BEFORE THE ALTERNATIVE TO THE BRYNDERWYN HILLS EXPERT PANEL

FTAA-2603-1178

UNDER THE	**FAST TRACK APPROVALS ACT 2024**
	(**FTAA** or **Act**)
IN THE MATTER OF	**a substantive application by**
	New Zealand Transport Agency Waka Kotahi
	for the Alternative to the Brynderwyn Hills Project

COMMENTS OF

TE POUWHENUA O TIAKIRIRI KŪKUPA TRUST

ON BEHALF OF TE PARAWHAU HAPŪ

PURSUANT TO SECTIONS 53 AND 54 OF THE

FAST-TRACK APPROVALS ACT 2024

Dated: August 2026

Prepared by:

Te Pouwhenua o Tiakiriri Kūkupa Trust

Mandated Resource Management Unit for

Te Parawhau Hapū

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(Chair)

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Kaiwhakahaere me te Taiao Rōpū

1 Executive Summary

1.1 The wellbeing of tāngata is inseparable from the wellbeing of te taiao me ngā taonga ora katoa. When the mauri of the taiao is compromised, the wellbeing of present and future generations is also diminished.

1.2 The concerns raised by Te Parawhau Hapū as tāngata whenua are expressed in fulfilment of our kaitiakitanga obligations to Papatūānuku, to future generations, and to the wider hapori who rely upon a healthy, functioning and resilient taiao.

1.3 Te Pouwhenua o Tiakiriri Kūkupa Trust, the mandated Resource Management Unit for Te Parawhau Hapū, submits these comments in response to the invitation issued by the Alternative to the Brynderwyn Hills Expert Panel pursuant to sections 53 and 54 of the Fast-track Approvals Act 2024. Te Parawhau adopts and relies upon its Cultural Impact Assessment (CIA) dated July 2026, which is incorporated by reference into these comments. These submissions should also be read together with the evidence of Matua Pari Walker (Appendix A), the ecological evidence of Rebecca Lodge (Appendix B) relating to freshwater ecology, freshwater fish, terrestrial ecology, avifauna and ecological connectivity, and the ecological evidence of Jacqui Wairepo (Appendix C) relating to terrestrial fauna, avifauna, ecological effects, mitigation uncertainty and taonga species. That evidence forms part of, and should be read together with, the ecological reviews and assessments already incorporated within the CIA.

1.4 Te Parawhau Hapū acknowledges the importance of establishing a safe, resilient and reliable transport connection between Te Tai Tokerau and Auckland. The safety and wellbeing of all who travel through Te Parawhau rohe are important considerations, and the Hapū supports initiatives that genuinely improve transport safety and network resilience.

1.5 Through whakapapa, Te Parawhau maintains an enduring relationship with Te Mano Hiwa Ariki and the wider ancestral taiao. That relationship carries inherited responsibilities of rangatiratanga, kaitiakitanga, manaakitanga and mana motuhake toward the whenua, wai, taonga and ngā tāngata connected to and travelling through the rohe. These responsibilities extend to responding following serious incidents and fatalities occurring on the state highway network through the exercise of tikanga, and

other Hapū obligations. Through these inherited responsibilities, Te Parawhau has a direct understanding of both the importance of a safe and resilient transport network and the protection of the ancestral taiao through which that network passes.

1.6 The issue before the Expert Panel is therefore not whether a safe and resilient state highway network is required. The issue is whether that objective can be achieved in a manner that appropriately recognises and provides for the relationship of Te Parawhau with Te Mano Hiwa Ariki and the wider ancestral taiao, upholds ngā uara ahurea o Te Parawhau, and enables the continued exercise of rangatiratanga and kaitiakitanga while avoiding or substantially reducing adverse effects on whenua, wai, indigenous biodiversity and taonga species.

1.7 Te Parawhau is not satisfied that the proposal, as presented, appropriately addresses the actual and potential adverse effects on ngā uara ahurea o Te Parawhau, the wider ancestral taiao, and the environmental, cultural and intergenerational concerns identified throughout the CIA, independent expert reviews and these submissions.

1.8 In summary, Te Parawhau remains concerned that:

1.9 (a) Significant adverse effects on Te Mano Hiwa Ariki and the wider ancestral taiao have been significantly underestimated;

1.10 (b) Alternative solutions capable of avoiding or substantially reducing adverse effects, including tunnels, viaducts, bridges, or combinations thereof, have not been adequately progressed or assessed to the satisfaction of the Hapū;

1.11 (c) Financial and engineering considerations appear to have been afforded greater weight than the environmental, cultural, ecological and intergenerational consequences of the proposal, including permanent effects on Te Mano Hiwa Ariki and the wider ancestral taiao;

1.12 (d) The proposed construction methodology relies upon extensive cut and fill earthworks, stream modification, vegetation clearance and permanent alteration of the taiao at a scale that has not been adequately justified when measured against the resulting adverse effects;

1.13 (e) The Freshwater Ecological Assessment departs from recognised best-practice methodologies and materially understates the level and significance of adverse effects

on repo, puna, headwater streams, freshwater habitats and ecological connectivity. Significant concerns remain regarding the failure to appropriately recognise freshwater and terrestrial ecosystems as interconnected catchment-scale systems, resulting in an underestimation of ecological values, ecological connectivity and the scale and significance of adverse effects.

1.14 (f) Significant freshwater environments, including repo, puna, headwater systems, intermittent waterways, awa and associated ecological connections, have not been fully identified, mapped, characterised or assessed;

1.15 (g) The application does not adequately demonstrate how Te Mana o te Wai is upheld, nor how the objectives and policies of the National Policy Statement for Freshwater Management 2020 will be achieved;

1.16 (h) Wildlife Act approvals sought by NZTA do not comprehensively address all protected species potentially affected by the Project, including species currently excluded from the approvals framework;

1.17 (i) The proposed designation and resource consent conditions do not adequately resolve the concerns identified through the CIA and independent expert reviews, including mapping deficiencies, ecological uncertainties, methodological concerns and the underestimation of effects. The conditions continue to rely heavily upon future management plans, technical certifications, adaptive management responses and discretionary decision-making processes founded upon the same assessment methodologies and assumptions that remain contested by Te Parawhau and its independent experts. As a result, Te Parawhau is not satisfied that the conditions provide sufficient certainty that adverse effects on freshwater systems, indigenous biodiversity, taonga species and ngā uara ahurea will be appropriately avoided, remedied or mitigated.

1.18 (j) Significant matters affecting ngā uara ahurea o Te Parawhau, freshwater environments, ecological restoration outcomes, taonga species and the wider ancestral taiao are proposed to be addressed through future management plans and implementation processes without sufficient certainty regarding meaningful Hapū participation, independent technical review, ecological equivalence and long-term environmental outcomes;

1.19 (k) The application does not provide sufficient certainty regarding the role of Te Parawhau Hapū in future decision-making processes, nor does it adequately provide for partnership, rangatiratanga, kaitiakitanga and the expectations arising from Te Tiriti o Waitangi and Te Mana Whakahono ā Rohe arrangements;

1.20 (l) The application does not adequately demonstrate that the relevant statutory requirements of the Resource Management Act 1991 are achieved in relation to Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao;

1.21 (m) Significant concerns remain regarding whether the proposal is consistent with the purposes and outcomes of the Conservation Act 1987 and Wildlife Act 1953 in respect of indigenous biodiversity, habitats and taonga species; and

1.22 (n) The scale, significance and permanence of adverse effects have been materially understated throughout the application documentation, reducing confidence in the resulting effects assessments, mitigation measures, management responses, environmental outcomes and statutory conclusions relied upon by the proposal, including assumptions regarding successful habitat replacement, ecological restoration, ecological equivalence and long-term ecosystem recovery that have not been adequately demonstrated.

1.23 For these reasons, Te Parawhau is not satisfied that the proposal should be approved in its current form.

1.24 Te Parawhau supports a safe and resilient state highway network. However, resilience should not be achieved at the expense of Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao. The challenge before the Expert Panel is not choosing between safety and environmental protection but determining whether both can be appropriately provided for in a manner that protects the mauri and wellbeing of the taiao, enables the continued exercise of rangatiratanga and kaitiakitanga, and safeguards the wellbeing of present and future generations.

2 INTRODUCTION

2.1 Te Pouwhenua o Tiakiriri Kūkupa Trust (the Trust) is the mandated Resource Management Unit (RMU) for Te Parawhau Hapū. The Trust is responsible for representing and advancing the resource management interests of Te Parawhau Hapū and exercising its responsibilities in relation to the protection and enhancement of the taiao within the hapū takiwā.

2.2 The Trust submits these comments on behalf of Te Parawhau Hapū in response to the invitation issued by the Alternative to the Brynderwyn Hills Expert Panel pursuant to sections 53 and 54 of the Fast-track Approvals Act 2024 (FTAA). Te Parawhau also relies upon its CIA, the independent technical reviews commissioned on behalf of the Hapū, and the evidence of Matua Pari Walker, Rebecca Lodge and Jacqui Wairepo attached as Appendices A-C, all of which form part of and should be read together with these submissions.

2.3 Te Parawhau Hapū maintains longstanding whakapapa relationships with Te Mano Hiwa Ariki and the interconnected taiao of the hapū takiwā. Those relationships are inseparable from the Hapū's responsibilities to uphold kaitiakitanga and to protect the mauri of the taiao for present and future generations.

2.4 Te Parawhau has engaged with NZTA for this project over several years and has consistently expressed concerns regarding the scale and extent of the adverse effects on Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau, freshwater systems, indigenous biodiversity, taonga species, wāhi tapu, and the wider taiao.

2.5 On behalf of Te Parawhau Hapū, the Trust prepared and lodged a Cultural Impact Assessment (CIA) dated July 2026. The CIA provides Te Parawhau's comprehensive assessment of the Project and its actual and potential effects on Te Mano Hiwa Ariki, the wider taiao, ngā uara ahurea o Te Parawhau, and the exercise of kaitiakitanga responsibilities.

