

**BEFORE THE MANAWATŪ-WHANGANUI REGIONAL COUNCIL
INDEPENDENT HEARING PANEL**

IN THE MATTER of the Resource
Management Act 1991
("RMA" or "the Act")

AND

IN THE MATTER of resource consent
applications to
**MANAWATŪ-
WHANGANUI REGIONAL
COUNCIL** by **WINSTONE
PULP INTERNATIONAL
LIMITED** to discharge up
to 750m³/day of
condensate wastewater,
and land disturbance
together with any ancillary
diversion of water and
discharge of sediment for
the associated construction
of a wetland (ATH-
2010011593.03 and ATH-
202609463.00).

**STATEMENT OF EVIDENCE OF SUKHDEEP KAUR SINGH (SUKHI SINGH)
DATED 29 SEPTEMBER 2026**

1. INTRODUCTION

- 1.1 My name is Sukhdeep Kaur Singh (Sukhi Singh). I am the Technical Director – Planning at Babbage Consultants Limited.
- 1.2 This evidence has been prepared in respect of the resource consent applications by Winstone Pulp International Limited ("**WPI**" or "**the Applicant**") to consent the discharge of up to 750 m³/day of wastewater associated with the proposed wood processing operations, in addition to consent for land disturbance together with any ancillary diversion of water and discharge of sediment associated with the construction of a wetland ("**the Proposal**") at 1002 State Highway 49, Tangiwai ("**the Site**") under the Horizons Regional Council One Plan ("**One Plan**").

Qualifications and experience

- 1.3 I have a Bachelor of Arts (Urban and Economic Geography) Degree from University of Toronto (1997) and a Master of Planning Practice Degree (Honours) (1999) from the University of Auckland. I am a full member of the New Zealand Planning Institute. I am accredited under the Ministry for the Environment Making Good Decisions programme as an Independent Commissioner.
- 1.4 I have 27 years' experience in resource management and planning, both in the private and public sector.
- 1.5 I have experience in a range of resource management matters, including the preparation of district and regional plans and plan changes (both public and private), and processing of resource consent applications. Examples of my experience include:
- (a) Project Planning Lead for the preparation of the full suite of resource consent approvals to enable the construction and operation of a new Olam Food Ingredients Limited Dairy Processing Plant in Tokoroa. The package included a resource consent application to enable the discharge of treated wastewater to land, which was approved in 2023. This plant is now operational.
 - (b) Project Planning Lead for the preparation of a resource consent application for the construction and operation of 7.5km wastewater pipeline and a 350m long submerged marine outfall to discharge treated factory wastewater into the Pacific Ocean to enable the expansion of the Oceania Dairy Factory in Waimate. This was a dual wastewater discharge: discharge to water in conjunction with a discharge to land. This outfall is now operational.
 - (c) Project Planning Lead for Watercare Services Limited for a range of wastewater and stormwater projects in the Waikato Region.
 - (d) Project Planning Lead for Thames-Coromandel District Council to prepare the resource consent application to enable the construction and operation a new water in-take structure embedded within the bed of Puriri River and associated infrastructure for reticulated municipal water supply. This was approved in 2026.
 - (e) Project Planning Lead for the preparation of a resource consent application to enable the construction of a water intake structure in the Waihou River and associated infrastructure on behalf of

Matamata-Piako District Council to enable municipal supply of water to Te Aroha. This was approved in 2025.

- (f) I am also on Auckland Council's Resource Consent Consultant Panel engaged to process and make recommendations on decisions to the Council on resource consent applications meeting the complex category.

Involvement in project

- 1.6 I became involved in this project in early 2025, providing planning services to enable the construction and operation of the Te Ara Hiko Project. WPI was working with Te Ara Hiko Limited, as a potential buyer of the WPI's Site, to facilitate the construction and operation of a Biocoal manufacturing facility on the Site.
- 1.7 I am the author or reviewer of the following documents included in the notified application package:
 - (a) The reviewer of the Planning Report dated 30 April 2026.
 - (b) The author of Technical Memo 8 – Te Waiū-o-Te-Ika (Whangaehu River) Framework dated 30 April 2026.
 - (c) The author of the s 92A Response Memo, dated 11 June 2026.
- 1.8 This evidence should be read alongside those assessments and responses.
- 1.9 I have visited the site multiple times this year.

Expert Witness Code of Conduct

- 1.10 I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court's Practice Note (2023) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Purpose and scope of evidence

- 1.11 The purpose of my evidence is to conduct a careful analysis of the relevant provisions of the various planning instruments, and thereby, provide an evaluative planning assessment to assist the Commissioners to form their decision.

- 1.12 I have read the Hearings Reports ("**s 42A Report**") prepared by Ms Morton and Mr Pearce and the technical memoranda prepared by the Council's experts.
- 1.13 Ms Morton has not made a recommendation to the Commissioners on whether this application should be granted or rejected, citing the following two reasons (which I discuss in my evidence):
- (a) The plant is not yet operational, and the actual characteristics of the condensate discharge have not been confirmed. Dr Ausseil's (Council's water quality expert) conclusions rely on the actual discharge quantity and quality being consistent with those assessed. She believes the Applicant will provide further information on this matter, including a proposed condition framework¹.
 - (b) The submission from Ngā Waihua o Paerangi Trust ("**Ngāti Rangi**") opposes the application and she considers that the evidence to be presented by Ngāti Rangi at the hearing will inform her overall assessment².
- 1.14 In preparing my evidence, I rely on the following evidence in chief prepared on behalf of WPI:

Name	Area of Expertise
Michael Ryan	CEO of WPI
Paul Duder	Te Ara Hiko Project and biocoal manufacturing process
Lobo Coutinho	Water quality
Treffery Barnett	Ecology
Hiram Garcia	Contaminated land and remediation
Sunil Prasad	Civil design - earthworks

¹ Paragraph 350 of s 42A Report.

² Paragraph 351 of s 42A Report.

- 1.15 Twenty submissions have been received (15 in support, 4 neutral and 1 in opposition). These are detailed the s 42A Report³.
- 1.16 While the majority of the submitters are supportive of the proposal, some have raised particular matters (or sought specific relief) that require careful consideration. Ms Morton has summarised the submissions under key themes⁴.
- 1.17 My evidence is structured in three parts. The first part sets out the:
- (a) Background to the application (Section 2).
 - (b) Overview of the application as notified (Section 3).
 - (c) Additional amendments to the application since notification (Section 4).
 - (d) Resource consents required and activity status (Section 5).
 - (e) Concerns regarding actual characteristics of the discharge (Section 6).
- 1.18 The second part of my evidence is structured to assist the Commissioners by setting out what I consider to be the core resource management matters of relevance to this application. I discuss the key matters raised in the submissions under the relevant resource management matter in this section. The actual or potential effects that I focus on are:
- (a) Positive effects (Section 8).
 - (b) Effects on surface water quality (Section 9).
 - (c) Effects on Ecology (Section 10).
 - (d) Effects of contaminated soils (Section 11).
 - (e) Effects on recreation and amenity (Section 12).
 - (f) Land stability and erosion effects (Section 13).
 - (g) Construction effects (Section 14).

³ Section G of the s 42A Report.

⁴ Table 3 and pages 21 to 23 of the s 42A Report.

1.19 Having carefully considered the submission from Ngā Waihua o Paerangi Trust ("**Ngāti Rangi**"), I then discuss cultural effects (Section 15).

1.20 The third part of my evidence addresses the following:

- (a) National Environmental Standards (Section 16).
- (b) Planning framework for discharge to water (Section 17).
- (c) Issues raised by the submitters (Section 18).
- (d) Applicant's proposed conditions (Section 19).

1.21 My evidence includes the following attachments:

- (a) **Attachment 1:** Applicant's proposed conditions.
- (b) **Attachment 2:** Stone Wetland Concept Design.

2. **BACKGROUND TO THE APPLICATION**

2.1 In his evidence as CEO of WPI, Mr Ryan explains that WPI has operated at Karioi since 1978, and has been one of the most important employers in the district. WPI ceased operations in 2024 because the business was no longer economically viable. Since closure, WPI has been actively seeking a purchaser for the Site who can repurpose it for future wood processing. From WPI's perspective, maintaining an appropriate consent framework is important to preserving the site's productive potential and supporting future investment and employment.

2.2 In his evidence as project manager for Te Ara Hiko Ltd, Mr Duder confirms that Te Ara Hiko Ltd proposes to construct and operate a 180,000tpa Biocoal manufacturing facility ("**Te Ara Hiko Project**") on the Site. The Site has significant advantages (including its availability, location and existing infrastructure and assets). This resource consent application is necessary to enable the operation of the Te Ara Hiko Project.

2.3 Both the Planning Report⁵ and s 42A Report⁶ provide background pertaining to this application. In brief:

⁵ Sections 1 and 2 of the Planning Report.

⁶ Section C of the s 42A Report.

- (a) The Kariori Pulp Mill ceased operations in September 2024, and no discharges have occurred since (except for small volumes of stormwater).
- (b) WPI lodged an application in March 2025, pursuant to s 124 of the RMA, for a new discharge to water consent to authorise ongoing wastewater discharges from the site. The application was publicly notified, with the submissions period closing on 4 December 2025.
- (c) On 17 December 2025, s 123C of the RMA reinstated WPI's existing wastewater discharge consent (ATH-2010011593.01), and extended its expiry date to 31 December 2027 ("**WPI Existing Consent**").
- (d) WPI Existing Consent (ATH-2010011593.01):
 - (i) Limits the discharge of treated pulp effluent to the Whangaehu River, not exceeding 5,200 m³/day.
 - (ii) Limits the discharge of antifoam inhibitor not exceeding a rate of 125 L/day (at a maximum rate of 3 mL/second).
 - (iii) Includes effluent and receiving water monitoring requirements.
- (e) In March 2026, WPI confirmed that it is working with a potential purchaser of the Karioi Pulp Mill site. WPI advised that while the future industrial process will be largely similar to the historical wood processing on the subject site, the new operations will incorporate a "torrefaction" process (as opposed to the "pulp" process used by WPI previously).
- (f) In Hearing Panel Minute 2 (dated 20 March 2026), the Hearing Panel directed WPI to file an amended application and updated assessment of effects. The revised application was submitted on 30 April 2026.
- (g) Noting the Hearing Panel's advice that it is was not available for a hearing until October, in July 2026, WPI requested that the updated application be publicly notified to resolve any residual scope issues.

- (h) The revised application (being the current application), was notified on 22 July 2026.

3. **OVERVIEW OF THE NOTIFIED APPLICATION**

3.1 Both the Planning Report⁷ and s 42A Report⁸ detail the application proposal. In brief:

- (a) The Applicant applies for a maximum wastewater discharge of 750m³/day from an industrial activity to the Whangaehu River.
- (b) The properties of the discharge is generally referred to as “condensate”, produced from a wood processing plant, being a Biocoal manufacturing facility.
- (c) The construction of a wetland system (requested by Ngāti Rangi) is proposed to ensure that the wastewater is discharged into a wetland system prior to the discharge to the Whangaehu River. The function of the wetland was described as a “polishing wetland”, acknowledging that whilst is likely to achieve a reduction in some contaminants present in the wastewater, it was not required from a water quality improvement point of view, given the high quality and nature of the proposed discharge.
- (d) The wetland system is to be constructed over the existing formed pond and the surrounding grassed area located on the Site.
- (e) The proposed wetland construction earthworks will involve an area of approximately 17,146 m², with a total cut volume of approximately 10,447m³ and a total fill volume of approximately 9,994 m³.
- (f) The detailed design of the wetland had not completed at the time. The proposed bulk earthworks finish at the base of the wetland base, which was to be delineated by the installation of a high-density polyethylene geomembrane (“**HDPE**”) liner. Being a shallow wetland, no fill material was required to complete the wetland construction. A layer of drainage aggregate, geotextile and topsoil / planning media was to be placed above the HDPE liner, with certification of a Planting Plan (completed in consultation with Ngāti Rangi).

⁷ Section 3 of the Planning Report.

⁸ Section D of the s 42A Report.

- (g) Construction of the wetland will be undertaken in accordance with the site-specific Erosion and Sediment Control Plan ("**ESCP**").
- (h) The Applicant seeks a consent duration term of 20 years for both the wastewater discharge consent and land disturbance activities with a lapse period of 10 years.

4. **ADDITIONAL CHANGES TO THE APPLICATION SINCE NOTIFICATION**

- 4.1 Since the notification of the application, the Applicant has been progressing the developed design for the proposed wetland. The applicant has met with Ngāti Rangi representatives to share the updated wetland design outlined below.
- 4.2 Technical Report 1 – Torrefaction Memo (in the application package), states that the temperate of the wastewater exiting the Plant is expected to be around 40 to 50°C. Ms Barnett has advised that most wetland plants would struggle to grow in this type of environment, as these root zone temperatures would be substantially above those normally experienced by terrestrial vegetation in New Zealand.
- 4.3 In light of the above, the wetland design has been refined to that of a Stone Wetland (refer to **Attachment 2** of my evidence) to enable cooling of the wastewater, with the following key design parameters:
 - (a) The Stone Wetland design draws inspiration from the Whangaehu River's meandering form, natural banks and rock deposits, creating a sinuous landscape that responds to the alpine terrain.
 - (b) The Stone Wetland is to be design in two stages (Stage 1 and Stage 2) as follows:

Design Parameters	Stage 1	Stage 2
Wastewater flow volumes	200 m ³ /day	550 m ³ /day
Residence time	4.8 hrs	4.8 hrs
Channel design	☐ Ground level lined with HDPE ☐ Then covered with gravel and pebbles.	

