

**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 LUIZ LOBO COUTINHO
DATED 29 SEPTEMBER 2026**

1. SUMMARY OF EVIDENCE

- 1.1 My evidence addresses the potential water quality effects of the proposed condensate discharge to the Whangaehu River.
- 1.2 The proposed discharge has a maximum volume of 750 m³/day, representing a substantial reduction compared with the previously consented discharge regime for the Site (5,200m³/day).
- 1.3 The discharge will receive substantial dilution within the receiving environment, resulting in only minor changes to river water quality that are within the natural variability of the river.
- 1.4 Based on the available information, the discharge is not expected to result in measurable adverse effects on water quality within the Whangaehu River after reasonable mixing.
- 1.5 Following engagement with iwi, the Applicant developed a wetland system, which includes rock channel cooling structures. These measures are intended

to assist with reducing discharge temperature and respond to cultural values associated with enhancing water quality and the mauri of water before it is returned to the receiving environment.

- 1.6 Importantly, my assessment of effects does not rely on the anticipated performance of the wetland, and therefore represents a conservative assessment of potential effects after reasonable mixing.
- 1.7 Overall, I conclude that the Proposal will result in negligible adverse effects on water quality and represents good environmental practice.

2. **INTRODUCTION**

- 2.1 My name is Luiz Lobo Coutinho. I am an Environmental Science and Engineering Lead at Babbage Consultants Limited.
- 2.2 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 condensate 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 construction of the wetland ("**the Proposal**") at 1002 State Highway 49, Tangiwai ("**the Site**") under the Horizons Regional Council One Plan ("**One Plan**").

Qualifications and experience

- 2.3 I hold a Bachelor of Engineering (Environmental) (2008) from the Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio, Brazil) and a Master of Science in Hydrogeology, Engineering Geology and Environmental Management (2012) from Technische Universität Darmstadt (Germany). These qualifications have been assessed by Engineering New Zealand and the New Zealand Qualifications Authority (NZQA) and accepted as Washington Accord equivalent. I am also a Chartered Professional Engineer (CPEng) in Environmental Engineering.
- 2.4 I have over 20 years of experience in environmental consultancy in Brazil, Germany, Saudi Arabia, and New Zealand. I have worked at Babbage since February 2015. My work includes environmental effects assessments involving land, groundwater and surface-water systems; hydrogeological and geological interpretation; natural-hazard and site-constraint assessments; technical review; and the preparation of reports and evidence supporting resource-management processes.

2.5 Examples of my experience relevant to this project are:

- (a) Assessing the Tokiahuru Stream flow regime and responses to climate change scenarios and changes in land use to support water take strategies and potential restrictions for WPI in 2018.
- (b) Designing and overseeing pump tests and assessing the effects of groundwater takes at the Tangiwai Sawmill for WPI in 2020.
- (c) Designing and preparing technical assessments to support a resource consent application for a treated dairy wastewater discharge in the Waikato Region, including the preliminary design of constructed wetlands and discharge systems for Happy Valley Nutrition in 2020.
- (d) Coordinating a multidisciplinary team and preparing assessments of environmental effects for a treated municipal wastewater discharge and water recycling project in the Auckland Region for Watercare Services Limited in 2022.
- (e) Assessing the feasibility of groundwater supply and wastewater discharge to land and water, attendance and preparation of expert witness evidence at a public hearing, and preparation of environmental monitoring plans and baseline environmental monitoring assessments for a proposed large land development as part of Private Plan Change 93 Warkworth South from 2024 to 2026.

Involvement in project

2.6 I was engaged by WPI in February 2026 to provide water quality assessment, wastewater discharge and treatment expertise associated with the proposed condensate wastewater discharge and wetland system.

2.7 I was the coordinator and technical reviewer of:

- (a) Technical Memo 2 – Water Quality Assessment dated 29 April 2026 prepared in support of the resource consent application.
- (b) Technical input to the response to the Section 92 Request for Further Information.
- (c) Supporting assessments relating to wastewater treatment performance, wetland treatment design, and potential water quality effects of the proposed discharge.

