Resource Consent

Resource Consent 65750-AP

Following the processing of the Application received on the 18 May 2009, the Bay of Plenty Regional Council has granted the applicant(s):

Trustpower Limited

Consent(s) to:

65750.0.01-WU	Use Surface Water	Expiry	31 August 2048
65750.0.02-DC	Discharge to Water	Expiry	31 August 2048
65750.0.03-WT	Surface Water Take	Expiry	31 August 2048
65750.0.04-WT-TBD	Surface Water Take	Expiry	31 August 2048
65750.0.05-WT-TBD	Surface Water Take	Expiry	31 August 2048
65750.0.10-DC	Discharge to Water	Expiry	31 August 2048

TR17-00555 Approved 5 April 2017

The consent(s) are subject to the conditions specified on the attached schedule(s) for each activity. Advice notes are also provided as supplementary guidance, and to specify additional information to relevant conditions.

The Resource Consent hereby authorised is granted under the Resource Management Act 1991 does not constitute an authority under any other Act, Regulation or Bylaw.

DATED at Whakatane this 23rd day of February 2012

For and on behalf of The Bay of Plenty Regional Council

M Macleod

Mary-Anne Macleod
Chief Executive

The transfer of the whole of this resource consent was approved under delegated authority of the Bay of Plenty Regional Council dated 13 April 2017

Resource Consent 65750

TRUSTPOWER LIMITED
Rangitaiki River

A resource Consent:

1 under section 14(2)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Impound the Rangitaiki River Behind the Matahina Dam;**

2 under section 13(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Maintain Structures on the Bed of the Rangitaiki River Being the Matahina Dam, Power House and Associated Structures;**

3 under section 14(2)(b) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Take and Use up to 160 cumecs of Water From Lake Matahina for the Purpose of Power generation;**

4 under section 14(2)(b) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Take and Use up to 140 litres per second of Water From Lake Matahina for the Purpose of Cooling Water;**

5 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge up to 160 cumecs of Water to the Rangitaiki River from a Hydroelectric Generation Scheme;**

6 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge up to 140 litres per second of Water to Three Locations on the Rangitaiki River from a Hydroelectric Generation Scheme and substation for cooling water purposes;**

7 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge Contaminants, in the form of Stormwater, to Three Locations on the Rangitaiki River;**

8 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge Drainage Water from the Matahina Dam, Power House and Spillway to a river at Two Locations (historic river channel of the Rangitāiki River and the Rangitāiki River);**

9 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge up to 1980 cumecs of Water to the Rangitaiki River from the Spillway of the Matahina Dam;**

10 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge Incidental Volumes of Contaminants to the Rangitaiki River from Processes Associated with Power Generation;**

11 under section 15(1)(a) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **Discharge up to 140 cumecs of Water to the Rangitaiki River from the Matahina Dam Left Abutment Dewatering Tunnel;** and

12 under section 15(1)(b) of the Resource Management Act 1991 and Rule 47C of the Bay of Plenty Regional Water and Land Plan to carry out a controlled activity being to **apply herbicide (by hand) to all concrete and steel structures associated with Matahina Dam;**

subject to the following conditions:

SCHEDULE 1 - CONDITIONS

General

1 The dam, penstock intake, tailrace, spillway and dewatering tunnel and points of discharge associated with the Matahina Hydroelectric Power Scheme are to be sited as shown in the plans attached to this resource consent as **Appendix One.**

2 The maximum height of the Matahina Dam shall not exceed 80 metres as measured from the bed of the Rangitaiki River to the dam crest.

3 The individual Matahina Spillway Gate widths shall not exceed 8.53 metres.

Civil Safety

4 The consent holder shall, within seven days of receiving a request from the Chief Executive of the Bay of Plenty Regional Council, provide a copy of all information it holds regarding the dam safety management systems employed at the Matahina Hydroelectric Power Scheme to the Chief Executive of the Bay of Plenty Regional Council.

5 The consent holder shall maintain the Matahina Dam and all its appurtenant components and ancillary/appurtenant structures to the standards recommended in the operative version of the NZSOLD Dam Safety Guidelines.

Lake Levels

6 The consent holder shall operate the Matahina Hydroelectric Power Scheme so as to comply with the following maximum or minimum operating levels for Lake Matahina (all levels are stated in 'metres above Moturiki Datum').

Extreme Minimum Reservoir Level (flood pending)	70.0 metres unless a lower level is certified (in writing) by the Chief Executive of the Bay of Plenty Regional Council, or delegate, in accordance with condition 43A(c) of this resource consent
Minimum Operational Reservoir Level	73.15 metres
Maximum Operational Reservoir Level	76.20 metres
Maximum Reservoir Level during floods of less than 200 cubic metres per second	76.40 metres
Design Flood Level	76.80 metres
Spillway Gate Crest Level	76.40 metres

The reservoir levels in Lake Matahina shall be operated to an accuracy of +/- 0.1 metres of the level specified.

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7 The rate of change in the level of Lake Matahina shall not exceed 0.3 metres per hour except under 'Emergency Conditions' when a rate of change of up to 0.5 metres per hour is permitted.

8 For the purpose of Condition 7 'Emergency Conditions' occur when:

a Plant within the Matahina Hydroelectric Power Scheme has failed;

b The electrical network or transmission system has become constrained or unavailable;

c A natural event, such as a flood, restricts the ability to operate all or any aspect of the Matahina Hydroelectric Power Scheme safely; or

d When a flood event is forecast, storage needs to be provided in accordance with Conditions 42, 42A and 43 of this resource consent and with a methodology set out in a flood management plan that is certified under conditions 44 or 45 of this resource consent.

Intake Screens

9 The intake to the Matahina Hydroelectric Power Scheme penstocks shall be fitted with a screen. The gap between bars of the screen shall be no greater than 90 millimetres.

10 Within 12 months of this consent commencing the consent holder shall have prepared and submitted a comprehensive report to the Chief Executive of the Bay of Plenty Regional Council (or delegate) for certification that:

a Describes the feasibility of installing deterrent measures at the intake structure of the Matahina Dam to avoid or minimise the entrapment of adult eels;

b Describes the alternative deterrent measures options considered and assesses the strengths and weaknesses of each option; and

c Recommends a deterrent measure(s) for deflecting adult eels away from the intake structure of the Matahina Dam towards the spillway gates or an alternative downstream migration pathway.

11 When preparing the report required by Condition 10, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi, the Bay of Plenty Regional Council (as consent authority) and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate).

12 Within 12 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council (or delegate) that the report addresses the matters set out in Condition 10, the consent holder shall implement the deterrent measure(s) recommended in the report.

13 The consent holder shall provide final copies of the report required by Condition 10 to the Kokopu Trust, Department of Conservation, Fish and Game New Zealand, the Royal Forest and Bird Protection Society, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi, the Bay of Plenty Regional Council (as consent authority) and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate).

Boat ramps

14 The consent holder shall install and maintain a water level indicator at the main launching boat ramp located at map reference NZTM 1934917, 5774496. This water level indicator shall be installed within six months of the commencement of this consent.

15 The consent holder may temporarily restrict public access to the boat ramps (and associated pontoon structures) located at map references NZTM 1934917, 5774496 and NZTM 1934987, 5774200 due to reasonable health, safety and security requirements. Access may only be restricted to one boat ramp and any associated pontoon structure at a time. Where access is restricted by the consent holder, it shall notify the Chief Executives of both the Bay of Plenty Regional Council and the Whakatane District Council in writing. The written notification shall (i) explain the need for the restriction, and (ii) estimate the duration that the restriction will apply for.

Lakeshore Processes and Sedimentation

16 The consent holder shall, within one year of this consent commencing, and then every five years thereafter, undertake inspections of the Lake Matahina shoreline. The inspection shall (i) use the methodology and visit the sites identified by Dr Martin Single in his report entitled

"Matahina Hydroelectric Power Scheme Re-consenting: Assessment of Environmental Effects – Lakeshore Erosion (October 2008)" and (ii) consider the entire lake, but shall note the changes at the sites of 'erosional scarps' highlighted on the map attached within **Appendix Two.**

17 The inspection required by Condition 16 shall identify potential erosion and sedimentation hazards for lake users.

18 In addition to the inspections undertaken in accordance with Condition 16, inspections shall be undertaken by the consent holder following every 'flood event'. These inspections shall also identify potential erosion and sedimentation hazards for lake users.

19 For the purpose of Condition 18, the term 'flood event' shall mean a flood of greater than 500 cubic metres per second (cumecs) into Lake Matahina.

20 The consent holder shall report the findings of the Lake Matahina shoreline inspections required under Conditions 16 and 18 to the Chief Executive of the Bay of Plenty Regional Council (or delegate) within two months of the completion of each inspection. The report must:

a Identify any works that are needed to avoid, remedy or mitigate significant erosion and sedimentation hazards attributable to lake level fluctuations and the reasons for any conclusions reached; and

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b If works are recommended, describe the nature of the works, the timeframe for carrying out the works, and the reasons for undertaking those works; and

c Include an assessment of whether any additional monitoring is required and the reasons for any conclusions reached.

21 Within three months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council (or delegate) that the report required in Condition 20 addresses the shoreline erosion and sedimentation hazards caused by the lake level fluctuations associated with the operation of the Matahina Hydroelectric Power Scheme, the consent holder shall implement any mitigation measures recommended in the report.

General Monitoring

22 The consent holder shall monitor and keep records of:

a The Matahina Hydroelectric Power Scheme reservoir level.

b The flow of water discharged from the Matahina Power Station and/or via the Matahina Spillway.

c The flow of water taken for cooling water purposes.

d The flow of water in the Rangitaiki River, as measured at the Te Teko flow recording site.

e The flow of water flowing into Lake Matahina, as calculated in accordance with Condition 27.

The time interval between data readings shall be recorded at no greater than 15-minutes and all flow shall be provided in cumecs.

23 The data gathered in accordance with clauses (b}, (c) and (d) of Condition 22 shall, within 6-months of this consent commencing, be made available to the Bay of Plenty Regional Council, via telemetry, at all times.

24 The data gathered in accordance with clauses (a) and (e) of Condition 22 shall, within 6-months of this consent commencing, be made available to the Bay of Plenty Regional Council, via telemetry, at all times when a flood event is forecast in accordance conditions 42, 42A and 43 or with a methodology set out within the Flood Management Plan certified in accordance with condition 44 or 45. At all other times, this data shall be provided within 24 hours of it being gathered. The data files shall be submitted in the XML format (or other format as advised by the Chief Executive or delegate) from time to time.

25 While Lake Matahina shall be operated to an accuracy of +/-0.1m (as specified in Condition 6 of this resource consent) the reservoir levels shall be measured to an accuracy of +/- 0.01 metres. Flow of the water in the Rangitaiki River at the Te Teko flow-recording site, over the Matahina spillway, abstracted into the Matahina penstocks, and abstracted into the cooling system associated with the Matahina Power Station shall be measured to an accuracy of +/- 10 percent.

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26 All records and monitoring results required by Conditions 22 shall be kept for a minimum period of 18 months from the date of each entry and shall be provided to the Chief Executive of the Bay of Plenty Regional Council (or delegate):

a Annually (on the anniversary of this consent commencing); and

b Within seven days of the consent holder receiving a request from the Chief Executive (or delegate) for the record and monitoring results.

The data shall be submitted in an XML (Excel) format or other format determined by the Chief Executive (or delegate).

27 The calculation and the sources of data used to determine the inflow into Lake Matahina shall be set out in the Flood Management Plan required by condition 44 or updated in accordance with condition 45 of this resource consent. Once the Flood Management Plan is certified in accordance with condition 44 or condition 45 of this resource consent, the consent holder shall calculate the inflows into the Lake in accordance with the Flood Management Plan.

Contribution to River Bank Protection Programme

28 The consent holder shall, for the duration of this resource consent make an annual contribution to the Bay of Plenty Regional Council. The purpose of the annual contribution is to mitigate any potential erosion effects of the operation of the Matahina Hydroelectric Power Scheme on the river banks of the Rangitaiki River below the Matahina Dam. The consent holder is required to contribute to the relevant costs of operating, maintaining and repairing the Rangitaiki-Tarawera River Scheme in accordance with the following percentages for each of the reaches of the Rangitaiki River below the Matahina Dam:

a Reach 3 (Matahina Dam to Te Teko) - 25%; and

b Reach 2 (Te Teko to Edgecumbe) - 15%; and

c Reach 1 (Edgecumbe to the mouth of the Rangitaiki River) - 5%.

The annual contribution shall be paid by no later than 30 June of each year for the preceding 12 month period once the consent holder has received a written invoice from the Chief Executive of the Bay of Plenty Regional Council (or delegate). The annual contribution shall be calculated in accordance with the methodology set out in **Appendix Six** of this resource consent.

Periods of Normal Operation - Prior to the Implementation of the Modified Operating Regime

28(a) Periods of Normal Operation prevail except where:

a operation of the Scheme has been compromised as a result of maintenance or a fault on any generator, associated control equipment or the transmission network; and/or

b manual control of any machine or associated equipment is required for scheme infrastructure maintenance, machine re-commissioning or testing purposes.

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Under the above circumstances the consent holder will ensure that, as far as practicable, the discharges from the Matahina Dam will not drop below the consented discharge limits identified in the relevant operating condition (conditions 28C, 29, 30, 30A, and/or 30B depending on the inflow to Lake Matahina) during the period outside of 'Normal Operation' of the Dam. Further, the consent holder will take all reasonable steps to return the scheme to normal operation as soon as practicable.

The consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council, or delegate, within 72 hours of any such period of operation of the Matahina Dam that is outside of 'Normal Operation' as defined above.

28A Except as provided for by conditions 42 to 45 of this resource consent, the consent holder shall operate the Matahina Hydroelectric Power Scheme in accordance with Conditions 28B to 28F of this resource consent, which shall apply until Conditions 34A to 341, 41A and 41E to 41F of this resource consent have been fully satisfied.

28B The flow discharged from the Matahina Power Station shall not be less than 40 cubic metres per second ('cumecs'), except as provided for by Condition 28C of this resource consent.

28C When inflows into Lake Matahina are less than 40 cumecs, the consent holder shall operate the Matahina Hydroelectric Power Scheme to ensure that the total discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway) equals, when averaged over a 24-hour period, the inflows into Lake Matahina. The term 'peak' is defined as an increase in the discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway) to a constant flow for no less than 30 minutes followed by a subsequent decrease in the flow being discharged.

28CA When the Matahina Hydroelectric Power Scheme is operated in accordance with condition 28C of this resource consent, there shall be no more than one operating peak per 24-hour period. The operating peak shall not cause the total discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway), to increase by more than 15 cumecs above the discharge from the Dam that existed immediately prior to the operating peak commencing.

28CB Condition 28CA of this resource consent does not apply during an under-frequency event (as defined in condition 35 of this resource consent), where there is no restriction in the number or magnitude of any peaks.

28CC Where the Matahina Hydroelectric Power Scheme is operated in accordance with conditions 28C and 28CA of this resource consent and:

a The consent holder has received a written request from the Chief Executive of the Bay of Plenty Regional Council (or delegate); and

b The written request is accompanied by proof that the Bay of Plenty Regional Council has notified the public and stakeholders of its request (including, but not limited to those parties listed in condition 53 of this resource consent and Fonterra Co-operative Group Limited) by letter and appropriate media release (in keeping with the obligations set out in condition 34A(a) and (b) of this resource consent)

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the consent holder shall operate the Matahina Hydroelectric Power Scheme so as to keep the flows in the Rangitaiki River low between Barn and 5pm on weekdays .

28CD The consent holder is only required to operate the Matahina Hydroelectric Power Scheme in accordance with condition 28CC of this resource consent:

a Where the consent holder has received the written request required by condition 28CC(a) of this resource consent at least seven (7) days in advance of the date on which the low flow regime is proposed to commence; and

b For a maximum of seven (7) days in each calendar year.

28CE For the purpose of condition 28CC of this resource consent, the term 'low' shall mean the lowest practicable flow that can be achieved without breaching the obligations and requirements of this resource consent.

28D For the purpose of conditions 28C and 28CA of this resource consent, the term '24-hour period' shall be from 12-midnight to 11.59 pm.

28E The maximum increase in generation discharge from the Matahina Power Station shall not exceed 97 cumecs per hour except during an under-frequency event and/or a flood event (where no maximum discharge increase restrictions apply).

