

KANIERE VALLEY

HYDRO ELECTRIC POWER SCHEME – MCKAYS HEPS

West Coast Regional Council

Proposed Consent Conditions

5 August 2011

OPERATION OF THE KANIERE FORKS HYDRO ELECTRIC POWER SCHEME ('HEPS')

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West Coast Regional Council: Resource Consents RC10001/18 – RC10001/35

For the purpose of attaching consent conditions, 18 separate activities as identified in Schedule A below have been bundled together. The conditions that follow are then listed under two headings: General Conditions which apply to all 18 consents, and Special Conditions that apply only to each particular consent.

1. **Date of commencement:** As provided in s.116 of the Resource Management Act 1991.
3. **Term of consents:** Thirty Five (35) years.
4. **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 as provided in s.125 of the Resource Management Act 1991.
5. **Purpose of consent:** The various activities, for which consents from the West Coast Regional Council have been granted, are described below in Schedule A as set out below.

Consent No.	Activity	Description/Location
RC10001/18	Land Use Consent (Earthworks and vegetation clearance)	To undertake vegetation clearance and earthworks, including works within the riparian margins of surface watercourses, associated with the enhancement/construction, operation, repair and maintenance of the McKays Creek HEPS. This includes: <ul style="list-style-type: none"> • McKays tunnel deviation • Construct/alter canals, races, flumes, tunnels and penstock embankments. • Alteration/extension of existing Kaniere race. • Discharge gates. • Pipelines, intakes/outlets, penstocks, tailrace and power station. • Decommissioning of old penstocks. • Access tracks and roads. • Disposal of excess spoil to land.
RC10001/19	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 enhancement/construction, operation, repair and maintenance of the McKays Creek HEPS. This includes: <ul style="list-style-type: none"> • Alteration of the intake structure at McKays weir. • Installation of an environmental flow bypass, tunnels, culverts, fish passage structures and temporary bridges. • Extend existing McKays race. • Construct protection works on the banks of the Kaniere River.

Consent No.	Activity	Description/Location
		<ul style="list-style-type: none"> • Works on the bed of Green Creek. • Works on the bed of Blue Bottle Creek. • Construct, maintain and operate new tailrace and decommission old tailrace at McKays Creek HEPS. • Construct, operate and maintain spillways, including emergency spillways.
RC10001/20	Land Use (Gravel extraction)	To extract gravel from the dry bed of the Kaniere River for the purpose of enhancing/constructing the McKays Creek HEPS.
RC10001/21	Water Permit (Take, use and divert)	To take, use and divert water, including floodwater from Blue Bottle and Green Creeks as a consequence of expanding the existing McKays Race.
RC10001/22	Water Permit (Take, use and divert)	To take, use and divert a maximum of 8m ³ /s of water from the Kaniere River for the purpose of generating electricity.
RC10001/23	Water Permit (Take, use and divert)	To take, use and divert a maximum of 1m ³ /s of water from Blue Bottle Creek for the purpose of generating electricity.
RC10001/24	Water Permit (Diversion of water, enhanced schemes)	To divert water to waterbodies (natural and artificial) and structures, as a consequence of operating and maintaining various river control works.
RC10001/25	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 McKays Water Race, buffer storage ponds and tailrace during operation and maintenance of the McKays Creek HEPS enhancements.
RC10001/26	Water Permit (Take and use groundwater via dewatering)	To take and use groundwater as a result of dewatering during the construction of the additional works at the McKays Power Station and associated infrastructure. Once the power station is constructed, ongoing dewatering will occur as water penetrates the foundations.
RC10001/27	Water Permit (Take and use groundwater via dewatering)	To take and use groundwater as a result of dewatering during the decommissioning of any portion of the McKays Water Race.
RC10001/28	Water Permit (To dam water)	To dam water contained within the McKays Water Race, headpond and tailrace during operation and maintenance of the McKays Creek HEPS enhancements.
RC10001/29	Discharge Permit (Water to water, enhanced scheme)	To discharge a maximum of 9m ³ /s from the McKays Creek HEPS to the Kaniere River after use during electricity generation, including for fish passage.
RC10001/30	Discharge Permit (Stormwater to water)	To discharge water, including stormwater, containing contaminants (sediment) to water during construction of the McKays Creek HEPS enhancement from in-stream disturbance activities.
RC10001/31	Discharge	To discharge water containing contaminants (sediment) to

Consent No.	Activity	Description/Location
	Permit (Stormwater to land)	land from roads and tracks, stockpiles and disposal areas.
RC10001/32	Discharge Permit (Herbicide to water)	To discharge aquatic herbicide to water within the vicinity of, and in the race, buffer storage ponds, and tailrace.
RC10001/33	Discharge Permit (Discharge water and groundwater to water)	To discharge water, including groundwater, containing contaminants (sediment) to the Kaniere River associated with dewatering of the additional McKays HEPS foundations and associated structures during construction
RC10001/34	Discharge Permit (Stormwater to land)	To discharge stormwater containing contaminants from the temporary storage of hazardous substances during the construction period.
RC10001/35	Discharge Permit (Contaminants to air)	To discharge contaminants to air associated with the enhancement/construction and maintenance of the McKays Creek HEPS including but not limited to dust associated with the excavation, handling, conveying and processing of gravel, sand, soil, rock, sawdust, wood chips and other natural materials, earthworks and roading.