	☐ Larger diameter locally sourced rocks at the channel bends. ☐ Opportunity for wider sections between channels to provide for larger sized trees to enable shading of the water. ☐ Overall Planting Plan to be prepared in consultation with Ngāti Rangi.
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- (c) Based on the above design, Mr Coutinho has advised that the wastewater discharge temperate at the discharge outlet into Whangaehu River will be approximately 26 °C (+/- 5 °C).

4.4 The revised Stone Wetland alignment also avoids:

- (a) The former discharge pond, where zinc exceedance (WA18) was reported in the Detailed Site Investigation ("**DSI**").
- (b) The area of arsenic exceedance (WA09) reported in the DSI, which will be cut to 1 m below ground level as part of bulk earthworks and placed in the former discharge pond with additional on-site material (minimum of 0.5 m in thickness) placed on the top as final cap and grassed.

4.5 Mr Prasad confirms that the revised Stone Wetland design will not affect the general methodology proposed for the earthworks design (and associated sediment and erosion control measures) in the notified application:

- (a) The volume of earthworks will be reduced, as the cut from the proposed wetland channels will be used to fill the existing pond.
- (b) The methodology for Erosion and Sediment control ("**ESCP**") is unchanged with substantial initial retention volume in the existing pond and additional volume becoming available as the wetland channels are excavated. A topsoil perimeter bund will be utilised to ensure containment during construction works.
- (c) The final ESCP will be submitted to Council for certification prior to the commencement of the works (as per the draft conditions).

5. **RESOURCE CONSENTS APPROVALS REQUIRED AND ACTIVITY STATUS**

- 5.1 Both the Planning Report⁹ and s 42A Report¹⁰ set out the resource consent approvals required. In brief:

Rule (in One Plan)	Reason for consent	Activity Status
LF-LW-R38	Discharge of water or contaminants into surface water (Whangaehu River)	Discretionary
LF-Land-R6	Land disturbance greater than 2,500m ² per property per 12-month period, and any ancillary diversion of water and discharge of sediment into water.	Controlled
Overall Activity Status		Discretionary

6. **ACTUAL CHARACTERISTICS OF THE DISCHARGE**

- 6.1 Ms Morton states that one of the reasons she has not made a recommendation to the Commissioners on whether this application should be granted or rejected is that the Plant is not yet operational, and the actual characteristics of the condensate discharge have not been confirmed. She states that Dr Ausseil's (Council's water quality expert) conclusions rely on the actual discharge quantity and quality being consistent with those assessed. She believes the applicant will provide further information on this matter, including proposed condition framework.
- 6.2 While I acknowledge having an actual wastewater discharge would provide Commissioners certainty of the wastewater composition, this is not presently feasible. The proposed Biocoal manufacturing facility will be the first facility of its type in New Zealand and has not yet been constructed or commissioned. There is no actual wastewater discharge available to sample or test.

⁹ Section 4 of the Planning Report.

¹⁰ Section E of the s 42A Report.

- 6.3 This differs from established industrial activities, such as a dairy processing plant, where wastewater characteristics can be determined by operations experience and testing in New Zealand.
- 6.4 The Applicant has relied on best available information on the anticipated wastewater composition, rather than empirical sampling from an operating facility in New Zealand.
- 6.5 Recognising the importance of providing the Commissioners with certainty regarding the anticipated wastewater composition, I note the following:
- (a) The composition of the wastewater discharge is based on the laboratory analytical results from condensate samples taken from a comparable commercial Polytechnik Biomass combustion plant operating in Hillerod, Denmark.
 - (b) Mr Duder states that the Denmark plant has been operating since April 2016 and was designed and installed by Polytechnik. The capacity of the Denmark plant is 12MW which aligns well with the 10MW capacity of the Te Ara Hiko units. The Denmark plant has the same combustion design parameters and flue gas treatment system, incorporating an electrostatic precipitator (ESP) and flue gas condenser, from the same suppliers as will be installed at Te Ara Hiko.
 - (c) Mr Duder states that the fuel used in the Denmark plant is a blend of wood chips, bark and sawdust with a moisture content of up to 60%. This fuel source aligns well with the fuel that will be combusted at Te Ara Hiko.
 - (d) Council's water quality specialist, Dr Ausseil states that his assessment of the application is dependent on the assumptions made regarding the discharge quality and quantity. He acknowledges that this cannot be known with certainty until the plant is operational. Consequently, he recommends conditions requiring monitoring of the discharge to check that the assumed discharge quality and quantity align once the plant is operational¹¹. I agree with this pragmatic approach. The Applicant accepts consent conditions requiring the monitoring of wastewater discharge quality and quantity when the plant is operational.

¹¹ Paragraph 47 of Mr Ausseil's s 42A Report.

- (e) Section 128 of the RMA provides the consent authority with the ability to review the conditions of a resource consent where it determines that the consent holder has contravened a condition of consent. Accordingly, if monitoring of the wastewater (once the Biocoal manufacturing facility is operational) demonstrates that the relevant consent limits are not being achieved, there is a statutory mechanism available to review the consent conditions and, where appropriate, impose amended conditions to ensure that the discharge and its associated effects are appropriately managed.

SECTION 104(1)(A) – ASSESMENT OF ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

7. OVERVIEW

- 7.1 A detailed assessment of actual and potential effects is contained in the Planning Report¹². In the s 42A Report, Ms Morton has also comprehensively assessed the effects on the environment based on the input provided by the Council experts. There is a high level of agreement between her planning assessment and mine. Where there are any matters of disagreements, I have stated so in my evidence. In order to avoid duplication of the s 42A Report and Planning Report, I have only summarised the key actual and potential effects on the environment below.

8. POSITIVE EFFECTS

- 8.1 In addition to the positive effects stated in the Planning Report¹³ and s 42A Report¹⁴, I elaborate further on the associated economic effects and benefits of the use of Biocoal below.

Economic Effects

- 8.2 The majority of the submitters are supportive of the proposal, recognising its positive economic and social benefits to the local community.
- 8.3 Ms Morton points that no economic assessment has been provided by the applicant to quantify those benefits¹⁵. Mr Ryan explains in his evidence that WPI had commissioned a report on the Economic Significance of the Karioi Pulpmill ("**WPI Economic Report**") in 2025, which confirmed that

¹² Section 7 of the Planning Report.

¹³ Section 7.8 of the Planning Report.

¹⁴ Page 36 of the s 42A Report.

¹⁵ Paragraph 120 of the s 42A Report.

the Karioi Pulpmill (and by association the Tangiwai Sawmill) provided substantial economic and employment benefits to both the Ruapehu District and the wider Manawātū-Whanganui region. Mr Ryan has appended the WPI Economic Report to his evidence. .

- 8.4 With respect to the economic contribution statistics, the WPI Economic Report states that:

"...it was estimated that it directly sustained a minimum of \$40 million of GDP and 229 jobs in Ruapehu District. Total employment at the mills accounted for 5% of all employment in the district and 68% of total manufacturing employment in Ruapehu. The mills combined were the second largest employer in the district (after the Defence Force). Considering direct, indirect and induced impacts, the Pulpmill sustained a significant \$92 million of GDP per annum in the Manawatu-Wanganui Region (including 583 jobs). This increases to a national GDP contribution of \$279 million (and 1,883 jobs)."¹⁶

- 8.5 With respect to socio-economic contribution, the WPI Economic Report states that:

"The mills played a significant social role in the Ruapehu District. It provided a large number of highly-skilled and well paid jobs to the local workforce – lifting the socio-economic status of the local community (including the large Māori community) over several generations"¹⁷.

- 8.6 It is acknowledged that Te Ara Hiko Ltd has not submitted an economic report related specifically to its future operations. Noting that at present the Site is closed, the initiation of the Te Ara Hiko Project will re-activate the Site, providing construction and on-going employment opportunities for the local community, all contributing to overall positive socio-economic outcomes. I rely on the overall findings of the WPI Economic Report, where the authors state that:

"The significant economic and social benefits generated by the Karioi Pulpmill and Tangiwai Pulpmill

¹⁶ Pages 1 and 2 the Economic Significance of the Karioi Pulpmill, by Savvy Consulting, dated March 2025.

¹⁷ Page 36 of the Economic Significance of the Karioi Pulpmill, by Savvy Consulting, dated March 2025.

are indicative of the scale and significance of economic and social benefits that the new owner and operator of the site(s) may bring to the Ruapehu District and Manawatu-Wanganui Region. Like the WPI operations, those significant socio-economic benefits may be long-term, and inter-generational”¹⁸.

Biocoal

- 8.7 The New Zealand Government’s climate change policy aims to lower greenhouse gas emissions in New Zealand. The Commissioners will be aware that on 27 July 2023, the National Policy Statement on Greenhouse Gas Emissions from Industrial Process Heat 2023 (“**NPS-GHG**”) came into force. The objective of the NPS-GHG is:

“to reduce emissions of greenhouse gases by managing the discharges to air of greenhouse gases from the production of industrial process heat, in order to mitigate climate change and its current and future adverse effect on the environment and the wellbeing of people and communities”.

- 8.8 The proposed Biocoal manufacturing facility will produce 180,000tpa of Biocoal. Mr Duder explains that Biocoal is a renewable solid fuel product, and used as a direct replacement for fossil coal currently used in industrial heat applications, such as power generation and manufacturing.
- 8.9 By providing a renewable alternative to fossil coal at a significant scale, the proposed facility will enable industrial users to reduce their reliance on fossil fuels and transition toward lower-emissions energy sources. In this way, the proposal will contribute to achieving the objective of the NPS-GHG, by facilitating the transition of industrial heat toward more sustainable and lower greenhouse-gas-emission outcomes both in the local and overseas markets.

9. **EFFECTS ON SURFACE WATER QUALITY**

- 9.1 In Technical Memo 2 (application package) and in his evidence in chief, Mr Coutinho assesses the effects of the proposal on the water quality of the Whangaehu River. On behalf of the Council, Mr Coutinho’s assessment was reviewed by Dr Ausseil.

¹⁸ Page 37 of the Economic Significance of the Karioi Pulpmill, by Savvy Consulting, dated March 2025.

9.2 Both Mr Coutinho and Dr Ausseil agree that overall, the effects of the proposed wastewater discharge on the water quality of the Whangaehu River will generally not be detectable and will be no more than minor overall. In brief:

- (a) Whangaehu River exhibits unique water quality conditions influenced by volcanic inputs from Mt Ruapehu, resulting in naturally low pH, high phosphorus and metal concentrations, variable clarity and colour.
- (b) Mr Coutinho's assessment indicates a dilution ratio of approximately 266:1 under 7-day MALF conditions. He states that this level of dilution significantly reduces the influence of the discharge on downstream water quality.
- (c) Dr Ausseil is comfortable that the water quality effects will be no more than minor after reasonable mixing as defined in the One Plan.
- (d) Mr Coutinho states that the assessment results indicate that the predicted changes in contaminant concentrations are small relative to existing background concentrations and the natural variability of the receiving environment observed in historical monitoring data. pH, metals, and suspended solids in the river are naturally outside recommended guideline limits due to the influence of the crater lake, and are not expected to significantly change due to the discharge, even in the assessed low flow conditions. While nitrogen-related compounds could potentially increase in the worst-case low flow conditions assessed, the effects are not significant enough to result in a change to the river attribute bands under the NPS-FM:
 - (i) Total suspended solids ("**TSS**"): concentrations in the Whangaehu River exceed ANZG guideline values upstream of the discharge location, and that clarity is naturally variable. The wastewater has low TSS concentrations, and modelling indicates that downstream TSS concentrations are not materially different from upstream conditions.
 - (ii) pH: although the condensate has a pH close to neutral, the Water Quality Assessment demonstrates that the relatively small discharge volume means that downstream pH remains effectively unchanged from upstream conditions.

- (iii) Nutrients: the modelling indicates downstream increases of approximately 23 percent for ammoniacal nitrogen and 29 percent for nitrate under worst-case conditions. These increases do not result in any change to the applicable NPS-FM attribute bands, which remain Band B for ammoniacal nitrogen and Band A for nitrate.
 - (iv) Metals: cadmium, lead, and zinc are the only metals for which modelled downstream concentrations show a small increase following discharge and mixing, with concentrations of these metals already exceeding applicable ANZG guideline values upstream of the discharge location. Modelling indicates that, under worst-case low-flow conditions, downstream concentrations increase only marginally (generally by less than 2 percent) relative to upstream conditions and remain within the range of natural variability observed in the Whangaehu River.
 - (v) Microbiological water quality: E. coli concentrations in the Whangaehu River are low and often below detection limits, both upstream and downstream of the discharge location. The wastewater does not contain faecal contaminants, and will not materially alter microbiological water quality conditions.
- (e) Dr Ausseil states that any effect of the discharge on One Plan water quality targets or NPS-FM attribute states (bands) will be no more than minor.
 - (f) Mr Coutinho states that a conservative temperature assessment indicates that the proposed discharge would increase Whangaehu River temperature by less than approximately 0.2°C following mixing under low flow conditions. Actual temperature changes are expected to be lower due to cooling occurring during conveyance from the Site to the discharge point and through the proposed Stone Wetland system. This is substantially below the 2°C temperature limit applicable to the Upper Whangaehu Water Management Sub-Area.
 - (g) Using a simple heat balance approach with environmentally conservative scenarios, Dr Ausseil concluded that the effects on Whangaehu River water temperature would be less than 0.1°C.

