

HYDRO ELECTRIC POWER SCHEME – KANIERE FORKS HEPS
West Coast Regional Council
Consent Conditions

KANIERE FORKS HYDRO ELECTRIC POWER SCHEME ('HEPS')

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West Coast Regional Council: Resource Consents RC10001/2, 4-7 and 10-14

The conditions that follow are listed under two headings: General Conditions which apply to all 10 resource consents listed below, and Special Conditions that apply only to particular consents as specifically identified.

1. **Date of commencement:** As provided in s.116 of the Resource Management Act 1991.
2. **Term of consents:** Thirty Five (35) years.
3. **Date of lapsing of consent (if not given effect to):** The consent lapsing period for these consents shall be ten (10) years from the commencement of the consent pursuant to s.125 of the Resource Management Act 1991.
4. **Purpose of consent:** The various activities for which consents from the West Coast Regional Council have been granted, are as follows.

Consent No.	Activity	Description/Location
RC10001/2	Land Use Consent (Structures and bed disturbance)	To disturb the bed of water bodies to use, erect, place, repair, maintain, extend, alter, replace, reconstruct, demolish or remove structures associated with the operation, repair and maintenance of the Kaniere Forks HEPS. This includes: <ul style="list-style-type: none"> • The intake for the Kaniere Race at the Lake Kaniere outlet; • Installation of fish screens and fish passage structures; and • Operating and maintaining spillways, including emergency spillways.
RC10001/4	Water Permit (Take, use and divert)	To take, use and divert water, including floodwater of unnamed streams.
RC10001/5	Water Permit (Take, use and divert)	To divert, take and use a maximum of 1 cubic metre per second (m^3s^{-1}) of water from Lake Kaniere, via the intake for the Kaniere Forks water race at the Lake Kaniere outlet, for the purpose of generating electricity.
RC10001/6	Water Permit (Diversion of water)	To divert water to waterbodies (natural and artificial) and structures, as a consequence of operating and maintaining various river control works, for the purpose of generating electricity.
RC10001/7	Water Permit (Take and use groundwater via seepage)	To take and use groundwater via seepage as a consequence of the interchange of groundwater with water contained in the Kaniere Forks water race during operation and maintenance of the Kaniere Forks HEPS.

Consent No.	Activity	Description/Location
RC10001/10	Water Permit (To dam water)	To dam water contained within the Kaniere Forks Water Race, during operation and maintenance of the Kaniere Forks HEPS.
RC10001/11	Discharge Permit (Water into water)	To discharge a maximum of 1 cubic metre per second (m^3s^{-1}) from the Kaniere Forks HEPS into the Kaniere River after use for electricity generation.
RC10001/12	Discharge Permit (Stormwater into water)	To discharge water, including stormwater, into water from the Kaniere Forks HEPS.
RC10001/13	Discharge Permit (Stormwater onto land)	To discharge water, including stormwater, onto land from the Kaniere Forks HEPS.
RC10001/14	Discharge Permit (Herbicide into water)	To discharge aquatic herbicide into water within the vicinity of, and in the race.

Kaniere Forks HEPS West Coast Regional Council

Conditions

Definitions

“Consent Authority” means the West Coast Regional Council. Where a condition specifies the Consent Holder is to ‘notify’ the Consent Authority, or where a standard is to be ‘acceptable’ to the Consent Authority, this means the Consents & Compliance Manager of the West Coast Regional Council.

“Kaniere Forks HEPS” or *“KNF HEPS”* means the hydro-electric power scheme as shown in the plan attached as Appendix 1 to these consents.

1. General Conditions

Kaniere Forks HEPS RC10001/2, 4-7 and 10-14

1.1 Method of Operations

1. All activities authorised by these consents shall be undertaken generally in accordance with the information contained in:
 - (a) The Application and Assessment of Environmental Effects (Kaniere Valley Hydro Electric Power Scheme – Kaniere Forks HEPS and McKays Creek HEPS) dated November 2010;
 - (b) The response to the Section 92 request dated 5 August 2011;
 - (c) The response to the Section 92 request dated 23 January 2012;
 - (d) The information relating to the Kaniere Forks HEPS dated 30 April 2012; and
 - (e) All supporting technical documents and plans as provided to the Consent Authority, except where inconsistent with these conditions.
2. The Consent Holder shall ensure all key staff and contractors are made aware of the conditions of these resource consents to ensure compliance with those conditions.
3. Where conditions of these consents require the provision of further information such as reports or management plans by the Consent Holder, the Consent Authority may undertake a peer review of this information. The reasonable costs associated with this peer review shall be at the Consent Holder's expense.