2.6 The CIA is adopted in full and incorporated by reference into these comments to the Expert Panel. The comments provided herein should not be read in isolation, but alongside the CIA and the independent expert reviews commissioned by Te Parawhau Hapū.

2.7 These comments are not intended to repeat the findings of the CIA. Rather they identify those matters that Te Parawhau considers warrant particular attention by the Expert Panel when determining the application and any associated conditions.

2.8 Te Parawhau acknowledges the importance of providing a safe, resilient and reliable transport connection between Te Tai Tokerau and Auckland. The wellbeing of those who rely upon this corridor, including residents, businesses, visitors and freight movements, is important.

2.9 However, Te Parawhau remains concerned that the current proposal places insufficient weight on the environmental, cultural, ecological and intergenerational consequences of the Project and that the scale, significance and permanence of those consequences have been materially understated throughout the application documentation.

2.10 Throughout engagement on the Project, Te Parawhau consistently advocated for alternative design and construction methodologies capable of avoiding or substantially reducing adverse effects on Te Mano Hiwa Ariki and the wider taiao. These alternatives, including tunnels, viaducts, bridges, and combinations thereof, were discussed but ultimately not pursued. Te Parawhau remains concerned that cost considerations appear to have been afforded greater weight than the significant environmental, cultural and intergenerational consequences associated with the proposed designation alignment and extensive cut and fill construction methodologies. Te Parawhau was not provided with sufficient information to demonstrate that these alternatives were genuinely infeasible, nor was there any subsequent opportunity to meaningfully explore them further with NZTA.

2.11 Te Parawhau is further concerned that the extent and significance of adverse effects identified throughout the assessment process raise fundamental questions as to whether the Expert Panel can be satisfied that the relevant statutory tests, obligations and outcomes sought under the applicable legislative framework have been appropriately addressed.

2.12 Te Parawhau remains concerned that economic and constructability considerations have been afforded greater weight than opportunities to avoid or substantially reduce adverse effects on Te Mano Hiwa Ariki and the wider taiao. In Te Parawhau's view, the

environmental costs of the Project have not been afforded equivalent consideration when evaluating alternative solutions and project outcomes.

2.13 Accordingly, these comments focus on whether the Project, as presently proposed, appropriately balances the objective of a safe and resilient transport connection with the protection of Te Mano Hiwa Ariki and the wider taiao, and whether sufficient information has been provided by NZTA to enable the Expert Panel to confidently conclude that the relevant statutory tests have been appropriately addressed.

3 Te Mano Hiwa Ariki and Wider Interconnected Taiao

3.1 Te Mano Hiwa Ariki is not simply a location through which the proposed corridor passes. It forms part of an interconnected ancestral taiao to which Te Parawhau Hapū maintains enduring whakapapa relationships.

3.2 For Te Parawhau, Te Mano Hiwa Ariki is not confined to the ridgeline or summit areas identified within the Designation or future Project footprint. It extends across the surrounding whenua, wai, repo, ngāhere that comprise part of the wider ancestral taiao. This includes the lower-lying whenua extending toward Waipū, Te Pae o Tū including Paepae Atua, the Paparoa Valley to the west, and the catchments associated with Piroa Stream to the south.

3.3 The significance of Te Mano Hiwa Ariki extends beyond its physical characteristics. It arises from embedded whakapapa relationships with whenua, wai, ngā taonga ora, wāhi tapu, mātauranga, wairuatanga, and the continuing exercise of kaitiakitanga responsibilities.

3.4 Te Parawhau's concerns are not limited to the effects on Te Mano Hiwa Ariki itself. Significant concerns also arise in relation to the loss and degradation of freshwater systems including puna wai and repo, remnant kahikatea ngāhere, indigenous biodiversity, taonga species habitat and the ecological processes that sustain the wider taiao.

3.5 Te Parawhau considers Te Mano Hiwa Ariki and the surrounding taiao to be among the most significant areas affected by the Project. The proposed earthworks, vegetation clearance, waterway modification and associated construction activities will result in extensive and permanent alteration, degradation and destruction of this taiao.

3.6 For Te Parawhau, the principal concern is not simply that adverse effects will occur. Rather, it is the scale, permanence and irreversibility of those effects, and the extent to which the application relies upon mitigation, offsetting and compensation measures despite serious deficiencies identified by Te Parawhau's independent experts in the assessment methodologies used to identify, characterise and evaluate adverse effects.

3.7 Te Parawhau acknowledges that major infrastructure projects may result in adverse effects. However, certain effects on Te Mano Hiwa Ariki, freshwater systems, puna wai, repo, remnant kahikatea ngāhere and the wider taiao are irreversible and will result in the permanent loss, destruction or degradation of taiao uara that, once lost, cannot be replaced.

3.8 Accordingly, Te Parawhau has consistently advocated for an avoidance-first approach throughout its engagement with NZTA. In Te Parawhau's view, avoidance should remain the starting point for the Expert Panel's assessment of the Project, particularly where significant and irreversible adverse effects on Te Mano Hiwa Ariki and the wider taiao are identified.

4 AVOIDANCE OF ADVERSE EFFECTS

4.1 Te Parawhau has consistently advocated for an avoidance-first approach throughout its engagement with NZTA.

4.2 While mitigation, offsetting and compensation may have a role in addressing adverse effects, Te Parawhau considers that avoidance should remain the primary response where significant and irreversible adverse effects on ancestral taiao, ngā uara ahurea o Te Parawhau, and the exercise of Te Parawhau's kaitiakitanga responsibilities are identified.

4.3 Te Parawhau remains concerned that the Project has largely been developed through an effects-based management framework that assumes adverse effects can be mitigated, offset, compensated for, or otherwise managed, rather than first understanding the true scale, significance and permanence of those effects and demonstrating how they can be avoided, with protection pursued in the first instance rather than mitigation as a secondary response.

4.4 This concern is compounded by the findings of the independent experts engaged by Te Parawhau Hapū, who identified significant deficiencies across several of NZTA's technical assessments, including freshwater ecology, freshwater fish, wetlands, terrestrial ecology, avifauna and fauna assessments. These findings raise legitimate questions as to whether the full extent of adverse effects has been appropriately identified, characterised and assessed.

4.5 Te Parawhau's independent experts have identified legitimate and substantive disagreement regarding the scale, significance and permanence of adverse effects. Therefore, avoidance should remain the primary response, rather than reliance upon mitigation, offsetting, compensation or future management responses. This is particularly important where affected environments comprise ancestral taiao, puna wai, repo, remnant kahikatea ngāhere, taonga species habitat and other taiao uara that, once lost or degraded, cannot be replaced.

4.6 Te Parawhau's independent experts identified departures from recognised best-practice methodologies, incomplete baseline investigations, insufficient survey effort, the undervaluation of freshwater and terrestrial ecosystems, and assessment approaches that had the effect of reducing or masking the significance attributed to

adverse effects. Of particular concern was the repeated reliance on future management responses, adaptive management, offsetting and compensation measures to address effects where the scale and significance of those effects remain contested.

4.7 Of particular concern is the Freshwater Ecology Report, which Te Parawhau's independent experts found consistently undervalued freshwater environments including repo through incomplete mapping, non-standard methodologies, catchment-scale aggregation of effects, and assessment approaches that mask significant localised losses of ecological function, habitat, species values and ecological connectivity. Te Parawhau remains concerned that these approaches materially understate adverse effects on freshwater systems, including puna wai, repo, headwater streams and ecological connectivity.

4.8 Similar concerns were identified in relation to wetlands, terrestrial ecology, avifauna and fauna assessments. Te Parawhau's independent experts identified insufficient survey effort, limitations in assessment methodologies, uncertainty regarding species presence and abundance, and an over-reliance on habitat restoration, relocation and offsetting measures to address permanent habitat loss, fragmentation and degradation of indigenous biodiversity.

4.9 The concerns expressed by Te Parawhau are not based solely upon cultural assessment. They are supported by the findings of independent experts engaged by Te Parawhau Hapū across freshwater ecology, freshwater fish, wetlands, terrestrial ecology and avifauna disciplines, whose conclusions consistently identify a pattern of underestimating taiao values, understating adverse effects, and overstating the effectiveness of proposed mitigation measures.

4.10 Te Parawhau is particularly concerned that significant reliance is placed upon future management plans, certifications, adaptive management responses and offsetting proposals to address adverse effects that have not yet been fully assessed. In Te Parawhau's view, important decisions regarding the avoidance, management and acceptability of adverse effects should not be deferred to future processes where baseline information remains incomplete or contested.

5 MATERIAL DEFICIENCIES IN NZTA'S ASSESSMENTS

5.1 The concerns expressed by Te Parawhau are not based solely upon cultural assessment. They are supported by the findings of independent experts engaged by Te Parawhau Hapū across freshwater ecology, freshwater fish, wetlands, terrestrial ecology and avifauna disciplines, whose conclusions consistently identify a pattern of underestimating taiao values, understating adverse effects, and overstating the effectiveness of proposed mitigation measures.

5.2 Te Parawhau's independent experts identified departures from recognised best-practice methodologies, incomplete baseline investigations, insufficient survey effort, the undervaluation of freshwater and terrestrial ecosystems, and assessment approaches that had the effect of reducing the significance attributed to adverse effects. Of additional concern was the repeated reliance on future management responses, adaptive management, offsetting and compensation measures to address effects where the scale and significance of those effects remain contested.

5.3 Of particular concern is the Freshwater Ecology Report, which Te Parawhau's independent experts found consistently undervalued freshwater environments, including repo, through incomplete mapping, non-standard methodologies, catchment-scale aggregation of effects, and assessment approaches that mask significant localised losses of ecological function, habitat, species values and ecological connectivity. Te Parawhau remains concerned that these approaches materially understate adverse effects on freshwater systems, including puna wai, repo, headwater streams and ecological connectivity.

5.4 Similar concerns were identified in relation to wetlands, terrestrial ecology, avifauna and fauna assessments. Te Parawhau's independent experts identified insufficient survey effort, limitations in assessment methodologies, uncertainty regarding species presence and abundance, and an over-reliance on habitat restoration, relocation and offsetting measures to address permanent habitat loss, fragmentation and degradation of indigenous biodiversity and loss of ecological function.