28F The maximum decrease in generation discharge from the Matahina Power Station shall not exceed 30 cumecs per hour except during an under-frequency event and/or a flood event (where no maximum discharge decrease restrictions apply).

Periods of Normal Operation - Following the Implementation of the Modified Operating Regime

28G(a) Periods of Normal Operation prevail except where:

a operation of the Scheme has been compromised as a result of maintenance or a fault on any generator, associated control equipment or the transmission network; and/or

b manual control of any machine or associated equipment is required for scheme infrastructure maintenance, machine re-commissioning or testing purposes.

Under the above circumstances the consent holder will ensure that, as far as practicable, the discharges from the Matahina Dam will not drop below the consented discharge limits identified in the relevant operating condition (conditions 28C, 29, 30, 30A, and/or 30B depending on the inflow to Lake Matahina) during the period outside of 'Normal Operation' of the Dam. Further, the consent holder will take all reasonable steps to return the scheme to normal operation as soon as practicable.

The consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council, or delegate, within 72 hours of any such period of operation of the Matahina Dam that is outside of 'Normal Operation' as defined above.

28G Except as provided for by conditions 42 to 45 of this resource consent, the consent holder may operate the Matahina Hydroelectric Power Scheme in accordance with Conditions 29 to 33A of this resource consent when conditions 34A to 341, 41A, and 41E to 41F of this resource consent have been fully satisfied.

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29 Except as provided for by conditions 30, 30A and 30B of this resource consent, the consent holder shall ensure that a flow of not less than 35 cumecs is maintained in the Rangitaiki River, measured at the Te Teko flow recording site, at all times.

30 Subject to condition 30B, when inflows, when averaged over a 24-hour period, into Lake Matahina are less than 35 cumecs, the consent holder shall operate the Matahina Hydroelectric Power Scheme to ensure that the total discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway) equals, when averaged over a 24-hour period, the inflows into Lake Matahina.

30A Notwithstanding condition 30 and subject to condition 30B, the consent holder shall operate the Matahina Hydroelectric Power Scheme to ensure that when inflows, when averaged over a 24-hour period, into Lake Matahina are less than 35 cumecs but greater than 25 cumecs, the (instantaneous) flow in the Rangitaiki River, immediately downstream of the Matahina Dam, is not less than 25 cumecs.

30B Should the inflows, when averaged over a 24-hour period, into Lake Matahina fall below **25 cumecs**, the consent holder shall operate the Matahina Hydroelectric Power Scheme to ensure that the instantaneous flow in the Rangitaiki River, immediately downstream of the Matahina Hydroelectric Power Scheme equals the inflows (derived as an average of the inflows over the preceding day) into Lake Matahina. For the avoidance of doubt, the Matahina Hydroelectric Power Scheme may not 'peak' when the Scheme is being operated in accordance with this condition. The term ‘peak’ is defined as an increase in the discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway) to a constant flow for no less than 30 minutes followed by a subsequent decrease in the flow being discharged.

30C When the Matahina Hydroelectric Power Scheme is operated in accordance with conditions 30 and 30A of this resource consent, there shall be no more than one operating peak per 24- hour period. The operating peak shall not cause the total discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway), to increase by more than 15 cumecs above the discharge from the Dam that existed immediately prior to the operating peak commencing. The term ‘operating peak’ is defined as an increase in the discharge from the Matahina Dam (being a combination of discharges from the power station and over the spillway) to a constant flow for no less than 30 minutes followed by a subsequent decrease in the flow being discharged.

30D Notwithstanding condition 30B of this resource consent, the consent holder shall release water from the Matahina Dam to ensure a continuous flow of water is maintained into the Rangitaiki River, immediately downstream of the Matahina Hydroelectric Power Scheme, at all times.

30E Conditions 30B and 30C of this resource consent do not apply during an under-frequency event, where there is no restriction in the number or magnitude of any operating peaks.

31 For the purpose of conditions 30, 30A, 30B, 30C and 37(k) of this resource consent the terms '24-hour period' and 'preceding day' shall be measured from 12-midnight to 11.59pm.

31A Where the Matahina Hydroelectric Power Scheme is operated in accordance with conditions 30, 30A, 30B or 30C of this resource consent and:

a The consent holder has received a written request from the Chief Executive of the Bay of Plenty Regional Council (or delegate); and

b The written request is accompanied by proof that the Bay of Plenty Regional Council has notified the public and stakeholders of its request (including, but not limited to those parties listed in condition 53 of this resource consent and Fonterra Co-operative Group Limited), by letter and an appropriate media release (in keeping with the obligations set out in condition 34A(a) and (b) of this resource consent)

the consent holder shall operate the Matahina Hydroelectric Power Scheme so as to keep the flows in the Rangitaiki River low between 8am and 5pm on weekdays.

31B The consent holder is only required to operate the Matahina Hydroelectric Power Scheme in in accordance with condition 31A of this resource consent:

a Where the consent holder has received the written request required by condition 31A(a) of this resource consent at least seven (7) days in advance of the date on which the low flow regime is proposed to commence; and

b For a maximum of seven (7) days in each calendar year.

31C For the purpose of conditions 31A and 31B of this resource consent, the term 'low' shall mean the lowest practicable flow that can be achieved without breaching the obligations and requirements of this resource consent.

32 The maximum increase in generation discharge from the Matahina Power Station shall not exceed 97 cumecs per hour except during an under-frequency event and/or a flood event (where no maximum discharge increase restrictions apply).

33 The maximum decrease in generation discharge from the Matahina Power Station shall not exceed 30 cumecs per hour except during an under-frequency event and/or a flood event (where no maximum discharge decrease restrictions apply).

33A The consent holder shall operate the Matahina Power Station in accordance with the limits on the maximum generation outflow that are set out in **Appendix 10** of this resource consent, except when conditions 30 to 31C of this resource consent apply. When the Matahina Power Station is being operated in accordance with conditions 30 to 31C, the limits set out in **Appendix 10** do not apply.

Notification

34 Should:

a the maximum rates of increase and decrease required in conditions 28E, 28F, 32 and 33 of this resource consent be exceeded, or the peaking requirements set out in conditions 28CA, 30B and 30C be exceeded; as a consequence of an under-frequency event and/or flood event; or

b The operation of the Matahina Hydroelectric Power Scheme cause the obligations set out in conditions 28B to 28F, or 29 to 33A of this resource consent to not be achieved

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c the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council (or delegate) within 72 hours of either the under frequency event and/or flood event occurring or of the non compliance event occurring.

Modified Operating Regime Notification

34A Prior to the commencement of the modified operating regime set out within Conditions 29 to 33A of this resource consent the consent holder shall notify the public of the new operating regime and the manner in which it will alter the flows in the Rangitaiki River. Notification shall be made via:

a Letters to the Natural Hazards Group of the Bay of Plenty Regional Council, Te Runanga o Ngati Awa, New Zealand Jet Boating Association, the local branch of the Fish and Game Council, Horticulture New Zealand, the Bay of Plenty Province of Federated Farmers and the schools and marae listed in Appendix Seven of this resource consent; and

b A media release to boating and angling I fishing magazines including New Zealand Fishing News, New Zealand Fishing World, Fishing Magazine (on-line magazine), Boating New Zealand, Propeller Magazine and Trade-a-Boat New Zealand; and the regional newspapers including the Whakatane Beacon, Bay of Plenty Times, Rotorua Daily Post and Whakatane News; the local radio stations including 1XX in Whakatane; and

c The website of the consent holder; and

d Installing or amending signage advising recreation users of lake and river level variations at:

i Rototaha Road, at the main access to Lake Matahina recreation area;

ii The existing access to River at Matahina tailrace;

iii The State Highway 30 Bridge at Te Teko;

iv The State Highway 2 Bridge at Edgecumbe; and

v The rail bridge at Edgecumbe.

The consent holder shall seek permission from New Zealand Transport Agency and Kiwi Rail for the proposed signage on the SH30, SH2 and rail bridges. Permission will be sought for the following signs on these bridges:

i At the State Highway 30 bridge: Two signs (located high on two inner piles) will be sought, with one sign facing towards each of the two beaches (river right and left) for swimmers. A further sign will be sought high on a further pile. It shall face downstream so as to inform users and occupants of watercraft.

ii At the State Highway 2 and railway bridges: A downstream facing sign will be sought on both bridges. On the rail bridge, the sign will be placed so as to inform swimmers. On the State Highway 2 Bridge, the sign shall be placed so as to inform users and occupants of watercraft.

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Should the permissions from Kiwi Rail and/or the New Zealand Transport Authority not be forthcoming, the consent holder shall install stand-alone signs at suitable public riverbank locations.

34AA For the 3 years following commencement of the modified operating regime set out within Conditions 29 to 33A of this resource consent, the consent holder shall, annually within the week of the commencement of daylight savings and in the week prior to Christmas, remind the public of the modified operating regime and the manner in which it has altered the flows in the Rangitaiki River. The reminder shall be notified via:

a A media release published in regional newspapers including the Whakatane Beacon, Bay of Plenty Times, Rotorua Daily Post, and the Whakatane News, and the local radio stations, including 1XX in Whakatane, and provided to the schools and marae listed in **Appendix Seven** of this resource consent.

b Installing or amending signage advising recreation users of lake and river level variations at:

i Rototaha Road, at the main access to Lake Matahina recreation area;

ii The existing access to River at Matahina tailrace:

iii The State Highway 30 Bridge at Te Teko;

iv The State Highway 2 Bridge at Edgecumbe; and

v The rail bridge at Edgecumbe.

The consent holder shall seek permission from New Zealand Transport Agency and Kiwi Rail for the proposed signage on the SH30, SH2 and rail bridges. Permission will be sought for the following signs on these bridges:

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ii At the State Highway 2 and railway bridges: A downstream facing sign will be sought on both bridges. On the rail bridge, the sign will be placed so as to inform swimmers. On the State Highway 2 Bridge, the sign shall be placed so as to inform users and occupants of watercraft.

Should the permissions from Kiwi Rail and/or the New Zealand Transport Authority not be forthcoming, the consent holder shall install stand-alone signs at suitable public riverbank locations.

c The website of the consent holder.

Intake Modifications

34B The consent holder shall, prior to the commencement of the modified operating regime set out in conditions 29 to 33A of this resource consent, offer to implement the intake

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modifications that are summarised in the table attached to this resource consent as **Appendix 3(A).** The offers shall be made to the relevant intake owner. When finalising the intake modifications that are being offered, the consent holder is to propose measures that both minimise the need for substantive maintenance and repairs as a consequence of flood events and fresh flows. In this regard:

a The consent holder shall write to the intake owner informing them of their entitlement to the intake modifications. That correspondence shall inform the intake owner of their right to have the modifications carried out either prior to, or after the implementation of the modified operating regime set out in conditions 29 to 33A of this resource consent, and shall expressly state that the offer shall remain valid for 12 months following implementation of the modified operating regime.

b The consent holder shall wait at least three months for the intake owner to respond to the written offer required by Condition 34B(a) of this resource consent.

c Where any intake owner(s) do not respond to, or accept the written offer required by Condition 34B(a) of this resource consent, the consent holder shall not be obliged to carry out the modifications prior to implementation of the modified operating regime set out in conditions 29 to 33A of this resource consent, but shall, within two months of implementing the modified operating regime, repeat the written offer required by Condition 34B(a) of this resource consent and reconfirm that it remains valid for 12 months following implementation of the modified operating regime.

d Where any intake owner(s) accept the written offer required by Condition 34B(a) of this resource consent, the consent holder shall carry out the modifications at a practicable time agreed between the consent holder and the intake owner(s) provided that if a practicable time cannot be arranged within three months of any such acceptance the consent holder may proceed to implement the modified operating regime set out in conditions 29 to 33A of this resource consent.

34C In the event that:

a Any of the modifications undertaken in accordance with Condition 34B of this resource consent require a variation to an existing resource consent, or a new resource consent; and/or

b An existing take of water that is permitted under Rule 41 of the Bay of Plenty Regional Water and Land Plan requires a resource consent, as a consequence of the modified operating regime set out in conditions 29 to 33A of this resource consent

the variation or new consent shall be obtained by the consent holder (of this resource consent) prior to the implementation of the modified operating regime.

34D The consent holder shall prepare a report that documents:

a The offers and/or the modifications made to the intakes under Condition 34B of this resource consent ; and

b The resource consents/variations to existing resource consents that are required under Condition 34C and which have been secured.

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The report shall be submitted to the Chief Executive of the Bay of Plenty Regional Council (or delegate) for certification. The Chief Executive of the Bay of Plenty Regional Council (or delegate) shall only issue the certificate if he/she is satisfied that the offers have been made and/or the intakes have been modified in accordance with Condition 34B and the necessary resource consents/variations to existing resource consents required under Condition 34C have been secured.

34E The modified operating regime shall not commence until the Chief Executive of the Bay of Plenty Regional Council (or delegate) has issued his/her certificate under Condition 34D of this resource consent.

Downstream Abstractors Management Plan

34F The consent holder shall, prior to the commencement of the modified operating regime set out in conditions 29 to 33A of this resource consent, prepare a Downstream Abstractors Management Plan **('DAMP')** in respect of the modifications that have been carried out pursuant to Condition 34B of this resource consent. The DAMP shall be developed by a suitably qualified and experienced expert (or experts).

34G The DAMP shall:

a Describe the measures that have been installed, and/or modifications that have been made by the consent holder, in accordance with Condition 34B of this resource consent, to ensure the ongoing performance of the existing intakes following the implementation of the modified operating regime set out in conditions 29 to 33A of this resource consent. For the avoidance of doubt, the effect of activities or events I occurrences on the operation of the intakes that are not directly associated with the exercise of the modified operating regime are not the responsibility of the Consent Holder and therefore are not to be addressed in the DAMP.

b Establish a complaints and investigation process that is available for the owners of the existing intakes should they become concerned that the modified operating regime is adversely affecting the effective and efficient operation of their intake.

c Identifying a person (or persons) that can be contacted, at any time, by the owners of the existing intakes to discuss a concern(s) associated with the manner in which the modified operating regime set out in conditions 29 to 33A of this resource consent is affecting the operation of their intakes.

d Identify a toolbox of measures that can be implemented to rectify a problem (caused by the modified operating regime) with each intake that has been modified in accordance with Condition 34B of this resource consent.

e Identify a toolbox of measures that can be implemented to address the impact of a water supply being interrupted while Condition 34G(d) of this resource consent is being implemented (such as the temporary supply of water from an alternative source).

f Set out mediation and arbitration procedures for dealing with issues or disputes that arise in relation to the implementation adequacy and effectiveness of the additional measures specified in the Condition 34B and/or the DAMP.

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34H When preparing the DAMP required by conditions 34F and 34G of this resource consent, the consent holder shall consult with the owners of every intake that has been modified in accordance with Condition 34B of this resource consent. This shall include submitting a draft of the plan to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate).

341 The modified operating regime set out in conditions 29 to 33A of this resource consent shall not commence until the Chief Executive of the Bay of Plenty Regional Council (or delegate) has certified that the DAMP addresses the matters set out in conditions 34F to 34H of this resource consent

34J The consent holder shall, twelve months after the commencement of the modified operating regime, prepare an updated DAMP in respect of the modifications that have been carried out after commencement of the modified operating regime pursuant to Condition 34B of this resource consent. The requirements of Conditions 34F to 34H of this resource consent shall apply in respect of the updated DAMP in respect of all intake owners who were not encompassed in the DAMP first prepared in accordance with Condition 34F of this resource consent.

Intakes Exemption

34K Conditions 34B to 34J of this resource consent shall not apply in respect of any existing intake(s) if alternative arrangements are agreed by contractual obligation between the consent holder and the intake owner.

Definitions

35 For the purpose of Conditions 28CB, 30E, 32, 33 and 34 the term 'under frequency event' shall mean either;

a An interruption or reduction of electricity injected into the national grid, or

b An interruption or reduction of electricity injected from the HVDC link into the South Island HVDC injection point or the North Island HVDC injection point

where there is, within any 60-second period, an aggregate loss of electricity in excess of 60 megawatts.

36 For the purpose of Conditions 28E, 28F, 32, 33 and 34, the terms 'flood event' and 'flood Conditions' shall mean when (i) flows into Lake Matahina exceed 160 cumecs, and/or (ii) the water level in Lake Matahina is equal to, or exceeds 76.20 metres above Moturiki Datum.