1.2 Fees

4. The Consent Holder shall pay to the Consent Authority such administration, supervision and monitoring fees as are fixed from time to time by the Consent Authority in accordance with Section 36 of the Act. The Consent Holder shall meet the reasonable costs of compliance of all requirements and conditions of these consents.

1.3 Complaints and Non-compliance

5. The Consent Holder shall maintain and keep a complaint register for all activities authorised by these consents. The register shall detail the date, time and type of complaint, cause of the complaint, and the action taken by the Consent Holder in response to the complaint. The register shall, on request, be made available to the Consent Authority within 48 hours.
6. Unless otherwise stated within these consents, in the event of any breach of compliance with the conditions of these consents the Consent Holder shall notify the Consent Authority within 48 hours of becoming aware of the breach. Within seven days of becoming aware of any breach, the Consent Holder shall provide written notification to the Consent Authority, which explains the cause of the breach, and if the cause was within the control of the Consent Holder, steps which were taken to remedy the breach and steps which will be taken to prevent any further occurrence of the breach.

1.4 Notification of commencement of construction activities

7. The Consent Holder shall notify the Consent Authority in writing at least two months prior to the commencement of any construction activities authorised by these

consents.

1.5 Review of Conditions

8. Pursuant to Section 128(1) of the Act, the Consent Authority may review any of the conditions of these consents by serving notice, on the six month, third and sixth anniversary of the date of commencement of these consents; and every five years thereafter, for any of the following purposes:
 - (a) To deal with any adverse effect on the environment which may arise from the exercise of the consents and which it is appropriate to deal with at a later stage;
 - (b) To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence; and/or
 - (c) To assess the appropriateness of imposed compliance standards, monitoring parameters, and monitoring frequencies and to alter these accordingly.

1.6 Hazardous Substances

9. The Consent Holder shall ensure that areas used for refuelling, lubrication and general mechanical repairs shall provide sufficient mitigation measures to ensure that any spillages do not enter soil or adjacent waterways.

2. Specific Consents and Conditions

Land Use Consent RC10001/2 (Structures and bed disturbance)

1. The Consent Holder shall install fish exclusion screens with bar spacing of no more than 20 millimetres width and where necessary, return channels, in order to exclude migrating adult eels from the intakes associated with the Kaniere Forks HEPS.
2. The Consent Holder shall, in consultation with the Department of Conservation, modify the Lake Kaniere outlet structure, as per drawing 08MKY/KWU-05, in order to provide upstream passage for native fish present in the Kaniere River catchment that require upstream passage past this barrier.
3. For the first three years following installation of the works outlined in Conditions 1 and 2 of this consent, and thereafter once every five years, the Consent Holder shall determine the effectiveness of the fish pass systems of the HEPS. For this purpose, the Consent Holder shall monitor fish communities in the Kaniere River at suitable sites in the general location of:
 - (a) three Lake Kaniere tributaries; and
 - (b) the reach from the lake outlet to the McKays weir including the one named tributary, Butchers Creek; and
 - (c) the reach from the McKays weir to the McKays power station discharge and any tributaries within this reach.

The Consent Holder shall consult with the Consent Authority over the specific locations of the monitoring sites to ensure that those sites are appropriate.

4. The monitoring required by Condition 3 shall:
 - (a) be carried out in November and March each year; and
 - (b) include a survey of native fisheries, including assessments of diversity and abundance.
5. A report detailing the results of the native fisheries monitoring required under Condition 3 above for each calendar year shall be forwarded to the Consent Authority, and copies provided to Fish and Game New Zealand (West Coast Region) and the Department of Conservation (West Coast Office – Tai Poutini Conservancy), no later than 1 December of that calendar year. This report shall also include recommendations on the requirement for any subsequent monitoring as per Condition 3 above.
6. In the event that monitoring of native fish communities upstream and downstream of the fish pass system identified pursuant to Condition 3 indicates that there is not a comparable fish community diversity upstream and downstream of the fish pass system (subject to suitable habitat being present) the Consent Holder shall:
 - (a) Commission an independent audit and associated recommendations to be undertaken to establish why the fish pass system is not effective; and
 - (b) Provide recommendations to the Consent Authority for modifications needed to the relevant fish pass and systems, or flow regime, within 20 working days of the Consent Holder receiving the independent audit results required pursuant to Condition 6(a) being triggered.