5.5 Te Parawhau is particularly concerned that significant reliance is placed upon future management plans, certifications, adaptive management responses and offsetting proposals to address adverse effects that have not yet been fully assessed.

5.6 In Te Parawhau's view, important decisions regarding the avoidance, management and acceptability of adverse effects should not be deferred to future processes where baseline information remains incomplete or contested.

6 FRESHWATER ECOLOGY, FRESHWATER FISH AND WETLANDS

6.1 Freshwater environments form an important component of the wider taiao affected by the Project. Te Parawhau's concerns extend beyond the direct loss and modification of streams, wetlands and aquatic habitats to include the degradation of ecological connectivity, hydrological function, mauri and the overall health of interconnected freshwater systems.

6.2 For Te Parawhau, freshwater environments are not isolated features within the taiao. Puna wai, repo, wetlands, headwater streams and associated habitats form part of a connected freshwater network that sustains the wider health and functioning of the taiao. Their significance extends beyond their physical characteristics and arises from embedded whakapapa relationships with wai and te taiao, the mauri they sustain, and the cultural, ecological and hydrological functions they perform.

6.3 Te Parawhau remains concerned that the Project will result in the permanent modification and destruction of freshwater environments through earthworks, stream realignments, culverting, vegetation clearance, habitat loss and changes to ecological connectivity.

6.4 Many of the freshwater environments affected by the Project have experienced historical modification. However, Te Parawhau does not accept that historical disturbance diminishes their contemporary significance or ecological function. Modified freshwater environments continue to support indigenous biodiversity, taonga species, ecological processes and the health of downstream systems.

6.5 The independent experts engaged by Te Parawhau identified significant concerns regarding the proposed destruction and modification of headwater streams, intermittent waterways, puna wai, wetlands and associated freshwater habitats, and the way these effects were assessed within NZTA's Freshwater Ecology Report. These systems perform important ecological, hydrological and cultural functions despite often being small in scale or modified by past land use activities.

6.6 Te Parawhau remains concerned that NZTA's assessment methodologies place undue emphasis on catchment-scale calculations and percentage-based loss metrics. While

such approaches may portray effects as relatively minor at a catchment level, they fail to adequately recognise the significance of localised habitat loss, ecological function and freshwater connectivity where those effects occur.

6.7 Similar issues arise in relation to freshwater fish and aquatic habitat. Te Parawhau's independent experts identified significant shortcomings in the assessment of fish habitat values, habitat connectivity and the ecological role of smaller freshwater systems. In Te Parawhau's view, these environments have not been properly recognised or afforded the level of protection warranted by their role within the wider freshwater network.

6.8 Of particular concern is the potential loss and degradation of puna wai, repo, wetlands, headwater streams and associated habitats that support indigenous biodiversity and taonga species. These environments contribute to the health and resilience of the wider catchment, and their significance cannot be measured solely by their physical extent.

6.9 Te Parawhau considers that freshwater environments are fundamental to ecological connectivity, biodiversity, hydrological function and the mauri of the taiao. The loss or degradation of individual systems cannot be viewed in isolation where those systems form part of an interconnected freshwater network.

6.10 Given the importance of freshwater environments to the wider taiao, Te Parawhau considers that a precautionary approach is warranted. Where uncertainty remains regarding the scale, significance or permanence of adverse effects, freshwater environments should be protected through avoidance wherever practicable before reliance is placed upon mitigation, offsetting or compensation measures.

7 TE MANA O TE WAI

7.1 Te Mana o te Wai is a fundamental uara ahurea of Te Parawhau Hapū. It recognises the whakapapa relationships between wai, Papatūānuku, ngā atua, ngā taonga ora and tāngata, and the obligation to safeguard the mauri of ngā wai and the wellbeing of all who depend upon them.

7.2 For Te Parawhau, wai is not merely a physical resource or ecological feature. Wai possesses its own mauri and sustains the interconnected relationships between te taiao and ngā taonga ora.

7.3 Te Mana o te Wai recognises the responsibilities inherited through the respective realms of Maru and Tangaroa, including those places where their realms converge, intermingle and sustain life. These relationships give rise to obligations to safeguard the mauri of ngā wai, the wellbeing of the taiao, and all uri who depend upon them.

7.4 Te Parawhau considers that the health and wellbeing of wai must be protected and sustained before providing for activities that have the potential to adversely affect freshwater environments. This includes maintaining the mauri, function and resilience of puna wai, repo, wetlands, streams and waterways that form part of interconnected freshwater systems.

7.5 Te Parawhau considers that Te Mana o te Wai requires more than the management of adverse effects. It requires the enduring protection of the mauri, health and functioning of freshwater environments and the interconnected relationships they sustain.

7.6 In Te Parawhau's view, the permanent modification, degradation and loss of puna wai, repo, headwater streams and associated freshwater habitats raises significant questions regarding whether Te Mana o te Wai has been appropriately recognised and provided for within the Project.

7.7 Te Parawhau remains concerned that the Project prioritises the management of adverse effects on freshwater environments rather than demonstrating how the mauri and health of those environments will be protected and sustained for future generations.

7.8 Te Parawhau considers that the Expert Panel must look beyond the physical extent of affected freshwater environments and recognise the interconnected relationships between wai, te taiao and all uri who depend upon them. The loss or degradation of an individual awa, puna or repo therefore constitutes a loss to the wider interconnected systems they support and sustain.

7.9 For Te Parawhau, the question is not simply whether adverse effects on freshwater environments can be mitigated. The question is whether the Project protects and sustains te mauri o ngā wai, provides for the wellbeing of present and future generations, and enables Te Parawhau Hapū to uphold its inherited responsibilities in accordance with Te Mana o te Wai. In Te Parawhau's view, these matters engage not only Hapū kaitiakitanga obligations, but also the obligations of decision-makers, consent authorities and Crown agencies to give effect to Te Mana o te Wai when exercising functions and powers relating to freshwater management and decision-making.

8 TERRESTRIAL ECOLOGY, INDIGENOUS BIODIVERSITY AND AVIFAUNA

8.1 The terrestrial environments affected by the Project occupy the realms of Papatūānuku and Tāne Mahuta (Tāne) and are inseparable from one another and the wider taiao. For Te Parawhau, ngahere, indigenous biodiversity, taonga species and their habitats form part of Mana Whenua and Mana Ao Tūroa. They are integral to the mauri and wairua of te taiao.

8.2 Te Parawhau submits that the Project will result in the permanent loss, fragmentation and degradation of indigenous habitats, including remnant kahikatea ngāhere, mature kauri and other regionally depleted ecosystems. These environments continue to provide invaluable ecological, cultural and environmental functions and cannot be readily replaced once lost.

8.3 Of particular significance is the loss of approximately 40 mature kauri, including multiple trees of ecological and cultural significance. For Te Parawhau, these are not simply specimens of indigenous vegetation; they are uri of Tāne whose presence, and the habitats associated with them, contribute to the mauri, wairua and ecological integrity of the wider taiao.

8.4 Te Parawhau does not accept that the significance of indigenous habitats is diminished because they exist as remnant ecosystems within a modified landscape. In many cases, their rarity increases their significance and reinforces the need for their protection.

8.5 Te Parawhau's independent experts also identified limitations within NZTA's terrestrial ecology, avifauna and fauna assessments, including uncertainty regarding species presence and abundance, survey effort, habitat utilisation and the treatment of fragmented and modified habitats.

8.6 Consequently, Te Parawhau is not satisfied that the full extent of actual and potential effects on indigenous biodiversity, taonga species and associated habitats has been adequately identified or assessed.

8.7 Furthermore, Te Parawhau places considerable weight on the ecological functions performed by remnant indigenous habitats throughout the Project area. Their value

cannot be measured solely by area, condition or quantity. Even relatively small remnants may provide important refuge, habitat connectivity, breeding opportunities and resilience within the wider taiao.

8.8 Te Parawhau considers that the proposed vegetation clearance, habitat modification and, in some locations, the complete removal of indigenous habitats will further fragment indigenous ecosystems and contribute to ecological isolation, reducing ecological function and resilience over time.

8.9 Te Parawhau questions the extent to which restoration, relocation, offsetting and compensation measures proposed by NZTA can adequately address the permanent loss of mature indigenous ecosystems. While such measures may provide some benefit, they cannot recreate established ecological relationships, ecological function or the values associated with environments that have developed over many generations.

8.10 Te Parawhau also places significant weight on the temporal gap between habitat loss and ecological recovery. Mature and functioning ecosystems cannot be recreated through planting programmes within years, or in many cases decades. Consequently, ecological values lost during construction may not be restored within the lifetime of those presently affected and, in many instances, future generations. For Te Parawhau, the recovery of the realm of Tāne cannot be measured solely by the establishment of replacement vegetation, but by the return of the ecological functions, relationships and integrity that have developed over generations.

8.11 Te Parawhau maintains that the cumulative effects of vegetation clearance, habitat fragmentation, ecological isolation and delayed restoration outcomes arising from this proposal will contribute to a progressive decline in the integrity, resilience and ecological functioning of the wider taiao.

8.12 For Te Parawhau, the issue is not simply the loss of individual trees, species or habitats. The issue is the progressive erosion of ngā uara ahurea o Te Parawhau, Mana Ao Tūroa, and the natural systems that sustain the mauri, resilience and life-supporting capacity of the wider taiao.

8.13 Te Parawhau therefore considers that avoidance should remain the preferred response wherever practicable, particularly where the Project will result in the loss of

mature indigenous ecosystems, taonga species habitats, regionally depleted environments or ecological values that cannot be replaced within meaningful ecological timeframes.

8.14 In Te Parawhau's view, the permanent loss of indigenous biodiversity and ecological function should not be accepted where adverse effects can be avoided, reduced or prevented through alternative design approaches. Once lost, many of these uara cannot be restored within the lifetime of present or future generations.