Monitoring

37 The consent holder shall appoint an appropriately qualified independent expert (or experts) approved by the Chief Executive of the Bay of Plenty Regional Council (or delegate) to monitor the Rangitaiki River from the Matahina Dam to its mouth. The monitoring programs and the methodology to be employed in the monitoring are set out in (a) to (I). The purpose of the monitoring is to assess the effects of the consented operating regime on the environment. The consent holder shall ensure that best practice is adopted for the duration of this resource consent with regard to both the monitoring methodology employed to satisfy

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condition 37(a) to (l) and the reporting of the outcomes of the monitoring. The Chief Executive of the Bay of Plenty Regional Council (or delegate) may require the consent holder to adopt amended monitoring methodologies and/or report protocols to achieve this. To ensure that the monitoring methodology and reporting represents best practice, a description of it shall be submitted to the Chief Executive of the Bay of Plenty Regional Council (or delegate) for certification in advance of the monitoring commencing. The consent holder shall undertake the monitoring and reporting in accordance with the methodology and protocol certified by the Chief Executive of the Bay of Plenty Regional (or delegate), or as amended in accordance with the outcome of a review undertaken in under condition 67(v) of this resource consent.

a The consent holder shall survey 15 cross-sections at the sites identified on the Plan attached as **Appendix Three**, plus 2 new cross-sections at approximately 0.5 and 2.9km below the Dam. The first cross-section survey shall be completed within 12 months of the consent commencing. Subsequent surveys shall occur every five years thereafter, and within two months of any flood event exceeding 320 cumecs, as measured at the at Te Teko flow recording site.

b The consent holder shall implement a visual monitoring program that, as a minimum, requires:

    i An inspection of the Rangitaiki River, including the Key Recreation Sites set out in **Appendix Eight** of this resource consent, between the Matahina Dam and Edgecumbe by jet boat.

    ii Compilation of a photographic record of all of the Key Recreation Sites set out in **Appendix Eight** of this resource consent, erosion sites and eroded banks, located by GPS position, including a log of erosion type, length of erosion area, bank materials, and with repeat photographs over time of the same bank locations.

c The first visual monitoring survey conducted in accordance with condition 37(b) of this resource consent shall be completed within 12 months of the consent commencing, and continue annually for 3 years thereafter. Any additional monitoring shall be conducted within two months of any flood event exceeding 320 cumecs, as measured at the Te Teko flow recording site. The visual monitoring shall continue after the completion of the first three years of monitoring, at the same times as set out in condition 37(a) of this resource consent for the cross-section surveys.

d To the degree that is practicable, all erosion monitoring shall be conducted when the flow in the Rangitaiki River, as measured at the Te Teko flow recording site, is approximately 40 to 50 cumecs or less. The erosion hazard inventory and visual monitoring shall, if practicable, be undertaken in autumn or winter (when vegetation cover is minimal).

e A report on the monitoring undertaken in accordance with conditions 37(a) to 37(d) of this resource consent shall be presented to the Chief Executive of the Bay of Plenty Regional Council or delegate within 3 months of completion of the field work for each monitoring requirement. The report shall include:

    i Records of the flow in the river at the time of survey or monitoring, and the hydrological characteristics of flows that have occurred since the previous

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monitoring, both as a consequence of the operation of the Matahina Hydroelectric Power Scheme and of natural weather patterns.

ii A comparison with the results of the previous surveys or inspections. For the first monitoring event, the comparison shall be made against the report entitled "Matahina HEPS - Biennial Rangitaiki River Monitoring", prepared by Beca Infrastructure Limited - and dated 201O where relevant.

iii An assessment of the erosion that has occurred in the context of the hydrology of the intervening period and taking account of repair works undertaken.

iv An assessment of the erosion at, or in the immediate vicinity of the Key Recreation Sites set out in **Appendix Eight** of this resource consent.

f The effect of the operating regime(s) on aquatic flora and fauna is to be monitored. This monitoring programme shall be undertaken in accordance with **Appendix Four** and shall include:

i Weed bed and riparian vegetation health and coverage assessments; and

ii An assessment of macro-invertebrate abundance and diversity to quantify the importance of macrophytes to the invertebrate communities of the reach of the Rangitaiki River between the Matahina Dam and its mouth, and compare the invertebrate communities on the macrophytes to those on the non-vegetated gravels; and

iii The measurement of temperature and dissolved oxygen levels (concentration and percent saturation).

g The weed bed and riparian vegetation health/coverage, macro-invertebrate abundance/diversity monitoring required under Condition 37(f) shall be undertaken concurrently, and at a frequency and for the duration set out in Appendix Four of this resource consent.

h The temperature and dissolved oxygen level monitoring required under Condition 37(f)(iii) shall be undertaken:

i Immediately downstream of the Matahina Hydroelectric Power Scheme's tailrace; and

ii At the Te Teko flow recording site; and

iii Every 15 minutes over a period of 36 months from the commencement of the consent.

i The consent holder shall undertake an intercept survey of river users, with a count of total recreation use during the survey period using a methodology that allows comparison with the results of the 2007/08 river recreation survey (as set out in the report by Rob Greenaway & Associates entitled *'TrustPower Ltd, Matahina Hydro Electric Power Scheme Reconsenting, Recreation and Tourism Assessment'* and dated 05 May 2009) and the 2013 observation analysis (as set out in the report by Rob Greenaway & Associates entitled *'TrusfPower Ltd, Matahina Hydro Electric Power Scheme*

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Reconsenting, Review of February 2013 flows for recreation values and January 2013 use count of the lower Rangitaiki River and revised flow regime assessment' and dated April 2013). The survey shall be completed in late summer (being from the 15th of January to the 28th of February), following a period (of not less than a year) of Scheme operation that is in accordance with the modified operating regime set out within Conditions 29 to 33A of this resource consent.

j A report on the monitoring undertaken in accordance with condition 37(i) of this resource consent shall be presented to the Chief Executive of the Bay of Plenty Regional Council (or delegate) within 3 months of the completion of the fieldwork for the monitoring. The report shall include:

i A comparison with the results of the previous surveys or inspections. The comparison shall be against the 2007/08-river recreation survey and the 2013 observation analysis cited in condition 37(i).

ii An assessment of impact of the modified operating regime set out within Conditions 29 to 33A of this resource consent on the recreation use of the reach of the River from the Matahina Dam to its mouth. This assessment, which shall draw on the results of the monitoring undertaken in condition 37(i) of this resource consent, shall consider the need for further monitoring of the recreation use of the River (below the Matahina Dam) and shall make recommendations as to what (if any) additional monitoring is required to assess the impact of the modified operating regime on recreation use.

k The consent holder shall monitor the bacterial water quality of the Rangitaiki River, at the Matahina Dam tailrace, when :

i The inflows, averaged over a 24-hour period, into Lake Matahina are less than 35 cumecs; and

ii The circumstance set out in condition 37(k)(i) occurs between 1 November and 31 March.

l The monitoring required by condition 37(k) of this resource consent shall occur for the first two years following the commencement of the modified operating regime set out in conditions 29 to 33A of this resource consent, or until two separate data sets have been gathered for two separate calendar years. The monitoring shall be undertaken in accordance with the following requirements:

i Samples shall be collected at fortnightly intervals for as long as the circumstance set out in condition 37(k)(i) of this resource consent persists.

ii All samples collected shall be tested for Escherichia coli (E. coll). The time the sample is collected, and the river flow at the time of sampling (measured at both the Matahina Dam and the Te Teko flow recording site) shall also be recorded. All of the samples taken shall be analysed using a scientifically recognised method by a laboratory that is accredited for such a method.

iii To the extent practicable, the consent holder shall ensure that the sampling days coincide with bacterial water quality sampling undertaken by the Bay of Plenty Regional Council at the existing Te Teko bridge and the Thornton monitoring sites.

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iv The consent holder shall, annually for the duration of the monitoring, prepare a report setting out:

- The results of the monitoring conducted at the Matahina Dam tailrace monitoring site; and

- A comparison of the results for the Matahina Dam tailrace monitoring site with the results of the monitoring undertaken by the Bay of Plenty Regional Council at the Te Teko bridge and Thornton monitoring sites; and

- A comparison of the results of the monitoring (of all three monitoring sites) with the results that have been gathered over the preceding five (5) years; and

- How the monitoring results compare with the most applicable contact water quality standards or guidelines; and

- If the monitoring results show that the most applicable contact water quality standards or guidelines are not achieved, the likely cause(s) of this.

The report shall be provided to the Chief Executive of the Bay of Plenty Regional Council (or delegate) by the 31st of July. Copies of the annual reports shall also be forwarded to Te Runanga o Ngati Awa and the Whakatane District Council by the same date.

38 The consent holder shall provide reports detailing the results of the monitoring required under Conditions 37(f)(iii) and 37 (h) to the Chief Executive of the Bay of Plenty Regional Council or delegate within 39 months of the consent commencing. The consent holder shall provide a report detailing the results of the monitoring required under conditions 37(f)(i) and (ii), 37(g) and Appendix 4 of this resource consent within 3 months of the monitoring being completed.

39 In addition to the reporting requirements set out in Condition 38, the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council (or delegate) if the dissolved oxygen concentration at the Te Teko flow recording site is less than 80 percent. The notification shall be in writing and shall record the dissolved oxygen levels measured, and the duration that the dissolved oxygen concentration was less than 80 percent. The notification shall be made within 48 hours of the consent holder becoming aware of the dissolved oxygen concentrations being less than 80 percent.

40 In the event that monitoring conducted in accordance with conditions 16 to 19, 37(a), 37(b), and 37(c) of this resource consent identifies that a cultural and/or archaeological site (or sites) is damaged, modified or destroyed by events that are attributab le to the consented operating regimes (being the operating regimes enabled by **both** (i) conditions 28A to 28F of this resource consent, and (ii) conditions 29 to 33A of this resource consent) the consent holder shall advise the Chief Executive of the Bay of Plenty Regional Council or delegate within 48 hours of the consent holder being aware of the damage, modification or destruction. In such an event the following actions and subsequent mitigation shall be undertaken:

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a Within 48 hours of the consent holder being aware of the damage, modification or destruction, the consent holder shall advise Ngati Awa, Ngati Tuwha retoa and the New Zealand Historic Places Trust.

b Within 7 days of the consent holder being aware of the damage, modification or destruction, the consent holder shall commission a suitably qualified archaeologist to provide a report on the site, including advice from the appropriate Pukenga of Ngati Awa and NgatiTuwharetoa , and any recommended actions or mitigation measures.

c Within 7 days of the report required in accordance with Condition 40(b) being completed, the consent holder shall provide a copy of the report to Ngati Awa, Ngati Umutahi and Ngati Tuwharetoa for comment, allowing one month for a response. Upon receipt of any comments, the consent holder shall submit the report, and any comments received from Ngati Awa or Ngati Tuwharetoa to the Chief Executive of the Bay of Plenty Regional Council (or delegate) for review and certification.

d Within 7 days of the report required in accordance with Condition 40(b) being completed, the consent holder shall also provide a copy of the report to the New Zealand Historic Places Trust if it has been established that an archaeological site has been damaged.

41 Within 6 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council (or delegate) that the report required in Condition 40(c) adequately addresses environmental effects associated with the damage, destruction or modification, the consent holder shall implement any recommended actions or mitigation measures set out in the report.

Rangitaiki River Environmental Fund Trust

41A The consent holder shall, prior to the commencement of the modified operating regime set out within conditions 29 to 33A of this resource consent, prepare the necessary Trust Deed and Application to enable the incorporation of the Rangitaiki River Environmental Fund Trust, pursuant to the Charitable Trusts Act 1957. The Trust Deed shall give effect to the structure, charitable objects and approach set out in **Appendix Nine** to this resource consent, and shall be issued to the Chief Executive of the Bay of Plenty Regional Council for certification.

41B The consent holder shall (subject to all required signatories executing the Trust Deed and Application) apply for the Rangitaiki River Environmental Fund Trust to be incorporated within 1 month of receiving certification from the Chief Executive of the Bay of Plenty Regional Council (or delegate) that the Trust Deed submitted in accordance with condition 41A of this resource consent is consistent with, and achieves the requirements of condition 41A and **Appendix Nine**. Following the Rangitaiki River Environmental Fund Trust being incorporated, the consent holder shall apply for the Trust to be registered as a charitable entity pursuant to the Charities Act 2005.

41C The consent holder shall pay the Trust $60,000.00 within five working days of the Rangitaiki River Environmental Fund Trust being registered as a charitable entity.

41D The consent holder shall pay the Trust $40,000.00 on or before the first anniversary of the Trust being incorporated and, subject to the terms set out in Appendix Nine in

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relation to distributions being satisfied, every year for four years thereafter. This contribution shall be linked to, and annually adjusted in accordance with the Consumer Price Index.

41DD The consent holder shall pay the Trust $20,000.00 on or before the sixth anniversary of the Trust being incorporated and, subject to the terms set out in **Appendix Nine** in relation to distributions being satisfied, every year thereafter for the duration of this resource consent. This contribution shall be linked to, and annually adjusted in accordance with the Consumer Price Index.

Rangitaiki River Ecological Enhancement Investigation

41E In order to inform the activities of the Rangitaiki River Environmental Fund Trust and the activities of the public generally, the consent holder shall, prior to the commencement of the modified operating regime set out within conditions 29 to 33A of this resource consent, commission appropriately qualified and experienced independent experts in terrestrial and aquatic ecology to, working together:

a Identify the opportunities to enhance the riparian and river edge habitats of the reach of the Rangitaiki River between the Matahina Dam and its mouth, paying particular attention to the improvement of spawning habitat for inanga.

b Assess the practicability of all of the enhancement opportunities identified, and set out the potential ecological benefit of each opportunity.

c Rank the enhancement opportunities from least favoured to most favoured, and explain the rationale for the rankings that are assigned.

41F The report required by condition 41 E of this resource consent shall be submitted to the Chief Executive of the Bay of Plenty Regional Council (or delegate) within 12-months of this resource consent commencing.

41G When preparing the report required by Condition 41 E, the consent holder shall consult with Te Runanga o Ngati Awa, the Royal Forest and Bird Protection Society, the Bay of Plenty Regional Council (as consent authority), the Natural Hazards Group of the Bay of Plenty Regional Council and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate).

Flood Operating Conditions

42 When the Chief Executive of the Bay of Plenty Regional Council, or delegate, predicts a flood of 500 cumecs or more up to **forty eight hours** in advance of inflows into Lake Matahina exceeding 500 cumecs, the consent holder shall reduce the level of Lake Matahina so as to bring the lake level to no higher than 74.5m above Moturiki Datum at least 24 hours prior to the predicted time that inflow will exceed 500 cumecs.

42A When the Chief Executive of the Bay of Plenty Regional Council, or delegate, predicts a flood of 300 cumecs or more into Lake Matahina up to **twenty four hours** in advance

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of inflows exceeding 300 cumecs, the consent holder shall reduce the level of Lake Matahina so as to bring the lake level to no higher than 73.15 m above Moturiki Datum before inflows exceed 300 cumecs.

43 When the Chief Executive of the Bay of Plenty Regional Council, or delegate, predicts a flood of 500 cumecs or more up to **twenty four hours** in advance of inflows into Lake Matahina exceeding 500 cumecs, the consent holder shall reduce the level of Lake Matahina so as to bring the lake level to a level that is not higher than 71.6m and not lower than 70.00 m above Moturiki Datum before inflows exceed 500 cumecs.

43A The levels specified in conditions 42, 42A and 43 of this resource consent are not required to be met in the following circumstances:

a Where the Chief Executive of the Bay of Plenty Regional Council, or delegate, certifies (in writing) that it no longer predicts floods of the levels specified in conditions 42 to 43 of this resource consent; or

b Where the Chief Executive of the Bay of Plenty Regional Council, or delegate, certifies (in writing) that there are circumstances downstream of the Matahina Dam which mean that spilling of water from the Dam is not appropriate and/or the target lake levels cannot be reasonably reached in the time specified; or

c Where the Chief Executive of the Bay of Plenty Regional Council, or delegate, certifies (in writing) that there are special emergency circumstances (including flood management) applying and that the Extreme Minimum Reservoir Level should be lower than the 70.00 m (above Motouriki Datum) set in condition 6 of this resource consent. When this certification is provided, the Chief Executive of the Bay of Plenty Regional Council, or delegate, may also specify (in writing) what the new Extreme Minimum Reservoir Level shall be and how long it shall apply for. For the avoidance of doubt, the Consent Holder shall, as far as practicable, comply with the new Extreme Minimum Reservoir Level as if it were the Extreme Minimum Reservoir level set out in Condition 6.