- 9.3 Adopting the advice of both Mr Coutinho and Dr Ausseil, I consider that subject to compliance with the proposed conditions, the effects of the wastewater discharge on the water quality of the Whangaehu River will be no more than minor.

10. **ECOLOGICAL EFFECTS**

- 10.1 In Technical Memo 3 (application package) and in her evidence in chief, Ms Barnett assesses the effects of the proposal on aquatic ecology within the Whangaehu River. On behalf of the Council, Ms Barnett's assessment was reviewed by Dr Ausseil.

- 10.2 Both Ms Barnett and Dr Ausseil agree on the findings of the ecological assessment. Dr Ausseil considers that overall, the effects of the proposed wastewater discharge on the aquatic ecology in the Whangaehu River will be no more than minor. In brief:

- (a) Spot water quality measurements collected at upstream and downstream sites indicate that the Whangaehu River is characterised by very low pH (approximately 3.2) and high electrical conductivity (approximately 1,676–1,732 $\mu\text{S}/\text{cm}$). These physicochemical conditions are identified as a defining and ecologically limiting feature of the river.
- (b) No fish were captured in the Whangaehu River during the targeted fish surveys. A review of the New Zealand Freshwater Fish Database over approximately 30 km of the river (15 km upstream and downstream of the site) similarly identified no records of native fish, with only isolated records of rainbow trout occurring well downstream of the site.
- (c) Ms Barnett states that although the macroinvertebrate number and diversity of taxa in the Whangaehu River was very low, the Whangaehu River macroinvertebrates were mostly very high scoring EPT taxa, resulting in 'Excellent' MCI and SQMCI scores. These macroinvertebrate results for the Whangaehu River are therefore unexpected, and it is likely that the more sensitive, mature taxa (such as Plecoptera) would have arrived at the Site through drift from an upstream tributary or possibly developed in a microrefuge such as a groundwater seep.
- (d) Dr Ausseil states that a combination of low nutrient supply, frequent flow disturbance, acidic pH and low water clarity/high

suspended solids are probably the key drivers of the low periphyton biomass.

- (e) Ms Barnett states that the consistently naturally very low pH in the Whangaehu River is an ecologically limiting factor in the river, resulting in a naturally very low macroinvertebrate abundance and diversity and no native fish. Consequently, the ecological value of the Whangaehu River for native fauna, in the assessment reach, is assessed as Very Low.
- (f) With respect to the discharge wastewater temperature at the discharge point into Whangaehu River, Ms Barnett concludes that the magnitude of effects on river water temperature on the freshwater flora and fauna, after reasonable mixing, would be negligible.

10.3 Adopting the advice of both Ms Barnett and Dr Ausseil, I consider that subject to compliance with the proposed conditions, the effects of the wastewater discharge on aquatic ecology within the Whangaehu River will be less than minor.

11. **EFFECTS ASSOCIATED WITH CONTAMINATED SOILS**

11.1 In Technical Memo 5 and Technical Memo 6 (application package), and in his evidence in chief, Mr Garcia sets out the findings of the Detailed Site Investigations ("**DSI**") and Remediation Action Plan ("**RAP**") relating to the land disturbance activities.

11.2 The Site history and inspection confirmed that the Site has been subject to activities listed on the Hazardous Activities and Industries List ("**HAIL**").

11.3 20 targeted soil samples were analysed within an area of approximately 4 ha, including sampling within and adjacent to the existing pond area. The key findings were:

- (a) Except for the two locations mentioned below, all other samples had contaminants below their respective Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health for Contaminated Soils) Regulations 2011 ("**NES-CS**").
- (b) Elevated and localised zinc concentrations were identified at location WA18, at approximately 1.5 m below ground level beneath

the pond, with concentrations exceeding ecological soil guideline values ("ECO-SGVs").

- (c) Elevated and localised arsenic was detected in surface soil at location WA09, exceeding the NES-CS commercial/industrial and land use Soil Contamination Standard ("SCS") human health criteria.

11.4 Mr Garcia has prepared a Remediation Action Plan ("**RAP**") to manage the identified zinc and arsenic exceedances during earthworks phase. In the notified application, the proposed remediation methodology was to isolate the contaminants from the receptors via capping using the installation of an impermeable liner (HDPE) from the proposed wetland.

11.5 Post-notification of the application, the remediation methodology for the zinc and arsenic exceedances has been amended so that the area of arsenic exceedance (WA09) will be cut to 1 m below ground level as part of the proposed earthworks. The cut material will be placed within the former pond area (WA18), with additional on-site material placed on top as a final cap. The former pond area will then be grassed.

11.6 Careful thought has been given to location of the revised Stone Wetland to avoid the potential for any wetland leakage over historic contamination. The revised Stone Wetland concept plan, shows that it is:

- (a) Not located over the former pond area, where the zinc exceedance was reported; and
- (b) Not located over the area where arsenic exceedances were reported (as the subject contaminated soils are to be removed).

11.7 On behalf of the Council, Mr Garcia's assessment was reviewed by Mr Blackwell. Mr Blackwell states that subject to the implementation of the RAP, appropriate liner installation and Quality Assurance, and the inclusion of ongoing monitoring and aftercare measures, he considers that the contaminated land risks associated with the Proposal remain low and manageable.

12. **RECREATION AND AMENITY EFFECTS**

12.1 In his water quality assessment, Mr Coutinho has assessed the effects of the proposed discharge on parameters relevant to visual amenity and contact recreation, including water colour, clarity, suspended solids, and

microbiological indicators, and whether the discharge results in observable changes following mixing in the river.

12.2 With respect to recreation and amenity adverse effects associated with the proposed discharge into Whangaehu River, it is noted that:

- (a) The Whangaehu River is characterised by naturally variable water colour and clarity, strongly influenced by volcanic inputs from Mt Ruapehu. Monitoring data shows that water colour can range from glacial blue to yellow-brown hues, and that clarity is frequently low both upstream and downstream of the discharge location. These characteristics form part of the existing receiving environment.
- (b) Following reasonable mixing, the proposed discharge is not expected to result in visible discolouration or a discernible plume. The wastewater is characterised by low suspended solids concentrations, and hydrocarbons and mineral oils were not detected. As a result, the discharge is not expected to introduce additional turbidity or surface films, or to materially alter water clarity after mixing in the river.
- (c) With respect to contact recreation, including swimming and rafting, the assessment shows that *E. coli* concentrations are low and often below detection limits, indicating a low risk to human health.

12.3 Mr Coutinho concludes that taking into account the existing visual characteristics of the Whangaehu River and the assessed downstream water quality following reasonable mixing, the proposed discharge is not expected to materially alter water appearance, clarity, or conditions relevant to contact recreation. Any effects on recreation and amenity values are therefore assessed as no more than minor.

12.4 While Dr Ausseil does not specifically refer to recreation effects, his conclusions align with the above, as he states that the effects of the proposed discharge on the water quality of the Whangaehu River will be no more than minor, and any effects of the discharge on the One Plan water quality targets or NPS-FM attribute states (bands) will be no more than minor.

13. **LAND STABILITY AND EROSION EFFECTS**

13.1 Adopting the advice of Mr Coutinho, I consider that the effects of the proposed discharge on bank stability and erosion processes, will be less than minor for the following reasons:

- (a) When compared with the 7-day mean annual low flow ("**MALF**"), the discharge represents less than 0.4 percent of the Whangaehu River flow under low flow conditions.
- (b) The previous wastewater discharges from the Site occurred at substantially higher volumes, without evidence of riverbank instability, erosion, scouring, or adverse effects on channel form attributable to those discharges. The current proposal represents a significant reduction in discharge volume.

14. **CONSTRUCTION EFFECTS**

14.1 In Technical Memo 4 (application package), and in his evidence in chief, Mr Prasad sets out the proposed earthworks and the ESCP methodology to be implemented in during the earthwork construction phase of the wetland.

14.2 Mr Prasad confirms that the revised Stone Wetland design will not affect the general methodology proposed for the earthworks design (and associated sediment and erosion control measures) in the notified application.

14.3 Mr Prasad's assessment was peer reviewed by Mr Pearce on behalf of the Council. Mr Pearce concludes that all aspects specific to erosion and sediment control and associated water quality can be addressed through appropriate conditions of consent.

14.4 Adopting the findings of Mr Prasad and Mr Pearce, I conclude that subject to compliance with the conditions, the effects associated with construction earthworks will be less than minor for the following key reasons:

- (a) The ESCP identifies that the earthworks will occur on flat to gently undulating land, with no defined overland flow paths through the works area. The ESCP confirms that there are no nearby streams, wetlands, or other sensitive downstream receiving environments adjacent to the earthworks area, and an ecological assessment did not identify any sensitive ecological receptors that would be adversely affected by sediment runoff or soil disturbance.

- (b) To manage erosion and sediment effects, the ESCP provides for the installation of a temporary perimeter earth bund, which will prevent clean water inflows and retain sediment laden water within the earthworks area.
- (c) Earthworks are proposed to be undertaken, where practicable, during a favourable weather window, and all exposed surfaces will be re topsoiled and grassed following completion of works to stabilise the site.
- (d) Groundwater levels recorded in nearby investigation and production bores are generally deeper (approximately 4.5–7 m below ground level). The proposed earthworks are expected to extend to depths of approximately 0.7–1.0 m. Encountering groundwater during construction is unlikely.

15. CULTURAL EFFECTS

Submission

- 15.1 In submission 15, Ngāti Rangi states that it is tangata tiaki for Te Waiū-o-Te-Ika (Whangaehu River), as set out in the Deed of Settlement Rukutia Te Mana. This application is of particular importance, as it involves a discharge into the main artery of the Whangaehu River.
- 15.2 The Applicant recognises the importance of, and has been committed to, undertaking meaningful consultation with Ngāti Rangi.
- 15.3 Ngāti Rangi seeks that the application to be declined as:

"The discharge of wastewater condensate into the Whangaehu River does not align to the principles of Te Mana Tupua meaning that kawa ora, mouri ora, manawa ora and finally wai ora (the river's life-giving properties) are diminished. The volume of daily wastewater discharge exceeds the Ngāti Rangi standards."

- 15.4 Ngāti Rangi further states that:

"While we commend the proposal to filter wastewater through a wetland system the concern is that the proposed site is contaminated. Alterations will need to be made to the wetland construction and site".

- 15.5 Furthermore, Ngāti Rangi sets out 9 specific conditions. While not specifically stated in the submission, I assume (based on the drafting of these 9 conditions), that it implies that should the application be granted, then Ngāti Rangi requests specific attention to be given to these 9 matters.
- 15.6 I acknowledge that it is for Ngāti Rangi to identify the relevant cultural values of the Whangaehu River. Having carefully considered the submission from Ngāti Rangi, I discuss the effects of the proposal on Whangaehu River from a scientific point of view, guided by the following documents:
- (a) Ngāti Rangi Claims Settlement Act 2019;
 - (b) Te Waiū-o-Te-Ika (Whangaehu River) Framework; and
 - (c) Ngāti Rangi Taiao Management Plan 2014.
- 15.7 In Technical Memo 8 (application package), I discuss the Ngāti Rangi Claims Settlement Act 2019 and Te Waiū-o-Te-Ika (Whangaehu River) Framework. Having considered the submission from Ngāti Rangi, I provide further assessments in my discussion below.

Ngāti Rangi Claims Settlement Act 2019

- 15.8 In Technical Memo 8¹⁹, I provide an overview of the Ngāti Rangi Claims Settlement Act 2019. Ms Morton also explains this Act in the s 42A Report²⁰. In brief:
- (a) Section 107(1) sets out the Te Mana Tupua o Te Waiū-o-Te-Ika (Whangaehu River) ("**Te Mana Tupua**").
 - (b) Section 107(2) states that Te Waiū-o-Te-Ika (Whangaehu River) is a living and indivisible whole from Te Wai ā-moe (Crater Lake, Mount Ruapehu) to the sea, comprising physical (including mineral) and metaphysical elements, giving life and healing to the surroundings and communities.
 - (c) Section 108 sets out the Ngā Toka Tupua o Te Waiū-o-Te-Ika ("**Ngā Toka Tupua**"), being the intrinsic values that represent the essence of Te Waiū-o-Te-Ika (Whangaehu River).

¹⁹ Section 2 of Technical Memo 8, Statutory Assessment - Te Waiū-o-Te-Ika (Whangaehu River) Framework.

²⁰ Section H of the s 42A Report.