- 2.8 These materials were prepared by Tiago Teixeira, Senior Environmental Scientist at Babbage, under my technical oversight and review. I have reviewed the methods, calculations and conclusions relied on in this evidence and adopt them subject to the qualifications identified below.
- 2.9 This evidence should be read alongside that documentation.
- 2.10 I have read the following documentation:
- (a) The resource consent application prepared by Suhki Singh of Babbage Consultants Limited dated 30 April 2026 and associated technical memorandums;¹
 - (b) Council's section 92 request dated 18 May 2026, and Babbage Consultants Limited's response dated 11 June 2026 and associated attachments;²
 - (c) The submissions filed on the application;
 - (d) The Applicant's memorandum dated 8 September 2026; and
 - (e) Council's s 42A report ("**s 42A Report**") prepared by Fiona Morton dated 22 September 2026 and attachments.
- 2.11 I have visited the Site on multiple occasions between 2018 and 2022.

Purpose and scope of evidence

- 2.12 The purpose of my evidence is to provide a water quality assessment of the Proposal.
- 2.13 Specifically, my evidence will:
- (a) Briefly describe the Proposal, receiving environment, and Site context (Section 3);
 - (b) Provide my water quality methodology and assessment (Section 4);
 - (c) Discuss the proposed wetland and its effects on water quality (Section 5);

¹ Being the Technical Memorandums 1-8.

² Being Attachments 1-7.

- (d) Comment on issues raised by submitters relevant to my area of expertise (Section 6).
- (e) Comment on the Council Officer's s 42A Report (Section 7).

Expert Witness Code of Conduct

- 2.14 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.

3. THE PROPOSAL, RECEIVING ENVIRONMENT, AND SITE CONTEXT

- 3.1 The description of the Proposal, the receiving environment, and Site context is outlined in the planning evidence of Sukhi Singh and Council's s 42A Report. Further to this, I note the following specific matters that are relevant to my evidence:

- (a) The Proposal involves the treatment and discharge of condensate wastewater generated by the proposed Te Ara Hiko facility to the Whangaehu River.
- (b) The maximum proposed discharge volume is approximately 750 m³/day, which represents a substantial reduction in discharge volume compared with the historical and previously consented discharge regime.
- (c) The Whangaehu River is a large receiving environment relative to the volume of the proposed discharge and provides significant dilution and assimilative capacity. The river is naturally influenced by volcanic inputs from the Mount Ruapehu catchment, which contribute to its distinctive water quality characteristics, including naturally low pH, elevated nutrients compounds and metal concentrations, and reduced water clarity. As discussed later in my evidence, the predicted changes in river water quality resulting from the Proposed discharge are small relative to existing river conditions and natural variability, and are not expected to result in measurable adverse effects on the receiving environment.

- 3.2 My assessment focuses on the potential effects of the discharge on the water quality of the Whangaehu River, including potential changes to relevant

physical and chemical water quality parameters and any resulting implications for the receiving environment.

4. **WATER QUALITY METHODOLOGY AND ASSESSMENT**

Methodology

4.1 My assessment considered the quality and quantity of the proposed condensate discharge, the characteristics of the receiving environment, and the potential effects of the discharge on water quality within the Whangaehu River. The assessment included:

- (a) A review of the proposed discharge volumes and treated wastewater quality;
- (b) A review of available hydrological and water quality information for the receiving environment;
- (c) An assessment of the dilution available within the receiving environment under low-flow conditions;
- (d) A mixing assessment to estimate downstream contaminant concentrations following discharge using a mass-balance approach; and
- (e) An evaluation of the potential effects of the discharge on water quality.

4.2 The assessment adopted a conservative approach by assessing the proposed discharge using the treated wastewater quality prior to any additional contaminant reductions that may be achieved through further polishing or attenuation processes. Accordingly, the assessment represents a conservative estimate of potential effects.

Assessment

Receiving Environment

4.3 The proposed discharge is to the Whangaehu River. The 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. The flows are characterised by short-duration high-flow events driven by rainfall, and higher flows in late summer are associated with snowmelt from the upper catchment.