44 Within three months of the commencement of the consent, the consent holder shall issue, for certification by the Chief Executive of the Bay of Plenty Regional Council or delegate, a flood management plan (**'the FMP'**). The FMP shall be in general accordance with the Draft Flood Management Plan, a copy of which is attached as **Appendix Five**, and shall include protocols in relation to flood management strategies and communication with the Natural Hazards Group of the Bay of Plenty Regional Councilto give effect to conditions 42, 42A and 43 of this resource consent. The Chief Executive (or delegate) shall only issue the certificate if he/she is satisfied that the FMP accords with the relevant obligations of this Resource Consent, the Building Act 2004 and the Building (Dam Safety) Regulations 2008, or any subsequent revisions to the Act. The Matahina Hydroelectric Power Scheme shall, subject to condition 45 of this resource consent and upon the FMP being certified by the Chief Executive or delegate, be operated in accordance with the FMP.

44A When preparing the FMP required by Condition 44, the consent holder shall consult with the Natural Hazards Group of the Bay of Plenty Regional Council (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate)). This shall include submitting a draft of the FMP to the Natural Hazards Group for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the

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Bay of Plenty Regional Council (or delegate) at the same time that it submits the FMP for certification.

45 The contents of the FMP shall be reviewed by the consent holder, within 12-months of the certificate being issued in accordance with Condition 44, and at least every 5-years thereafter. Any amendments arising out of the review shall not have effect until the Chief Executive of the Bay of Plenty Regional Council (or delegate) certifies that they accord with the relevant obligations of this Resource Consent, the Building Act 2004 and the Building (Dam Safety).

Regulations 2008, or any subsequent revisions to the Act. The Matahina Hydroelectric Power Scheme shall, upon the amended FMP being certified by the Chief Executive or delegate, be operated in accordance with the amended FMP.

45A When reviewing the FMP as required by Condition 45, the consent holder shall consult with the Natural Hazards Group of the Bay of Plenty Regional Council (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate)). This shall include submitting a draft of the revisions (of the FMP) to the Natural Hazards Group for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate) at the same time that it submits the revised FMP for certification.

Fish Passage

46 The consent holder shall facilitate the upstream passage of native fish species that currently arrive at the Matahina Dam face (targeting longfin eel, shortfin eel, koaro, banded kokopu, shortjaw kokopu and giant kokopu species and any other species considered appropriate by the Chief Executive of the Bay of Plenty Regional Council (or delegate) (the 'target species')) and downstream passage of adult eels past the Matahina Dam, the objective of which is to ensure that the Matahina Dam does not prevent the establishment and maintenance of diadromous native fish populations in the Rangitaiki River catchment upstream of the Matahina Dam.

47 Within 6 months of this consent commencing the consent holder shall have submitted a report, prepared by a suitably qualified independent expert(s), to the Chief Executive of the Bay of Plenty Regional Council (or delegate) that describes:

a The up and downstream fish passage systems that are practicable for use at the site, and the system that the consent holder will adopt to comply with Condition 46; and

b The programme of monitoring that will be undertaken to record the live fish (by number and species):

i Transferred upstream of the Matahina Dam, and

ii Observed achieving passage downstream of the Matahina Dam

to demonstrate whether the fish passage systems are assisting in the achievement of the objective set out in Condition 46, and to assess the effectiveness of the fish passage systems implemented; and

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c The targets (set in terms of numbers transferred and survivability) that are to be employed by the consent holder to measure the effectiveness of the fish passage systems and the contribution that their implementation is making to the achievement of the objective set out in Condition 46.

48 When preparing the report required by Condition 47, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, the Royal Forest and Bird Protection Society, the Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa , and Ngati Umutahi (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate).

49 The report required by Condition 47 shall be submitted to the Chief Executive of the Bay of Plenty Regional Council (or delegate) and must, as a minimum:

a For upstream passage:

i Set a target (or targets) for the effectiveness of the fish trap and transfer system and detail how the achievement of the target(s) will be monitored; and

ii Specify the period over which the fish trap and transfer system will be operated (this period will align with the peak migration period(s)) for the target species listed in Condition 46. The Consent Holder is to adopt a precautionary period of operation for the fish trap and transfer system until the Chief Executive of the Bay of Plenty Regional Council (or delegate) certifies that he/she is satisfied that the peak migration period is adequately defined; and

iii Specify the programme of monitoring that is to be undertaken to refine the peak migration period(s); and

iv Detail the design and location of the fish trap, the methodology to be used in the transfer of the live fish and specify the locations where the live fish will be transferred to and the reasons for the locations; and

v Specify the measures to be undertaken to enhance fish survival during the transfer and post release periods.

b For downstream passage:

i Set a target (or targets) for the effectiveness of the downstream adult eel passage system and detail how the achievement of the target(s) will be monitored; and

ii Describe the proposed downstream adult eel passage system, and detail the alternative options considered/assessed, the costs and benefits of each alternative and set out the reasons for recommending the proposed adult eel passage system.

50 Within 12 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council or delegate that the report required in Condition 47 addresses the matters set out in Conditions 47, 48 and 49 the consent holder shall implement the fish and adult eel passage systems and monitoring programmes recommended in the report.

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51 The consent holder shall annually report (on the anniversary of the commencement of this consent}, to the Chief Executive of the Bay of Plenty Regional Council (or delegate), on the work undertaken to comply with Condition 50 and the monitoring undertaken including:

a An estimate of the number of each species transferred upstream of the Matahina Dam and the location of their release; and

b An estimate of the number of adult eels that have passed downstream of the Matahina Dam; and

c Results of the monitoring conducted to assess the number of fish transferred and the 'survivability ' of the fish transferred upstream and downstream; and

d Any new knowledge and/or technology that has become available and which may assist in the achievement of the objective set out in Condition 46.

52 Within 3 years of this consent commencing the consent holder shall appoint a suitably qualified independent expert (or experts) to prepare and submit to the Chief Executive of the Bay of Plenty Regional Council (or delegate) a report that:

a Details the work and the outcomes of the monitoring that has been undertaken to comply with Conditions 46 to 51;

b Reports the contribution made by the upstream and downstream fish passage systems to the achievement of the objective set out in Condition 46;

c Assesses the effects of the Matahina Dam and Lake Matahina on fish and describes the benefits of the work that has been undertaken to maintain and enhance these populations; and

d Makes recommendations about mitigating the effects of the Matahina Dam and Lake Matahina on upstream fish populations, including:

i The species that should be targeted for any ongoing facilitation of passage;

ii Any changes to the programme that would help achieve the objective set out in Condition 46; and

iii Describing alternative measures and/or programmes for avoiding, remedying or mitigating the effects of impeding fish passage, in the event that the focus on facilitation of passage is shown to be unsuccessful in maintaining viable populations of the target species upstream of Lake Matahina.

53 When preparing the report required by Condition 52, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, the Royal Forest and Bird Protection Society, Ngati Tuwharetoa , and Ngati Umutahi, the Bay of Plenty Regional Council (as consent authority) and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council (or delegate).

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54 Within 6 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council or delegate that the report addresses the matters set out in Conditions 52 and 53, the consent holder shall implement the mitigation measures recommended in the report.

55 Where the consent holder has implemented additional mitigation measures in accordance with Condition 54, it shall repeat the monitoring and reporting requirements set out in conditions 49 to 54.

56 Notwithstanding Condition 55, the monitoring and reporting requirements set out in Conditions 51, 52 and 53 shall be repeated and reported to the Chief Executive of the Bay of Plenty Regional Council or delegate by the 31st of December in following years 2020, 2025, 2030, 2035, 2040 and 2045.

57 The consent holder shall provide final copies of all reports required by Conditions 47 to 56 to the Department of Conservation, Fish and Game New Zealand, the Royal Forest and Bird Protection Society, the Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi the Bay of Plenty Regional Council (as consent authority) and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council (or delegate).

Cooling Water Discharge

58 The maximum rate of discharge of water used for cooling purposes at the Matahina Dam Powerhouse to the Rangitaiki River shall not exceed 140 litres per second.

Maintenance Activities

59 The consent holder shall notify the Chief Executive of the Bay of Plenty Regional (or delegate) of its intention to carry out maintenance activities at the Matahina Hydroelectric Power Scheme that will disturb the bed of Lake Matahina and/or the Rangitaiki River at least 48 hours prior to the commencement of the activities. The notification shall be in writing and set out the nature of the proposed activities, their purpose and anticipated duration.

60 No contaminants (other than sediment) shall be released to the area of Rangitaiki River or Matahina Lakebed, beyond the area that is being worked, from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the Rangitaiki River or Matahina Lakebed. All equipment used in the maintenance activities undertaken by, or at the request of the consent holder shall be cleaned to the MPI Biosecurity didymo cleaning standards prior to, and following the work undertaken within the bed of Lake Matahina or the Rangitaiki River to minimise the prospect of aquatic pests being transferred into or from the Rangitaiki River catchment.

61 All material removed from a structure or from within the immediate vicinity of a structure, and all excess construction materials shall be removed from the river and/or lakebed within 7 days following the completion of the work. The consent holder shall ensure that any stockpiles of materials are located so that the materials cannot enter a water body and/or a watercourse .

62 Dewatering of any work site shall be for the minimum time necessary to undertake the work. If dewatering for more than 48 hours is expected to be necessary the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council (or delegate) before the work

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begins. The notification shall be in writing and shall describe the activity , its purpose and expected duration.

63 Maintenance activities undertaken in accordance with this consent shall not cause the flow of the Rangitaiki River to be less than 40 cubic metres per second immediately below the Matahina Hydroelectric Power Scheme, unless conditions 28C to 280 or 29 to 31C apply.

Relationship with Tangata Whenua

64 The consent holder shall, at least once per calendar year, convene a meeting with representatives of the Bay of Plenty Regional Council, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa and Ngati Umutahi, to discuss any matter relating to the exercise and monitoring of this consent.

65 The meeting required by Condition 64 need not occur if either (i) the tangata whenua parties listed in the Condition advise the Bay of Plenty Regional Council that the meeting is not required, or (ii) there is no response from all of the Tangata Whenua groups to an invitation from the consent holder to meet.

66 The consent holder shall keep minutes of the meetings held in accordance with Condition 64 and shall forward them to all attendees and to the Bay of Plenty Regional Council.

General Review

67 In accordance with section 129 of the Resource Management Act 1991, the Chief Executive of the Bay of Plenty Regional Council or delegate may serve notice of the intention to review, amend, delete or add to the conditions of this resource consent under section 128 of the Resource Management Act 1991 by giving a notice of review during the month of March 2015 and/or March 2016 and/or March 2019 and/or March 2024 and/or March 2029 and/or March 2034 and/or March 2039, for the purpose of:

i Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were not foreseen at the time the application was considered or which it is appropriate to deal with at a later stage.

ii Reviewing the effectiveness of the conditions in avoiding, remedying or mitigating adverse effects on the environment from the consent holder's activities (including, but not limited to) the effect of the Scheme on:

a The ecology of the river, including whether:

i The instantaneous minimum low flow of 25 cumecs set by Condition 30A; and/or

ii The use of 25 cumecs as a 'trigger' that requires action on the part of the consent holder (in accordance with condition 30B of this resource consent)

are appropriate, or if an alternative minimum flow and/or trigger or other mechanism are more appropriate when regard is had to the actual and potential ecological effects that occur as a consequence of the Matahina Hydroelectric Power Scheme operating in accordance with conditions 30A and 30B;

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b River bank erosion, including whether the ramping rates set out in conditions 28E, 28F, 32 and 33 and the minimum flow set out in condition 29 of this resource consent are set at appropriate levels; and/or

c Fish passage; and/or

d The effectiveness of public notification of the modified operating regime and the manner in which it alters the flows in the Rangitaiki River.

i Reviewing the percentages for calculating the contributions required by Condition 28 of this resource consent and-which are set out in both condition 28 and Appendix Six of this resource consent.

ii Reviewing the need for any ongoing monitoring of weed bed and riparian vegetation, macro-invertebrates, and temperature and dissolved oxygen in the Rangitaiki River below the Matahina dam.

iii Reviewing the adequacy of condition 37 of this resource consent to ensure that the monitoring and reporting is undertaken in accordance with current best practice.

68 In accordance with section 128(1)(b) of the Resource Management Act 1991, the Chief Executive of the Bay of Plenty Regional Council or delegate may serve notice of its intention to review, amend, delete or add to the Conditions of this resource consent for the purpose of ensuring that the Conditions reflect any instream minimum flow regime that is made operative in an applicable planning instrument.

69 The Chief Executive of the Bay of Plenty Regional Council or delegate may, within six months of the completion of any environmental investigation or compliance report carried out by the Regional Council, or on the receipt of monitoring results that show there is an adverse effect on the environment, serve notice on the consent holder under section 129 of the Resource Management Act 1991 of its intention to review the Conditions of this consent under section 128 of the Resource Management Act 1991.

70 All reasonable costs incurred by the Bay of Plenty Regional Council in undertaking a review of the consent under section 128 of the Resource Management Act 1991, as specified in Conditions 67 to 69 of this resource consent shall be borne by the consent holder.

Term

71 This consent shall expire on 31 August 2048.

ADVICE NOTE:

1 *There is no limit to the number of operating peaks allowed (per day) under this resource consent (other than as provided for in conditions 28CA, 30B and 30C).*

2 *Conditions 28 and 67(iii) are offered by the consent holder on an Augier basis, because this resource consent is granted pursuant to controlled activity rule 47C of the Regional Water & Land Plan (which does not reserve control over financial contributions). Accordingly, the consent holder cannot later assert that the conditions were unlawfully imposed. However, for the avoidance of doubt:*

- The Augier principle does not prevent TrustPower from making an application to change conditions 28 and/or 67(iii) (provided that its reasoning is not that the conditions were unlawfully imposed);

- Any review undertaken pursuant to condition 67(iii) may increase or decrease the percentages set out in both condition 28 and Appendix Six.