9 MANA TĀNGATA AND INTERGENERATIONAL RESILIENCE

9.1 Mana Tāngata recognises the inseparable relationship between tāngata and te taiao, and the responsibilities carried by each generation to safeguard and enhance the wellbeing of both. For Te Parawhau, decisions affecting the taiao must also recognise the benefits, risks and consequences for present and future generations. The legacy of those decisions will shape the wellbeing of the taiao inherited by those who follow.

9.2 The wellbeing of tāngata is inseparable from the wellbeing of te taiao. The benefits derived from resilient transport infrastructure must be carefully balanced against the long-term health, functioning and resilience of whenua, wai, Te Ao Tūroa and the wider taiao.

9.3 Te Parawhau acknowledges the importance of establishing a safe, resilient and reliable state highway. However, resilience must be considered more broadly than the uninterrupted movement of people and goods.

9.4 While the proposal is promoted as improving the resilience of the state highway network, Te Parawhau remains concerned that the proposed methodology involves extensive earthworks, substantial cut and fill activities, and significant modification of ancestral maunga and natural landforms within an environment recognised for its challenging topography, geological instability and natural hazard characteristics.

9.5 Te Parawhau highlights that important aspects of the Project's long-term earthworks programme remain uncertain, including spoil disposal areas, spoil management methodologies, long-term stabilisation measures and the long-term implications of these activities for valleys, waterways, indigenous habitats and the wider taiao. In Te Parawhau's view, the resilience benefits claimed by the Project cannot be properly assessed where significant aspects of earthworks, spoil disposal and long-term taiao management remain unresolved or deferred to future processes.

9.6 In Te Parawhau's view, a project cannot be considered resilient if that resilience is achieved through the permanent degradation of the very taiao systems that sustain the whenua and support future generations.

9.7 Te Parawhau considers that resilience should encompass not only the performance of infrastructure, but also the long-term integrity, adaptability and wellbeing of the taiao.

Resilience must be assessed not only by the ability of infrastructure to withstand disruption including natural hazards, but also by the extent to which the whenua, wai and wider taiao upon which it depends remain healthy, functioning and resilient for future generations.

9.8 Decisions that permanently diminish environmental resilience may simply transfer unacceptable risk and cost to future generations.

9.9 Te Parawhau also notes the considerable imbalance in resources available to the respective parties participating in this process. As a Crown agency, NZTA has access to significant financial, legal, technical and specialist resources to prepare, support and advocate for the Project. By contrast, Te Parawhau has been required to commit substantial time, effort and limited resources to understand, review and respond to a complex proposal and extensive technical documentation concerning matters of direct significance to its ancestral landscape, taiao, uara ahurea and the exercise of kaitiakitanga. Despite the significance of the Project and its potential effects on ngā uara ahurea and the wider taiao, Te Parawhau has not been provided with equivalent support to enable effective participation in a process of this scale, duration and complexity.

9.10 Te Parawhau further notes that its relationship with the state highway network extends beyond participation in statutory processes. Hapū representatives and kaumātua are frequently called upon following serious incidents and fatalities on the state highway network within their rohe to undertake tikanga, karakia and cultural processes for those who have lost their lives and for the affected places. Through these responsibilities, Te Parawhau is regularly confronted with the human consequences of highway safety and understands the importance of a safe and resilient transport network. These experiences reinforce the Hapū's support for improving safety outcomes, while also underscoring the importance of ensuring that such outcomes are achieved in a manner that respects and protects the taiao, ancestral relationships and the wellbeing of future generations.

9.11 For Te Parawhau, these matters engage Mana Tāngata as much as Mana Whenua, Mana Ao Tūroa and Te Mana o te Wai. The decisions made today will determine the condition of the taiao inherited by future generations.

9.12 Te Parawhau considers that future generations should inherit a taiao that is healthy, functioning and resilient, rather than one that has been progressively diminished through avoidable loss, degradation and fragmentation.

9.13 Accordingly, Te Parawhau supports the objective of providing a safe, resilient and reliable state highway network. However, resilience should not be achieved at the expense of Te Mano Hiwa Ariki, ngā wai, indigenous biodiversity, taonga species and the wider ancestral taiao. The Expert Panel must be satisfied that the proposal, as currently presented, appropriately balances state highway resilience outcomes with the long-term environmental, cultural and intergenerational consequences identified throughout these comments for present and future generations, mauri ora katoa.

10 STATUTORY CONSIDERATIONS

10.1 The matters raised by Te Parawhau throughout these comments are not matters of preference or aspiration. They arise from ngā uara ahurea o Te Parawhau Hapū, its relationship with Te Mano Hiwa Ariki, ancestral taiao and associated taonga, and its inherited kaitiakitanga responsibilities. These matters are directly relevant to the statutory obligations and considerations that the Expert Panel must address when determining whether the proposal should proceed.

10.2 Te Parawhau considers that the statutory framework provides important mechanisms through which these relationships, values and responsibilities are to be recognised and provided for. In Te Parawhau's view, the key issue before the Expert Panel is not whether adverse effects can simply be managed, but whether the proposal appropriately recognises, provides for and protects Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau, the wider ancestral taiao and other matters of national, environmental, cultural and intergenerational significance recognised through the FTAA, RMA, Northland regional policy framework and other relevant legislation.

10.3 Of particular relevance to the matters raised by Te Parawhau are sections 5, 6 and 7 of the Resource Management Act 1991 (RMA), the Northland Regional Policy Statement and associated regional planning instruments, the National Policy Statement for Freshwater Management 2020, the Resource Management (National Environmental Standards for Freshwater) Regulations 2020, the Conservation Act 1987 and the Wildlife Act 1953. Te Parawhau submits that these provisions provide an important framework through which the effects of the proposal on Te Mano Hiwa Ariki, the wider ancestral taiao, freshwater environments, indigenous biodiversity, taonga species and ngā uara ahurea o Te Parawhau Hapū must be assessed.

10.4 Fast-track Approvals Act 2024 (FTAA)

10.5 Te Parawhau acknowledges that the proposal is being assessed under the FTAA. However, Te Parawhau does not consider that the fast-track process diminishes the importance of appropriately identifying, assessing and addressing adverse effects on ancestral taiao, freshwater environments, indigenous biodiversity, taonga species and ngā uara ahurea o Te Parawhau Hapū.

10.6 In Te Parawhau's view, the accelerated nature of the process places even greater importance on ensuring that the Expert Panel can be satisfied that adverse effects have been appropriately identified and assessed, and that the matters raised throughout these comments have been given appropriate consideration.

10.7 Te Parawhau submits that the proposal should be assessed against the relevant statutory framework with the same degree of rigour and scrutiny that would apply under any other approvals process. The significance, scale and permanence of adverse effects are not reduced simply because a proposal is advanced through a fast-track pathway.

10.8 Te Parawhau notes that section 85(3) of the FTAA expressly provides that an Expert Panel may decline an approval where it forms the view that adverse effects are sufficiently significant to be out of proportion to the regional or national benefits of the Project, even after taking into account proposed conditions, mitigation measures, offsetting, compensation and other management responses. Te Parawhau submits that the adverse effects on Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau, freshwater environments, indigenous biodiversity, taonga species and the wider ancestral taiao raise significant questions as to whether those adverse effects are out of proportion to the regional or national benefits claimed for the Project, particularly where important aspects of the receiving environment, adverse effects, proposed mitigation measures and long-term environmental outcomes remain contested.

10.9 Te Parawhau further notes that, in considering approvals under the Resource Management Act 1991 and Wildlife Act 1953, the Expert Panel must have regard to the relevant statutory considerations identified within Schedules 5 and 6 of the FTAA. The concerns identified throughout the CIA, independent expert evidence and these submissions are directly relevant to those considerations, including the scale and significance of adverse effects on Te Mano Hiwa Ariki, freshwater environments, repo, puna wai, indigenous biodiversity, taonga species, ngā uara ahurea o Te Parawhau and the wider ancestral taiao. Te Parawhau submits that where important aspects of the receiving environment remain contested, where significant reliance is placed upon future management responses, and where uncertainty remains regarding the extent of adverse effects and long-term environmental outcomes, the Expert Panel must exercise caution before concluding that the relevant approval tests have been satisfied.

10.10 Regional Policy Framework

10.11 The Northland Regional Policy Statement and associated regional planning instruments provide important direction regarding the protection of freshwater environments, wetlands, indigenous biodiversity, significant habitats, outstanding natural features and landscapes, the wider taiao, and the relationship of Māori with their ancestral lands, water, sites, wāhi tapu and other taonga. These matters sit at the heart of Te Parawhau's concerns regarding the protection of Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao as identified throughout the CIA, independent expert evidence and these submissions.

10.12 Te Parawhau maintains that the proposal raises significant questions regarding the extent to which the objectives and policies of the regional policy framework can be achieved where the Project will result in the permanent modification and destruction of parts of Te Mano Hiwa Ariki, the loss and fragmentation of indigenous habitats, adverse effects on freshwater environments including repo, puna wai and headwater streams, and the degradation of ecological connectivity, taonga species and their habitats.

10.13 Te Parawhau further submits that the regional policy framework recognises the importance of protecting the relationship of Māori with ancestral lands, water, sites, wāhi tapu and other taonga, together with the exercise of kaitiakitanga and the protection of ngā wai, indigenous biodiversity, taonga species and the interconnected ancestral taiao upon which they depend.

10.14 Of particular concern is the extent to which the proposal relies upon future management plans, adaptive management responses, restoration programmes, technical certifications and offsetting measures to address adverse effects that will occur immediately and, in some instances, permanently. Te Parawhau remains concerned that significant adverse effects on Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau, freshwater environments, indigenous biodiversity, taonga species and the wider ancestral taiao have not been adequately identified, assessed or resolved, and that the long-term protection of these values remains in question.

10.15 Accordingly, Te Parawhau submits that the Expert Panel must be confident that the proposal is consistent with the objectives and policies of the Northland regional policy framework. Te Parawhau further submits that the adverse effects identified throughout

the CIA, expert evidence and these submissions raise significant concerns regarding whether the outcomes sought by the regional policy framework in relation to Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao can be achieved.