***Advice Note:** An independent audit is defined as an audit undertaken by an appropriately qualified person.*

7. The Consent Holder shall ensure that all activities authorised by this consent are carried out so that machinery activity in the bed of any waterway is kept to a minimum.
8. Bed disturbance shall be limited to the extent necessary to undertake the work.
9. Bed disturbance shall not damage any riverbank or cause any flooding or erosion.
10. All reasonable steps shall be taken to minimise the release of sediment to water during the disturbance.

Water Permit RC10001/4 (Take, use and divert)

1. All works are subject to the general conditions that are applicable.

Water Permit RC10001/5 (Take, use and divert)

1. The rate of diversion from Lake Kaniere via the intake for the Kaniere Race at the Lake Kaniere outlet shall not exceed $1 \text{ m}^3\text{s}^{-1}$.
2. The consent holder shall within six months of the commencement of this consent:
 - (a) Install a water level measuring device at or immediately below the intake for the Kaniere Race that determines the continuous rate of flow and volume of water taken within an accuracy of +/- 10 percent.
 - (b) The measuring device shall, as far as is practicable, be installed at a site that retains a stable relationship between flow and water level. The measuring device shall be installed in accordance with the manufacturer's instructions.
 - (c) The flow at the measuring site shall be gauged at least every 12 months whilst the consent is being exercised, and at any other time when required as determined by a site inspection. Site inspections are to be carried out by the consent holder at least once every month.
 - (d) Gauging and site inspections shall be carried out in accordance with best practice.
 - (e) The level of water in the race shall be recorded by tamper proof (as much as is practicable) electronic recording system which shall measure the flow at least once every 15 minutes, and a record shall be kept either on site or via telemetry of the total volume passing through the Kaniere Race in time increments not exceeding 60 minutes.
 - (f) The measuring and recording devices described in clause (a) and (e) above shall be available at all times for inspection by the Consent Authority.
 - (g) All data from the recording device described in clause (e) above, and the corresponding relationship between the water level and flow, shall be provided to the Consent Authority upon request.
 - (h) Within six months of the commencement of this consent, and at two yearly intervals thereafter, and at any other time when requested by the Consent Authority, the consent holder shall calibrate the measuring device in clause (a) and recording device in clause (e), and provide to the Consent Authority a certificate signed by a suitably qualified person certifying the accuracy of the measuring and recording devices.
 - (i) A report covering the period from July 1 to June 30 identifying the monitoring

records from clause (e), shall be forwarded to the Consent Authority, on or about July 31 each year.

Water Level

3. The Consent Holder shall ensure that the specific minimum flows below are maintained in the Kaniere River in the reach from below the Lake Kaniere outlet to Wards Road bridge (as shown in the plan attached as Appendix 1 to these consents). Continuous 15-minute telemetered compliance monitoring sites shall be maintained at below the Lake Kaniere outlet and Wards Road bridge (as shown in the plan attached as Appendix 1 to these consents).

Minimum flows to be maintained through release management:

- (a) $0.3 \text{ m}^3\text{s}^{-1}$ downstream of Lake Kaniere outlet.
- (b) $0.4 \text{ m}^3\text{s}^{-1}$ at Ward Road bridge.

Water Temperature

4. The Consent Holder shall undertake continuous 15-minute telemetered water temperature monitoring of the Kaniere River at a minimum of two sites (as shown in the plan attached as Appendix 1 to these consents) for the term of consent for the HEPS at:
 - (a) One site immediately downstream of the Lake Kaniere outlet (Site 1); and
 - (b) One site immediately upstream of the McKays weir (Site 2).
5. The Consent Holder shall increase the minimum flow at the lake outlet by 300 litres per second (L s^{-1}) where the measured water temperature at Site 2 (immediately upstream of the McKays weir) exceeds the measured water temperature at Site 1 (immediately downstream of the Lake Kaniere outlet) by 3 degrees Celsius ($^{\circ}\text{C}$) or more.

Advice Note: The measured water temperature is an average taken over 24 hours commencing at midnight. The thresholds shall not be considered exceeded where the recorded temperature is a result of a data anomaly.