3 *At the date of granting of this resource consent, the methodology described in Appendix Six to this resource consent amounts to an annual contribution (pursuant to condition 28) of $78,287.00 (plus GST, if any).*

4 *Condition 28 defines the contributions to be taken towards the relevant costs of operating, maintaining and repairing the Rangitaiki- Tarawera River Scheme, for the purpose of addressing any downstream erosion effects associated with the operation of the Matahina Hydroelectric Power Scheme. The percentages set out in condition 28 are intended to reflect the degree of effect which the operation of the Matahina Hydroelectric Power Scheme might have on the bank erosion in the downstream reaches of the Rangitaiki River.*

5 *Condition 30B is to be applied in the following manner. Should the average inflow into Lake Matahina on day 1 equal 22 cumecs, the flow released from the Matahina Hydroelectric Power Scheme shall be kept at 22 cumecs on day 2. Should the average inflow into Lake Matahina drop to 21. 5 cumecs on day 2, the flow released from the Matahina Hydroelectric Power Scheme shall be kept at 21.5 cumecs on day 3. And so on.*

6 *The report required by conditions 41E to 41G of this resource consent is being funded by the consent holder to assist the Trust that is established by conditions 41A to 41DD of this resource consent to perform its functions or otherwise be a public resource. It is not carried out for the purpose of identifying projects that the consent holder might then be required to carry out.*

7 *(i) As at the date of the consent, there are two methods of measuring flow discharge from the power station, being via transducers installed in the penstocks of the Matahina Power Station, and the "water to wire" calculation. For the purpose of Condition 22(b) (and the related Condition 23), the penstock transducer flow meters will be the accepted method of measuring flow from the power station except where that method is unable to be used due to equipment Iplant failure, communications failure, or where scheme maintenance work is to be undertaken, in which case, the "water to wire" methodology will be used as a backstop measure until the penstock transducers can be reinstated. Note: these measurements do not include the flow of water from the Matahina Spillway.*

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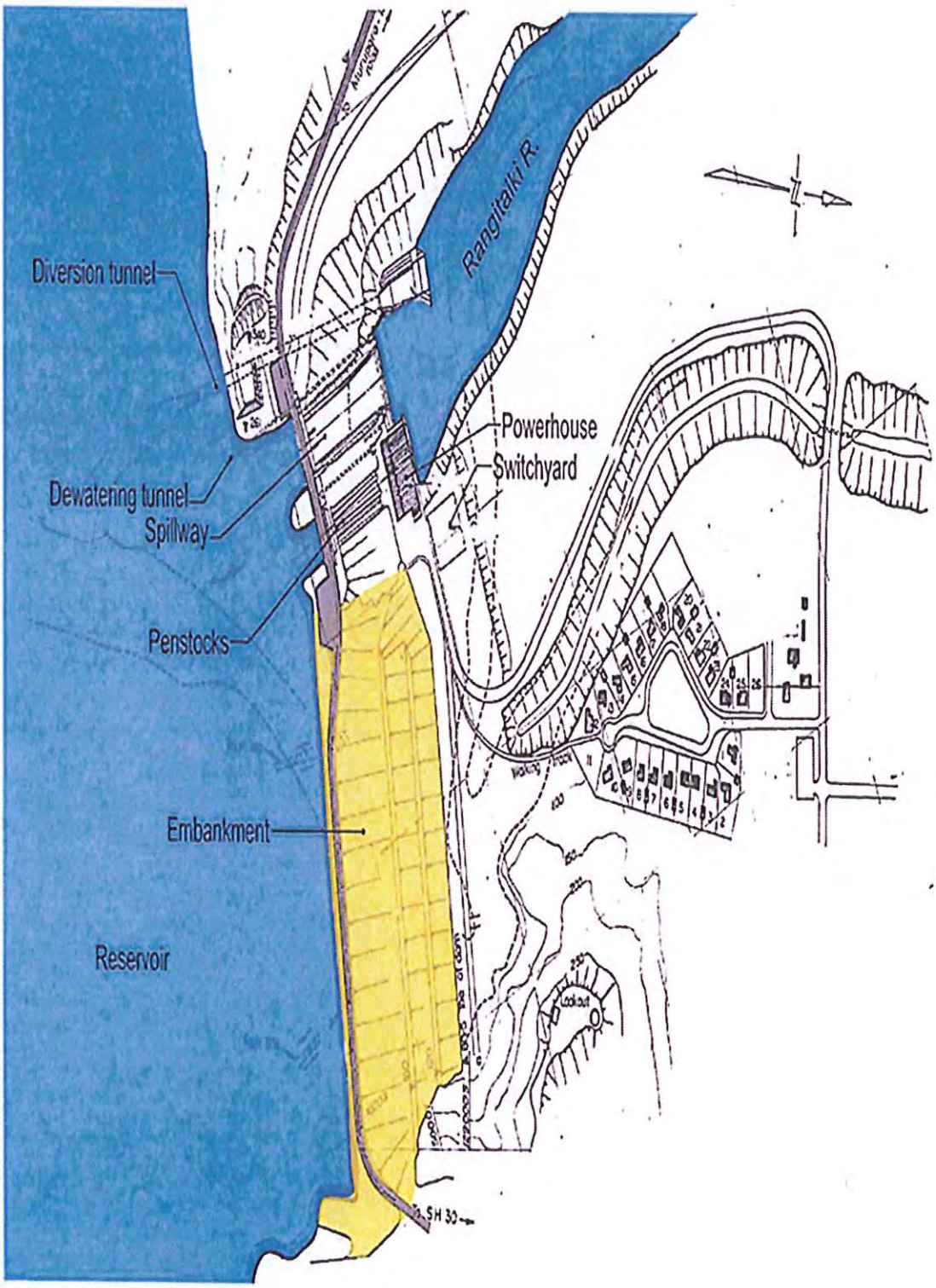
(ii) The consent holder shall notify the Chief Executive of the Regional Council, or a delegate, within 24 hours of any change in flow measurement methodology which exceeds 24 hours.

APPENDIX ONE – Matahina Hydroelectric Power Scheme Plans



Tonkin & Taylor
Environmental & Engineering Consultants

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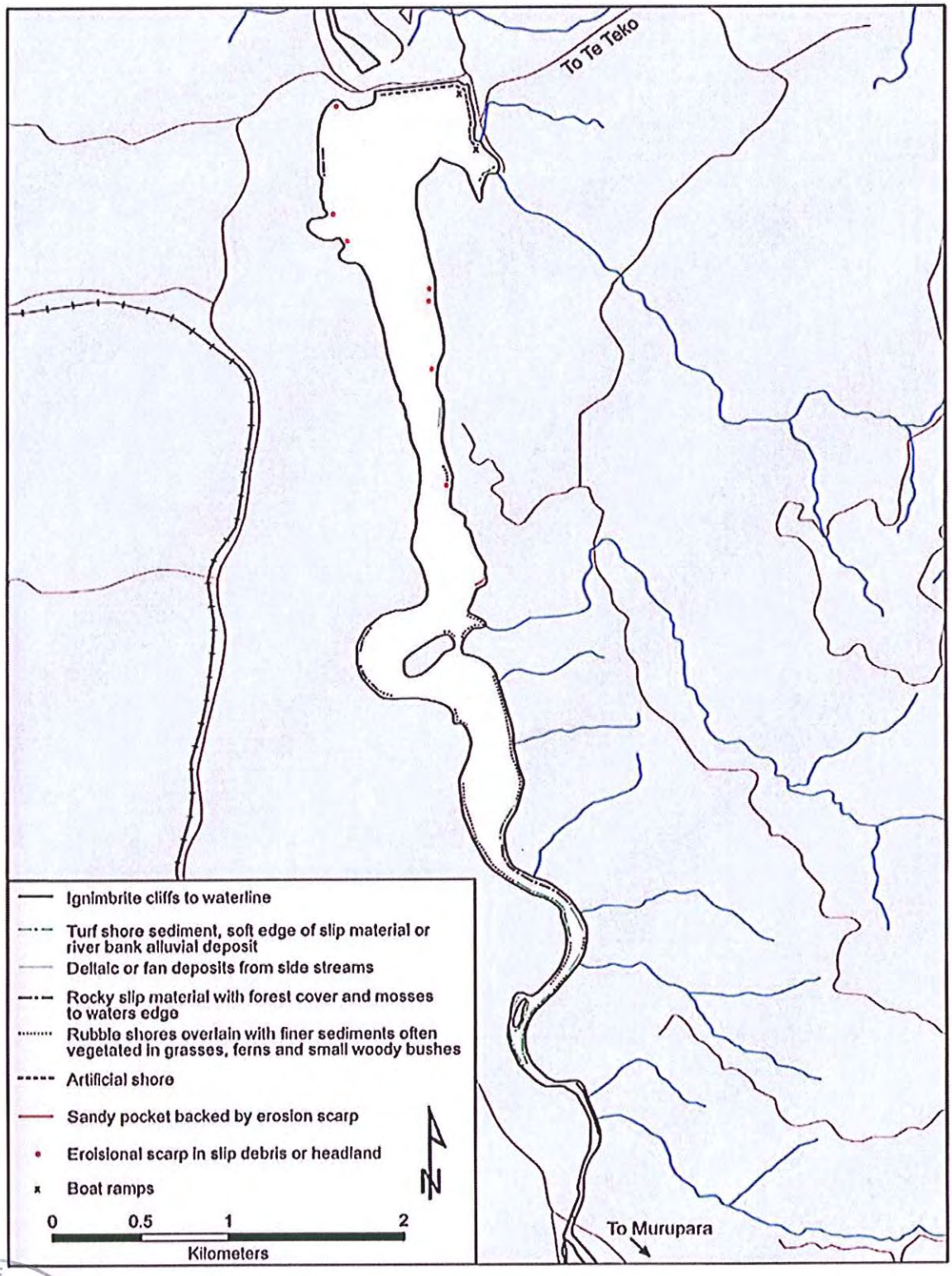
APPENDIX TWO – Lake Matahina Shoreline Erosion Sites



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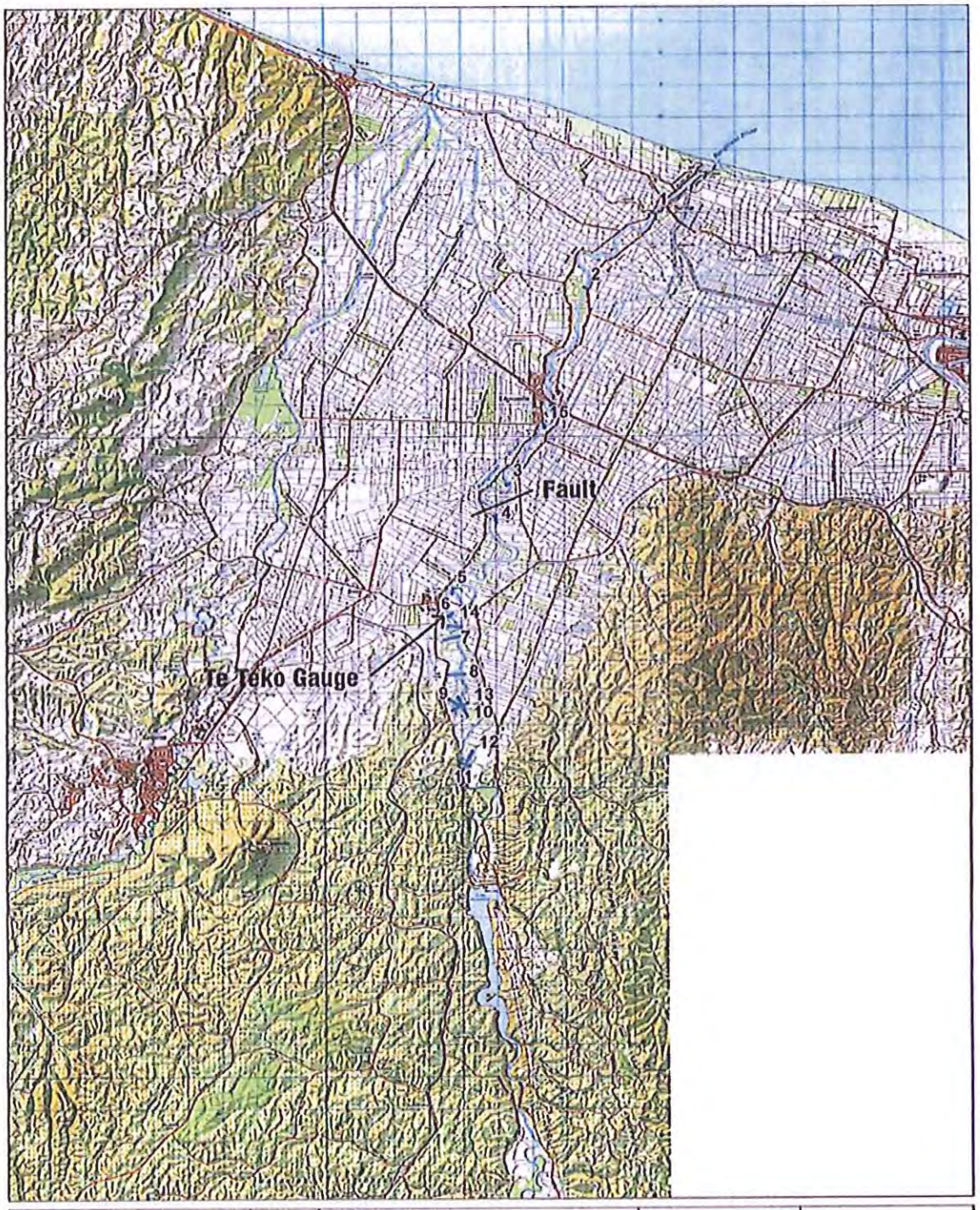
APPENDIX THREE – Erosion Monitoring Cross-section Locations



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N

Lake Matahina and the lower Rangitaiki River

Legend

Erosion Monitoring Sites

Beca

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APPENDIX 3(A) - Water supply intakes: Mitigation proposed

Distance (km)	Name	Assessment	Proposed Arrangement
36.6	River mouth		
34.5 R	Hammond WT02a	Stock water. Intermittent salinity risk.	Salinity cut-off on pump, additional storage tank.
34.5 R	Noord WT02b	Stock water. Intermittent salinity risk.	Salinity cut-off on pump, storage tank.
34.5	Thornton Bridge		
34.5 L	Vierboom WT03	Stockwater. Intermittent salinity risk.	Salinity cut-off on pump, storage tank.
33.5 L	Unknown WT04	Intermittent salinity risk. Intake fixed to bed. Could not be located 2013.	May need upgrade to floating intake.
33.4 L	Lyell 21008	Orchard. Intermittent salinity risk. Intake pipe not located 2013. Salinity risk already managed by abstractor.	No mitigation needed.
32.0 L	Checkley / Steele WT16	Stock water. Possible intermittent salinity risk. Not installed at time of 2009/10 assessment, not located 2013.	No action proposed.
30.6 L	Gow 21224	Irrigation. Weed infestation. Could not approach (2013) – may be in shallow water.	Extend intake pipe 3m to deeper water.
29.8L	Kinvig 21063b	Re-locatable intake. Not in use (and removed) during investigation 2013. Water levels could be an issue.	Extend intake pipe by 5m.

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29.8 L	Kinvig 21063a	Irrigation / frost. Water level risk. Intake could not be reached from river.	Extend suction pipes into deeper water.
29.8 L	Leaming 21852	Irrigation. Possible water level risk. Abstractor may have mitigation in place, and (2013) did not express concern about low river levels.	No action proposed
29.6 R	Langdon WT05	Stock water. Water level risk, but observed operating at low flow in 2013, although abstractor alerted authorities regarding lack of water in sump.	Lower sump rim.
29.5 L	A. Schlepers 21703	Irrigation / frost. Appears to be OK.	No improvements required.
29.2 L	J. Schlepers 65921 / WT07	Irrigation / frost. Recurrent historical issues, to be remedied by abstractor.	No improvements required.
28.6 L	Ruiter 66363	Irrigation / frost. Appears to be OK.	No improvements required.
28.3 R	Law WT08	Stockwater. Recently upgraded by abstractor.	No improvements required.
27.2 R	Unknown WT09	Intake could not be reached 2013. Possible water level risk. Fixed intake.	Extend suction pipe into deeper water.
25.5 R	Fonterra 62000	Industrial. Water level risk. Reportedly designed to $35m^3/s$.	Addressed by agreement between TrustPower and Fonterra.
25.3	Edgecumbe Bridge		
24.6 R	McCracken 66213 / WT21?	Irrigation / stock water. New pumps and floatation device installed.	No improvements needed. Consent numbers need to be confirmed.

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24.2 L	Harvey 21923	Irrigation. Water level risk. Pipework lying on recent rock protection resulting in floatation device being held above water (2013).	Extend pipework and locate clear of rock protection.
23.5 R	Unknown WT11	Water level risk (based on previous information). Could not get close (2013).	Extend suction pipe into deeper water.
23.3 L	Unknown WT12	Appears to be OK, but needs confirmation.	Extend intake pipe into deeper water.
22.3 L	Campbell WT13	Stock water. Water level risk. Potential intake air entrainment problems.	Extend protection pipe, discharge pipe and cable into deeper water.
21.5 R	Unknown WT14	Appears to be OK.	No improvements needed.
19.5	Earthquake fault		
18.6 L	Singh 65515 / WT15	Irrigation / frost. Water level risk. Site very different to previous work, not located 2013. Owner extended pipe in 2010.	No improvements needed.
18.0 R	Ngati Awa 65821(?) 60427 (?)	Irrigation. Appears to be OK 2013.	No improvements needed.
16.8 R	Martin 63177	Irrigation / frost. Water level risk.	Extend suction pipe cable and screen into deeper water.
15.7 R	Manson 20967	Irrigation. Water level risk. Potential intake vortex problems.	Extend steel pipe to lower screen into deeper water.
15.7 R	Walker / Massey 62566	Irrigation / frost. Already upgraded by abstractor.	No improvements needed.
12.5	Te Teko Bridge		
12.1 L	Hudson 64967	Irrigation / frost. Risk of air entrainment when pumping.	Extend suction pipes into deeper water.
12.0 L	Unknown WT20	Risk of air entrainment when pumping.	Extend suction pipe deeper into water.

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Notes to Table:

1. WT*x* denotes permitted take number. The 5 digit number signifies consent number.

2. Distances are from the Matahina Dam. River mouth is at 36.6 on this measure. L and R identify true left and true right banks respectively.

3. The first three sites are at Thornton bridge.

The sites potentially affected by salinity are those at distances greater than 31.5 km.

APPENDIX FOUR – Ecological Monitoring Plan

1. Objectives

i. To assess the reduction in cover of submerged macrophytes in shallow gravel areas that are likely to become exposed during times when inflows into Lake Matahina are less than 35m^3/s (that is, when the rough running range is being implemented);

ii. To qualitatively predict and comment on any likely consequences to invertebrate communities arising from a loss of macrophyte cover.