Schedule A: McKays HEPS West Coast Regional Council

Proposed Consent 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 Environmental Services Manager of the West Coast Regional Council.

"*McKays HEPS Enhancement*" or "*MKY HEPS Enhancements*" as depicted in the area shown in Appendix 1.

1. Recommended General Conditions

McKays HEPS Enhancements RC10001/18 to RC10001/35

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 (Kaniere Valley Hydro Electric Power Scheme – Kaniere HEPS and McKays HEPS) dated 31 November 2010;
 - (b) The response to the Section 92 request dated 15 July 2011; and
 - (c) 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. 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 relevant Consent Authority within 48 hours of the breach being detected. Within seven days 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 Exercise of Consent and cessation of construction activities

7. The Consent Holder shall notify the Consent Authority in writing of the intention to exercise any consent at least two (2) months prior to the commencement of any activities authorised by these consents.
8. Notwithstanding Condition 7, the Consent Holder shall, within 10 working days of commencement, notify the Consent Authority in writing of the date that it first exercised these consents.
9. The Consent Holder shall notify the Consent Authority in writing no less than 20

working days after construction activities cease.

1.5 Lapsing of Consents

10. Pursuant to Section 125(1), resource consents 2010.001 to 2010.33 shall lapse on the expiry of ten years after the date of commencement of the consents unless the consents are given effect to before the end of that period or upon application in terms of Section 125(1)(b) of the Act, the Consent Authority grants an extension.

1.6 Review of Conditions

11. Pursuant to Section 128(1) of the Act, the Consent Authority may review any of the conditions of these consents by serving notice within a period of six months, third and sixth anniversary of the date of commencement of these consents; and every five years thereafter.

for any of the following purposes:

- (i). 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;
- (ii). To deal with any other adverse effect on the environment on which the exercise of the consent may have any influence;
- (iii). To assess the appropriateness of imposed compliance standards, monitoring parameters, and monitoring frequencies and to alter these accordingly; and
- (iv). Ensure the adequacy of the operation of any of the Management Plans required by Condition 13 of this consent.

1.7 Hazardous Substances

12. The Consent Holder shall ensure that:
 - (a). The storage and use of hazardous substances shall be in accordance with the Hazardous Substances and New Organisms Act (HSNO).
 - (b). 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.

1.8 Management Plans

13. At least 2 months prior to commencement of construction of the McKays HEPS Enhancement as authorised by these consents, the Consent Holder shall provide to the Consent Authority the following plans, as prepared and to be executed by a suitably qualified person, in accordance with Conditions 18 to 28:
 - (a) Environmental Management Plan;
 - (b) Landscape Rehabilitation Plan;
 - (c) Contingency and Response Management Plan;
 - (d) Earthworks and Sediment Control Management Plan;
14. Construction activity shall not commence until the Management Plans required in Condition 13 have been certified by the Consent Authority to meet the relevant matters set out in Conditions 1.8.1 to 1.8.4. below. If the Consent Authority has not advised the Consent Holder in writing that it has certified a Management Plan required under Condition 13, or amended subject to Condition 16, within 15 working days of formal receipt of the Management Plans, then the Consent Holder may commence activities in accordance with the Management Plan unless the Consent Authorities advises the Consent Holder that it refuses to certify the Management Plan on the grounds that it fails to meet one or more conditions of consent.
15. Subject to any other conditions of these consents, all activities shall be undertaken in accordance with the current version of the Plans.
16. The Consent Holder may, at any time, make amendments to the Plans specified in Condition 13, by submitting the amendments in writing to the Consent Authority for certification that the amendments are consistent with the objectives of the relevant Plan. Minor amendments to take into account unforeseen conditions on site, or conditions for immediate action do not need to be submitted in advance of the work being undertaken, but shall be submitted on completion of the works relating to the minor amendment.
17. A copy of the current version of the Plans shall be kept on site at all times and all key personnel shall be made aware of contents of each Plan.

1.8.1 Environmental Management Plan

18. The Environmental Management Plan shall provide details as to the construction programme, and methods for the management of environment effects arising as a consequence of construction activities. The objectives of the Environment Management Plan shall be:
 - (a). To ensure that the practices and procedures for construction achieve compliance with the conditions of consent;
 - (b). To ensure that the nuisance effects of construction activities are minimised;
 - (c). To ensure that bed disturbance is limited to the extent necessary to undertake works;
 - (d). To ensure that the release of sediment during bed disturbance is minimised;
 - (e). To ensure that adverse effects as a consequence of in-stream works are kept to a minimum, including measures to avoid the spread of Didymo and the use of machinery activity in the bed of any waterway;
 - (f). To ensure that bed disturbance does not damage any riverbank or cause

flooding or erosion.