10.16 Resource Management Act 1991 (RMA)

10.17 The RMA remains a key component of the statutory framework relevant to the proposal and provides important direction regarding the protection of environmental, cultural and ecological values.

10.18 Section 5 - Purpose of the RMA

10.19 Te Parawhau acknowledges that the proposal seeks to provide important social, economic and transport benefits through the development of more resilient and efficient state highway infrastructure.

10.20 However, section 5 of the RMA requires more than the delivery of benefits. It requires a balanced approach that enables social, economic and cultural wellbeing, while also sustaining the potential of natural and physical resources to meet the needs of future generations, safeguarding the life-supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

10.21 Te Parawhau submits that the Expert Panel must be satisfied that the proposal appropriately balances the benefits of improved state highway resilience against the permanent environmental, cultural and intergenerational consequences identified throughout these comments.

10.22 Of particular concern are the potential effects on Te Mano Hiwa Ariki, ancestral taiao, freshwater environments, indigenous biodiversity, taonga species habitats, and the exercise of Te Parawhau's kaitiakitanga responsibilities. These matters are directly relevant to whether the proposal appropriately achieves the purpose of the Act and whether the Expert Panel can be satisfied that the outcomes sought by section 5 will be achieved.

10.23 Section 6(a) - Preservation of Natural Character

10.24 Section 6(a) of the RMA recognises the preservation of the natural character of the coastal environment, wetlands, lakes, rivers and their margins, and the protection of those environments from inappropriate subdivision, use and development, as a matter of national importance.

10.25 Te Parawhau contends that section 6(a) is directly relevant to the proposal given the extent of effects identified on puna wai, repo, headwater streams, rivers and associated freshwater environments throughout the Project area. These environments are not isolated features but form part of the wider taiao, supporting the mauri, ecological functioning and relationships that exist between wai, whenua and ngā taonga ora.

10.26 Te Parawhau maintains that the preservation of natural character extends beyond the physical attributes of freshwater environments. It also encompasses the ecological, hydrological and natural processes, and the mauri they sustain, which contribute to their health, integrity and wellbeing.

10.27 Te Parawhau does not accept that historical modification or other human intervention necessarily diminishes the natural character or significance of puna wai, repo, awa, headwater streams and associated freshwater environments. These environments continue to sustain important ecological, hydrological and natural processes that contribute to the health, functioning and mauri of the wider taiao and remain relevant to the assessment of natural character under section 6(a).

10.28 The matters raised throughout these comments raise legitimate questions as to whether the full extent of adverse effects on freshwater environments, the realm of Maru, the wider taiao and their natural character have been appropriately identified and assessed.

10.29 Accordingly, the Expert Panel must be satisfied that the proposal appropriately preserves and protects the natural character of affected wai and the wider taiao, and that any adverse effects are not inconsistent with the matters of national importance recognised by section 6(a) of the Act.

10.30 Section 6(b) – Protection of Outstanding Natural Features, Landscapes

10.31 Section 6(b) of the RMA recognises the protection of outstanding natural features and landscapes from inappropriate subdivision, use and development as a matter of national importance.

10.32 Te Parawhau maintains that section 6(b) is directly relevant to the proposal given the scale of earthworks, substantial areas of cut and fill, modification of ancestral maunga and natural landforms, and the resulting changes proposed within the wider landscape.

10.33 Of particular relevance is Te Mano Hiwa Ariki, the ridgeline of a thousand sacred peaks. Te Parawhau asserts that the significance of Te Mano Hiwa Ariki extends beyond its visual characteristics and arises from its distinctive peaks, comprising multiple pā and ancestral pou, its place within the wider ancestral taiao and its significance to Te Parawhau Hapū.

10.34 Te Parawhau contends that the proposed modification and destruction of ancestral maunga, ridgelines and natural landforms within Te Mano Hiwa Ariki raises significant questions regarding whether the level of protection afforded to outstanding natural features and landscapes under section 6(b) of the Act can be maintained.

10.35 Te Mano Hiwa Ariki is more than a prominent ridgeline. It is a defining ancestral feature comprising multiple sacred peaks, pā and ancestral pou that collectively contribute to its distinctiveness, identity and significance within the wider taiao. Te Mano Hiwa Ariki forms a significant gateway to Te Tai Tokerau and Whangārei.

10.36 Te Parawhau maintains that the scale of earthworks and associated construction activities proposed within Te Mano Hiwa Ariki will result not only in the modification of ancestral maunga, ridgelines and natural landforms, but also in the permanent destruction of natural features that contribute to the significance of the wider taiao. Once removed, these defining landscape features cannot be reinstated through mitigation, restoration or compensation measures.

10.37 Given that outstanding natural features and landscapes are recognised as matters of national importance, the Expert Panel must be satisfied that the permanent destruction and modification proposed within Te Mano Hiwa Ariki is consistent with the level of protection contemplated by section 6(b) of the Act.

10.38 Section 6(c) – Protection of Significant Indigenous Vegetation and Significant Habitats of Indigenous Fauna.

10.39 Section 6(c) of the RMA recognises the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna as a matter of national importance. Te Parawhau maintains that the proposal raises fundamental questions as to whether that protection can be achieved where significant indigenous vegetation and habitat will be permanently lost, fragmented and, in some instances, destroyed at the scale proposed.

10.40 The matters before the Expert Panel extend beyond the loss of vegetation alone. They include substantial adverse effects on remnant kahikatea ngāhere, approximately 40 mature kauri and the broader indigenous forest ecosystems and ecological relationships associated with them, significant habitats supporting kiwi, pekapeka, pupurangi, and an estimated 35,000 to 40,000 Hochstetter's frogs, together with the ecological connectivity and environmental systems upon which those taonga species rely.

10.41 Te Parawhau maintains that the protection afforded by section 6(c) must be considered in the context of the scale, significance and permanence of these effects. The permanent destruction of habitat and ecological systems cannot be assumed to be addressed solely through restoration planting, habitat creation, species relocation, offsetting or compensation measures.

10.42 Of particular concern is the extent to which the proposal relies upon future restoration and offset outcomes to address losses that will occur immediately. As recognised throughout these comments, mature ecosystems, significant habitats and ecological relationships that have developed over multiple generations cannot simply be recreated within meaningful ecological or human timeframes, if at all.

10.43 Te Parawhau contends that the protection sought by section 6(c) requires more than the replacement of vegetation or relocation of species. It requires careful consideration of whether the significant indigenous vegetation and habitats affected by the proposal can be protected from permanent loss and fragmentation in the first instance.

10.44 Te Parawhau further maintains that the fragmentation and isolation of habitat may have potentially irreversible consequences extending beyond the immediate

construction footprint, reducing ecological connectivity and affecting the long-term resilience and viability of species populations and ecosystems throughout Te Mano Hiwa Ariki and the wider surrounding taiao.

10.45 In accordance with section 6(c) of the Act, the protection of significant indigenous vegetation and significant habitats of indigenous fauna is recognised as a matter of national importance. The Expert Panel must ensure that the permanent loss, destruction and fragmentation of significant indigenous vegetation and significant habitats of indigenous fauna arising from the proposal is consistent with the level of protection afforded to those matters.

10.46 Section 6(e) - the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga

10.47 Section 6(e) of the RMA recognises and provides for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga as a matter of national importance.

10.48 Te Parawhau maintains that section 6(e) is central to the proposal given the extent of actual and potential effects on ancestral whenua, wai, sites of significance, wāhi tapu and other taonga throughout Te Mano Hiwa Ariki and the wider ancestral taiao of the Hapū.

10.49 For Te Parawhau, the matters recognised by section 6(e) are not isolated features capable of being considered independently of one another. Together they form an interconnected ancestral taiao through which Te Parawhau continues to exercise its whakapapa relationships, tikanga, inherited responsibilities and the ongoing exercise of kaitiakitanga.

10.50 The Hapū maintains that its relationship with Te Mano Hiwa Ariki and the wider ancestral taiao cannot be reduced to individual sites, features or wāhi tapu considered in isolation. The interconnected relationship recognised by section 6(e) extends across the whenua, wai, mahinga kai, sites of significance and other taonga that collectively sustain the identity, wellbeing and ongoing relationship of Te Parawhau with its ancestral taiao.

10.51 The permanent destruction, modification and fragmentation identified throughout these comments extend beyond physical effects on whenua and wai. These outcomes have the potential to adversely affect the relationship recognised and provided for under section 6(e), including the ability of the Hapū to maintain its connection with ancestral lands, water, sites, wāhi tapu and other taonga.

10.52 Considered collectively, the adverse effects identified throughout the CIA, and these comments are not confined to individual sites, features or locations. Rather, they affect the interconnected ancestral taiao through which Te Parawhau exercises its tikanga, rangatiratanga, kaitiakitanga and inherited responsibilities to present and future generations. The proposal must therefore be assessed having regard to the cumulative effects on those relationships, rather than considering individual effects in isolation.

10.53 Significant weight should be afforded to the cumulative nature of these effects. The permanent destruction of sections of Te Mano Hiwa Ariki, the loss and fragmentation of indigenous habitats, adverse effects on wai and taonga species, and the modification of sites of significance, wāhi tapu and other taonga cannot be viewed in isolation from one another.

10.54 Te Parawhau remains concerned that significant matters affecting its relationship with the ancestral taiao are proposed to be addressed through future management plans and implementation processes rather than being fully resolved through the approval process itself.

10.55 In accordance with section 6(e) of the Act, the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga is recognised and provided for as a matter of national importance. The Expert Panel must be satisfied that the adverse effects arising from the proposal are consistent with the level of recognition and provision afforded to the relationship of Te Parawhau Hapū with Te Mano Hiwa Ariki, its ancestral taiao, and associated taonga.