2. Methodology

2.1 Macrophytes

The consent holder shall engage a suitably qualified expert (or experts) to survey aquatic macrophytes at the beginning of summer, with a follow-up survey in early or mid autumn.

The sites to be surveyed are the cross-section locations listed by Jowett (2013).[1] The expert(s) is to select cross sections at each location that are either unaffected by low flows (due to their channel morphology) or that contain shallow gravel areas that were predicted to become exposed at low flows. These latter cross sections will include a selection of cross sections above Te Teko numbered 1, 2, 9, 13 and 14 in the Jowett (2013) report, and sites between Te Teko and Edgecumbe numbered 2, 3, 5 to 8, 13, 18 and 19.

The expert(s) shall survey:

i. Eight cross sections above Te Teko, four of which shall have shallow areas that are potentially affected, and four areas that are not potentially affected.

ii. 10 cross sections between Te Teko and Edgecumbe, five of which shall have shallow areas that are potentially affected, and five areas that are not potentially affected.

At each cross-section, the expert(s) shall measure the percentage cover and height of all macrophytes, identifying plants to species, and assigning them to status of submerged or emergent.

The surveys are to be undertaken during times of low flows only, and preferably during times when flows at Te Teko (as measured at the Te Teko flow recording site) are 40 m^3/s or less. The initial surveys are to be undertaken in November to December each year (to minimise the chance of sustained low flows having occurred), and repeated again in April to May of the following year to quantify changes to macrophyte communities arising from either natural seasonal differences (in the case where flows at Te Teko never went below 35 m^3/s), or changes due to the lower flow regime (in the case where flows at Te Teko were taken below this 35m^3/s minimum).

The surveys shall include at least two years when inflows into Lake Matahina are greater than 35 m^3/s and when the instantaneous minimum flow at Te Teko (as measured at the Te Teko flow recording site) has been held at 35 m^3/s (to understand natural changes in cover), and two years when inflows into Lake Matahina are less than 35 m^3/s, to assess the effect of the bottom end of the rough running range (approximately 25 m^3/s at the dam or approximately 29 to 30 m^3/s at Te Teko).[2] In this way, a detailed assessment can be made to determine whether low flows below the dam (as a result of low inflows into Lake Matahina) and the operating regime (to avoid the rough running regime) results in significant macrophyte 'die off' from shallow gravel areas.

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[1] Jowett, I.G. 2013. Matahina Hydro-electric Power Scheme: Assessment of Minimum Flow. Prepared for Hobec on behalf of TrustPower Limited. Client Report IJ1218.

[2] The intent is to undertake surveys when the daily low flows are regularly at 35 cumecs, accepting that in practice flows will exceed this value due to operation of the Matahina Hydroelectric Power Scheme. While the methodology for the surveys will be submitted to the Council for certification in accordance with condition 37 of this resource consent, it (the methodology) will provide guidance as to when the survey's should be undertaken, and for how long. Such a requirement could be that the surveys occur, to the extent practicable:

a. Following a 2 to 3 week period when the daily minimum instantaneous flow at Te Teko is at or near 35 cumecs,
b. No sooner than 6 weeks after a flood event, and
c. Be undertaken at the times of year as specified in Appendix 4 (November to December or April to May).

The assessments shall include an analysis of time the Rangitaiki River (as measured at the Te Teko flow monitoring site) spent at low flows from two months prior to the first survey and to the end of the second survey.

To satisfy clause 2.1 of this appendix, not less than four separate surveys must be undertaken and reported to the Bay of Plenty Regional Council.

2.2 Macroinvertebrates

Prior to the implementation of the modified operating regime set out in conditions 29 to 33A of this resource consent, the consent holder shall engage a suitably qualified expert (or experts) to quantify the importance of macrophytes to invertebrate communities of the lower Rangitaiki River, and compare the invertebrate communities on macrophytes to those on non-vegetated gravels. The survey shall be undertaken using appropriate quantitative sampling methods to properly characterise the invertebrate communities in macrophytes and stony gravel areas on a density/m^2 basis, so that any ecological effects of an observed reduction in macrophyte cover can be put into an ecological perspective. (**Note:** Density /m^2 basis refers to the numerical density per aerial m^2 of macrophyte habitat versus gravel habitat, and NOT the surface area of individual macrophyte stems).

Sites to be surveyed are to include a selection cross sections assessed by Jowett (2013) and listed in clause 2.1 above.

The expert shall survey:

i. Eight cross sections above Te Teko, four of which have shallow areas that are potentially affected, and four that are not potentially affected.

ii. Ten cross sections between Te Teko and Edgecumbe, five of which are potentially affected, and five that are not potentially affected.

Sampling details and methodology of both the macrophyte and invertebrate surveys to be agreed in consultation with appropriate staff from Bay of Plenty Regional Council.

3. Outcomes

i. The expert(s) shall annually, for the duration of the monitoring (where the phrase 'duration of the monitoring' means the time is that needed to satisfy clauses 2.1 and 2.2 of this appendix), prepare reports detailing the results and interpretations of the surveys required by clauses 2.1 and 2.2 of this appendix.

ii. The reports required by clause 3(i) of this appendix shall be forwarded to Bay of Plenty Regional Council by the 30th of June following the completion of each April to May survey.

iii. If the surveys undertaken in clause 2.1 of this appendix determine that macrophyte cover in shallow areas is reduced by 20% (or more) under flows experienced at the bottom end of the rough running range (approximately 25 m^3/s at the dam), the consent holder shall commission an investigation within 1 month of Clause 3(i) of this Appendix being satisfied, to determine whether:

   a. The instantaneous minimum low flow of 25 cumecs set by Condition 30A; and/or

   b. The use of 25 cumecs as a 'trigger' that requires action on the part of the consent holder (in accordance with condition 30B of this resource consent)

   are appropriate, or if an alternative minimum flow and/or trigger and/or other mechanism are more appropriate when regard is had to the actual and potential ecological effects that occur as a consequence of the Matahina Hydroelectric Power Scheme operating in accordance with conditions 30A and 30B.

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APPENDIX FIVE – Flood Management Plan

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APPENDIX FIVE – Draft Lake Matahina Flood Management Plan

Lake Matahina Flood Management Plan

TrustPower Limited
October 2011

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1. Introduction

1.1 History

The Matahina Hydroelectric Power Scheme ('Matahina HEPS' or the 'Scheme') is located on the Rangitaiki River and was constructed in 1967. TrustPower purchased the Scheme from the Electricity Corporation of New Zealand in 1999.

The Matahina Dam is approximately 80 metres high and impounds Lake Matahina. The Lake is some 6km long, has a surface area of approximately 2.5km^2, and a volume of approximately 55,000,000m^3. The Scheme's spillway operates during floods; when inflows exceed the capacity of the Scheme and Lake Matahina is full; or when the powerhouse is not, or cannot, operate, or when Bay of Plenty Regional Council (BOPRC) request lowering of the dam in advance of anticipated floods. The spillway has a capacity of 2300 cumecs, which is well in excess of the downstream Rangitaiki-Tarawera Rivers Flood Protection Scheme ("RTRFPS") capacity, which is intended to be upgraded to a design inflow of approximately 800m3/s.

The main purpose of the Matahina Dam is to store water for the Matahina HEPS. The dam is not primarily for flood control purposes, although its presence has significantly reduced the frequency and magnitude and severity of small to medium floods in the Rangitaiki Plains and as such has a positive influence on downstream flood effects. The intention of this flood management plan is therefore to provide ongoing guidance to the boundaries of co-operation within which BOPRC and TPL can work within while optimising the storage and reducing the impacts on downstream "RTRFPS" during floods.

The Matahina HEPS gained new resource consents as part of a reconsenting process during 2011. The new consents stipulate that within three months of the commencement of the consent, the consent holder shall, following consultation with the Environmental Hazards Group of the Bay of Plenty Regional Council, issue, for certification by the Chief Executive of the Bay of Plenty Regional Council, a flood management plan (**'the FMP'**). The FMP shall be in general accordance with the Draft Flood Management Plan, a copy of which is attached as **Appendix Five**, and shall include protocols in relation to flood management strategies and communication with the Environmental Hazards Group of the Bay of Plenty Regional Council to give effect to Conditions 42 and 43. The Chief Executive shall only issue the certificate if he/she is satisfied that the FMP accords with the relevant obligations of this Resource Consent, the Building Act 2004 and the Building (Dam Safety) Regulations 2008, or any subsequent revisions to the Act. The Matahina Hydroelectric Power Scheme shall, subject to Condition 45 and upon the FMP being certified by the Chief Executive, be operated in accordance with the FMP This flood management plan has therefore been prepared in accordance with resource consent 65750.

For the purposes of implementing the Flood Management Plan, the Chief Executive of BOPRC may delegate their authority to BOPRC's Environmental Hazards Group Manager, Operations Manager, Engineering Manager, or Duty Flood Manager.

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1. Objective and Application

The objective of this document is to set operating guidelines and procedures in order to provide a balance between TrustPower's needs for the controlled discharge of floodwaters from the Matahina Dam such that the effect of the discharge is kept to a practicable minimum and the integrity of the Matahina Dam structure is maintained, and BOPRC's main interests to provide flood protection to the community, and minimising damage to the "RTRFPS".

The procedures set in this document will normally be observed and applied by TrustPower. However, action to be taken or procedures to be followed will also be influenced by the conditions applicable at the time.

In the event of flood conditions, TrustPower will maintain close liaison with BOPRC and consult on action to be taken. Where the community downstream is at risk, TrustPower is committed to undertake reasonable requests by BOPRC, such as lowering water levels behind the dam. However, where dam safety is jeopardised, the final decision will remain TrustPower's and action other than in accordance with this document cannot be precluded.

Bay of Plenty Regional Council (as Group Controller for the Civil Defence Group Emergency Operations Centre) has overall responsibility for coordinating regional response to flood events, which includes warnings to the public in the affected areas.

When a flood is forecasted, **TrustPower and BOPRC** (and where appropriate other river users) agree to work collaboratively to manage the impending flood event. For the purpose of this plan, floods have been separated into minor and major flood events, a major flood being an event where the peak inflow is forecast to exceed 500m^3/s.

Where a major flood is forecast the Matahina HEPS will be operated to maximise available storage provided such operation does not induce dam safety risks or place public safety at risk.

Where a minor flood is forecast the Matahina HEPS will be operated to maximise flow capture for the purpose of attenuating flood discharge and maximising generation.

2. Lake Management

Management of Lake Matahina levels requires a balance between ensuring adequate water storage to meet generating requirements and minimising the need to spill water during flood events. Such spillage is not in the interest of TrustPower as it represents wasted energy, in addition to the potential for downstream flooding. Management procedures over the years have ensured that few spillages have occurred.

The resource consent conditions regulating the operation of the Scheme during floods, particularly those that exceed 500 cumecs, are aimed at employing the Matahina HEPS to provide some attenuation of the downstream environment (wherever practicable), and to preserve the integrity of the "RTRFPS".

Due to the relatively limited storage capacity of the Dam, containing large floods is not possible, and flood management becomes focussed on optimising the available storage and reducing the effects of the flood peak. Discussions with BOPRC may allow the timing of spillage to account for issues within the "RTRFPS" and community at risk. For example, accounting for the water travel time from dam to Te Teko timing of peak spill discharges with low tides and during daylight hours would be optimal.

3. Review

The Lake Matahina Flood Management Plan will be reviewed by both parties regularly and at least every five years, and may be amended, following approval in writing from BOPRC, in order to better provide for the following objectives:

a) Compliance with resource consent conditions.

b) Continual flood preparedness.

c) Monitoring and control during the rise, peak and fall of floods.

d) The provision, use and restoration of flood storage capacity in Lake Matahina.

4. Operating Guidelines and Procedures

The following section describes the information available to guide decision making during flood events. Nothing in this section is intended to exclude other forms of data, warning systems or forecasting methods that may be available or developed in the future. Figure 1 and 2 below demonstrates how the various sources of information are used in the flood management decision process for the Matahina HEPS.

5.1 Rainfall Forecasting

Rainfall forecasting will utilise information from sources such as; established meteorological models, extreme weather warnings, satellite maps and where practicable rainfall radar information to provide advanced warning of flood events.

5.2 Flood Forecasting

A flood forecasting system shall be maintained by either (both) BOPRC and / or TrustPower Ltd and utilised in a collaborative manner. The forecasting system will, in conjunction with rainfall forecasts and direct hydrological monitoring, help inform flood management decisions.

5.3 Hydrological Monitoring

TrustPower and BOPRC operate a number of river flow and rainfall gauges in the Rangitaiki Catchment. These are listed below in Table 1. These sites provide real time verification of rainfall and flood forecasts and allow for a finer resolution of flood management once the flood is underway.

5.4 Scheme Inflow

Real time inflows into Lake Matahina are primarily calculated using data from upstream river flow sites. Flows from the Aniwhenua and Waihua (x 2) gauges provide a close approximation to actual lake inflow. Gauges further up the catchment provide details on separate sub-catchment yields which allow greater advanced warning on rising flood flows. These flows are displayed in CITECT (the operational software) and monitored by the staff manning the 24hr operation centre based at Te Maunga and the site staff located at the dam. As a cross check TPL use a volumetric calculation using lake level and rate of change over a 24hr rolling period (updated every 15mins).

5.5 Data and Information Share

Except as required by condition of resource consent, real time data, recorded by either party, will be made available to the other party for flood management purposes. When a flood is not forecast it is agreed that such data will remain confidential to both parties.
Data such as machine output and lake level is commercially sensitive to TrustPower during normal operating conditions. It is agreed therefore that this data will only be provided in real time once a flood has been forecasted.

5.6 Dam Operation - All Flood

a. Trustpower shall advise the Chief Executive of BOPRC if it is proposed, as a consequence of a flood event, to increase the level of Lake Matahina above RL 76.2 metres (max control level). In all but exceptional circumstances, this advice shall occur in advance of the lake level exceeding 76.2 metres.

b. In all except emergency situations the level of Lake Matahina shall not exceed RL 76.8 metres (design flood level).

c. The maximum rate of discharge shall not exceed 600 m^3/s provided that the rate may be increased to 755 m^3/s with the agreement of the Chief Executive of BOPRC when the lake is rising so rapidly that it will exceed its maximum level

d. Lake Lowering – The maximum rate of lake drawdown shall not exceed 0.3 m per hour except where inflow to Lake Matahina is forecast to exceed 300m^3/s within the next 12 hours whereby, on agreement with BOPRC, a drawdown rate of up to 0.5m per hour may be used.

e. At all times when the lake level is being drawn down, total discharge shall not exceed 500 m^3/s unless it has been agreed to increase drawdown to 0.5m per hour in which case the maximum discharge can be increased to 600m^3/s. The maximum rate of increase in outflow shall not exceed 70 m^3/s per 15 minutes.

f. Lake Filling – The maximum rate of river level drawdown shall not exceed 1.2m per 8 hours at the tailrace of the dam. Drawdown to such a maximum may be made in a period of 30 minutes, provided the outflow is kept constant for the following 7.5 hours.

g. More detailed instructions in relation to the main stages of flood management are provided in Figure 1 below. Figure 2 demonstrates the process for estimating minor or major flood flows.

5.7 Dam Operation - Minor Floods (< 500m^3/s)

a. Where a minor flood is forecast to exceed 300m^3/s lake drawdown will be managed by TrustPower such that the lake level will be below RL 74.60 (ie within the bottom half of the normal operating range) at least 12 hours before inflow is expected to exceed 300m^3/s.

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b. The minimum lake level will be RL 73.15 unless it is agreed with BOPRC that it is necessary to reduce the level further. The absolute minimum level during a minor event will be RL 71.60.

c. Trustpower shall advise the Chief Executive of BOPRC of the proposed lake drawdown strategy in advance of flood flows arriving at Lake Matahina.