- (g). To provide a framework for the individual management plans as required under Condition 13 (b) to (d).
19. The Environmental Management Plan shall as a minimum address the following matters:
- (a). A construction programme including a timetable and sequence of construction events and their duration. Specific detail should include:
 - (i). A description of the earthworks construction activities to be undertaken, including access arrangements, construction machinery, and vegetation clearance;
 - (ii). A schedule of the operations, mitigation measures, rehabilitation and reporting intended to be undertaken over the full construction period, including a general timetable of key construction / rehabilitation times;
 - (iii). A description of hazardous substance management.
 - (b). Details of the minimum requirements for investigations, inspections and monitoring throughout construction to ensure that construction is being undertaken in accordance with the requirements of these conditions.
 - (c). Methods and timing of in-stream works.
 - (d). Details of temporary diversion works and coffer dams.
 - (e). Sources of materials to be used including any rock use for erosion protection works.
 - (f). Measures to minimise sediment release to water, including access, bunds, stockpiles and associated plant, office areas and discharge pipelines and all activities authorised by these consents.
 - (g). Measures to maintain fish passage.
 - (h). Measures for cleaning machinery and equipment prior to use in waterways.
 - (k). A description of the documentation and information management and approvals processes to be used in implementing the plan, and a description of the process for monitoring performance including non-conformance reporting and staff training and changes to the plan based on monitoring activity.
 - (l). An organisation chart showing the positions responsible for plan implementation and including a brief summary of responsibilities relevant to the plan such that the provisions of the plan can be implemented at all times.

1.8.2 Landscape Rehabilitation Plan

20. The Landscape Rehabilitation Plan shall provide details as to the rehabilitation and enhancement of the land surface, topsoil, drainage and vegetation in all disturbed areas. The Consent Holder will produce, maintain and undertake activities prescribed in the **Landscape Rehabilitation Plan** for the construction period of the HEPS; and either:
- (a) a minimum period of five years post construction of the Kaniere HEPS Enhancement to cover maintenance requirements of planting/regeneration that may be required; or
 - (b) when the indigenous vegetation cover has successfully re-established. Rehabilitation planting/regeneration has been certified as being

successful by a suitably qualified ecologist when the following targets have been met:

- (i). Canopy cover of indigenous species or gorse > 90% with at least 50% canopy cover of indigenous species in terrestrial ecosystems.
 - (ii). Canopy cover of indigenous species > 75% in wetland ecosystems.
 - (iii). percentage cover of bare ground is < 10%
21. The Landscape Rehabilitation Plan shall provide details as to the landscaping programme, methods for monitoring replanting (or regeneration) and rehabilitation and animal and plant pest control in accordance with the following objectives:
- (a). To re-establish an indigenous vegetation cover on all disturbed areas previously covered by indigenous species, excluding the HEPS footprint unless otherwise specified by other conditions of these consents, including but not limited to:
 - (i). the McKays Tunnel deviation envelope.
 - (b). To minimise maintenance after completion of planting.
 - (c). To the extent practicable, and having regard to the Scheme's operational safety and efficiency, visually integrate finished structures, landforms and vegetation into the surrounding landscape.
22. The Landscape Rehabilitation Plan shall as a minimum detail the following matters:
- (a) all landforms, finishing, layouts, soiling, planting and re-grassing of roads and tracks;
 - (b) plans, layouts, sections, photographs, written explanations, schedules, quantities and timetables as necessary;
 - (c) methods for monitoring the success of rehabilitation plantings/regeneration on a six monthly basis for the first two years and yearly thereafter for a minimum of five years following the planting,;
 - (d) rehabilitation procedures that will maximise the blending of the private haul roads, canal and any embankments and other proposed structures within the adjacent landscapes;
 - (e) the management practices associated with stripping and stockpiling of vegetation and other rehabilitation resources;
 - (f) the methods to be employed to manage and monitor pest plant species and pest animal species;
 - (g) Locations and descriptions, plans of any areas where amenity / picnic areas are to be developed.

1.8.3 Contingency and Response Plan

23. The Consent Holder shall prepare a Contingency and Response Management Plan specifying those procedures to be followed by the Consent Holder in the event of any accidental discharge of contaminants not authorised by the conditions of these consents. The objectives of the Contingency and Response Plan shall be to ensure:
- (a). The Consent Holder manages its activities to prevent contaminant

- release to the environment other than in accordance with conditions of these consents;
- (b). Personnel are trained in appropriate procedures to minimise the effects of any contaminant release; and
 - (c). The primary focus when a release of contaminants occurs is to stop any further release, minimise the effects and take appropriate steps to clean up the effects of the release to a standard acceptable to the Consent Authority.
24. That Plan shall provide details as to the nature and volumes of hazardous materials to be stored during both construction and operation, and emergency procedures that outline the response to accidental spills of such materials.
25. The Contingency and Response Plan shall as a minimum address the following matters:
- (a). Procedures for dealing with;
 - (i). Accidental spills of oil, fuels or chemicals during construction, or during the commissioning and operation of the McKays HEPS Enhancement.
 - (ii). Rupture of, or spillage from, any pipeline transporting material or contaminants around the site.
 - (iii). Spillages during transportation of hazardous substances to and from and around the McKays HEPS Enhancement.
 - (b). Personnel responsible in managing aspects of any accidental contaminant release.
 - (c). Notification to management and authorities.
 - (d). Identification of the most likely source and release point of a contaminant, including a list of hazardous substances held on the site and the procedures to be adopted in the event of spillage of any of these substances.
 - (e). Formal reporting, and notification to Management and Authorities.
 - (f). Emergency contact numbers.
 - (g). Emergency response procedures and emergency contacts over the construction phase during the event of:
 - (i). Power failure.
 - (ii). Fire.
 - (iii). Potential floods, earthquakes and landslips.
 - (h). Action Plan setting out:
 - (i). Dealing with Contaminant Release — Primary Action Points.
 - (ii). Site specific process for Dealing with Contaminant Release.
 - (iii). Disposal of Used Contaminant Products.