10.56 Section 7(a) – Kaitiakitanga

10.57 Section 7(a) of the RMA requires particular regard to be had to kaitiakitanga.

10.58 The concerns identified throughout Te Parawhau's Cultural Impact Assessment (CIA) and these comments arise directly from the exercise of kaitiakitanga by the Hapū. They reflect enduring responsibilities to care for, protect and sustain ancestral taiao, associated taonga and the relationships that exist between them.

10.59 Particular regard to kaitiakitanga requires more than acknowledgement of Te Parawhau's uara, tirohanga and whakapapa obligations. It requires meaningful consideration of the responsibilities, concerns and recommendations expressed by the Hapū throughout this process.

10.60 In accordance with section 7(a) of the RMA, the Expert Panel must be satisfied that particular regard has been given to the kaitiakitanga responsibilities exercised by Te Parawhau in relation to the matters identified throughout these comments.

10.61 Section 7(d) - Intrinsic Values of Ecosystems

10.62 Section 7(d) of the RMA requires particular regard to be had to the intrinsic values of ecosystems.

10.63 Te Parawhau maintains that the ecosystems affected by the proposal possess inherent value in their own right. Their significance is not dependent upon human use, productivity, utility or their ability to be recreated elsewhere. Through whakapapa, these ecosystems form part of the interconnected relationships that sustain Te Mano Hiwa Ariki, the wider ancestral taiao and Te Ao Tūroa.

10.64 Te Parawhau is concerned that the proposal will result in the permanent loss, fragmentation and modification of ecosystems that support indigenous biodiversity, taonga species, ecological connectivity and the mauri of the wider environment. Such effects are directly relevant to the intrinsic values recognised by section 7(d).

10.65 In accordance with section 7(d) of the Act, the Expert Panel must have particular regard to the intrinsic values of ecosystems affected by the proposal, including the contribution those ecosystems make to the health, resilience and interconnected functioning of the wider taiao.

10.66 Section 7(f) - Maintenance and Enhancement of the Quality of the Environment

10.67 Section 7(f) of the RMA requires particular regard to be had to the maintenance and enhancement of the quality of the environment.

10.68 Te Parawhau remains concerned that the proposal will result in the permanent loss, degradation, fragmentation and modification of freshwater environments, indigenous habitats, ecological systems and natural landforms across Te Mano Hiwa Ariki and the wider ancestral taiao.

10.69 The matters identified throughout these submissions raise significant questions as to whether such effects can be reconciled with the maintenance and enhancement of environmental quality.

10.70 In Te Parawhau's view, the quality of the environment is not maintained or enhanced where the mauri of the taiao is diminished, ngā uara ahurea o Te Parawhau are adversely affected, and the interconnected relationships between whenua, wai, biodiversity and people are permanently altered or lost.

10.71 Te Parawhau maintains that environmental quality cannot be assessed solely by reference to mitigation, offsetting or compensation measures, particularly where adverse effects will occur immediately, the nature and scale of those effects remain uncertain, and the success of proposed replacement, restoration or management outcomes is yet to be demonstrated.

10.72 In accordance with section 7(f) of the Act, the Expert Panel must be satisfied that the proposal will maintain and enhance the quality of the environment. In Te Parawhau's view, environmental quality cannot be separated from the mauri, health and resilience of the taiao, nor from the ability of whenua, wai and indigenous ecosystems to continue supporting present and future generations.

10.73 Section 7(g) - Finite Characteristics of Natural and Physical Resources

10.74 Section 7(g) of the RMA requires particular regard to be had to any finite characteristics of natural and physical resources.

10.75 Te Parawhau asserts that many of the resources affected by the proposal possess finite characteristics that cannot be readily recreated once lost. These include Te Mano Hiwa Ariki, ancestral pā and associated landforms, mature kauri, remnant kahikatea

ngāhere, significant habitats and other taonga identified throughout these comments and the CIA.

10.76 The significance of these resources arises not only from their present condition but also from the time, relationships and taiao processes that have sustained and shaped them over multiple generations.

10.77 In accordance with section 7(g) of the RMA, particular regard must be had to the finite characteristics of natural and physical resources. The Expert Panel must carefully consider whether resources formed over multiple generations can be appropriately replaced once lost.

10.78 Section 7(i) – The Effects of Climate Change

10.79 Section 7(i) of the RMA requires particular regard to be had to the effects of climate change.

10.80 Te Parawhau notes that the proposal involves extensive earthworks, substantial cut and fill activities, large-scale spoil management and significant modification of ancestral maunga and natural landforms across Te Mano Hiwa Ariki.

10.81 The effects of climate change cannot be considered in isolation from the taiao within which the proposal is located. Te Mano Hiwa Ariki is recognised for its challenging topography, complex geology, instability and susceptibility to natural hazard events, including slope failure associated with periods of intense rainfall.

10.82 Te Parawhau remains concerned that climate change is likely to exacerbate existing geological and geotechnical risks through changing rainfall patterns, more frequent and intense weather events, increased erosion, slope instability and sediment mobilisation.

10.83 In these circumstances, Te Parawhau questions whether the long-term effects of climate change have been adequately assessed, particularly where the Project proposes extensive and permanent modification of natural landforms within an environment already recognised for geological instability and natural hazard risk, and where important aspects of long-term landform management, stabilisation and spoil management remain subject to future processes.

10.84 These matters are directly relevant to the long-term resilience of both the state highway network and the wider taiao. Decisions made today must remain robust in the face of climatic conditions that are expected to become increasingly variable and uncertain over time.

10.85 In accordance with section 7(i) of the RMA, particular regard must be had to the effects of climate change. The Expert Panel must carefully consider whether the proposal appropriately responds to those effects in the context of the scale of earthworks and permanent landform modification proposed within Te Mano Hiwa Ariki.

10.86 National Policy Statement for Freshwater Management 2020

10.87 The National Policy Statement for Freshwater Management 2020 (NPS-FM) establishes a framework for protecting the health and wellbeing of freshwater bodies and freshwater ecosystems while providing for the health needs of people and the social, economic and cultural wellbeing of communities.

10.88 Te Parawhau maintains that Te Mana o te Wai is central to the assessment of the proposal. As discussed throughout these comments, Te Mana o te Wai recognises the fundamental importance of protecting the health and wellbeing of wai before providing for other uses of freshwater.

10.89 The concerns identified throughout these comments regarding puna wai, repo, awa, headwater streams, ecological connectivity and freshwater ecosystem function are directly relevant to the outcomes sought by the NPS-FM.

10.90 Te Parawhau upholds that the application of the NPS-FM to this proposal is fundamentally influenced by the quality and reliability of the underlying freshwater assessments upon which the proposal relies.

10.91 As identified throughout these comments, and in the independent technical reviews commissioned by Te Parawhau, significant concerns have been raised regarding the methodologies, assumptions and conclusions adopted within the freshwater ecological assessment and associated technical reporting.

10.92 Te Parawhau contends that where the extent, significance and functioning of freshwater environments are not appropriately identified or assessed, the reliability of

the resulting effects assessment, mitigation framework and proposed freshwater outcomes is fundamentally compromised.

10.93 Of particular concern are matters relating to the treatment of puna wai, repo, awa, headwater streams, ecological connectivity and freshwater habitat, together with the aggregation of effects in a manner that may understate localised and cumulative adverse effects on freshwater environments.

10.94 The concerns identified throughout the CIA extend beyond differing interpretations of ecological value. They go directly to the reliability of the information relied upon by decision-makers to determine whether the proposal is consistent with the outcomes sought by the NPS-FM and Te Mana o te Wai.

10.95 Where uncertainty remains regarding the extent, condition and significance of freshwater environments, caution should be exercised before concluding that adverse effects have been appropriately identified, avoided, remedied or mitigated.

10.96 The Expert Panel must therefore carefully consider whether the information presented in support of the proposal provides a sufficiently robust foundation to determine that the health and wellbeing of freshwater bodies and freshwater ecosystems have been protected and that the outcomes sought by the NPS-FM can be achieved.

10.97 Te Parawhau maintains that where the underlying freshwater assessments are fundamentally flawed, the resulting conclusions regarding effects, mitigation and freshwater outcomes cannot be relied upon with confidence.

10.98 The NPS-FM places significant emphasis on the interconnected nature of freshwater systems and the need to protect the health and wellbeing of freshwater bodies and freshwater ecosystems. For Te Parawhau, these outcomes cannot be appropriately assessed where the extent, function and significance of freshwater environments remain contested by independent expert review.

10.99 Of particular concern is the extent to which the Freshwater Ecological Assessment relies upon methodologies and assumptions that, in the opinion of Te Parawhau's independent experts, systematically undervalue puna wai, repo, headwater streams, awa, ecological connectivity and associated freshwater habitats. Where the baseline

assessment is disputed, caution should be exercised before relying upon predicted effects and proposed mitigation outcomes.

10.100 Te Parawhau maintains that the NPS-FM requires more than the management of adverse effects on freshwater environments. It requires the Expert Panel in their decision-making process to be satisfied that the health and wellbeing of freshwater bodies and freshwater ecosystems have been appropriately protected and that Te Mana o te Wai has been upheld.

10.101 In the absence of robust and reliable assessments of freshwater environments and associated adverse effects, the Expert Panel cannot be confident that the outcomes sought by the NPS-FM will be achieved.

10.102 National Environmental Standards for Freshwater Standards Regulations 2020 (NES-FW)

10.103 The NES-FW establishes national regulations relating to activities affecting repo, awa, stream morphology, fish passage and freshwater environments.

10.104 Te Parawhau maintains that the NES-FW is directly relevant to the proposal given the extent and scale of construction activities proposed within, adjacent to, and affecting freshwater environments across Te Mano Hiwa Ariki and surrounding taiao.

10.105 The NES-FW relies upon the accurate identification and assessment of freshwater environments and associated effects. As highlighted throughout these comments and the independent technical reviews commissioned by Te Parawhau, significant concerns remain regarding the characterisation, assessment and treatment of freshwater environments adversely affected by the proposal.

10.106 Of significant concern are matters relating to the identification and treatment of repo, headwater streams, intermittent waterways, awa, freshwater habitats and associated ecological connectivity. These matters are fundamental to understanding the extent to which activities regulated by the NES-FW may affect freshwater environments.