5.8 Dam Operation – Major Floods

a. When a major flood is forecast, TrustPower shall, following a request from BOPRC or as part of TrustPower's own flood management purposes, provide storage in Lake Matahina.

b. Where a major flood is forecast, lake drawdown will be managed by TrustPower such that the lake level will be below RL 74.15 (i.e. within the bottom third of the normal operating range) at least 24 hours before inflow is forecast to exceed 300m^3/s.

c. Where inflow is forecast to exceed 500 m^3/s within the next 24 hours, lake drawdown will be managed by TrustPower to be below RL 72.25 (i.e. mid-point of extreme range) at least 12 hours before inflow is forecast to exceed 300 m^3/s.

d. Where inflow is forecast to exceed 500 m^3/s within the next 12 hours, lake drawdown will be managed by TrustPower to be as close as practicable to RL 71.60 (ie generation minimum range) before inflow exceeds 300 m^3/s.

e. If a major flood is forecast the minimum lake level will be RL 71.60 unless it is agreed that it is necessary to reduce the level further. The absolute minimum level will be RL 70.0. Drawdown below RL 71.6 will only be undertaken where there is high certainty that the forecast flood will be a major event. It is noted that drawdown below RL 71.6 can only be achieved through spill.

f. TrustPower shall not however, lower the lake level such that it falls below 71.6 metres (Moturiki Datum) without the prior approval of the Chief Executive of BOPRC.

g. Trustpower shall advise the Chief Executive of BOPRC of the proposed lake drawdown strategy, and provide regular updates, in advance of flood flows arriving at Lake Matahina.

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Figure 1 – Stages of Flood Management for Matahina Scheme

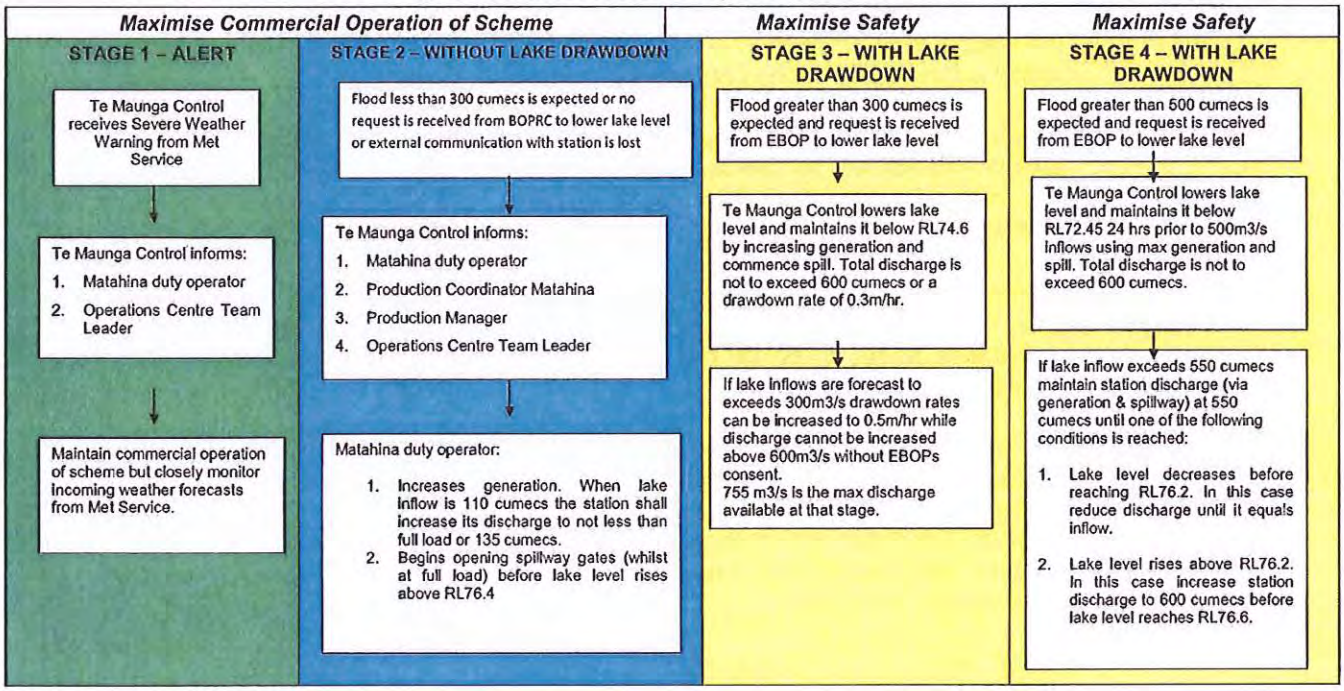

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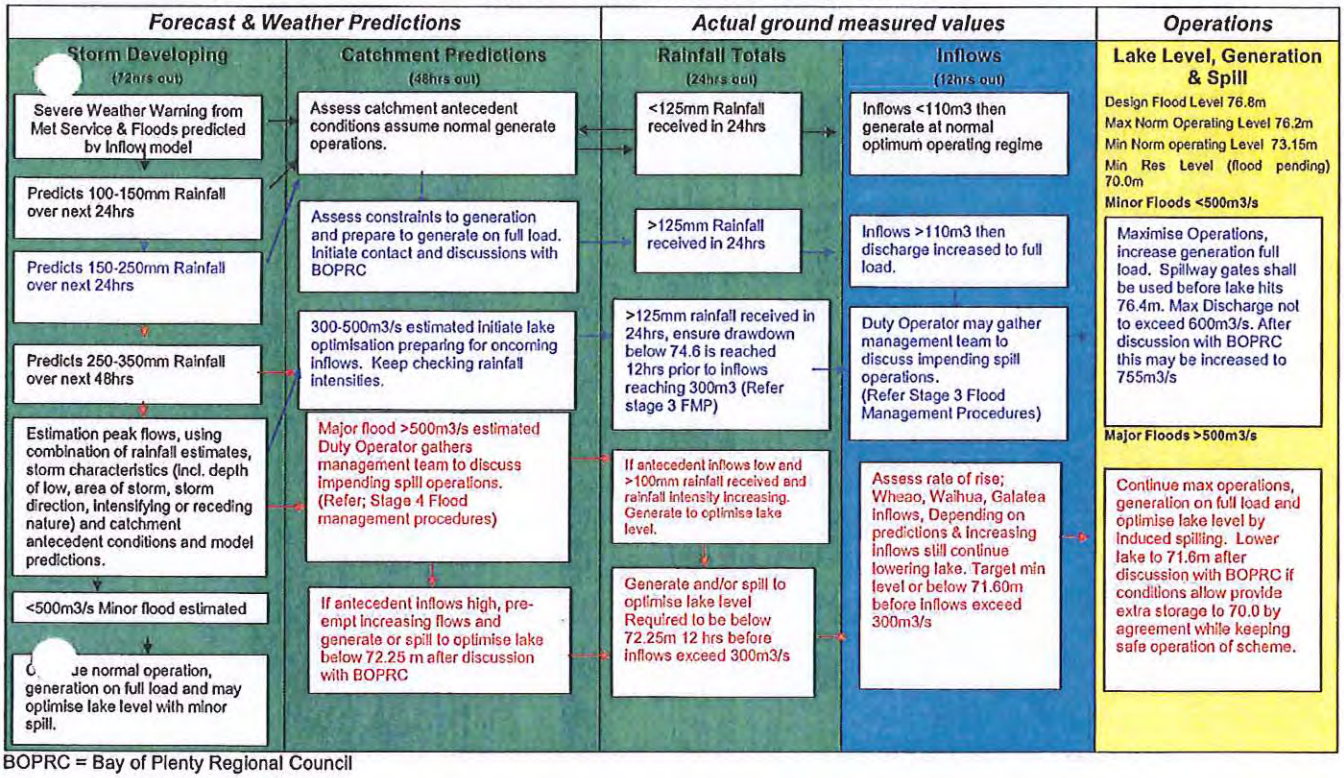
Figure 2 - Derivation of Minor or Major floods



* BOPRC = Bay of Plenty Regional Council

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Table 1 - Monitoring Stations/Sites within the Rangitaiki catchment.

Stn Nos	Station Name	Station	Parameter	Primary Source	Primary Telemetry	Secondary Source,	Secondary Telemetry	Logger type	Collected By	Funded By
15401	Rangitaiki @ Thornton	Thornton	Level & Rain	Shaft Encoder	HydroTel - GPRS	none	Nil	Campbell CR500	EBOP	EBOP
15408	Rangitaiki @ Murupara	Murupara	Flow	Kainga Encoder	Aquitel Remote	Greenspan Transducer	Nil	1, Aquitel, 2, Kainga	NIWA-Rot	TP / FRST
15453	Waihua @ Gorge	Gorge	Flow	Kainga Encoder	Aquitel Remote	Foxboro Chart	Nil	1, Aquitel	NIWA-Rot	TP
15499	Lk Matahina@ Dam	Dam	Level	Kainga Encoder	Aquitel Remote	nil	nil	1,Aquitel, 2, nil	NIWA-Rot	TP
15466	Rangitaiki @ Aniwhenua	Aniwhenua	Flow	Unidata Encoder	Aquitel Remote	Greenspan Transducer	nil	1, Starlogger, 2, Micrologger	NIWA-Rot	TP
15410	Whirinaki @ Galatea	Galatea	Flow	Sutron Sensor	Aquitel Remote	Kainga Transducer	nil	1, Starlogger, 2, Unidata Starlogger	NIWA-Rot	TP / FRST
15412	Rangitaiki @ Te Teko	Te Teko	Flow	Kainga Encoder	Aquitel Remote	Water pilot Transducer	nil	1, Aquitel, 2, Kainga	NIWA-Rot	TP
15464	Rangitaiki @ Western Weir	Western Weir	Flow	Kainga Encoder	Aquitel Remote	nil	nil	1, Unidata Starlogger	NIWA-Rot	TP
15462	Wheao @ Powerhouse	Powerstation	Flow	Transducer	Citect	Generation		nil	TP	TP
3250	Rangitaiki @ Matahina	Powerstation	Flow & Rain	Total	Citect	Generation		nil	TP	TP
				RG type	Bucket size	Storage gauge		Primary Telemetry		
876002	Whakatane	Huiarau Summit	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
873002	Whakatane	Huitieke	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
868410	Rangitaiki	Kokomoka	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
860710	Rangitaiki	Te Teko	Rain	Ota/TB3	0.5mm	No		HydroTel	EBOP	EBOP
870201	Waimana	Ranger	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP

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Stn Nos	Station Name	Station	Parameter	Primary Source	Primary Telemetry	Secondary Source,	Secondary Telemetry	Logger type	Collected By	Funded By
		Station								
769701	Tarawera	Awakaponga	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
863601	Pokairoa @ Pylon Rd	Pylon Rd	Rain	Ota	0.5mm	Yes		Aquitel	NIWA-Rot	FC
863701	Pokairoa @ Railway Culvert	Railway Culvert	Rain & Flow	Ota	0.5mm	Yes		Aquitel	NIWA-Rot	FC
866801	Whakatane @ Tarapounamu	Tarapounamu	Rain	Ota	0.5mm	Yes		Aquatel	NIWA-Rot	EBOP/TP
1184	PRFA Goudies	Goudies	Rain	FTS/TB	0.1mm				PRFA	PRFA
	PRFA Matea	Matea	Rain	FTS/TB	0.1mm				PRFA	PRFA

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APPENDIX SIX – Methodology for calculating the annual contribution pursuant to condition 28

Preamble

This Appendix sets out the methodology for calculating the annual contribution that the consent holder is required to make to the Bay of Plenty Regional Council in accordance with condition 28 of this resource consent for the purposes of contributing to the costs of the Rangitaiki-Tarawera Rivers Scheme ('**the Scheme**').

Condition 28 requires the consent holder to make a contribution based upon the applicable percentage of "relevant"' costs of the Scheme. The relevant costs of the Scheme include elements from the following categories:

(a) General Administration costs;

(b) Costs related to Routine Annual Maintenance and Repair works; and

(c) Costs related to Extraordinary Flood Repair works.

The Scheme's budgeted costs are contained in its Asset Management Plan and adopted on a 3-yearly basis in conjunction with BOPRC's Long Term Plan. However, not all of the Scheme's costs are 'relevant costs' for the purposes of Condition 28.

The General Administration costs are recorded in those accounts as a "lump" sum across all 10 reaches of the Rangitaiki and Tarawera Rivers. Only the relevant General Administration costs associated with the three reaches of the Rangitaiki River downstream of Matahina Dam affected by the operation of this resource consent are to be included in the costs for the purposes of Condition 28. The method of calculating the relevant General Administration costs is set out in clauses D-1 to D-4, and is a 'two step' process, by which General Administration costs are first apportioned to individual reaches before applying the appropriate percentage (i.e., those set out in condition 28) to each reach. The non-flood related General Administration costs have been apportioned based on the relative budgeted routine maintenance and repair costs for each reach. General Administration costs which relate to flood repairs (including Flood Damage Freshes, Flood Monitoring and LAPP insurance) have been apportioned based on the historical plus budgeted future cost of flood repair works required in each reach as a result of the 2010/2011 floods.

The costs associated with Routine Annual Maintenance and Repair works and Extraordinary Flood Repair works are recorded in the Scheme's accounts on a reach by reach basis. However, the Scheme's accounts also record Scheme costs which are not related to river edge works specifically associated with protecting the banks of the river from erosion and therefore are not relevant costs in terms of Condition 28.

Clauses

Part A – Annual contribution and relevant costs

A-1. The annual contribution payable by the consent holder in accordance with Condition 28 is the total sum of the calculations undertaken in clauses B-2, B-3, C-3, C-4, C-5, D-2, D-3 and D-4.

A-2. The relevant costs upon which the consent holder's contribution to the Scheme is to be calculated for the purposes of Condition 28 shall include:

(a) River edge works specifically associated with protecting the banks of the Rangitaiki River from erosion and repairing damage to the river banks as a result of general erosion and minor flood events (Routine Maintenance and Repair costs) as outlined in clause B-1; and

(b) River edge works specifically associated with repairing damage to river banks as a result of extraordinary flood events, where flood repair costs exceed that budgeted for in the Routine Maintenance and Repair costs (Extraordinary Flood Repair costs) as outlined in clause C-1; and

(c) Elements of the associated Scheme general and administrative costs as outlined in clause D-1 (General Administration costs)

A-3 The relevant costs upon which the consent holder's contribution to the Scheme is to be calculated for the purposes of Condition 28 shall not include costs associated with any works associated with stopbanks, floodgates or drainage outfalls, nor any of the following Scheme cost elements:

- Rates, electricity and general insurance
- Inspection or survey of stopbanks
- Surveying river cross-sections
- Monitoring of river bank erosion, where that monitoring repeats requirements placed on the Consent Holder pursuant to this resource consent
- Gravel extraction
- Legal and miscellaneous
- Flood reserves for larger events in excess of 5-yearly events (i.e. >20% Annual Exceedance Probability events).

A-4 Where inflation adjustment is required to address increased costs in years 2 and 3 of the annual plan cycle, the annual plan estimates shall be increased based on the latest available 12-month cost increase in accordance with the Capital Goods Price Index (Land improvements / Reclamation and river control (Series Ref. S2DD)) published by Statistics New Zealand.

Part B- Contribution to Routine Maintenance and Repair costs

B-1. The relevant Routine Maintenance and Repair costs for the purposes of condition 28 shall include costs associated with river edge works undertaken for the purposes of protecting, or repairing, river banks from, or as a result of, erosion and may include (but are not necessarily limited to) works such as vegetation maintenance, rock and rubble maintenance and repair, fence maintenance and repair, beach shaping.

B-2 The annual contribution made by the Consent Holder towards the Scheme's Routine Maintenance and Repair costs shall be calculated by applying the percentages set out in condition 28 to relevant costs associated with each of reaches 1, 2 and 3. The sum payable by the Consent Holder toward routine maintenance costs for each reach shall be:

- 25% of the routine maintenance and repair portion of the relevant costs for reach 3 (Matahina Dam to Te Teko)
- 15% of the routine maintenance and repair portion of the relevant costs for reach 2 (Te Teko to Edgecumbe)
- 5% of the routine maintenance portion and repair of the relevant costs for reach 1 (Edgecumbe to the mouth of the Rangitaiki River).

B-3. The annual contribution made by the Consent Holder towards the Scheme's Routine Maintenance and Repair costs shall be calculated based upon the relevant costs budgeted for Routine Maintenance and Repair as reflected in the Scheme's Asset Management Plan that is adopted by BOPRC's long term plan. The budgeted costs are reviewed every 3-years in line with regular reviews of BOPRC's long-term plan (as required by the Local Government Act) and the annual contribution shall include provision for inflation adjustment (in accordance with clause A-4) during years 2 and 3 of each review period.