1.8.4 Earthworks and Sediment Control Plan

26. The Consent Holder shall prepare and submit to the Consents and Compliance Manager of the West Coast Regional Council an Earthworks and Sediment Control Plan, specifying those procedures to be followed by the Consent Holder during the construction of the McKays HEPS Enhancements, so that compliance with the conditions relating to stormwater discharges and earthworks consents are met. The objectives of the Earthworks and Sediment Control Plan shall be

to ensure:

- (a). construction activities achieve compliance with the conditions of consent for these activities;
 - (b). that the effects of erosion on water quality are minimised; and
 - (c). consistency with Auckland Regional Council Technical Publications TP10 and TP90.
27. The Earthworks and Sediment Control Plan shall be provided to the Consents and Compliance Manager of the West Coast Regional Council at least one month prior to construction work on the proposed McKays HEPS Enhancements commencing. That Plan shall be prepared by a suitably qualified person and be consistent with the above objectives.
28. The Earthworks and Sediment Control Plan shall as a minimum address the following matters:
- (a) Methods of conducting earthworks, disposal of excavated material and surface water and sediment and erosion management;
 - (b) Detailed design, location, operation and maintenance of stormwater runoff control and sediment control facilities during construction activities of the McKays HEPS site, including detailed engineering plans and design specifications;
 - (c) Methods to minimise sediment generation and sediment laden run off;
 - (d) Procedures for maintaining sediment control devices and the disposal of sludge / sediment;
 - (e) Training and supervision of operators and contractors associated with sediment control activities; and
 - (f) Methods for ensuring that all stormwater runoff from construction activities is directed through sediment control facilities prior to discharge to natural watercourses.

1.9 Water temperature

29. The consent holder shall undertake continuous 15-minute telemetered water temperature monitoring of the Kaniere River at a minimum of two sites for the term of consent for the HEPS:
- (a) One site immediately downstream of McKays weir intake (Site 1).
 - (b) One site immediately upstream of the McKays Creek power station discharge (Site 2).

1.10 Periphyton monitoring

30. The consent holder shall monitor Periphyton community composition, cover and biomass in the Kaniere River at one site in the reach from McKays weir to the McKays Creek power station discharge.
31. The monitoring required by condition 30 is to be carried out at monthly intervals in the period between 1 November – 30 April each year for the first three (3) years after the scheme is commenced, and in the months of December to March inclusive for the remainder of the duration of these consents if there are no exceedances of guideline levels during the first three years of monitoring.
32. 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 will continue in accordance with the method described above however Didymo will be excluded from the assessment of guideline compliance.

1.11 Kaniere River native fish monitoring and reporting

33. For the first three (3) years subsequent to the exercising of this consent, and thereafter once every five (5) years post commissioning for the duration of the resource consent, the consent holder shall determine the effectiveness of the fish pass systems of the HEPS. The consent holder shall monitor fish communities in the Kaniere River at a suitable site 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; and
 - (d) Blue Bottle Creek residual flow provision.
34. The monitoring required by condition 33 is to be carried out in November and March each year.
35. Monitoring in conditions 33 and 34 shall survey native fisheries, including assessments of diversity and abundance.
36. A one off survey at six (6) years post commissioning of this consent, shall be undertaken by the Consent Holder to determine the effectiveness of the fish pass systems of the HEPS targeted at providing giant kokopu passage to Lake Kaniere. This may involve otolith analysis, or another appropriate technique.
37. The report detailing the results of the fish communities monitoring programme shall be forwarded to the West Coast Regional Council, 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 the year following monitoring.

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.

2. Specific Consents and Conditions

McKays HEPS Enhancements RC10001/18 to RC10001/35

Land Use Consent RC10001/18 (Earthworks and vegetation clearance)

To undertake vegetation clearance and earthworks, including works within the riparian margins of surface watercourses, associated with the enhancement/construction, operation, repair and maintenance of the McKays Creek HEPS.

This includes:

- **McKays tunnel deviation**
- **Construct/alter canals, races, flumes, tunnels and penstock embankments.**
- **Alteration/extension of existing Kaniere race.**
- **Discharge gates.**
- **Pipelines, intakes/outlets, penstocks, tailrace and power station.**
- **Decommissioning of old penstocks.**
- **Access tracks and roads.**
- **Disposal of excess spoil to land.**