- (d) Pursuant to s 109(3), decision makers under the RMA (on a resource consent application), must have particular regard to Te Mana Tupua and Ngā Toka Tupua.
- (e) The applicant is unaware of Te Tāhoratanga (vision and strategy for the Te Waiū-o-Te-Ika catchment) being developed or approved; accordingly, the decision makers cannot have particular regard to Te Tāhoratanga (s124(3)).

Ngāti Rangi Taiao Management Plan 2014

- 15.9 In section O of the s 42A Report, Ms Morton provides an overview and assessment against the Ngāti Rangi Taiao Management Plan 2014 (“**Taiao Management Plan**”).
- 15.10 In regard to the proposed earthworks and the alignment with Taiao Management Plan, I agree with her assessment that the proposed containment measures are intended to prevent an active pathway between the contaminated soils and surrounding environment, thereby, addressing the concern in the Taiao Management Plan that existing soil contamination is appropriately managed and further contamination of land or water is avoided²¹.
- 15.11 With regards to water quality and point source discharges in particular, the Taiao Management Plan states that:
 - (a) Ngāti Rangi does not support discharges to water (Policy 4.2.1);
 - (b) However, some discharges may be considered in exceptional circumstances. Any discharges agreed to by Ngāti Rangi will (Policy 4.2.2):
 - (i) Pass through land or wetland prior to release to water; and
 - (ii) Be high quality, free from contaminants, not contribute to cumulative impacts nor have any effect on the waterbody and its mouri.

Assessment

- 15.12 Having considered the Ngāti Rangi submission, Te Waiū-o-Te-Ika (Whangaehu River) framework, Ngā Toka Tupua, and the Taiao

²¹ Paragraph 281 of the s 42A Report.

Management Plan I consider that the following matters have been incorporated into the proposal to avoid, remedy or mitigate the effects of the proposal on cultural values:

- (a) A significant reduction in the volume of wastewater produced and sought to be discharged to the Whangaehu River, being 750m³/day (compared to the approved consented discharge limit of 5,200m³/day).
- (b) The wastewater produced is classified as a “condensate” and is of a significantly cleaner quality than the wastewater stream approved under the approved consent).
- (c) As per the consultation with Ngāti Rangi, the Proposal includes a wetland system to ensure that the wastewater is discharged into the wetland system prior to the discharge to the Whangaehu River.
- (d) From a catchment management perspective (as an interconnected whole), the proposed reduced discharge volume will not adversely affect the physical attributes of the Whangaehu River.
- (e) From a water quality perspective, the assessments confirm that:
 - (i) The low discharge flow rate is not expected to materially alter the existing pH and suspended solid concentrations in the Whangaehu River and will ensure that the flows of water will continue to sustain aquatic life in the Whangaehu River.
 - (ii) Taking into account the high dilution, the comparatively low contaminant load in the condensate discharge, the reduced discharge volume, the Proposal is a significant improvement over the current approved wastewater discharge consent.
 - (iii) Overall, the significantly improved quality of the discharge ensures that the water and its inherent life-supporting capacity continue to be valued and enhanced, thereby ensuring prosperity and growth for hapū and iwi.
- (f) With respect to the water clarity (living and nurturing waters; and the river’s source on Ruapehu), it is noted that the Whangaehu River exhibits unique water quality conditions influenced by volcanic inputs from Mt Ruapehu, resulting in naturally low pH, high phosphorus concentration, variable clarity and colour. The colour

of the wastewater discharge will be visibly clear. Therefore, it will not adversely affect the water clarity of the Whangaehu River and the associated recreational values.

- (g) From an ecological perspective (for drawing sustenance), the assessments completed confirm that the magnitude of ecological effects will be negligible.
- (h) The discharge does not introduce contaminants that would change the existing suitability of the river for contact recreation.
- (i) I note that the whole of the WPI Site is classified as a HAIL site. The targeted sampling of the earthworks area has identified the localised areas of elevated zinc and arsenic concentrations. The Applicant has modified the location of the Stone Wetland, and is undertaking remediation to ensure that the entirety of the wetland system is located outside the elevated zinc and arsenic areas, and an impermeable line is installed, thereby avoiding any potential for wetland leakage over historic contamination.
- (j) The Applicant is supportive of resource consent conditions that specify the maximum discharge volume and put in place a monitoring regime to ensure that the actual discharge concentration composition is within the consented limits.
- (k) The Applicant will consult with Ngāti Rangi to develop the Stone Wetland Planting Plan.

16. **NATIONAL ENVIROMENTAL STANDARDS**

- 16.1 With respect to National Environmental Standards for Sources of Human Drinking Water ("**NES-DW**"), Ms Morton has identified the nearest registered drinking water supply to the WPI Site to be the two bores located on the Tangiwai Sawmill site²². Having regard to the conservative assumptions in the water quality assessment completed by Mr Coutinho, I consider that the effects of the Proposal on these bores will be less than minor. This also aligns with Mss Morton's conclusion that the Proposal is not likely to result in a significant adverse effect on water quality at the registered bore abstraction points²³.

²² Paragraph 142 of the s 42A Report.

²³ Paragraph 145 of the s 42A Report

- 16.2 With respect to National Environmental Standards for Freshwater ("**NES-F**"), I agree with Ms Morton that these standards are not relevant to this application²⁴.
17. **THE PLANNING FRAMEWORK FOR DISCHARGES TO WATER IN THE ONE PLAN**
- 17.1 Both the Planning Report and Ms Morton provide commentary on the assessment of the application against the relevant statutory documents, including:
- (a) The National Policy Statement for Freshwater Management 2020 ("**NPS-FM**").
 - (b) Horizons One Plan – Regional Policy Statement.
 - (c) Horizons One Plan – Regional Plan.
- 17.2 For the purposes of avoiding duplication, I note that apart from Ms Morton's comments on cultural effects (i.e. that in light of the submission from Ngāti Rangi, she is unable to make a recommendation on cultural effects until she has considered Ngāti Rangi's evidence to be presented in the hearing), we both agree with the overall conclusion that the application is generally consistent with the relevant objectives and policies framework as confirmed by the technical assessments. Ms Morton's view is clear that her conclusion is limited to likely physical effects of the activity only (i.e. assessment on cultural effects is outstanding).
- 17.3 The Commissioners will be aware that under the RMA, planning documents operate as a hierarchy, described by the Supreme Court as a "cascade" of planning documents in the King Salmon Decision. In brief, the lower order planning documents are required to give effect to the relevant higher order instruments. Therefore, rules in a regional plan give effect to the strategic directions set out in a regional policy statement.
- 17.4 If having considered the Ngāti Rangi Settlement Act and Te Waiū-o-Te-Ika (Whangaehu River) Framework, the outcomes sought by the higher order documents (such as Regional Policy Statement) were that industrial wastewater discharges to the Whangaehu River were considered inherently inappropriate or generally not contemplated, I would expect this

²⁴ Paragraph 146 of the s 42A Report

policy direction to be reflected in the One Plan through a more restricted activity status (such as a Non-complying Activity or a Prohibited Activity).

17.5 Noting that Rule LF-LW-R38 of the One Plan provides for discharges of contaminants to Whangaehu River as a Discretionary Activity, I consider that the planning framework contemplates such discharges to be considered on their merits through a resource consent process. I note that while Discretionary Activity status does not indicate that consent will necessarily be appropriate, it equally does not establish a presumption that such discharges are inherently unacceptable.

17.6 While I acknowledge that it is not good practice to “cherry pick” particular objectives and policies from the relevant statutory documents and that objectives and policies should be assessed as a “package”, given the extensive list of matters, I draw the Commissioner’s attention to those specific objectives and policies which are most relevant to this application in my discussion below.

17.7 The planning Framework applying to wastewater discharges to the Whangaehu River in the One Plan- Regional Policy Statement is as follows:

- (a) Objective LF-FW-03 seeks to ensure that surface water bodies and their beds are managed in a manner that safeguards their life supporting capacity and recognises and provides for the Values in RP-SCHED2.

The proposed discharge to the Whangaehu River is located in Upper Whangaehu Water Management Area Sub-area (Whau_1a) in SCHED2. The relevant area wide values include: Life supporting capacity, aesthetics, mauri, contact recreation, industrial abstraction, irrigation, stockwater, existing infrastructure and capacity to assimilate pollution.

- (b) Objective LF-FW-04 seeks to ensure that surface water quality is managed to ensure that water quality is maintained in rivers and lakes where the existing water quality is at a level sufficient to support the Values in RP-SCHED2.

Both Mr Coutinho and Dr Ausseil agree that water quality in the Whangaehu River will be maintained at a level to support the values in SCHED2.

(c) LF-FW-P5 states that in RP-SCHED5, water quality targets relating to values in SCHED2 are identified for each Water Management Sub-area. These water quality targets must be used to inform the management of surface water quality as set out in LF-FW-P6, P7 and P8. Both Mr Coutinho and Dr Ausseil are agree that water quality of the Whangaehu River will be maintained.

(i) LF-FW-P6 – where existing water quality meet the targets, then water quality must be managed in a manner that ensures the water quality target continues to be met beyond the zone of reasonable mixing.

Both Mr Coutinho and Dr Ausseil agree that water quality in the Whangaehu River will be maintained at a level to support the values in SCHED2.

(ii) LF-FW-P7 – where existing water quality does not meet the target, then water quality must be managed in a manner that enhances existing water quality in order to meet: the water quality target, and /or the relevant SCHED2 values and management objectives that the water quality target is designed to safeguard.

(iii) LF-FW-P8 – does not apply to this application, as existing water quality is known.

(d) LF-FW-P5 states that in RP-SCHED5, water quality targets relating to values in SCHED2 are identified for each Water Management Sub-area. These water quality targets must be used to inform the management of surface water quality as set out in LF-FW-P6, P7 and P8.

17.8 Policy LF-LW-P12 sets out the consent decision making requirements from the NPS-FM. This policy applies to any application for a new discharge or a change to an existing discharge into water (or land). It states that when considering any application for a discharge, the Regional Council must have regard to the following matters:

(a) The extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with the fresh water; and

- (b) The extent to which it is feasible or dependable that more than minor adverse effects on fresh water, and on any ecosystems associated with the freshwater, resulting from the discharge would be avoided.
- (c) The extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh water; and
- (d) The extent to which it is feasible and dependable that any more than minor adverse effects on the health of people and communities as affected by their secondary contact with freshwater resulting from the discharge would be avoided.

17.9 With respect to Policy LF-LW-P12, I note that the assessments completed by the applicant's specialists and peer reviewed by the Council's experts, confirm that water quality in the Whangaehu River and its life-supporting capacity, including ecosystems associated with the fresh water will continue to be maintained. Furthermore, there will be no adverse effects on the health of people and communities as affected by secondary contact with freshwater.

18. **MATTERS RAISED BY SUBMITTERS**

18.1 The matters raised by the submitters are addressed in the relevant expert reports.

19. **PROPOSED CONDITIONS**

19.1 The applicant has reviewed the draft conditions package included in the s42A Report. Having carefully considered these, the applicant's proposed conditions are included in **Attachment 1** to my evidence. An explanation on the changes proposed is included in the comments section within Attachment 1 document.

Sukhi Singh
29 September 2026

ATTACHMENT 1 – APPLICANT’S PROPOSED CONDITIONS

ATTACHMENT A - AMENDMENTS PROPOSED BY THE APPLICANT

Dated 29 September 2026

<i>Note:</i>	
Underlined, strike through and highlighted text	Amendments proposed by the applicant as set out in Ms Singh's Statement of Evidence in Chief (dated 29 September 2026).
• Numbering to be updated later	

**1. Discharge consent for wastewater to Whangaehu River,
~~condensate wastewater~~**

The following details the location, classifications and conditions associated with the activity.

Authorisation Number	ATH-2010011593.03
Activity Type	Discharge to Water
Activity Class	Discretionary Activity
Activity Primary Industry	Manufacturing, Processing or Production
Activity Primary Purpose	Waste Management Wastewater, Condensate or Leachate Management
Replaces Authorisation	ATH-2010011593.01

Location

The following summarises the authorised location for the consented activity.

Activity Location Description	STATE HIGHWAY 49 WAIOURU
Valuation Number	12700/052.00
Legal Description	LOTS 1 2 DP 70426 LOT 1 DP 70973 LOTS 1-3 5 DP 70969 SEC 1-6 SO 569642 LESS SUB LICENCE RT 460073 on SEC 4 SO 569642 - 4.92HA - ASSESSED AT 1270 / 05220
Map References	LOC-0000073830 (Centroid: BJ34:223-287)

Classifications

The following summarises the classifications associated with the application activity.

Groundwater Management Area	Whangaeahu
Water Management Area	Whangaeahu Catchment, Upper Whangaeahu, Upper Whangaeahu (Whau_1a)
Associated River	WHANGAEHU RIVER (331000)

DRAFT

Activity Specific Conditions for condition framework

Definitions – Applying to both authorisations:

Abnormal operating conditions: operating conditions outside the normal design parameters of the torrefaction process or Torr Gas burner that could materially alter condensate wastewater quality, including failure to achieve the minimum temperature or residence time required by **Condition 14**.

CMR: Commissioning Monitoring Report.

CTMP: Chemical Treatment Management Plan.