6. The increased minimum flow required by Condition 5 is to be maintained until such time as the water temperatures at Sites 1 and 2 show a difference of less than 3°C for a continuous period of 24 hours, or a suitably qualified and independent expert confirms that the increased flow is no longer required for aquatic health in the Kaniere River or such flow will not assist in reducing temperatures. Any adjustments in minimum flow shall be reported to the Consent Authority within 24 hours.

Nuisance Periphyton Growths

7. The Consent Holder shall monitor periphyton community composition, cover and biomass in the Kaniere River at one site at or near the Wards Road Bridge. The Consent Holder shall consult with the Consent Authority over the specific location of the monitoring site to ensure that the site is appropriate.
8. The monitoring required by Condition 7 shall be carried out at monthly intervals in the period between 1 November – 30 April each year for the first three years following the exercise of RC10001/36. If there is no exceedence of guideline levels in Table 1 during the first three years of monitoring, the months in which monitoring shall occur may be reduced to the months of December to March inclusive. This monitoring shall only be required to be undertaken if during the months of December to March (following the initial three years monitoring), the residual flow as recorded at Ward Road Bridge, has a daily average of less than 500 L s^{-1} for a period of 10 or

more consecutive days. Should this occur, then monitoring of periphyton shall be undertaken in accordance with Conditions 7 and 9.

9. Monitoring shall be undertaken in accordance with Rapid Assessment Method 1 (RAM-1, for assessing compliance with aesthetic/recreational guidelines for proliferations) and Quantitative Method 1b (QM-1b) of the Ministry for the Environment's stream Periphyton monitoring manual¹. In the event that *Didymosphenia geminata* (Didymo) becomes established in the Kaniere River, periphyton monitoring shall continue in accordance with the method described above, however, Didymo shall be excluded from the assessment of guideline compliance.
10. If monitoring required under Condition 7 identifies an exceedance of the guidelines specified in Table 1 below, then the Consent Holder shall, provided sufficient flow is available, initiate a flushing flow downstream of the Lake Kaniere control gates to generate a flow of at least 6 times the preceding base flow for no less than 12 consecutive hours.

Table 1 - Ministry for the Environment aesthetics/recreation periphyton biomass guidelines for gravel/cobble streams (Biggs 2000). Maximum guideline values are averaged across the full width of the stream or river.

Instream value/variable	Diatoms/Cyanobacteria	Filamentous algae
<i>Aesthetics/recreation (1 Nov - 30 April):</i>		
Maximum cover of visible streambed	60% >0.3cm thick	30% >2cm long
Maximum AFDM (mg/m ²)	N/A	35
Maximum chlorophyll a (mg/m ²)	N/A	120

11. Where the Consent Holder initiates a flushing flow in accordance with Condition 10, the Consent Authority shall be advised within five working days, in conjunction with the nature of flushing flows initiated and when they will be/were completed. Once the flushing flows have been completed, the Consent Holder shall monitor periphyton on at least one occasion in accordance with Conditions 7 and 8 and report the results of the monitoring to the Consent Authority within 10 working days.
12. A report detailing the results of the monitoring programme required by Conditions 7 and 8, together with an assessment of the operation and effectiveness of any remedial flushing flows released in accordance with Condition 10 above, shall be forwarded to the Consent Authority, and copies provided to Fish and Game New Zealand (West Coast Region) and the Department of Conservation (West Coast Office – Tai Poutini Conservancy), on or about January 31 each year.

Water Permit RC10001/6 (Diversion of water)

1. All works are subject to the general conditions that are applicable.

¹ **Rapid Assessment Method 1 (RAM-1):** Quadrat method for percentage cover of a site by filamentous green/brown algae for assessing compliance with aesthetic/recreational guidelines for proliferations **Reference:** Biggs, B.J.F. and Kilroy, K.C. 2000. Stream periphyton monitoring manual. Ministry for the Environment, Wellington.

Water Permit RC10001/7 (Take and use groundwater via seepage)

1. All works are subject to the general conditions that are applicable.

Water Permit RC10001/10 (To dam water)

1. All works are subject to the general conditions that are applicable.

Discharge Permit RC10001/11 (Water into water)

1. The discharge into the Kaniere River shall not exceed $1 \text{ m}^3\text{s}^{-1}$.
2. At or beyond the mixing zone of 200 metres downstream of the point of discharge, any discharge shall not give rise to the following effects:
 - (a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;
 - (b) Any conspicuous change in colour or visual clarity¹;
 - (c) Any emission of objectionable odour;
 - (d) The rendering of fresh water unsuitable for consumption by farm animals; or
 - (e) Any significant adverse effects on aquatic life.