Conditions

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the provisions of the Environmental Management Plan and Sediment Control Plan.
2. All activities authorised by these consents shall be implemented under the supervision of persons with appropriate experience in the supervision of civil engineering construction works.
3. The Consent Holder shall ensure that all activities authorised by these consents are carried out so that machinery activity in the bed of any waterway is kept to a minimum.
4. Bed disturbance shall be limited to the extent necessary to undertake the works.
5. Bed disturbance shall not damage any riverbank or cause any flooding or erosion.
6. All reasonable steps shall be taken to minimise the release of sediment during disturbance.
7. The consent holder shall install fish exclusion screens with bar spacing of no less than 20mm width and where necessary, return channels, in order to exclude migrating adult eels from the intakes associated with the McKays HEPS Enhancements.
8. The consent holder shall install screens and/or, where necessary, return channels to impede entry of upstream migrant native fish into the McKays HEPS tailrace.
9. The consent holder shall make modifications to the McKays Weir intake structure in order to provide upstream passage for native fish present in the Kaniere River catchment and requiring upstream passage past this barrier.
10. In the event that monitoring of native fish communities upstream and downstream of the fish pass system identified pursuant to General Condition 33 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 within 20 working days of the Consent Holder receiving the independent audit results required pursuant to Condition 10(a) being triggered.
11. The Consent Holder shall ensure that silt control measures, as outlined in the Erosion and Sediment Control Plan, are in place prior to the exercise of these consents, including diversion channels for watercourses and clean stormwater runoff.
 12. Unless otherwise stated in the Erosion and Sediment Control Plan, all sediment control practices shall be undertaken in accordance with the principles outlined in the document prepared by the Auckland Regional Council, Technical Publication No. 90, March 1999 "Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region".
 13. Notwithstanding Conditions 1 and 11 of these consents, sufficient sediment control measures shall be put in place to ensure that beyond a mixing zone of 400 metres downstream of the point of discharge the discharge associated with any land disturbance activities 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 clarity.
 - (c). Any emission of objectionable odour.
 - (d). The rendering of fresh water unsuitable for consumption by farm animals.
 - (e). Any significant adverse effects on aquatic life.
 14. All access and haul roads shall be adequately serviced with watertables, cut-offs and culverts to control surface water runoff and minimise the scouring of road surfaces, watertables, cut-offs and culvert outfalls.
 15. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of these consents and for any erosion control works which become necessary as a consequence of the exercise of this consent.
 16. Vegetation, litter and topsoil from areas of significant forest shall be retained and kept separate for use in adjoining restoration areas.
 17. Notwithstanding any other conditions, all disturbed areas shall be fully rehabilitated prior to the expiry of these consents.

Land Use Consent RC10001/19 (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 enhancement/construction, operation, repair and maintenance of the McKays Creek HEPS.

This includes:

- **Alteration of the intake structure at McKays weir.**
- **Installation of an environmental flow bypass, tunnels, culverts, fish passage structures and temporary bridges.**
- **Extend existing McKays race.**
- **Construct protection works on the banks of the Kaniere River.**
- **Works on the bed of Green Creek.**
- **Works on the bed of Blue Bottle Creek.**
- **Construct, maintain and operate modified tailrace at McKays Creek HEPS.**

• **Construct, operate and maintain spillways, including emergency spillways.**
Conditions

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the provisions of the Environmental Management Plan.
2. The Consent Holder shall ensure that all activities authorised by these consents are carried out so that machinery activity in the bed of any waterway is kept to a minimum.
3. Bed disturbance shall be limited to the extent necessary to undertake the works.
4. Bed disturbance shall not damage any riverbank or cause any flooding or erosion.
5. All reasonable steps shall be taken to minimise the release of sediment during disturbance.
6. The design of temporary bridges and culverts shall provide for fish passage.

Land Use Consent RC10001/20 (Gravel extraction)

To extract gravel from the dry bed of the Kaniere River for the purpose of enhancing/constructing the McKays Creek HEPS.

Conditions

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the provisions of the Environmental Management Plan.
2. The extraction of gravel shall be confined to the immediate area of bed where the McKays weir intake, canal alignment, Blue Bottle Creek intake, and McKays HEPS tailrace cross the watercourse.

Water Permit RC10001/21 (Take, use and divert)

To take, use and divert water, including floodwater from Blue Bottle and Green Creeks as a consequence of expanding the existing McKays Race.

Conditions

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

Water Permit RC10001/22 (Take, use and divert)

To take, use and divert a maximum of 8m³/s of water from the Kaniere River for the purpose of generating electricity.

Conditions

1. The rate of diversion from the Kaniere River at the McKays Weir intake shall not exceed 8 cubic metres per second.

Water Level

2. The consent holder shall ensure that the following minimum flows will be maintained in the Kaniere River in the reach from below the McKays Weir intake to immediately downstream of Kaniere Forks power station at the McKays Ford (as shown on '**Appendix 2**' attached to and forming part of this consent). Continuous compliance monitoring sites will be maintained at below the McKays weir and McKays ford, as shown on '**Appendix 2**' attached to and forming part of this consent).

Flows to be maintained through release management:

- (a) 0.3 cumecs downstream of McKays Weir intake
- (b) 0.5 cumecs downstream of Kaniere Forks power station at the McKays Ford

Water Temperature

3. The consent holder shall increase the minimum flow downstream of McKays weir intake by 300l/s where the measured water temperature at Site 1 (downstream of McKays weir intake) is greater than 20 degrees Celsius, and the measured water temperature at Site 2 (immediately upstream of the McKays Creek power station discharge) exceeds that at Site 1 by 3 degrees or more.

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

4. The increased flow is to be maintained until such time as the water temperatures at Sites 1 and 2 show a difference of less than 3 degrees for a continuous period of 24 hours.