Commencement of the discharge: the date on which condensate wastewater is first discharged to the Whangaehu River under this consent following commissioning of the torrefaction plant and constructed wetland.

Construction Quality Assurance (CQA) documents means the Construction Quality Assurance Plan, associated inspection and testing records, certifications, as-built information, and the final Construction Quality Assurance Report required by these conditions.

Constructed stone wetland: the engineered wetland system authorised by the consents through which the condensate wastewater passes prior to discharge to the Whangaehu River.

ESCP: Erosion and Sediment Control Plan.

GWRC: Greater Wellington Regional Council, *Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region*, February 2021.

HDPE: High-density polyethylene.

Leak monitoring system: the system incorporated into the final wetland design to identify seepage or leakage from the constructed wetland beneath the HDPE liner.

Placeholder condition: A condition identified as a Placeholder condition represents the present condition framework based on the information available at the time of preparing this section 42A report. The wording and/or requirements of these conditions may be updated following consideration of the Applicant's section 41B evidence, evidence presented at the hearing and matters canvassed through the hearing process.

RAP: Remedial Action Plan.

SQEP: Suitably qualified and experienced person.

Virgin forestry material: For the purposes of this consent, virgin forestry material means wood or woody biomass that has not previously been used and has not been chemically treated, painted or coated, and excludes demolition or recycled timber.

Commented [SS1]: Item 1 above specifies that this is "condensate" wastewater. For consistency of use throughout the conditions, all references to "condensate" or "condensate wastewater" changed to "wastewater" generally.

Commented [SS2]: Under condition 26, this report is due at the same time as the first annual compliance report. It is not clear as to the purpose of this report, noting that these matters would largely be addressed in the annual report under condition 26/

Commented [SS3]: Clarify the specific type of wetland proposed.

Commented [SS4]: Not necessary anymore, as the revised Stone Wetland location avoids the potential for any wetland leakage over historic contamination.

Descriptive Specification

1. This consent authorises the discharge of condensate wastewater via the constructed wetland to the Whangaehu River located at the boundary of property legally described as LOTS 1 2 DP 70426 LOT 1 DP 70973 LOTS 1-3 5 DP 70969 SEC 1-6 SO 569642 LESS SUB LICENCE RT 460073 on SEC 4 SO 569642 - 4.92HA - ASSESSED AT 1270 / 05220 (the property) at approximate map reference NZTopo50 BJ34:223-287 which is shown in Site Plan LOC-0000073830 attached to and forming part of this resource consent.
2. The Consent Holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with the Manawatū-Whanganui Regional Council on **9 July 2026** including:
 - a. Document 4: Planning Report – Karioi Wood Processing for Winstone Pulp International Limited.” Prepared by Babbage Consultants Limited;
 - b. Document 5: Technical Memo 1 – Torrefaction Technical Memo. Prepared by Babbage Consultants Limited;
 - c. Document 6: Technical Memo 2 – Water Quality Assessment Memo. Prepared by Babbage Consultants Limited; and
 - d. Document 14: Response to the Section 92 Response – APP-2006012018.02, prepared by Babbage Consultants Limited and dated 11 June 2026, including the Torrefaction Process Diagram included as Attachment 1.Where there may be inconsistencies between information provided by the Applicant and conditions of the resource consent, the conditions of the resource consent will apply.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

Pre-Development Assurance

3. **Place holder condition.** The Consent Holder must advise the Manawatū-Whanganui Regional Council in writing at least **ten (10) working days** before the first discharge authorised by this consent commences.
4. The discharge authorised by this consent must not commence until the constructed wetland has been completed ~~and commissioned~~ in accordance with the relevant requirements of Land Use Consent **ATH-2026209463.00**, including provision of the required Construction Quality Assurance documentation.

Commented [SS5]: The wetland can't be "commissioned" without the discharge, hence, deleted.

5. Prior to the commencement of the discharge, the Consent Holder must have a flow meter installed by an accredited installer capable of continuously measuring the total condensate wastewater discharge volume and flow rate. The flow meter must:

Commented [SS6]: Included for clarity purposes.

- a. ~~be located on the condensate wastewater discharge line; and~~
- b. have a pulse counter output traceably calibrated to +/- 5% or better; and
- c. be capable of providing the daily volume of ~~condensate~~ wastewater discharged as well as a pulse counter output; and
- d. be positioned on the wastewater discharge line prior to the discharge to the stone wetland to measure the entire daily volume discharged under the authorisation of this consent; and
- e. be installed in accordance with the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020; and
- f. be installed in accordance with the IrrigationNZ "The New Zealand Water Measurement Code of Practice" September 2018.

Commented [SS7]: Condition 5(a) deleted and 5(d) updated to clarify that the flow meter will be installed on the wastewater line prior to the discharge into the wetland.

ADVICE NOTE: An accredited installer refers to an individual with a current accreditation certificate for water measurement installation from Irrigation New Zealand (also referred to as IrrigationNZ) represented by the 'Blue Tick' logo. A list of accredited installers can be found at www.irrigationnz.co.nz. An accredited installer may also include a SQEP specializing in installation of flow meters, including certified electricians and instrument engineers.

Commented [SS8]: This advice note is appears to be tailored for farm flow meters. The flow meter for this project will most likely be installed by a certified electrician or specialised instrument engineer (both of whom may not have a "blue tick"). Condition 5(e) and (f) ensure that the flow meter is installed as per the code of practice.

6. Prior to the commencement of the discharge the Consent Holder must install and maintain, in fully operational condition, a telemetry unit compatible with the Manawatū-Whanganui Regional Council's Telemetry System. The telemetry unit must:

- a. be installed on the condensate discharge wastewater line; and
- b. be traceably calibrated to +/- 5% or better; and
- c. be set to New Zealand Standard Time.

ADVICE NOTE: The Manawatū-Whanganui Regional Council will monitor the logger to ensure compliance with the resource consent conditions.

7. The Consent Holder must ensure that the monitoring equipment detailed in **Conditions 5 and 6** in respect to the flow meter and telemetry equipment is located in a position where it can be read and safely accessed at all times.

Environmental Standard

8. The Consent Holder must ensure that only ~~condensate~~ wastewater associated with the processing of virgin forestry material is discharged under this consent.

9. The Consent Holder must ensure that the volume of condensate wastewater entering the stone wetland discharge to the Whangaehu River must not exceed **750 m³/day** in any **24-hour period**.

ADVICE NOTE: The maximum volume limit of 750 m³/day in any 24-hour period does not include rainwater falling on the stone wetland.

10. The Consent Holder must ensure that after reasonable mixing, the discharge must not give rise to any of the following effects in the Whangaehu River:
- the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - any conspicuous change in the colour or visual clarity of the receiving water;
 - any emission of objectionable odour;
 - the rendering of the water unsuitable for consumption by farm animals; or
 - any significant adverse effects on aquatic life.

Operational Restrictions

11. The Consent Holder must ensure that all ~~condensate~~ wastewater authorised by this consent passes through the constructed stone wetland before the discharge into the Whangaehu River.
12. Within **three (3) months** of installation, the Consent Holder must have the flow meter (required by **Condition 5**) verified by an Irrigation New Zealand “Blue Tick” accredited verifier or a SQEP.

The flow meter shall be verified by an Irrigation New Zealand “Blue Tick” accredited verifier or a SQEP every five (5) years thereafter to ensure compliance with **Condition 5**. The Consent Holder shall provide evidence of the verification in writing to the Manawātū-Whanganui Regional Council’s Consents Monitoring Team within **one (1) month** of the verification being completed.

ADVICE NOTE: Written verification can be sent to the Consents Monitoring Team by email consents.monitoring@horizons.govt.nz –OR– mail addressed to C/- The Consents Monitoring Team, Horizons Regional Council, Private Bag 11025, Manawātū Mail Centre, Palmerston North 4442.

13. **Placeholder condition.** The constructed stone wetland must be operated and maintained so that the discharge pathway and hydraulic performance remain consistent with that described in the application, including the stated minimum residence time of not less than 4 hours ~~2-8 days~~.
14. **Placeholder condition.** The Consent Holder must ensure that the Torr Gas burner associated with generation of wastewater condensate be designed and operated so that the process gas achieves a residence time of at least **two seconds at a temperature of not less than 850°C** prior to condensation.

Commented [SS9]: Updated to align with refined stone wetland design parameters.

15. **Placeholder condition.** The Consent Holder must provide and maintain a means of preventing wastewater condensate generated during abnormal operating conditions from being discharged to the constructed stone wetland and/or the Whangaehu River where those abnormal conditions could materially alter generate wastewater quality that results in non-compliance with Condition 21 condensate quality. The system must provide for detention, diversion or other appropriate management of that until operating conditions have returned to normal and the suitability of the condensate for discharge has been confirmed.

Commented [SS10]: The condensate is not created during start-up or shut down periods and can be ceased to be created during any periods of abnormal operations.

Monitoring Provision

16. The Consent Holder shall allow any Manawatū-Whanganui Regional Council staff member and its agents to attach monitoring or telemetry equipment to monitor volume and rate of the condensate wastewater discharge to ensure compliance with consent conditions and as part of the total catchment monitoring programme.
17. In the event that the equipment detailed in **Condition 5** in respect to the flow meter and/or **Condition 6** being the telemetry unit is removed for servicing or replacement, the Consent Holder shall notify the Manawatū-Whanganui Regional Council's Consents Monitoring Team within **one (1) working day**.
18. **Placeholder condition.** The Consent Holder must take representative samples of the wastewater condensate immediately prior to it entering the constructed stone wetland. For the first six 12 months following commencement of the discharge, samples must be collected at least fortnightly monthly. Following the initial six 12-month period and the sampling results demonstrating compliance with Condition 21, the frequency of the samples must be collected must be reduced to at least one every 6 months monthly, unless the monitoring frequency is subsequently amended in accordance with **Condition 26**. All samples must be analysed for the following parameters:
- pH;
 - temperature (on-site measurement);
 - total suspended solids (TSS);
 - total ammoniacal nitrogen;
 - nitrite and nitrate nitrogen;
 - chloride;
 - sulphate;
 - mineral oil;
 - Total lead;
 - Total cadmium;
 - Total chromium;

Commented [SS11]: The applicant supports condition 18, however, amendments are included to provide for less frequent sampling collection regime where sampling results demonstrate over the previous year that compliance with condition 21 parameters are met. This reduces the time cost and financial cost of undertaking unnecessary sampling where compliance is being illustrated on a consistent basis.

- l. Total copper;
- m. Total mercury;
- n. Total nickel;
- o. Total zinc;
- p. polycyclic aromatic hydrocarbons (PAHs);
- q. carbonaceous biochemical oxygen demand over five days (cBOD₅);
- r. volatile organic compounds (VOCs);
- s. phenol; and
- t. furans.

19. **Placeholder condition.** All samples collected under **Conditions 18 and 20**, other than parameters required to be measured on site, must be analysed by an International Accreditation New Zealand (IANZ) accredited laboratory using accredited analytical methods, where available.

The Consent Holder must provide the analytical results to the Manawātū-Whanganui Regional Council within **ten (10) working days** of receiving the results from the laboratory.

The Consent Holder must take representative samples of the Whangaehu River water at least once per year. Samples shall be taken at a point approximately 100 m upstream of the discharge point and at the Tangiwai Memorial. Samples shall be analysed for the same parameters listed Condition 18. The Whangaehu River sampling shall be undertaken whilst the wastewater is being discharged in River, and is occurring and at a time of the year which corresponds to low flow river conditions.

Commented [SS12]: The applicant proposes this new condition, requiring sampling of the discharge at the Whangaehu River to ensure availability of robust data to illustrate compliance with the consent conditions.

20. **Placeholder condition.** ~~Following an initial stabilisation period of [period to be confirmed] after full commissioning of the torrefaction plant and the constructed wetland, the Consent Holder must, for a period of 12 consecutive months, take representative samples of the final discharge leaving the constructed wetland. Samples must be collected at least monthly and, where practicable, on the same day as samples of the condensate entering the wetland are taken under Condition 18. Samples must be analysed for the same parameters specified in Condition 18.~~

Commented [SS13]: The function of the refined stone wetland design is to reduce wastewater temperature. The purpose/benefit of this proposed condition is not clear.

21. **Placeholder condition.** The Consent Holder must ensure that the quality of wastewater condensate immediately prior to entering the constructed stone wetland complies with the limits specified in Table 1.

Table 1: Wastewater quality limits

Commented [SS14]: Refer to Evidence of Mr Duder and Mr Cortinho setting out an explanation on using units of discharge limits instead of concentration water quality limits.