¹ For the purposes of the condition a conspicuous change in water colour will be deemed to be a change in hue of greater than 10 points on the Munsell scale and a conspicuous change in water clarity will be deemed to be a reduction of greater than 40% in water clarity as measured by the black disc method or with Consent Authority's agreement a NIWA water clarity tube.

Discharge Permit RC10001/12 (Stormwater into water)

1. All works are subject to the general conditions that are applicable.

Discharge Permit RC10001/13 (Stormwater into land)

1. All works are subject to the general conditions that are applicable.

Discharge Permit RC10001/14 (Herbicide into water)

1. Only herbicides and additives that have been authorised for aquatic use in New Zealand may be used under this consent provided that they are applied in accordance with that authorisation and any directions issued by the herbicide manufacturer.
2. The Consent Holder shall ensure that the applicator holds a Growsafe Registered Chemical Applicator Certificate of Qualification, or equivalent qualification, or is working under the direct supervision of someone who does.
3. No lawful take of water shall be adversely affected as a result of the discharge.

NOTES TO THE CONSENT HOLDER

Accidental Discovery Protocol

Work affecting archaeological sites is subject to a consent process under the Historic Places Act 1993. An archaeological authority (consent) from the New Zealand Historic Places Trust for the Kaniere Forks HEPS is being sought. All conditions of the authority must be adhered to.

- i. Should any archaeological material or sites be discovered during the course of work on the HEPS, work in that area of the site shall stop immediately and the appropriate agencies including the Project Archaeologist, New Zealand Historic Places Trust and Mana Whenua shall be contacted immediately.
- ii. The following agreed procedure will be adopted in the event that koiwi, taonga or wahi tapu are unearthed or discovered or are reasonably suspected to have been unearthed or discovered during the course of construction activities.
 - a) Immediately it becomes apparent or is suspected by workers at the site that koiwi, taonga or a wahi tapu has been uncovered/discovered all activity within a 5 metre radius of the site will cease.
 - b) The plant operator will shut down all machinery or activity immediately, leave the area and advise his or her Supervisor of the occurrence.
 - c) The Supervisor shall take steps immediately to secure the area in a way that ensures that the discovery remains untouched as far as possible in the circumstances and shall notify the Project Manager.
 - d) Dependent on the nature of the discovery, the Project Manager will notify the nominated Te Runanga O Ngati Waewae representative, the project archaeologist, NZ Historic Places Trust and, in the case of suspected koiwi, the New Zealand Police.
 - e) The Te Runanga O Ngati Waewae representative will contact the appropriate kaumatua to act on their behalf in this matter in order to guide and advise the Consent Holder and other parties as to the appropriate course and will immediately advise the Project Manager of the identity of such kaumatua and such other details as may be appropriate in the circumstances.
 - f) The Project Manager will ensure that staff assistance is made available to meet and guide kaumatua, police, archaeologist or Historic Places Trust staff to the site, assisting with any requests that they may make.
 - g) If the kaumatua are satisfied that the koiwi, taonga or wahi tapu are of Maori origin the kaumatua will decide how the find is to be dealt with. In the case of an archaeological site, this decision must be made in conjunction with the Project Archaeologist. The kaumatua will communicate such decision to the Consent Holder, NZ Police and such other parties as are considered appropriate. In the event of a wahi tapu discovery further discussions may be required.
 - h) Activity on site will remain halted until the Project Archaeologist, Police, Historic Places Trust (as the case may be) and the kaumatua have given approval for operations to recommence.
 - i) The Project Manager shall ensure that kaumatua are given the opportunity to undertake karakia and such other ceremonies and activities at the site as may be considered appropriate in accordance with tikanga Maori (Maori custom and protocol).