10.107 Of additional concern is the apparent underrepresentation of freshwater environments within the mapping relied upon by the application and reflected in the proposed consent condition mapping, including Appendix A – Existing Wetlands and Appendix B – Watercourses. Te Parawhau notes that several headwater streams,

intermittent and ephemeral waterways, puna, seepages and repo identified through site investigations, cultural assessment and independent technical review are not consistently represented, or are only partially represented, within the NZTA mapping. The mapped watercourses largely focus on main stem waterways and do not adequately identify the full extent of tributaries, headwater systems and associated freshwater habitats within the designation footprint.

10.108 Similarly, the wetland mapping shown in Appendix A – Existing Wetlands appears limited in extent when compared with freshwater features identified through site investigations and the independent reviews commissioned by Te Parawhau. The apparent omission or underrepresentation of repo and associated freshwater environments raises concerns as to whether freshwater ecosystems and their ecological functions have been fully identified, assessed and appropriately provided for within the application.

10.109 The matters identified by Te Parawhau and its independent experts are not limited to the scale of effects alone. They extend to the methodologies used to identify, map and characterise freshwater environments, determine ecological significance and assess effects, and the extent to which the proposal relies upon those methodologies to demonstrate compliance with freshwater management requirements under the NES-FW.

10.110 The Expert Panel must be satisfied that freshwater environments have been appropriately identified, mapped, characterised and assessed before any determination can be made regarding compliance with the NES-FW. Where uncertainty remains regarding the extent, function or significance of freshwater environments, including repo, headwater streams and associated ecological connections, confidence in the resulting effects assessment and compliance conclusions is necessarily reduced.

10.111 Conservation Act 1987

10.112 The Conservation Act 1987 provides for the conservation of New Zealand's natural and historic resources and recognises the importance of protecting indigenous biodiversity, ecosystems and species for present and future generations.

10.113 The application of the Conservation Act must be considered in the context of the scale of earthworks, vegetation clearance, habitat destruction, stream modification and permanent alteration of the taiao arising from the proposal. As identified throughout the CIA and independent expert reviews commissioned by Te Parawhau, these activities will result in the permanent loss, fragmentation and degradation of indigenous habitats, ecological systems, taonga species environments and freshwater environments that are the subject of conservation and protection under the Conservation Act.

10.114 The concerns identified throughout these comments are not confined to individual species or habitats. They extend to the integrity, resilience and functioning of the wider ecological systems upon which those species depend and raise concerns as to whether the proposal is consistent with the conservation purpose of the Act.

10.115 The proposal will result in large scale adverse effects on habitats supporting taonga species, including kiwi, pekapeka, pupurangi and Hochstetter's frogs, together with the indigenous ecosystems and ecological connectivity and wider taiao upon which those species rely.

10.116 The conservation purpose of the Conservation Act requires the Expert Panel to carefully consider whether the permanent loss, fragmentation and degradation arising from the proposal can be reconciled with the conservation of the indigenous biodiversity, ecological systems and taonga species environments affected by the Project.

10.117 Wildlife Act 1953

10.118 The Wildlife Act 1953 provides protection for indigenous wildlife and establishes a statutory framework for authorising activities that may adversely affect protected species.

10.119 Te Parawhau notes that NZTA has sought Wildlife Act approvals for certain protected species, including Hochstetter's frogs, lizards and selected invertebrates. However, the application expressly excludes avifauna and bat species from the approvals sought despite acknowledging the presence of protected wildlife within the Project area, including kiwi, pekapeka, matuku-hūrepo, mātātā, ruru and other taonga species whose habitats and ecological relationships may be affected by the proposal.

10.120 Te Parawhau acknowledges NZTA's rationale for excluding avifauna and bat species from the Wildlife Act approvals sought, namely that adverse effects on these species are proposed to be avoided through species-specific management protocols and construction controls. However, should those measures prove unsuccessful and incidental mortality, injury, disturbance or other adverse effects occur, those species would fall outside the scope of the Wildlife Act approvals sought. In Te Parawhau's view, the omission of kiwi, pekapeka and other protected avifauna from the approvals framework does not provide sufficient certainty that all effects on protected wildlife have been appropriately addressed.

10.121 Te Parawhau does not support any application that is inconsistent with the protection of taonga species, the wider taiao and the avoidance of adverse effects where practicable. The Wildlife Act approvals sought by NZTA do not provide sufficient certainty that all effects on protected wildlife have been appropriately identified, assessed and addressed.

10.122 Te Parawhau is further concerned that the approvals sought rely upon future implementation measures and decisions to be undertaken by appropriately qualified persons without sufficient certainty regarding species-specific management approaches, relocation methodologies, receiving environments, monitoring requirements, success criteria or long-term outcomes for affected wildlife.

10.123 The application is limited in detail and provides little certainty regarding where protected wildlife may ultimately be relocated, the suitability and long-term security of receiving environments, the duration of monitoring and management obligations, including pest control, and the actions that will be taken should relocation outcomes prove unsuccessful.

10.124 Te Parawhau acknowledges the statutory protection afforded to species listed under the Wildlife Act. However, the Hapū maintains that the wellbeing and survival of protected wildlife cannot be separated from the habitats, ecological systems and wider taiao upon which those species depend. The degradation, fragmentation or loss of those supporting environments may ultimately undermine the protection afforded to these taonga species and compromise the very outcomes the Wildlife Act seeks to achieve.

10.125 Te Parawhau is not satisfied that the application provides sufficient certainty regarding the long-term success of proposed relocation measures, the suitability and security of receiving environments, or the actions that will be taken should those measures fail to achieve the intended outcomes for protected wildlife and taonga species. The relocation of protected wildlife cannot be assumed to result in successful long-term outcomes, particularly where habitat suitability, ecological connectivity, ongoing management obligations and post-relocation monitoring remain uncertain.

10.126 Te Parawhau is further concerned that the efficacy of proposed relocation measures is dependent upon the suitability, extent, quality and long-term protection of receiving environments. While potential release sites have been identified, it is not clear that all receiving environments currently possess the habitat quality, ecological connectivity, carrying capacity, pest management controls and long-term protection necessary to support the successful establishment and survival of relocated species.

10.127 The Expert Panel must carefully consider whether the Wildlife Act approvals sought by NZTA provide sufficient certainty regarding the long-term management of protected wildlife, whether all protected species potentially affected by the proposal have been appropriately identified and addressed within the approvals sought, and whether it is appropriate to authorise the capture, handling, relocation and incidental mortality of protected wildlife where significant reliance is placed upon future management responses and important implementation details, relocation outcomes and long-term protection of affected species remain uncertain.

10.128 Heritage New Zealand Pouhere Taonga Act 2014

10.129 Te Parawhau notes that NZTA seeks archaeological authorities under Schedule 8 of the FTAA to modify or destroy a number of archaeological sites located within the Project area. While Te Parawhau acknowledges that archaeological authorities provide a statutory mechanism for managing effects on archaeological sites, the granting of an authority does not diminish the significance of affected wāhi tūpuna, archaeological sites, taonga and associated ngā uara ahurea o Te Parawhau.

10.130 Te Parawhau submits that archaeological sites do not exist in isolation from the wider ancestral taiao, whakapapa relationships and cultural landscape of Te Mano Hiwa Ariki. Any archaeological investigations, management plans, monitoring programmes,

accidental discovery protocols, treatment of cultural materials, kōiwi tāngata or taonga tūturu must be undertaken in partnership with Te Parawhau as tāngata whenua.

10.131 Accordingly, Te Parawhau submits that no archaeological authority should be exercised, and no Historic Heritage or Archaeological Management Plan finalised, without meaningful engagement with Te Parawhau and provision for ongoing Hapū participation in archaeological investigations, cultural monitoring, accidental discovery processes and decisions relating to the management of archaeological materials, taonga and kōiwi tāngata.

11 PROPOSED CONDITIONS

11.1 Te Parawhau notes that NZTA has lodged proposed designation conditions and proposed resource consent conditions for the Project.

11.2 At the time these submissions were prepared, Te Parawhau and its independent subject matter experts had not had sufficient opportunity to undertake a comprehensive review of the proposed conditions and assess whether they adequately address the concerns identified throughout the CIA, independent technical reviews and these submissions. Te Parawhau remains concerned that the scale, complexity and technical nature of the proposed conditions have limited the ability of the Hapū and its advisors to fully assess and respond to those conditions within the available timeframe.

11.3 Te Parawhau is continuing to engage directly with NZTA regarding the proposed conditions. Accordingly, these submissions should not be interpreted as acceptance or endorsement of the proposed conditions in their current form.

11.4 Te Parawhau respectfully requests that sufficient opportunity be provided for legal review, expert review, ongoing engagement with NZTA and supplementary comments on the proposed designation conditions and resource consent conditions before those matters are finalised.

11.5 Te Parawhau also notes and welcomes the Expert Panel's indication that further engagement with mana whenua and Hapū may occur following the lodgement of comments and considers that such engagement would assist the Panel in understanding the matters raised throughout these submissions.

11.6 Te Parawhau is concerned that many matters of significance to the Hapū and the wider taiao are proposed to be addressed through future management plans, monitoring programmes, technical certifications and implementation measures prepared following approval of the Project. These include matters relating to ngā uara ahurea o Te Parawhau, freshwater environments, repo, taonga species, ecological restoration outcomes and the wider taiao.

11.7 Te Parawhau remains concerned that a number of proposed management responses assume successful ecological restoration, habitat replacement and ecosystem

recovery without demonstrating that equivalent ecological function, connectivity, resilience and biodiversity outcomes will be achieved. Long-term monitoring, pest management, ecological performance measures and contingency responses have not been demonstrated with sufficient certainty to provide confidence in the outcomes relied upon by the application.

11.8 While the proposed conditions generally provide for consultation with Hapū, they do not provide certainty regarding the ongoing involvement of Te Parawhau, its appointed subject matter experts or legal advisors in the preparation, review, implementation, monitoring, amendment or oversight of those plans and programmes.