<u>Volume</u>	<u>Limit</u>
<u>Volume</u>	<u>750m³/day</u>
<u>pH</u>	<u>5.5 to 8.5</u>
<u>Temperature</u>	<u>50 °C</u>
<u>Suspended Solids</u>	<u>10 kg/day</u>
<u>Ammonium and ammonia as N</u>	<u>4 kg/day</u>
<u>Nitrite and nitrate as N</u>	<u>10 kg/day</u>
<u>Chloride</u>	<u>12 kg/day</u>
<u>Sulphate</u>	<u>21 kg/day</u>
<u>Mineral oil</u>	<u>0.8 kg/day</u>

For parameters expressed as a concentration:

a. the average concentration measured over any six month period where fortnightly sampling applies, or any 12-month period where monthly sampling applies, must not exceed the Average Concentration Limit specified in Table 1; and

b. no individual sample must exceed the Maximum Individual Sample Limit specified in Table 1

Table 1: Condensate wastewater quality limits *

Parameter	Average concentration limit	Maximum individual sample
pH		Limit to be confirmed
Temperature		48°C**

Total suspended solids	3.4 mg/L	10.2 mg/L***
Total ammoniacal nitrogen	4.6 mg/L	13.8 mg/L
Nitrite and nitrate nitrogen	3.5 mg/L	10.5 mg/L
Chloride	15.3 mg/L	45.9 mg/L
Sulphate	27 mg/L	81 mg/L
Mineral oil	<1 mg/L	
Total lead	0.016 mg/L	0.048 mg/L
Total cadmium	0.0018 mg/L	0.0054 mg/L
Total chromium	0.0177 mg/L	0.0531 mg/L
Total copper	0.0137 mg/L	0.0411 mg/L
Total mercury	0.00006 mg/L	0.00018 mg/L
Total nickel	0.0021 mg/L	0.0063 mg/L
Total zinc	0.42 mg/L	1.26 mg/L
PAHs, sum of detected compounds	<0.00001 mg/L	To be confirmed
eBOD ₅	<2 mg/L	To be confirmed
Volatile organic compounds (VOCs)	<screening level laboratory detection limit	To be confirmed
Phenol	<screening level laboratory detection limit	To be confirmed
Furans	<screening level laboratory detection limit	To be confirmed

* Technical Memo 2, Water Quality Assessment

** Assessed condensate temperature before passage through the wetland.

*** Three times average concentration limit.

ADVICE NOTE: For parameters where Table 1 specifies a laboratory detection limit, the Consent Holder must ensure that the parameter is not detected above the specified analytical detection limit, unless otherwise confirmed through the section 41B evidence and hearing process.

22. **Placeholder condition:** Any exceedance of an ~~Average Concentration Limit~~ or Maximum Individual ~~Sample~~ Limit specified in Table 1 constitutes non-compliance with Condition 21 and must be managed in accordance with **Conditions 23 and 24**.
23. **Placeholder condition.** Where monitoring identifies a non-compliance under **Condition 22**, the Consent Holder must:
- notify the Manawātū-Whanganui Regional Council and Ngā Waihua o Paerangi Trust as soon as practicable and no later than **48 hours** after discovering the non-compliance;
 - investigate the cause of the non-compliance and undertake any immediate actions necessary to manage the discharge;
 - within **ten (10) working days** of discovering the non-compliance, provide the Manawātū-Whanganui Regional Council with a written interim report setting out:
 - the investigation undertaken to date;

- ii. the identified or likely cause of the non-compliance;
- iii. any immediate corrective actions undertaken; and
- iv. any further investigation or specialist assessment required under **Condition 24** below to prevent the non-compliance occurring again.

24. Where further investigation or specialist assessment is required under **Condition 23**, the Consent Holder must provide a final report prepared by a suitably qualified and experienced person within a **twenty (20) working days** of providing the interim report required by **Condition 23.c**.

The final report must:

- a. identify the cause of the non-compliance, where practicable;
- b. compare the monitoring results with the discharge quality values specified in **Table 1** of **Condition 21**, including consideration of the actual discharge volume and contaminant loads;
- c. assess whether the discharge could result in greater effects than those assessed in the application; and
- d. identify any further corrective action required to prevent the non-compliance occurring again.

ADVICE NOTE: Corrective action may include changes to process operation, improvements in discharge quality, reduction in discharge volume, detention or diversion of condensate, or temporary cessation of the discharge where necessary.

Commented [SS15]: Not necessary, as appropriate corrective action will be determined in line with condition 24(d)

Post-Development Assurance

25. **Placeholder condition.** Within **twenty (20) working days** following completion of the 12-month monitoring period required by **Condition 20**, the Consent Holder must provide the Manawatu-Whanganui Regional Council with a Commissioning Monitoring Report (CMR) prepared by a suitably qualified and experienced person (SQEP).

The report must:

- a. summarise discharge volume and rate monitoring;
- b. summarise the results of condensate and discharge quality monitoring;
- c. assess compliance with the condensate wastewater quality limits in **Table 1** of **Condition 21**;
- d. identify any non-compliance with **Condition 21** and any corrective action undertaken
- e. assess whether passage through the constructed wetland has materially changed discharge quality;
- f. recommend the ongoing monitoring parameters and frequency appropriate for ongoing compliance monitoring.

Commented [SS16]: Addressed under condition 27. No clear purpose for condition 25.

26. **Placeholder condition.** ~~Following consideration of the Commissioning Monitoring Report, the monitoring frequency and/or parameter suite may be reduced where the Manawātū Whanganui Regional Council certifies in writing that the monitoring demonstrates sustained compliance with the conditions of this consent, including the limits in Condition 21, and that the reduced monitoring regime is consistent with the recommendations of the CMR.~~

Commented [SS17]: Same as above.

27. **Placeholder condition.** The Consent Holder must provide an annual compliance report to the Manawātū-Whanganui Regional Council within **twenty (20) working days** following each anniversary of commencement of the discharge.

The report must summarise, for the preceding 12-month period:

- a. the total volume and rate of condensate wastewater discharged;
- b. the results of monitoring required by this consent;
- c. any non-compliance identified under **Conditions 21 and 22**;
- d. any investigations, corrective actions or changes to process operation undertaken in response to monitoring results;
- e. any changes to the monitoring frequency or parameter suite certified by the Manawātū-Whanganui Regional Council ~~under Condition 26.~~

Review

28. The Regional Council may, during the three months following each anniversary of commencement of this consent, serve notice under section 128(1)(a) of the Resource Management Act 1991 of its intention to review the conditions of this consent for the purposes of:

- a. addressing any adverse effect arising from the exercise of the consent that was not anticipated at the time the consent was granted;
- b. responding to monitoring that demonstrates the volume or composition of the discharge differs materially from that assessed in the application;
- c. reviewing the adequacy of discharge quality, volume and process monitoring requirements;
- d. requiring changes to monitoring frequency, parameters or reporting; and
- e. requiring changes to discharge management where necessary to ensure the nature and magnitude of effects remain consistent with those assessed when the consent was granted.

Lapsing

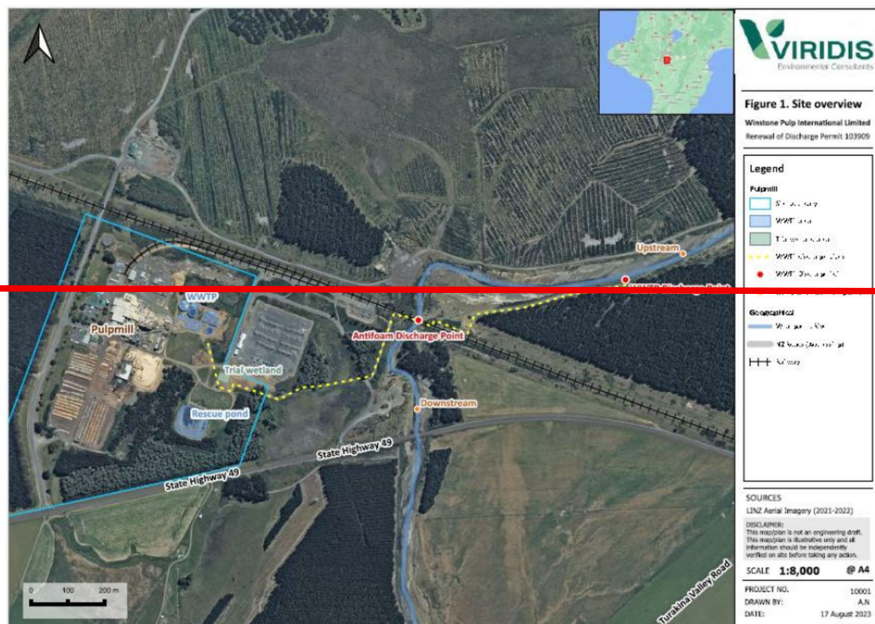
29. **Placeholder condition.** Pursuant to section 125 of the Resource Management Act 1991, this consent lapses ~~ten five years~~ from the date of the grant of this consent, ~~after commencement~~ unless it has been given effect to before that date.

Duration

30. **Placeholder condition.** This consent expires 20 years after the date of the first wastewater discharge authorised by this consent, and on 1 July 2039.

DRAFT





2. Land use consent, Land disturbance – wetland construction

The following details the location, classifications and conditions associated with the activity.

Authorisation Number	ATH-2026209463.00
Activity Type	Land Use, Land
Activity Class	Controlled
Activity Primary Industry	Commercial or Retail Trade
Activity Primary Purpose	Construction Water Abstraction or Control Structure

Location

The following summarises the authorised location for the consented activity.

Activity Location Description	STATE HIGHWAY 49 WAIOURU
Valuation Number	12700/056.00
Legal Description	SEC 3 BLK XI KARIOI SD
Map References	LOC-2026101715 (Centroid: BJ34:212-284)

Classifications

The following summarises the classifications associated with the application activity.

Groundwater Management Zone	Whangaehu
Water Management Zone	Whangaehu Catchment, Upper Whangaehu, Upper Whangaehu (Whau_1a)
Associated River	WHANGAEHU RIVER (331000)

Activity Specific Conditions

Descriptive Specification

1. This consent authorises land disturbance, together with any ancillary diversion of water and discharge of sediment arising from the land disturbance, for the purpose of constructing a wetland at the property legally described as SEC 3 BLK XI KARIOI SD (the property) at approximate map reference NZTopo50 BJ34:212-284 which is shown in Site Plan LOC-2026101715 attached to and forming part of this resource consent.

ADVICE NOTE: This consent does not authorise the discharge of contaminated soil, contaminated water, or contaminants associated with disturbed material to land or water, other than the discharge of sediment authorised by this consent. Any such discharge must either comply with the relevant permitted activity provisions of the One Plan or be separately authorised by resource consent before it occurs. In particular, the discharge of contaminated dewatering water may require resource consent under **Rule LF-LW-R38**.

2. The Consent Holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with the Manawātū-Whanganui Regional Council on **9 July 2026** including:
 - a. Document 4: Resource Consent Application APP-2006012018.02 Planning Report – Karioi Wood Processing, prepared by Babbage Consultants Limited and dated 30 April 2026, incorporated into APP-2006012018.03;
 - b. Babbage Consultants Limited 1002 State Highway 49, Tangiwai, Ohakune Wetland Construction – Erosion and Sediment Control Plan Rev 2.” Prepared by Cheal Consultants Limited and dated 10 June 2026; and
 - c. Karioi Wood Processing Remedial Action Plan Rev 2”, prepared by Babbage Consultants Limited and dated 10 June 2026 (RAP).

Where there may be inconsistencies between information provided by the Applicant and conditions of the resource consent, the conditions of the resource consent will apply.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

Pre-Development Assurance

3. The Consent Holder must be responsible for all contracted operations related to the exercise of this resource consent and must ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.

4. A copy of this consent must be kept onsite at all times that physical works authorised by this resource consent are being undertaken and must be produced without unreasonable delay upon request from a Manawatū-Whanganui Regional Council officer.

ADVICE NOTE: Having a digital copy of this consent available onsite considered acceptable for complying with **Condition 4**.

5. Prior to activities commencing as authorised by this resource consent, the Consent Holder must appoint a representative(s) who must be the Manawatū-Whanganui Regional Council's principal contact person(s) in regard to matters relating to this resource consent. The Consent Holder must inform the Manawatū-Whanganui Regional Council of the representative's name and how they can be contacted, prior to this resource consent being exercised. Should that person(s) change during the term of this resource consent, the Consent Holder must immediately inform the Manawatū-Whanganui Regional Council and must also give written notice to the Manawatū-Whanganui Regional Council of the new representative's name and how they can be contacted.
6. The Consent Holder must inform the Manawatū-Whanganui Regional Council's Consents Monitoring Team of the intended start date of the works authorised by this resource consent no less than **ten (10) working days** prior to commencement. The Consent Holder must confirm the actual date on which physical works commence in writing within twenty-four (24) hours of commencement and must notify the Consents Monitoring Team within twenty-four (24) hours of completion of the works.

ADVICE NOTE: The Consents Monitoring Team can be contacted on Freephone 0508 800 800 OR consents.monitoring@horizons.govt.nz.

7. The Consent Holder must arrange and conduct a pre-construction site meeting and invite, with a minimum of **5 working days'** notice, the Manawatū-Whanganui Regional Council, the site representative(s) nominated under **Condition 5** of this consent, the contractor, and any other party representing the Consent Holder within **10 working days** of granting of this consent.

The following information must be made available at the pre-start meeting:

- a. Timeframes for key stages of the works authorised under this consent;
 - b. Resource consent conditions;
 - c. Finalised Remedial Action Plan; and
 - d. Finalised Erosion and Sediment Control Plan.
8. A pre-construction meeting must be held prior to the commencement of earthworks in each earthworks season between 1 October and 30 April during which works authorised by this resource consent are to be undertaken.