Dilution and Mixing

- 4.4 The proposed maximum discharge volume is approximately 750m³/day. Based on the low-flow conditions considered in the assessment, the discharge is expected to receive substantial dilution within the Whangaehu River. The assessment indicates a dilution ratio of approximately 266:1 under 7-day MALF conditions. This level of dilution significantly reduces the influence of the discharge on downstream water quality.

Water Quality Effects

- 4.5 The assessment considered potential changes in key water quality parameters, including nutrients, suspended solids, organic matter, and other wastewater-related contaminants. Predicted downstream concentrations were compared with existing river conditions and relevant environmental values.
- 4.6 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.
- 4.7 Furthermore, these changes in worst-case scenarios assessed are orders of magnitude lower than observed variations in the historical data. Therefore, the discharge is not expected to result in measurable degradation of water quality within the Whangaehu River.

Overall Conclusions

- 4.8 In my opinion, the proposed condensate discharge will result in less than minor adverse effects on the water quality of the Whangaehu River. The assessment demonstrates that predicted changes in water quality are small relative to existing conditions and natural variability and is not expected to result in measurable adverse environmental effects. Furthermore, the proposed discharge volume represents a substantial reduction compared with the previously consented discharge regime, resulting in an overall

improvement in the potential effects of the activity on the receiving environment.

5. PROPOSED WETLAND

- 5.1 A conceptual wetland polishing system has been developed as part of the Proposal to provide additional polishing of the treated condensate wastewater. The development of the wetland concept was undertaken in response to engagement with Ngāti Rangi and seeks to address cultural values associated with improving the quality of water before it is returned to the receiving environment.
- 5.2 The proposed wetland design has changed over the project development process, particularly due to the discharge temperature and the associated challenges these temperatures may pose for the vegetation planted directly into the wetland. Therefore, the proposed wetland will incorporate rock channel cooling structures, with planting limited to the margins to provide shading while avoiding plant die-off associated with the high temperature of the discharge.
- 5.3 The rock channel has been included to promote cooling of the treated condensate wastewater through enhanced heat transfer, shading, and aeration through a system that mimics the receiving environment prior to discharge.
- 5.4 In my opinion, the proposed wetland represents good environmental practice and is expected to provide additional water quality benefits beyond those assumed in my water quality assessment.
- 5.5 Importantly, the assessment of discharge effects does not rely on contaminant reductions potentially achieved by the wetland and therefore represents a conservative assessment of potential effects. The proposed wetland and associated cooling measures are expected to provide an additional level of environmental protection and further support the cultural and environmental outcomes sought through the Proposal. Consequently, the predicted effects are likely to overestimate actual effects in the receiving environment.

6. COMMENTS ON ISSUES RAISED BY SUBMITTERS

- 6.1 I have reviewed the submissions relevant to water quality and the receiving environment. The key concerns raised relate to:
 - (a) The quality of the proposed condensate discharge;

- (b) Potential effects on the Whangaehu River;
- (c) Cultural values associated with the receiving environment;
- (d) Discharge temperature; and
- (e) The effectiveness of the proposed wetland treatment system.

These matters have been considered in the technical assessments and further information provided by the Applicant.

- 6.2 Since lodgement of the application, the Applicant has undertaken further assessment of the proposed discharge quality and provided additional information regarding the condensate generation process. Based on that information, I am satisfied that the proposed discharge comprises condensate derived from biomass combustion processes and does not include any stormwater component. The available information indicates that the condensate is expected to contain low concentrations of contaminants and very low organic loading.
- 6.3 Concerns have been raised regarding potential adverse effects on water quality and aquatic ecology. In my opinion, the water quality assessment demonstrates that the proposed discharge will receive substantial dilution within the Whangaehu River. The predicted changes in water quality parameters are small relative to existing conditions and natural variability observed in historical data.
- 6.4 Based on the assessment results, the Proposal is not expected to materially alter compliance with the applicable One Plan water quality targets or NPS-FM attribute states. Parameters currently complying with the relevant targets upstream of the discharge are expected to remain compliant, while parameters influenced by natural volcanic conditions are not expected to deteriorate to any measurable extent as a result of the proposed discharge.
- 6.5 I also note that engagement with iwi highlighted a desire for additional treatment and cooling prior to discharge. In response, the Applicant has developed a wetland system that incorporates rock channel cooling structures. While my assessment of effects does not rely on the performance of these additional treatment measures, they provide further environmental safeguards and seek to respond positively to the cultural values associated with enhancing water quality before water is returned to the receiving environment.

