the dewatering within the site.
6	Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes: a. To deal 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; or b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.

7	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>
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CRC170659: a discharge consent to discharge contaminants to air from the combustion of diesel.

1	The discharge into air shall be only combustion products from the operation of four stationary 37-kW diesel generators with a combined energy output not exceeding 200kW, located on land located at Shepherds Bush Road, Monalto Road, Klondyke Road, and Klondyke Terrace, identified as the 'works area' on Plan CRC170659, which forms part of this consent.
1A	<p>The Proposal discharge shall be constructed, operated and maintained in accordance with the details contained within the following documents:</p> <p>a. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u></p> <p>b. <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u></p> <p>except where modified by specific conditions set out in this these resource consents or by the plans authorised by the building consent for the Proposal.</p>
2	The discharge of combustion products shall not have a noxious, dangerous, offensive or objectionable effect beyond the boundary of the 'works area'.
3	The opacity of any of the discharges shall not be darker than the Ringelmann Shade 1 as determined in accordance with the New Zealand Standard NZS 5201:1973, except for a period not exceeding two minutes in each hour of operation.
4	The sulphur content of the diesel fuel burned in the generators shall not exceed 0.001 percent by weight (10 ppm)
5	<p>The generators shall be maintained at least once every year, by a suitably qualified person competent in the maintenance of such appliances. This maintenance shall include:</p> <p>a. Adjustment if necessary of the fuel into air ratio to ensure compliance with Condition (3); and</p> <p>b. Testing of the ratio of combustion gases discharged, i.e., carbon monoxide, carbon dioxide and oxygen.</p> <p>Maintenance reports shall be prepared and retained, and copies shall be provided to the Canterbury Regional Council upon request.</p>
6	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <p>a. To deal with any adverse effects on the environment which may arise</p>

	<p>from the exercise of the consent and which it is appropriate to deal with at a later stage; or</p> <p>b. To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or</p> <p>c. To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.</p>
7	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent <u>and</u> undertaking the activity as described in these conditions and/or application documents.</p>

CRC170660: to discharge construction-phase stormwater and dewatering water to land via sediment retention ponds and soakage pits.

1	<p>The activity authorised by this resource consent shall be only the discharge of:</p> <ol style="list-style-type: none"> construction phase stormwater; and groundwater taken for dewatering in accordance with consent CRC170656; <p>generated during the development of the Klondyke Storage Dam within the land parcels legally described as Lot 2 DP 482124, Part Lot 1 DP 2767 and RS 36179 (which is located adjacent to Montalto Road, Klondyke at or about map reference Topo50-BY19:6150-4409), as shown on Plan CRC170660 labelled as "Works Area", attached to and forming part of this resource consent.</p>
1A	<p>The discharges shall be <u>Proposal shall be constructed, operated and maintained in accordance with the details contained within the following documents:</u></p> <ol style="list-style-type: none"> <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in July 2016 and entitled "Lake Klondyke: A Proposed Water Storage Facility, Assessment of Environmental Effects Report & Resource Consent Application, Prepared for the Rangitata Diversion Race Management Limited, Date Finalised: July 2016"; and</u> <u>The Assessment of Environmental Effects report prepared by Ryder Consulting Limited in November 2017 and entitled "Proposed Rangitata Diversion Race Fish Screen and Supplementary Matters Resource Consent Application".</u> <p><u>except where modified by specific conditions set out in this these resource consents or by the plans authorised by the building consent for the Proposal.</u></p>
2	<p>Construction phase stormwater generated within the worked areas, and dewatering water shall be directed to sediment retention ponds located within the area labelled as "Works Area" on Plan CRC170660.</p>
3	<p>The discharge of construction phase stormwater and dewatering water generated under this consent shall not:</p> <ol style="list-style-type: none"> Exacerbate flooding on surrounding sites; and Be discharged directly to groundwater. Be discharged directly to surface water.
4	<p>Pursuant to Section 128(1) of the Resource Management Act 1991, the Consent Authority may serve notice of its intention to review the conditions of this consent within a period of three months commencing on each anniversary of the date of issue of the consent for any of the following purposes:</p> <ol style="list-style-type: none"> To deal 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; or To require the Consent Holder to adopt the best practicable option to mitigate any adverse effect upon the environment; or To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence.
5	<p>The lapsing date for the purposes of Section 125 of the Resource Management Act 1991 shall be 15 years from the date consent is issued.</p> <p>Advice note: 'Exercised' is defined as implementing any requirements to operate this consent and undertaking the activity as described in these conditions and/or application documents.</p>