ADVICE NOTE: In the case that any of the invited parties, other than the site representative does not attend this meeting, the Consent Holder will have complied with this condition, provided the invitation requirement is met.

Remedial Action Plan

9. At least **ten (10) working days** prior to the commencement of bulk earthworks authorised by this resource consent, the Consent Holder must submit a Finalised Remedial Action Plan (RAP), prepared by a suitably qualified and experienced contaminated land practitioner, to the Manawātū-Whanganui Regional Council for technical certification.
10. The Finalised RAP must be based on the Karioi Wood Processing Remedial Action Plan Rev 2, prepared by Babbage Consultants Limited and dated 10 June 2026, and must incorporate any additional contaminated land management measures identified through detailed design, supplementary site investigations, construction planning, or consent requirements, and amendments necessary to reflect the final wetland design, Construction Quality Assurance Plan, Finalised ESCP and the conditions of this resource consent. The Finalised RAP must also:
 - a. set out the procedures for excavation, handling, reuse, containment and lawful disposal of potentially contaminated soil and anthropogenic material;
 - b. identify any potential pathways for the discharge of contaminants arising from the works and the measures that will be implemented to avoid or manage those pathways;
 - c. demonstrate how the works will be undertaken so that contaminated soil, contaminated water or contaminated soil-laden water is not discharged to land or water unless that discharge is otherwise lawfully authorised; and
 - d. identify any activities associated with implementation of the RAP that may require separate resource consent or other authorisation.

ADVICE NOTE: Technical certification of the Finalised RAP does not constitute approval of any activity that requires separate resource consent. The Consent Holder remains responsible for determining whether any additional resource consent is required and for obtaining that consent before undertaking the relevant activity.

Erosion and Sediment Control Plan

11. At least **ten (10) working days** prior to the commencement of construction activities authorised by this resource consent, the Consent Holder must submit a Finalised ESCP prepared by a Suitably Qualified and Experienced Person (SQEP) in erosion and sediment control to the Manawātū-Whanganui Regional Council for technical certification.

12. The Finalised ESCP must be prepared in accordance with Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021) (GWRC Guidelines) document.

The Finalised ESCP must include the following information:

- a. Details of all principles, procedures and practices that will be implemented to achieve compliance with relevant conditions of this resource consent;
- b. Identification of key personnel, including their roles, responsibilities, training and contact details;
- c. The overarching erosion and sediment control design standards and principles with reference to GWRC Guidelines;
- d. A general description of the stages of, and sequencing of works;
- e. The approach to establishing, modifying and/or decommissioning erosion and sediment control measures;
- f. Application and/or cross-referencing of other Management Plans where appropriate;
- g. A programme of any progressive site rehabilitation and/or re-vegetation proposed;
- h. Hourly and 24-hour rainfall trigger events proposed for monitoring frequency and evaluation of device performance;
- i. Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall exceeding the applied rainfall trigger event and/or the failure of any key erosion and sediment control structures;
- j. Procedures for and timing of reviews and/or amendments to the certified Finalised ESCP; and
- k. Details on the frequency of inspections and monitoring of all stormwater and erosion and sediment control measures throughout the construction works including details of the person(s) responsible for inspections and monitoring.

13. Construction activities authorised under this resource consent may not commence until the ESCP and RAP have been certified in writing by the Manawatū-Whanganui Regional Council. Should the Council not respond to the submitted ESCP and RAP within 1 month, then these documents are deemed accepted and construction activities may commence.

Commented [SS18]: This is to avoid delays in the certification process, so it does not affect the construction timelines.

14. Any changes proposed to the certified Finalised ESCP must be confirmed in writing by the Consent Holder and certified in writing by the Manawatū-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.
15. The Consent Holder must ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within **5 working days** of any amendments being certified.

16. Prior to bulk earthworks commencing for each stage, a certificate signed by a suitably qualified and experienced person must be submitted to the Manawātū-Whanganui Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan.

~~Certified controls must include the dirty water diversions and clean water diversions. The certification for these subsequent measures must be supplied immediately upon completion of construction of those measures. Information supplied if applicable, must include:~~

- ~~a. Contributing catchment area;~~
- ~~b. Shape and volume of the structure (dimensions of structure); and~~
- ~~c. Stabilisation of the structure.~~

ADVICE NOTE: The format for certification is available on the Manawātū-Whanganui Regional Council website.

Flocculation

17. Should flocculation be proposed in the Finalised ESCP, prior to the commencement of activities authorised by this consent a Chemical Treatment Management Plan (CTMP) must be prepared by an appropriately qualified and experienced person and submitted to the Manawatu-Whanganui Regional Council for technical certification. No flocculation of sediment laden water may commence until written certification is provided by Council that the CTMP meets the requirements of GWRC Guidelines, and the measures referred to in that plan have been put in place.
18. The CTMP must include as a minimum:
- a. Specific design details of a chemical treatment system based on a rainfall or flow activated methodology for any impoundment and treatment devices;
 - b. Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
 - c. Details of optimum dosage (including assumptions);
 - d. Results of initial chemical treatment trial;
 - e. A spill contingency plan; and
 - f. Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.
19. Where a CTMP has been certified under **Condition 17**, any discharge to which the CTMP applies must be chemically treated throughout the duration of earthworks in accordance with the certified CTMP.

Commented [SS19]: The ESCP does not include dirty water diversions and clean water diversions.

20. Any changes proposed to the CTMP must be confirmed in writing by the Consent Holder and certified in writing by the Manawātū-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

Contaminated Land and Remedial Action Plan

21. At least **ten (10) working days** prior to any earthworks commencing, the Consent Holder must submit the final detailed wetland design and a Construction Quality Assurance Plan, prepared by suitably qualified and experienced persons, to the Manawātū-Whanganui Regional Council for technical certification. The final design and Construction Quality Assurance Plan must demonstrate how the engineered containment approach in the RAP will be achieved and must include, as a minimum:

- a. the final wetland footprint, cell layout, design levels and cut and fill arrangement, together with the specification and installation requirements for the high-density polyethylene (HDPE) liner, including subgrade preparation, seams, penetrations and anchoring;
- b. quality assurance and quality control procedures, including inspection and testing sufficient to verify liner integrity prior to commissioning;
- c. ~~a leak monitoring system and the means by which leakage from the wetland to underlying soils will be identified. The leak monitoring system shall be capable of demonstrating whether seepage beneath the HDPE liner has occurred and shall include trigger levels, investigation criteria and response actions; and~~
- d. how the final wetland design, the RAP and the Finalised ESCP will operate together.

Commented [SS20]: A leak detection system is not warranted based on the refined location of the wetland, and commensurate level of risk identified.

22. The Consent Holder must ensure that the RAP is reviewed by a suitably qualified and experienced contaminated land practitioner:
- a. prior to the commencement of bulk earthworks;
 - b. prior to the commencement of each subsequent stage of bulk earthworks; and
 - c. following any change to the proposed construction methodology or the discovery of unexpected contamination.

23. Where a review identifies that changes to the certified Finalised RAP are required, those amendments must be submitted to the Manawātū-Whanganui Regional Council for technical certification before the relevant stage of works or changed methodology is implemented, except for immediate measures required to secure the affected area and prevent contaminant migration.

Environmental Standard

24. Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the Consent Holder must ensure that the soluble aluminium concentration of any discharge to the receiving environment must not exceed 0.2 grams per cubic metre.

25. Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the Consent Holder must ensure that the pH of any discharge to the receiving environment must not be less than 5.5 or greater than 8.5 pH units.

Operational Restrictions

26. There must be no discharge of airborne particulate matter that causes an adverse effect beyond the boundary of the site.

ADVICE NOTE: For the purpose of this consent, a Consents Monitoring Officer may assess the Frequency, Intensity, Duration, Offensiveness/Character and Location of Exposure (FIDOL) of any discharge to air to determine whether the discharge is Offensive, Objectionable, Noxious and/ or Dangerous; definitions of these are provided in the Air Chapter of the One Plan 2026, or any superseding Regional Plan.

27. Should airborne particulate matter resulting from the exercise of this consent generate a complaint, the Consent Holder must provide a written report to the Manawātū-Whanganui Regional Council within five (5) working days of the complaint being made known to the Consent Holder. The report must specify:
- a. The cause or likely cause of the event and any factors that influenced its severity;
 - b. The nature and timing of any measures implemented by the Consent Holder to avoid, remedy or mitigate any adverse effects;
 - c. The steps to be taken in future to prevent recurrence of similar events; and
 - d. If required by the Manawātū-Whanganui Regional Council, the Consent Holder must carry out immediate sealing of any problematic dust generating surfaces within the site using hydro-seed/hydro-mulch, polymer soil stabilisers or a similar dust control product to provide instant remediation of dust effects to the satisfaction of the Manawātū-Whanganui Regional Council.
28. The Consent Holder must ensure that an adequate supply of water for dust control and an effective means for applying that quantity of water is available at all times during construction, and until such time as the site is fully stabilised unless otherwise agreed in writing with the Manawātū-Whanganui Regional Council.

Winter works

29. The Consent Holder must ensure that the site is appropriately stabilised by **30 April** of each year unless otherwise certified in writing by the Manawātū-Whanganui Regional Council. Stabilisation must be undertaken by providing adequate measures (vegetative and/or structural and including, pavement, metalling, hydro-seeding, re-vegetation and mulching) that will minimise erosion of exposed soil to the extent practical.

30. Earthworks must not be conducted during the period **1 May to 30 September** inclusive during any year that this resource consent is current, apart from necessary maintenance works, unless certified in writing by the Manawatū-Whanganui Regional Council.
31. Requests to undertake earthworks during the period **1 May to 30 September inclusive**, for any year that this resource consent is current, must be submitted in writing to the Manawatū-Whanganui Regional Council by **1 April** and must be in the form of amendments to the finalised ESCP.
32. In considering a request for the continuation of winter earthworks, the Manawatū-Whanganui Regional Council will consider a number of factors including:
- The nature of the site and the winter soil disturbance works proposed;
 - The quality of the existing/proposed erosion and sediment controls;
 - The compliance history of the site/operator;
 - Seasonal/local soil and weather conditions;
 - Sensitivity of the receiving environment; and
 - Any other relevant factor.
33. Sediment losses to natural water arising from activities authorised by this resource consent must be minimised for the duration of the physical works authorised by this resource consent and until the expiry of the resource consent through the establishment, operation and maintenance of erosion and sediment control measures in accordance with GWRC Guidelines except where a higher standard is referred to in the Finalised ESCP, in which case the higher standard applies.
34. The Consent Holder must ensure that, as far as practicable, all clean water runoff from stabilised surfaces including catchment areas above works areas is diverted away from exposed areas via a stabilised system to prevent erosion, including erosion at any associated outfall(s).
35. The Consent Holder must, **ten (10) working days** prior to commencement of any dewatering on site, prepare and submit a Dewatering Management Plan to the Manawatū-Whanganui Regional Council. The Dewatering Management Plan must include but not be limited to the following information:
- Details of the anticipated location, timing, duration and volume or rate of any dewatering that will be necessary on-site during construction;
 - Dewatering methodologies to be implemented;
 - Any water quality criteria to be achieved as part of the dewatering activity. Consistent with Section G1.0 of the GWRC Guidelines;
 - Alternatives to dewatering methodologies, including details of erosion and sediment controls, if dewatering activity cannot be implemented as envisaged;

- e. the anticipated quality of water to be dewatered, including the potential for contaminants associated with potentially contaminated soils within the wetland footprint; and
- f. the proposed treatment, reuse, discharge or disposal method for dewatered water, including how any contaminated water will be managed to prevent the mobilisation or discharge of contaminants.

ADVICE NOTE: This condition does not authorise any take, diversion or discharge of water that requires resource consent under the One Plan. If dewatering is required, the Consent Holder must determine whether the activity complies with the relevant permitted activity rules before dewatering commences and obtain any additional resource consent required.

- 36. The Consent Holder must ensure that site-sourced soil proposed for reuse within the wetland footprint must be screened visually during handling. Visible anthropogenic material, including concrete, rubber, wood, plastic and metal, must be separated from the soil, must not be placed as fill as part of the wetland construction, and must be removed to a facility lawfully authorised to receive it. Screening must also include observation for evidence of staining, odour, discolouration, free product, stressed vegetation, or other indicators of contamination.
- 37. An Unexpected Contamination Protocol must be implemented throughout the earthworks. If unexpected contamination is encountered, works in the affected area must stop and the material must be characterised by a suitably qualified and experienced contaminated land practitioner. That practitioner must determine whether the material is suitable for reuse beneath the wetland liner. Material that is not suitable for reuse must be removed to a facility lawfully authorised to receive it. The Consent Holder must notify the Manawatu-Whanganui Regional Council within 24 hours of discovery of unexpected contamination.
- 38. Following completion of profiling and cut and fill works, all site-sourced soil retained within the wetland footprint (underneath the wetland water flow path) must be encapsulated beneath the HDPE liner in accordance with the RAP and the certified final wetland design. Site-sourced soil from beneath the liner must not be used above the HDPE liner for wetland finishing or landscaping unless a suitably qualified and experienced contaminated land practitioner confirms in writing that the material is suitable for that use.
- 39. The HDPE liner and leak monitoring system must be installed in accordance with the certified final wetland design and Construction Quality Assurance Plan. Any damage, failed seam or other defect identified during installation or testing must be repaired and retested before the liner is covered or the affected wetland cell is commissioned.
- 40. The Consent Holder must ensure that those areas of the site where earthworks have been completed must be stabilised against erosion as soon as practically possible and within a period not exceeding **five (5) days** after completion of any works authorised by this resource consent.