Nuisance Periphyton Growths

5. Should monitoring required under General Condition 30 identify an exceedance of the guidelines then the consent holder shall initiate a flushing flow downstream of McKays weir intake to generate a flow of at least 6 times the median flow for no less than 12 hours.
6. Where the Consent Holder initiates a flushing flow in accordance with condition 5, the Consent Authority is to be advised within 5 working days, in conjunction with the nature of flushing flows initiated and when they will be completed. Once the flushing flows have been completed, the consent holder shall provide a monitoring report pursuant to General Conditions 30 and 32 to the Consent Authority within 10 days.
7. A report detailing the results of the monitoring programme referred to in General Condition 32 above, together with an assessment of the operation and effectiveness of any remedial flushing flows released in accordance with conditions 5 above, shall be forwarded to the West Coast Regional Council, 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 10 each year.

Native Fish

8. In the event that monitoring of native fish communities upstream and downstream of the fish pass system identified pursuant to General Condition 33 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 within 20 working days of the Consent Holder receiving the independent audit results required pursuant to Condition 8(a) being triggered.

Water Permit RC10001/23 (Take, use and divert)

To take, use and divert a maximum of 1m³/s of water from Blue Bottle Creek for the purpose of generating electricity.

Conditions

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

Water Permit RC10001/24 (Diversion of water, enhanced schemes)

To divert water to waterbodies (natural and artificial) and structures, as a

consequence of operating and maintaining various river control works.

Conditions

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

Water Permit RC10001/25 (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 McKays Water Race, buffer storage ponds and tailrace during operation and maintenance of the McKays Creek HEPS enhancements.

Conditions

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

Water Permit RC10001/26 (Take and use groundwater via dewatering)

To take and use groundwater as a result of dewatering during the construction of the additional works at the McKays Power Station and associated infrastructure. Once the power station is constructed, ongoing dewatering will occur as water penetrates the foundations.

Conditions

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

Water Permit RC10001/27 (Take and use groundwater via dewatering)

To take and use groundwater as a result of dewatering during the decommissioning of any portion of the McKays Water Race.

Conditions

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

Water Permit RC10001/28 (To dam water)

To dam water contained within the McKays Water Race, headpond and tailrace during operation and maintenance of the McKays Creek HEPS enhancements.

Conditions

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

Discharge Permit RC10001/29 (Water to water, enhanced scheme)

To discharge a maximum of 9m³/s from the McKays Creek HEPS to the Kaniere River after use during electricity generation.

Conditions

1. The discharge into the Kaniere River shall not exceed 9m³/s.
2. Beyond the mixing zone of 400 metres downstream of the point of discharge, any discharge as a consequence of the construction of the Kaniere HEPS Enhancement 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 clarity.
 - (c) Any emission of objectionable odour.
 - (d) The rendering of fresh water unsuitable for consumption by farm animals.
 - (e) Any significant adverse effects on aquatic life.

Discharge Permit RC10001/30 (Stormwater to water)

To discharge water, including stormwater, containing contaminants (sediment) to water during construction of the McKays Creek HEPS enhancement from in-stream disturbance activities.

Conditions

1. All works shall be undertaken in accordance with the Earthworks and Sediment Control Plan.
2. All discharges of stormwater to land shall be directed through sediment control measures prior to discharges to natural water bodies. The sediment control measures shall be of a sufficient capacity to ensure compliance with Condition 4 of this consent.
3. The use of flocculating agents is not permitted under these consents.
4. Beyond a mixing zone of 400 metres downstream of the point of discharge, any discharge as a consequence of the construction of the McKays HEPS Enhancement 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 clarity.
 - (c) Any emission of objectionable odour.
 - (d) The rendering of fresh water unsuitable for consumption by farm animals.
 - (e) Any significant adverse effects on aquatic life.

Discharge Permit RC10001/31 (Stormwater to land)

To discharge water containing contaminants (sediment) to land from roads and tracks, stockpiles and disposal areas.

Conditions

1. All works shall be undertaken in accordance with the Earthworks and Sediment Control Plan.
2. All discharges of stormwater to land shall be directed through sediment control measures prior to discharges to natural water bodies. The sediment control measures shall be of a sufficient capacity to ensure compliance with Condition 3 of this consent.
3. Beyond a mixing zone of 400 metres downstream of the point of discharge, any discharge as a consequence of the construction of the McKays HEPS Enhancement 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 clarity.
 - (c) Any emission of objectionable odour.
 - (d) The rendering of fresh water unsuitable for consumption by farm animals.
 - (e) Any significant adverse effects on aquatic life.

Discharge Permit RC10001/32 (Herbicide to water)

To discharge aquatic herbicide to water within the vicinity of, and in the race, buffer storage ponds, and tailrace.

Conditions

1. Herbicide and any additive use must be authorised for aquatic use in New Zealand and be 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.

Discharge Permit RC10001/33 (Discharge water to groundwater to water)

To discharge water, including groundwater, containing contaminants (sediment) to the Kaniere River associated with dewatering of the additional McKays HEPS foundations and associated structures during construction.

Conditions

1. All works shall be undertaken in accordance with the Earthworks and Sediment Control Plan.
2. Beyond a mixing zone of 400 metres downstream of the point of discharge, any discharge as a consequence of the construction of the McKays HEPS Enhancement 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 clarity.
 - (c) Any emission of objectionable odour.
 - (d) The rendering of fresh water unsuitable for consumption by farm animals.
 - (e) Any significant adverse effects on aquatic life.