- 6.6 A conservative temperature assessment indicates that the proposed discharge would increase 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 cooling and wetland treatment system. This is substantially below the 2°C temperature limit applicable to the Upper Whangaehu Water Management Sub-Area and is not expected to result in adverse ecological effects.
- 6.7 Having reviewed the matters raised in submissions relevant to my area of expertise, I remain of the opinion that the proposed discharge will result in no more than minor adverse effects on water quality within the receiving environment.
- 6.8 As with any new industrial process, the actual condensate quality will ultimately require verification once the facility becomes operational. For this reason, the proposed monitoring programme is important to confirm that actual discharge characteristics remain consistent with those assumed in the assessment and that environmental outcomes align with those predicted.

7. COMMENT ON ISSUES RAISED IN THE COUNCIL OFFICER'S REPORT

- 7.1 I have reviewed the Council's s 42A Report and Mr Olivier Ausseil's water quality and ecology assessment. I agree with the findings reached in Mr Ausseil's assessment, in that the effects from the proposed discharge will generally not be detectable and will be no more than minor.
- 7.2 In particular relating to Mr Oliver Ausseil's assessment:
- (a) At [38] Mr Ausseil comments on the mixing zone. I agree with Mr Ausseil in that the mixing zone was not defined, and that the mass balance approach assess effects after full mixing. I also agree that due to natural characteristics of the river (stoney river with turbulent flows) and the level of discharge, "the potential effects of the discharge on the Whangaehu River's water quality are likely to be no more than minor".
 - (b) At [39] Mr Ausseil comments that the assessment does not account for potential "peak" concentrations. Our understanding, as per Mr Duder's evidence describing the process, is that the level of contaminants in the discharge will be defined mostly by the content of such contaminants in the fuel source (the wood), and that is expected to be relatively mixed in the yards and within the process,

so that discharge concentrations are expected to be relatively constant. I am in agreement with Mr Ausseil in that “the very simple “static” scenario approach is sufficient given the overall conclusions that the discharge’s effects are not likely to be more than minor”, particularly considering the conservatism in the assessment.

- (c) At [41] Mr Ausseil comments on potential effects of water temperature. I agree with Mr Ausseil in that the discharge is unlikely to change the river temperature by more than 0.2 °C, well within the 2 °C variation limit defined in Schedule 5 of the One Plan for this specific catchment (Whau_1a). It must be noted that the proposed wetland design has changed and retention times are now about 4 hrs. The design has changed to allow for cooling through turbulent flow in a rock channel and avoid plant die off in the wetland due to high temperature. Expected discharge temperature after the wetland is of 26 °C +/- 5 °C.

UNITS OF DISCHARGE LIMITS

- 7.3 The Applicant seeks that discharge limits be measured in loads (kg/d or equivalent) instead of concentrations (g/m³ or equivalent). The proposed limits, as per the consent conditions presented, are:

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

- 7.4 The limits set above are generally aligned with the assessment of effects except for:

- (a) Ammoniacal nitrogen and Sulphate: the proposed limit is slightly higher than assessed, will not materially change the assessed effects.
- (b) Suspended Solids: proposed limits are higher than what was used in the effects assessment and above One Plan limits, but equivalent to the river average concentrations, and therefore will not have any material adverse effect on water quality.

(c) Nitrate plus Nitrite nitrogen: The proposed limits are unlikely to result in changes to the current NPS-FM attribute state (from A to B threshold).

7.5 The overall assessment of effects to water quality will not change due to the proposed discharge limit units used although it might allow for higher concentrations in the mixing zone. I understand from Ms Barnett that the potential for higher concentrations in the mixing zone will not have any adverse ecological effects.

7.6 Overall, the proposed limits and kg/d units used do not change my prior assessment or my effects assessment.

Luiz Lobo Coutinho
29 September 2026