Commented [SS21]: This is to enable landscape planting outside the water flow path channel and ensure that the line is not damaged by the plant root systems.

Commented [SS22]: A leak detection system is not warranted based on the refined location of the wetland, and commensurate level of risk identified.

Stabilisation must be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion to the satisfaction of the Manawātū-Whanganui Regional Council acting in a technical certification capacity. The Consent Holder must monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any water body.

ADVICE NOTE: Stabilisation is defined within the GWRC Guidelines as “Means inherently resistant to erosion or rendered resistant to erosion through the application of the proven methods of stabilisation, specified in Section E3 of these guidelines, or alternative methods with the prior agreement of Wellington Regional Council. Where seeding, grassing or hydroseeding is used, the surface is considered stabilised once a minimum of 80% vegetative cover has been established over the entire surface.

41. The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent must only occur after consultation and written approval has been obtained from the Manawātū-Whanganui Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Manawātū-Whanganui Regional Council include:
- a. The quality of the soil stabilisation and/or covering vegetation;
 - b. The quality of the water discharged from the rehabilitated land; and
 - c. The quality of the receiving water.
42. In the event that an archaeological site, wāhi tapu, taonga tūturu or kōiwi tangata is discovered or disturbed during the exercise of this resource consent, the Consent Holder must:
- a. immediately cease all works in the vicinity of the discovery and secure the affected area;
 - b. immediately notify Ngā Waihua o Paerangi Trust on behalf of Ngāti Rangi, Heritage New Zealand Pouhere Taonga and the Manawātū-Whanganui Regional Council;
 - c. where kōiwi tangata or other human remains are discovered, immediately notify the New Zealand Police; and
 - d. not recommence works in the affected area until the appropriate statutory and tangata whenua processes have been completed and the Consent Holder has been advised that works may recommence.

ADVICE NOTE: In accordance with section 14(1) of the Coroners Act 2006, where human remains are discovered the New Zealand Police should be contacted immediately and works in the immediate vicinity must cease until advice is received that works may recommence.

Post-Development Assurance

43. Before the constructed wetland is commissioned, the Consent Holder must provide the Manawatū-Whanganui Regional Council with an as-built Construction Quality Assurance Report prepared by suitably qualified and experienced person(s). The report must include:

- a. as-built plans of the completed wetland;
- b. records and test results demonstrating that the HDPE liner has been installed and tested in accordance with the certified final wetland design and Construction Quality Assurance Plan;
- c. ~~confirmation that the leak monitoring system has been installed and commissioned;~~
- d. confirmation from a suitably qualified and experienced contaminated land practitioner that soil disturbance, reuse, capping and remediation works have been completed in accordance with the RAP;
- e. records of anthropogenic material and any soil unsuitable for reuse that was removed from the site, including the receiving facility;
- f. a photographic record of pond infilling, soil encapsulation and installation of the HDPE liner; and
- g. details of any departures from the certified final wetland design, Construction Quality Assurance Plan or RAP, and how those departures were addressed.

Commented [SS23]: A leak detection system is not warranted based on the refined location of the wetland, and commensurate level of risk identified.

44. Before the constructed wetland is commissioned, the Consent Holder must submit a Wetland Monitoring, Management and Aftercare Plan, prepared by suitably qualified and experienced persons, to the Manawatū-Whanganui Regional Council for technical certification. The plan must include:

- a. monitoring and response measures to verify that contaminants remain effectively contained and do not migrate beyond the constructed wetland footprint, and
- b. the methods and frequency of leak detection monitoring;
- c. groundwater monitoring where considered necessary by the SQEP;
- d. inspection and maintenance requirements for the HDPE liner and ~~leak monitoring system;~~ and
- e. contingency and remedial measures to be implemented if leakage or saturation of underlying soils is identified, including measures to address the potential for anaerobic degradation of residual pulp and methane generation.

Commented [SS24]: A leak detection system is not warranted based on the refined location of the wetland, and commensurate level of risk identified.

If the discharge operates for longer than the earthworks, then this condition should move to the discharge permit.

45. The Consent Holder must implement the certified Wetland Monitoring, Management and Aftercare Plan and maintain records of all monitoring, inspections, maintenance and remedial works undertaken in accordance with that plan. Those records must be provided to the Manawatū-Whanganui Regional Council on request.

DRAFT

Review

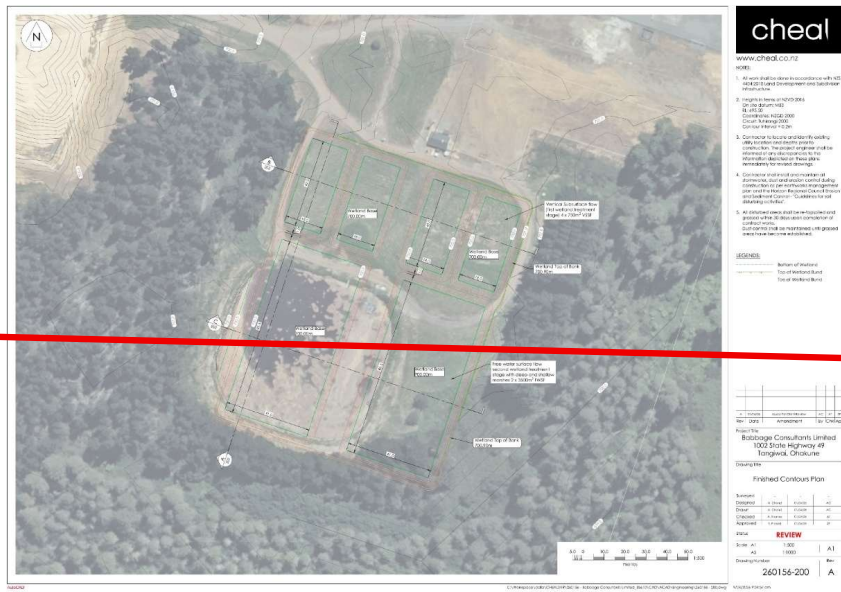
46. The Regional Council may, during the three months following each anniversary of the commencement of this consent, serve notice of its intention to review the conditions of this consent pursuant to section 128(1)(a) of the Resource Management Act 1991 for the purposes of:
- a. dealing with any adverse effect on the environment arising from exercise of the consent that was not anticipated when the consent was granted;
 - b. responding to monitoring that identifies leakage, loss of containment, mobilisation of contaminants or inadequacy of erosion and sediment controls;
 - c. reviewing the adequacy of the Final ESCP, Remedial Action Plan, Wetland Monitoring, Management and Aftercare Plan or associated monitoring requirements; and
 - d. requiring additional monitoring or remedial measures where reasonably necessary to ensure contaminated and potentially contaminated soils remain isolated from environmental receptors

Duration and Lapsing

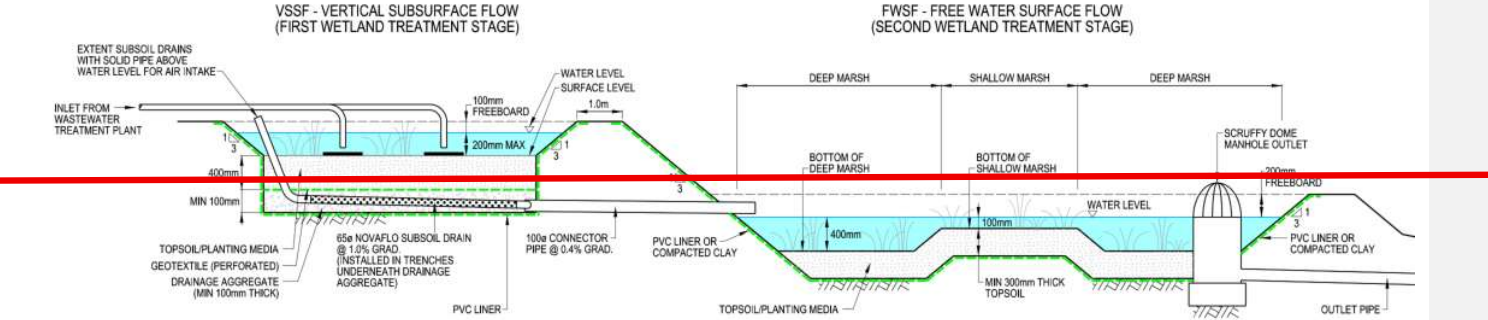
47. Pursuant to section 125 of the Resource Management Act 1991, this consent lapses five years after the date of commencement unless it is given effect to before that date, or the Regional Council grants an extension of the lapse period.
48. Once this consent has been given effect to, all earthworks authorised by the consent, together with associated stabilisation and establishment works, must be completed within five years of the date on which physical works first commence.

Site plan LOC-2026101715





Wetland Concept Design



ATTACHMENT 2 – STONE WETLAND CONCEPT DESIGN

Karioi Wood Processing _ Kōwhatu wetland

ROUGH MILNE MITCHELL
LANDSCAPE ARCHITECTS

Kōwhatu (Stone) Wetland Concept Design

rmmla.co.nz

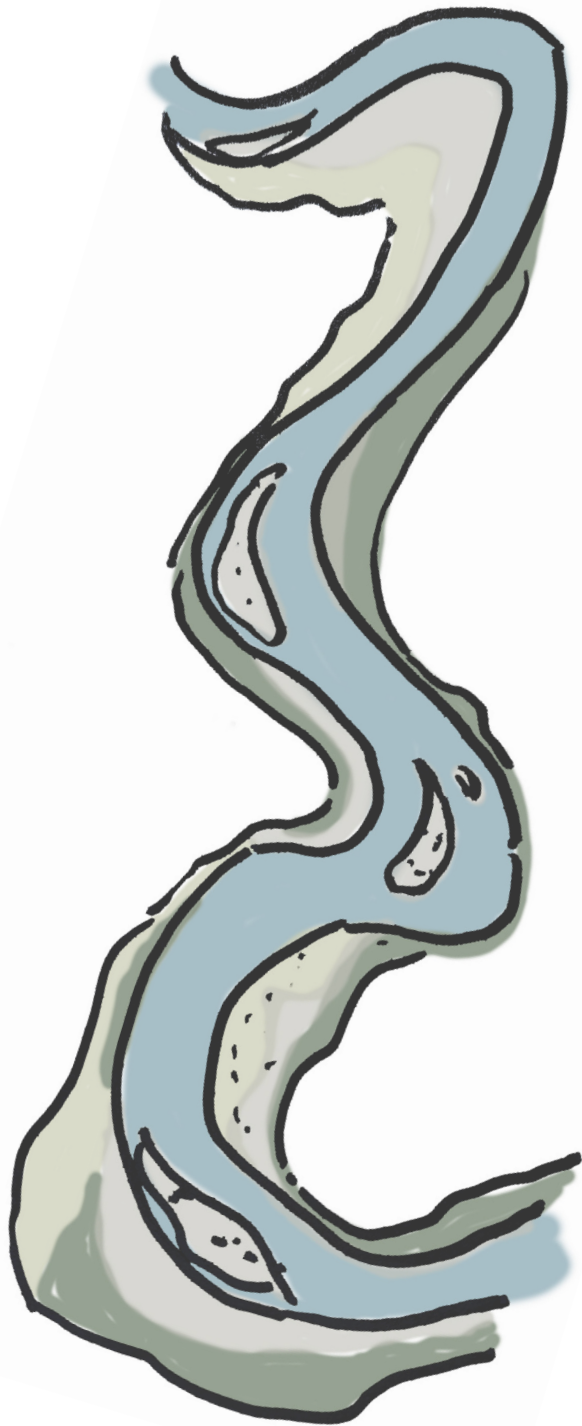
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Design Precedence

Kōwhatu wetland

The Whangaehu River flows from the crater lake of Mt Ruapehu, past the Site and southward to the Tasman Sea. The engineered kōwhatu wetland draws inspiration from the river’s meandering form, natural banks and kōwhatu deposits creating a sinuous landscape that responds to the surrounding alpine terrain.



Concept Design

Kōwhatu wetland

- (A) Piped inlet of condensate water, temperature circa 50 °C
- (B) Meandering water channel, nominally 100mm water depth, over locally sourced gravel and rock spalls to aid cooling.
- (C) Larger diameter locally sourced kōwhatu at bends to reference the adjacent Whangaehu River. Pool sections of the river are often lined with deposits of larger diameter kōwhatu.
- (D) Opportunity at wider sections between channels to provide increased topsoil and larger sized tree species to enable shading of the water.
- (E) Water temperatures directly adjacent initial inlets are likely to cause failure of plant species. These areas are to be surfaced with locally sourced gravel and varying diameter kōwhatu to mitigate weed establishment.
- (F) Piped outlet to Whangaehu River.
- (G) Maintenance vehicle access.
- (H) Mass native revegetation planting to surrounds.





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