Part C - Contribution to Extraordinary Flood Repairs

C-1. Extraordinary flood repairs shall, for the purposes of this resource consent, mean any capital works to repair extraordinary damage or create new areas of protection that are not covered by the Routine Maintenance and Repair costs. These will normally be works that draw on flood reserves, insurance claims or are loan funded as specific projects.

C-2. The relevant Extraordinary Flood Repair costs for the purposes of Condition 28 shall not include costs associated with the riverbank protection remedial works arising out of the 2010/11 floods or any earlier floods.

C-3. The contribution made by the Consent Holder towards the Scheme's Extraordinary Flood Repair costs shall be calculated by:

(a) Subtracting any third party contribution from the relevant costs for each reach. Where a third party contribution has been made to the Scheme, that contribution shall be itemised and apportioned on a reach-by-reach basis; and then

(b) Applying the percentages set out in condition 28 to the total of the relevant costs less any third party contribution for each reach. The sum payable by the Consent Holder toward Extraordinary Flood Repair costs for each reach shall be:

- 25% of the relevant costs (less any third party contribution) for reach 3 (Matahina Dam to Te Teko)
- 15% of the relevant costs (less any third party contribution) for reach 2 (Te Teko to Edgecumbe)
- 5% of the relevant costs (less any third party contribution) for reach 1 (Edgecumbe to the mouth of the Rangitaiki River).

C-4. The contribution towards Extraordinary Flood Repairs shall be payable as 10 uniform annual payments (with inflation adjustment of capital costs for any works that span more than 1 year) over the following 10 years, at a cost of capital calculated in accordance with the BOPRC's funding arrangements for the works (currently the 90-day bill rate plus 0.5% p.a). The annual contribution towards Extraordinary Flood Repairs shall be identified annually prior to 30 June each year based on the actual costs incurred by the NHG for work undertaken in the previous 12 month period. The consent holder may elect to pay the contribution as a single payment within 12 months of the costs being incurred.

C-5 For the purposes of clause C-3(a) the phrase 'third party contribution' shall mean a payment made by a party that is neither the consent holder nor the Bay of Plenty Regional Council. For the avoidance of doubt, a third party contribution includes a contribution from the LAPP disaster insurance scheme, but does not include any funding provided toward repairs from the Scheme's flood reserves. That is because the consent holder has elected to contribute to LAPP insurance, but not to contribute to the Scheme's flood reserve for floods in excess of 1 in 5 year events (i.e., >20% Annual Exceedance Probability events).

Part D - Contribution to General Administration costs

D-1 The relevant General Administration costs for the purposes of Condition 28 shall include the general costs associated with operating the Scheme, except as provided for below, and includes management costs, inspections of riverbanks, various service charges, LAPP insurance, annual flood damages (freshes), flood monitoring and related overheads.

D-2 Except as provided for by clause D-3, which addresses flood related General Administration costs, this clause applies to the calculation of the General Administration cost component of the annual contribution (i.e., the non-flood related General Administration costs). The annual contribution made by the consent holder towards the Scheme's General Administration costs shall be calculated by:

(a) Determining the relevant costs for the purposes of condition 28 by apportioning the scheme-wide non-flood related General Administration costs to the three relevant reaches as set out in Table 1; and then

(b) Calculating the annual contribution payable by the consent holder by applying the percentages required by condition 28 to the relevant costs of each reach, as set out in Table 1.

Table 1 – Calculation of non-flood related General Administration costs

Reach	Relevant costs (% of non-flood related Scheme-wide General Administration costs)	TrustPower contribution (% of relevant costs per condition 28)	TrustPower Annual contribution (% of Scheme-wide non-flood related General Administration costs)
Reach 3 – Matahina Dam to Te Teko	12.3%	25%	3.1%
Reach 2 – Te Teko to Edgecumbe	17.4%	15%	2.6%
Reach 1 – Edgecumbe to the Mouth	16.4%	5%	0.8%

D-3. Notwithstanding clause D-2, this clause applies to the calculation of the General Administration cost component of the annual contribution which directly relates to flood related items (including Flood Damage Freshes, Flood Monitoring and LAPP insurance). The annual contribution made by the consent holder towards the flood related aspects of the Scheme's General Administration costs shall be calculated by:

(a) Determining the relevant costs for the purposes of condition 28 by apportioning the scheme-wide flood related General Administration costs to the three relevant reaches as set out in Table 2; and then

(b) Calculating the annual contribution payable by the consent holder by applying the percentages required by condition 28 to the relevant costs of each reach as set out in Table 2.

Table 2 – Calculation of flood related General Administration costs

Reach	Relevant costs (% of flood related Scheme-wide General Administration costs)	TrustPower contribution (% of relevant costs per condition 28)	TrustPower Annual contribution (% of flood related Scheme-wide General Administration costs)
Reach 3 – Matahina Dam to Te Teko	25.5%	25%	6.4%
Reach 2 – Te Teko to Edgecumbe	35.4%	15%	5.3%
Reach 1 – Edgecumbe to the Mouth	15.4%	5%	0.8%

D-4. The annual contribution made by the Consent Holder towards the Scheme's General Administration costs shall be calculated based upon the budgeted General Administration costs as reflected in the Scheme's Asset Management Plan and adopted by BOPRC's Long Term Plan. The budgeted costs are to be reviewed every 3 years (in line with the review of the long-term plan) and the annual contribution shall include provision for inflation adjustment (in accordance with clause A-4) during years 2 and 3 of each review period.

APPENDIX SEVEN – Schools & Marae

Marae:

Kokohinau

Uiraroa

Tu Teao

Ruaihona

Tuariki

Te Mapou

Schools:

Te Mahoe

Te Kura o Te Teko

Otakiri School

Edgecumbe School

Edgecumbe College

Thornton Primary

APPENDIX EIGHT – Key Recreation Sites

Lake Matahina dam

Te Mahoe

SH30 Bridge Te Teko

River access at Hekerangi Road Te Teko

SH2 Bridge Edgecumbe

Riverbank area opposite 40 to 50 College Road, Edgecumbe.

For the avoidance of doubt, the term 'immediate vicinity', as used in condition 37(e)(iv) means, the reach of the Rangitaiki River up and downstream of the Key Recreation Sites.

APPENDIX NINE – Rangitaiki River Environmental Fund Trust: Structure, Charitable Objects & Approach

Nature of Entity:

Incorporated Charitable Trust pursuant to the Charitable Trusts Act 1957.

Name of Trust:

Rangitaiki River Environment Fund Trust

Settlor:

TrustPower Limited.

Trustees:

1 Trustee appointed by TrustPower Limited.

1 Trustee appointed by Te Runanga O Ngati Awa.

2 Trustees appointed by Rangitaiki Hapu Coalition.

Trustee appointed by future settlors (future settlors are other parties that might agree to settle assets into the Trust).

Initial Amount Settled into Trust:

$60,000.00

Ongoing Funds Settled into Trust:

The following further funds shall be settled on the Trust:

a. $40,000.00 per annum from the year following establishment of the Trust to the 5th year following the establishment of the Trust (that is, a total of five (5) payments of $40,000.00 each adjusted as below); followed by:

b. $20,000.00 per annum (adjusted as below) from the 6th year following the establishment of the Trust until the resource consent expires.

All payments shall increase annually in accordance with the CPI after the first $40,000.00 payment is made.

The Trust shall be obliged to use the initial and on-going funds settled into the Trust within 24 months of receipt of each settlement amount. Should this not occur, then TrustPower Limited shall not be required to settle the following tranche until such time as the funds are so expended.

½ of any funds (being the funds from on-going payments only) remaining in the Trust in any particular funding year shall be distributed equally to the lower Rangitaiki Marae Committees (such committees to be recorded in an appendix to the Trust Deed) for basic maintenance and upkeep of their facilities next to the Rangitaiki River (see tertiary object below).

Objects:

1. The primary object is to facilitate environmental enhancement, environmental education and hapu-based opportunities to undertake projects and activities within and adjacent to the lower Rangitaiki River from the Matahina Dam to the river mouth (which may include improved access to the river, restoration planting, aquatic habitat advancement, mauri and mana restoration initiatives, environmental education, environmental enhancement, animal and plant pest control, resource investigation and scientific study and recreation planning) including:

a. To identify and evaluate areas of the catchment area worthy of protection, restoration, improvement, creation, or procurement;

b. In order to carry out the object above, to negotiate, where appropriate, the protection, restoration, improvement, creation or procurement of habitat with landowners and to ensure the best possible public access to the catchment area; and

c. Such further or other measures which, in the opinion of the trustees, will better provide for these objects.

2. As a secondary object, if no applications are made which fulfil the primary object, the applicable area may be extended to the wider Rangitaiki Catchment to facilitate projects which nevertheless benefit the Rangitaiki River in a similar manner.

3. As a tertiary object, if no applications are made which fulfil the primary or secondary objects, to provide financial assistance to the ahi kaa marae located along the lower Rangitaiki River to maintain their physical presence and connection to the Rangitaiki River. This object is inserted as a corollary to the primary object. In this respect each ahi kaa marae must formally apply for funding each year (such application to set out what the marae intend to do with the funds and how the works will assist in maintaining their physical presence and connection with the lower Rangitaiki River).

Note: Objects to be charitable.

Term of Trust:

Term of consent (that is, 35 years).

Trust Self Determining:

Trust to regulate its own activities

Maximum and Minimum Numbers of Trustees:

Maximum = 6.

Minimum = 3.

Term of Office:

Each trustee shall hold office until he or she wishes to resign or after 3 years, whichever is the earlier.

Any retiring trustee shall be eligible for re-appointment.

Trustee Selection:

In selecting a trustee, each appointing party shall have regard to that person's knowledge, experience and understanding of environmental management and of local conditions and issues in the catchment area.

In the event that the Hydro-Electric Power Scheme is sold or otherwise transferred to a new owner, TrustPower Limited's right to nominate a trustee shall pass to the new owner.

Meetings:

The trustees will meet at such times and places as they determine, and shall elect a Secretary and Treasurer from amongst the trustees at the first meeting and at every subsequent annual general meeting.

Quorum to be a majority of trustees provided a trustee appointed by at least a majority of the appointing parties is present.

Most decisions (except fundamental) shall be carried by a simple majority.

Fundamental decisions of the trustees (such as changes to the constitution) will require unanimous approval.

Trust Expenses:

Part of the settlement amounts should be set aside to meet on-going administration expenses.

- In this regard, the Trust shall use its own capital to pay for its administration expenses (provided none of the nominating parties or the trustees shall be entitled to be remunerated or to charge for any administration carried out on behalf of the Trust, unless provided for by resolution of the Trust).

- TrustPower Limited will, at TrustPower Limited's expense, provide secretarial support to the Trust. In this regard TrustPower Limited will:

  - Arrange for incorporation of the Trust;

  - Arrange for registration of the Trust as a charity;

  - Fulfil any requirements of the Trust to ensure it retains its charitable status and meets the requirements of such (including the filing and audit of financial statements); and

    Arrange for the Trust to advertise (in local papers, on radio and any other appropriate mediums such as social media etc) for applications in consultation with all Trustees.

- Subject to below, the trust fund shall not be used for the reimbursement of trustees' expenses (for example, travel, accommodation and meals) incurred in connection with the exercise of the trustees' functions, powers or duties with respect to the Trust.

The Trust shall pay the Runanga O Ngati Awa and Rangitaiki Hapu Coalition Trustees a $50.00 honorarium/meeting fee for their attendance at the Trust's AGM (which shall double as a meeting to consider applications for funding) and any other meetings of the Trust Board. No increases to this honorarium/meeting fee shall be allowed other than by resolution of the Trust Board in accordance with this Deed.

Applications for Funding:

The trustees shall set the appropriate priorities and criteria for applications for funding.

These shall include:

- Environmental benefit to the Rangitaiki River or its immediate environs;

- Enhancement of inanga spawning habitat and any other relevant research, study, investigations or projects relating to the enhancement of native fisheries within the Rangitaiki River.

- Improvement or maintenance of access to the Rangitaiki River for environmental, cultural, recreational or educational purposes;

- Increased opportunities for interaction, education and spiritual connection with the Rangitaiki River;

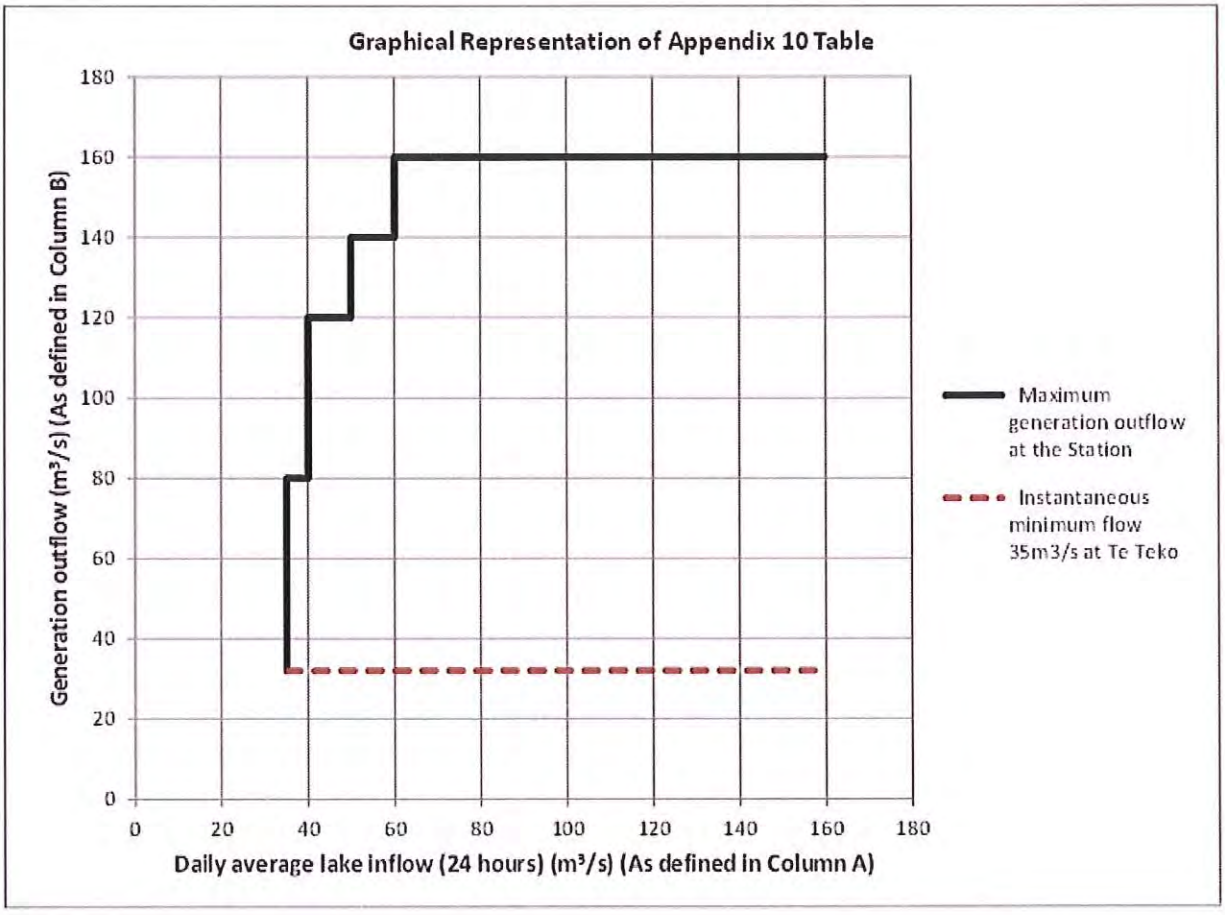
- Cultural, recreational or educational benefit to the hapu of the Rangitaiki River;

- Scientific research, study or investigations of environmental benefit to the Rangitaiki River or its immediate environs;
- Whether the application is made on behalf of an individual or group descended from Ngati Awa hapu;
- Any prior environmental or other work associated with the Rangitaiki River undertaken by the applicant.

These criteria are only provided for guidance with the final decisions on funding being at the discretion of the Trustees.

APPENDIX TEN – Limitations of Maximum Generation Outflow

Table 1

Column A	Column B
Daily average lake inflow (24 hours) (m^3/s)	Maximum generation outflow (m^3/s)
< 40 (but >= 35)	<= 80
>=40 but < 50	<= 120
>=50 but < 60	<= 140
>= 60	160

Note: For flows of less than 35 cumecs, conditions 30 to 31C of this resource consent apply