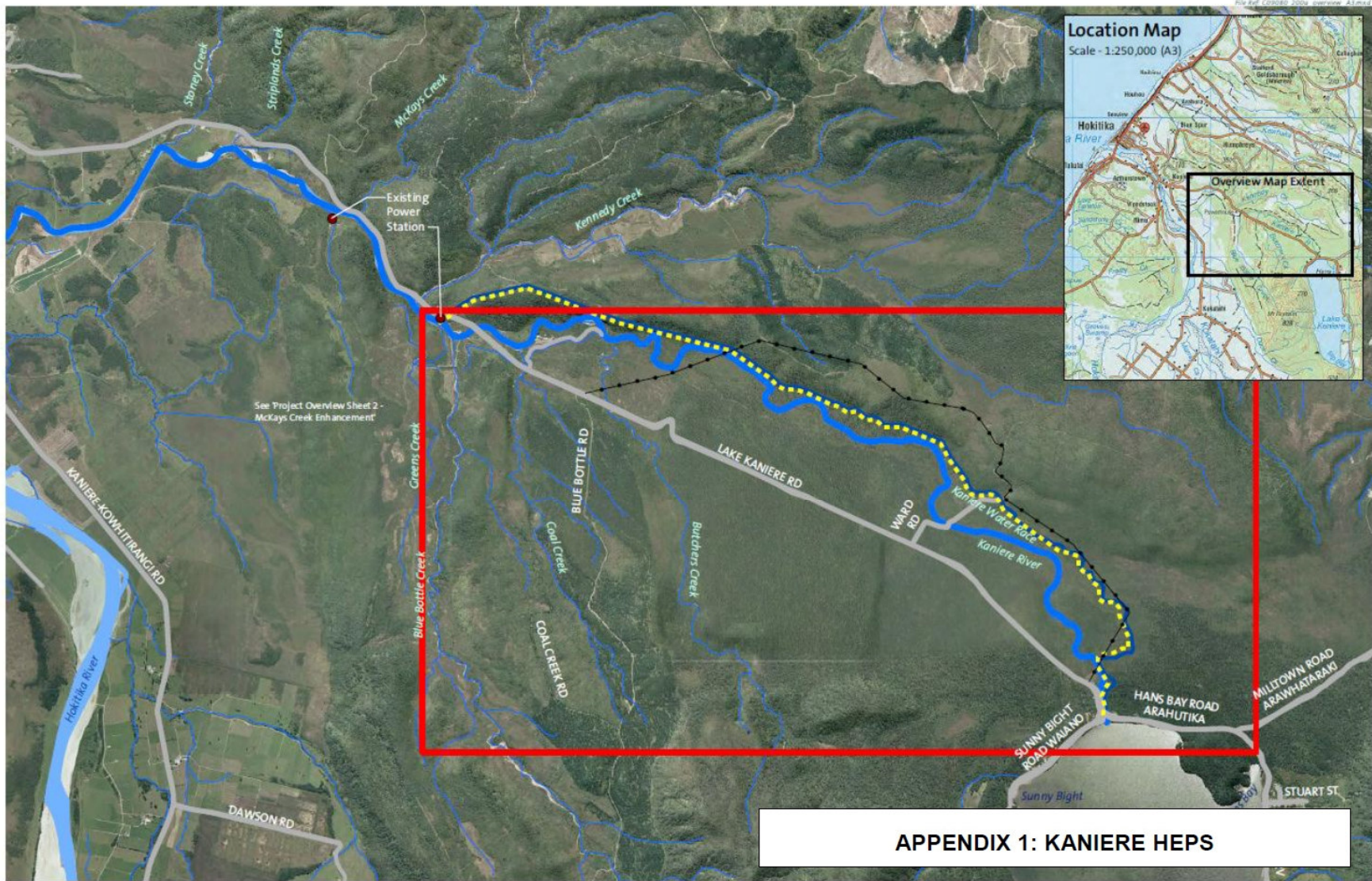
- j) All parties involved will endeavour to ensure that these matters are dealt with as expeditiously as possible – normally within a 24-hour time frame.

Private Land

The Consent Holder acknowledges that these consents do not confer a right of access, and that permission of the legal owner or administering body of that land may also be required.

Monitoring

In circumstances where it is unsafe to undertake monitoring at the dates or in the months as provided in these consent conditions, the Consent Holder shall undertake such monitoring at the next reasonable opportunity. Should this occur the Consent Holder shall inform the Consent Authority.



APPENDIX 1: KANIERE HEPS



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- Data Sources:
Topographic data and aerial photos sourced from LINZ.
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- Legend
- 11kv Transmission Line
 - Kaniere Walking Track
 - Water Races

KANIERE / MCKAYS RE-CONSENTING
Project Overview Sheet 1 - Existing Scheme
 Date: 22 May 2012
 Plan Prepared for Trustpower by Boffa Miskell Limited
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