Discharge Permit RC10001/34 (Stormwater to land)

To discharge stormwater containing contaminants from the temporary storage of hazardous substances during the construction period.

Conditions

1. All works shall be undertaken in accordance with the Earthworks and Sediment Control Plan.
2. All discharges of stormwater to land shall be directed through sediment control measures prior to discharges to natural water bodies. The sediment control measures shall be of a sufficient capacity to ensure compliance with Condition 4 of this consent.
3. The use of flocculating agents is not permitted under these consents.
4. Beyond a mixing zone of 400 metres downstream of the point of discharge, any discharge as a consequence of the construction of the McKays HEPS Enhancement 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 clarity.
 - (c) Any emission of objectionable odour.
 - (d) The rendering of fresh water unsuitable for consumption by farm animals.
 - (e) Any significant adverse effects on aquatic life.

Discharge Permit RC10001/35 (Contaminants to air)

To discharge contaminants to air associated with the enhancement/construction and maintenance of the McKays Creek HEPS including but not limited to dust associated with the excavation, handling, conveying and processing of gravel, sand, soil, rock, sawdust, wood chips and other natural materials, earthworks and roading.

Conditions

1. The Consent Holder shall undertake activities authorised by this consent in accordance with the provisions of the Environmental Management Plan.

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 HEPS Enhancements 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, that 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 5m 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 TrustPower 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.

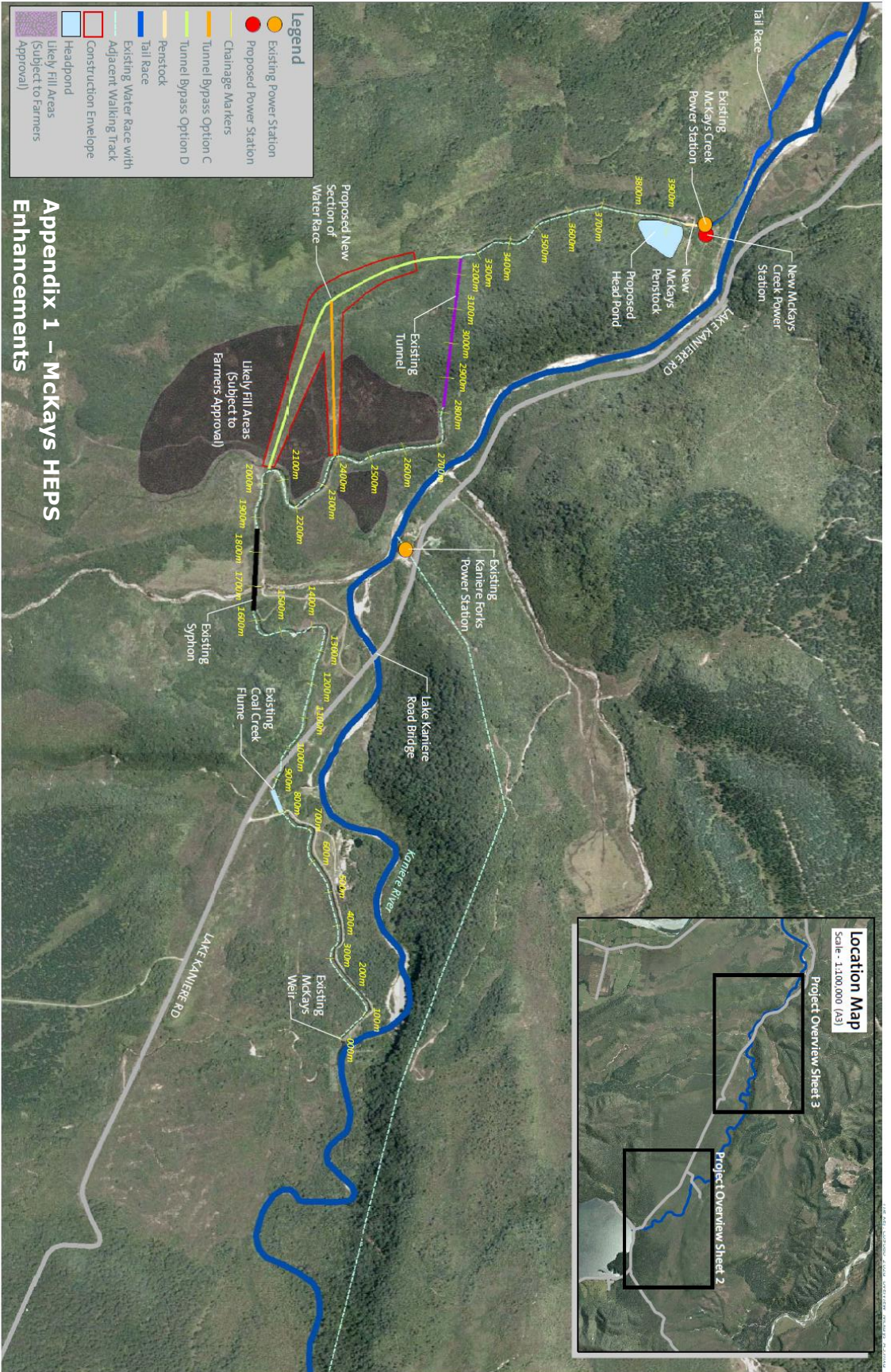
- f) The Project Manager will ensure that staff assistance is made available to meet and guide kaumatua, police, archaeologist or Historic Places Trust staff to the site, assisting with any requests that they may make.
- g) If the kaumatua are satisfied that the koiwi, taonga or wahi tapu are of Maori 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 TrustPower, 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 religious or cultural 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 does not confer a right of access, and that permission of the legal owner of 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.



Appendix 1 – Mckays HEPS Enhancements

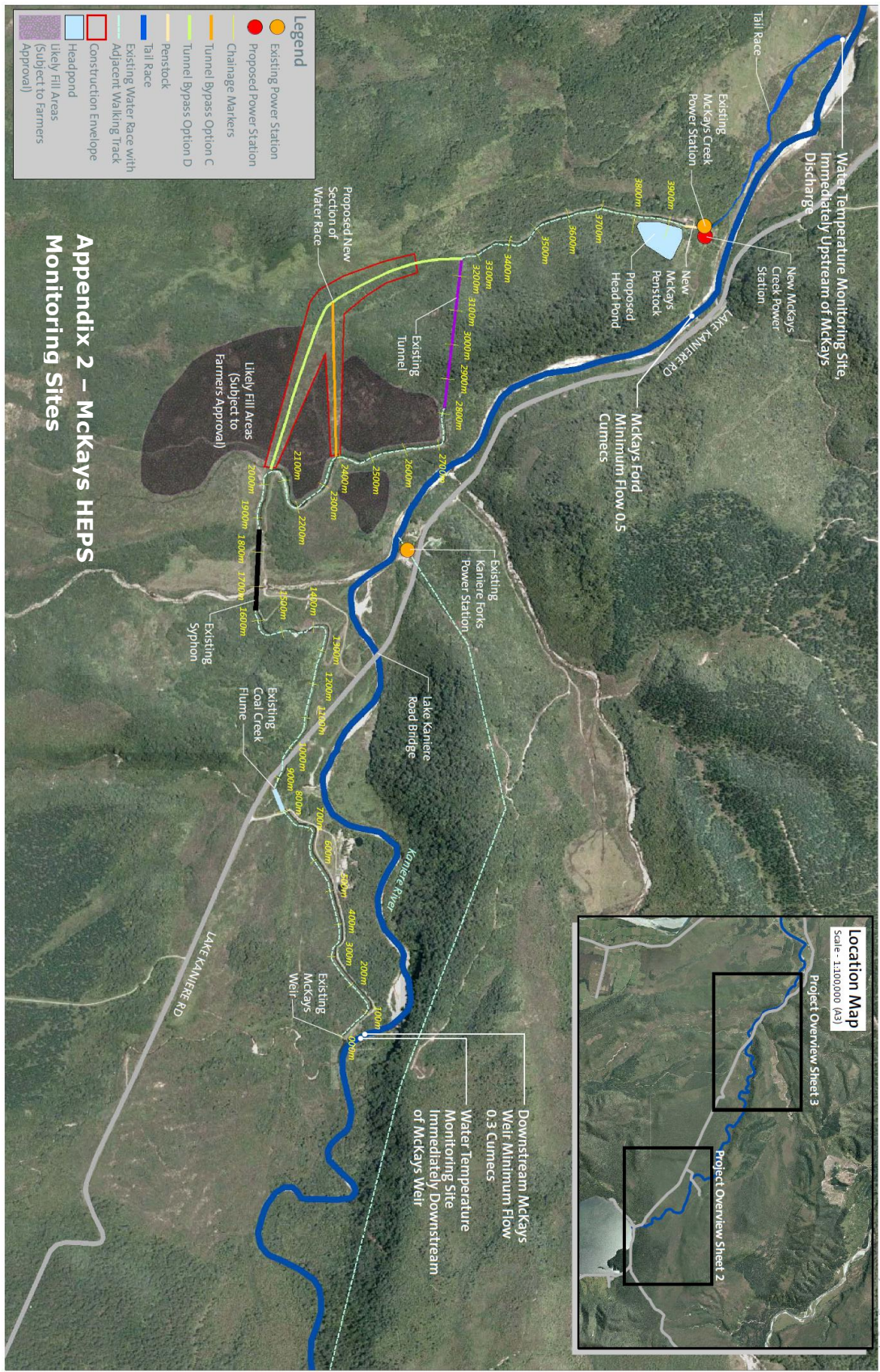


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Data Sources: Topographic data and aerial photo sourced from LINZ. Engineering data supplied by Rhyss Consultants Limited.

KANIERE / MCKAYS RE-CONSENTING
Project Overview Sheet 3 - Mckays Creek Enhancement
 Date: 18th November 2010
 Plan Prepared for Trustpower by Boffa Miskell Limited
 Author: gpywhite@boffamiskell.co.nz | Checked: JB



Appendix 2 – Mckays HEPS Monitoring Sites

Boffa Miskell
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**KANIERIE / MCKAYS RE-CONSENTING
Mckays Creek Enhancement Monitoring Sites**

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Date: 15 July 2011