11.9 Te Parawhau is also concerned that several proposed conditions rely upon freshwater assessments, mapping methodologies and ecological classifications that are disputed by its independent experts. Concerns remain regarding the identification and treatment of headwater streams, intermittent and ephemeral waterways, fish habitat, ecological connectivity and repo. Te Parawhau submits that where the underlying assessments remain contested, caution should be exercised before relying upon conditions that depend upon those assessments to determine environmental outcomes and management responses.

11.10 Te Parawhau remains concerned that significant decisions affecting the taiao may ultimately be deferred to future processes undertaken largely at the discretion of NZTA, its consultants or contractors. In the absence of clear requirements for meaningful Hapū participation and independent technical review, Te Parawhau is not satisfied that these future processes provide sufficient certainty that the concerns identified throughout the CIA and independent technical reviews will be appropriately addressed.

11.11 Te Parawhau considers that consultation alone does not necessarily ensure that Hapū concerns will be appropriately incorporated into future management responses. The Expert Panel should therefore carefully consider whether the proposed conditions provide an appropriate framework for meaningful Hapū participation, transparency, accountability and independent oversight throughout the life of the Project.

11.12 Te Parawhau considers that meaningful participation extends beyond consultation alone. Given that many environmental outcomes relied upon by the application are proposed to be delivered through future management plans, monitoring programmes,

certifications and adaptive management responses, the designation and resource consent conditions should provide for the ongoing involvement of Te Parawhau and its appointed technical advisors throughout the life of the Project. This is necessary to ensure that the exercise of rangatiratanga, kaitiakitanga and mana motuhake is maintained throughout the life of the Project.

11.13 Te Parawhau respectfully requests that the Expert Panel direct that ongoing Hapū participation be embedded within the designation and resource consent conditions, including opportunities for independent technical review by advisors appointed by the Hapū where matters affect ngā uara ahurea, freshwater environments, repo, taonga species and the wider ancestral taiao.

11.14 In making this request, Te Parawhau notes the significant disparity in resources available to the respective parties participating in this process. NZTA has access to extensive legal, technical and specialist resources to support the Project, whereas the Hapū must rely upon limited resources to review and respond to a highly complex application, extensive technical documentation and associated conditions within constrained timeframes.

11.15 Te Parawhau respectfully requests that the Expert Panel direct that meaningful Hapū participation, including access to independent technical review where necessary, be incorporated into the designation conditions and resource consent conditions, and that Te Parawhau be provided with an opportunity to comment on proposed management plans and associated environmental programmes before they are finalised and implemented.

12 CONCLUSIONS

12.1 Te Parawhau Hapū supports the objective of providing a safe, resilient and reliable state highway network between Te Tai Tokerau and Auckland.

12.2 Through its ongoing responsibilities within Te Parawhau rohe, including responding to serious incidents and fatalities occurring on the state highway network, Te Parawhau understands the importance of improving transport safety and resilience for present and future generations.

12.3 However, Te Parawhau does not consider that resilience should be achieved at the expense of Te Mano Hiwa Ariki, ancestral taiao, freshwater environments, indigenous biodiversity, taonga species, wāhi tapu and other taonga as defined by ngā uara ahurea o Te Parawhau.

12.4 Throughout the development of the proposal, Te Parawhau has consistently advocated for an avoidance-first approach and the serious consideration of alternative design, alignment and construction methodologies capable of avoiding or substantially reducing adverse effects.

12.5 Te Parawhau remains concerned that the scale, significance and permanence of adverse effects arising from the proposal have been materially underestimated and that the proposal places significant reliance upon future management plans, adaptive management measures, technical certifications, restoration programmes, wildlife relocation initiatives and other processes to address those effects.

12.6 Independent technical reviews commissioned by Te Parawhau have identified significant concerns regarding the methodologies, assumptions and conclusions relied upon within key freshwater, wetland, terrestrial ecology, wildlife and environmental assessments.

12.7 Te Parawhau remains concerned that important decisions affecting ngā uara ahurea o Te Parawhau and the wider taiao are proposed to be addressed through future processes rather than being appropriately assessed and resolved prior to approval.

12.8 Where confidence in the underlying assessments is diminished, confidence in the resulting effects assessments, mitigation measures, management responses and environmental outcomes is similarly diminished.

12.9 For the reasons set out throughout the CIA, the evidence of Matua Pari Walker, Rebecca Lodge and Jacqui Wairepo, independent expert reviews and these submissions, Te Parawhau submits that the application should be declined in its current form. Significant concerns remain regarding the extent to which the proposal achieves the outcomes sought by the applicable statutory framework in relation to Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao.

12.10 Te Parawhau remains concerned that the adverse effects identified throughout the CIA, expert evidence and these submissions raise significant questions regarding whether the proposal can achieve the outcomes sought by the applicable statutory framework, the Fast-track Approvals Act 2024, the Resource Management Act 1991, the Northland regional policy framework, the Conservation Act 1987 and the Wildlife Act 1953.

12.11 Te Parawhau respectfully requests that the Expert Panel carefully consider the matters raised throughout these submissions and ensure that any decision reached properly reflects the significance of Te Mano Hiwa Ariki, the wider ancestral taiao, the exercise of rangatiratanga and kaitiakitanga, and the interests of current and future generations, including the long-term wellbeing of the taiao they will inherit.

13 RELIEF SOUGHT

13.1 Te Parawhau submits that the application should be declined in its current form pursuant to section 85(3) of the Fast-track Approvals Act 2024. Te Parawhau submits that the adverse effects identified throughout the CIA, independent expert evidence and these submissions are sufficiently significant to be out of proportion to the regional or national benefits of the Project, having regard to the proposed conditions, mitigation, offsetting, compensation and other management responses.

13.2 Without prejudice to its primary position, should the Expert Panel determine that approval is appropriate, Te Parawhau submits that no approval should be granted unless the Expert Panel is satisfied that the concerns identified throughout the CIA, independent technical reviews and these submissions have been appropriately addressed through robust enforceable conditions, meaningful participation with Te Parawhau Hapū and a framework that provides certainty regarding ngā uara ahurea o Te Parawhau, Te Mano Hiwa Ariki, the wider ancestral taiao, and associated environmental, cultural and intergenerational outcomes. Te Parawhau further submits that the Expert Panel must be satisfied that any remaining adverse impacts are not so significant as to be out of proportion to the regional or national benefits of the Project, notwithstanding the proposed conditions, mitigation measures, offsetting, compensation and other management responses.

13.3 Te Parawhau respectfully requests that the Expert Panel give substantial weight to the Hapū CIA, these submissions, the evidence of Te Parawhau and the independent technical reviews commissioned by the Hapū.

13.4 Te Parawhau submits that particular weight should be afforded to the concerns identified by independent subject matter experts regarding the methodologies, assumptions and conclusions relied upon within key freshwater, wetland, terrestrial ecology, wildlife and environmental assessments.

13.5 Te Parawhau supports the objective of providing a safe, resilient and reliable state highway connection and respectfully invites the Expert Panel to apply an avoidance-first approach wherever practicable, including careful consideration of alternative alignments, design solutions and construction methodologies capable of avoiding or

substantially reducing adverse effects on Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau, the wider ancestral taiao and associated taonga.

13.6 Te Parawhau submits that significant adverse effects and key environmental outcomes should be appropriately identified, assessed and resolved through the approval process itself and not deferred to future management plans, adaptive management responses, technical certifications or implementation measures.

13.7 Te Parawhau seeks the identification, mapping, assessment and protection of all freshwater environments potentially affected by the proposal, including repo, puna, headwater streams, intermittent waterways, awa and associated ecological connections, prior to any determination regarding the adequacy of proposed environmental management responses.

13.8 Te Parawhau submits that all protected wildlife potentially affected by the proposal should be appropriately identified, assessed and addressed prior to the granting of any Wildlife Act approvals, including species presently excluded from the approvals sought by NZTA.

13.9 Te Parawhau seeks designation conditions and resource consent conditions that provide for meaningful and ongoing Hapū participation throughout the life of the Project, including the involvement of Te Parawhau and its appointed technical advisors in the preparation, review, implementation, monitoring, amendment and oversight of management plans, environmental programmes and adaptive management responses affecting ngā uara ahurea o Te Parawhau, freshwater environments, repo, taonga species and the wider ancestral taiao.

13.10 Te Parawhau further seeks direction from the Expert Panel that all management plans and environmental programmes required by any approval incorporate clear mechanisms for ongoing engagement with Te Parawhau and provision for independent technical review where requested by the Hapū.

13.11 Considering the scale, complexity and technical nature of the proposed designation conditions and resource consent conditions, Te Parawhau respectfully requests an opportunity to provide supplementary comments on the proposed designation conditions and associated resource consent conditions following completion of legal review, expert review and ongoing engagement with NZTA.

13.12 Te Parawhau seeks a condition requiring that all Historic Heritage Management Plans, Archaeological Management Plans, archaeological investigation methodologies, accidental discovery protocols and any subsequent amendments be prepared in consultation with Te Parawhau and provided to the Hapū for review and comment prior to certification or implementation.

13.13 Te Parawhau also welcomes the invitation extended by the Expert Panel in Minute 5 to participate in a future hui, kānohi ki te kānohi, and considers that such engagement would assist the Panel in understanding the concerns raised throughout the CIA, independent expert reviews and these submissions. Te Parawhau respectfully requests the opportunity to present its comments directly to the Panel and supports any further engagement, including a site visit involving tāngata whenua and Hapū representatives, that may assist the Panel in its consideration of the proposal.

APPENDICES

Appendix A

Expert Evidence

Matua Pari Walker

Te Parawhau Hapū Kaumātua and Kaiārahi

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE **FAST TRACK APPROVALS ACT 2024** (**FTAA** or **Act**)

IN THE MATTER OF A SUBSTANTIVE APPLICATION BY

NEW ZEALAND TRANSPORT AGENCY WAKA KOTAHI

FOR THE ALTERNATIVE TO THE BRYNDERWYN HILLS PROJECT

STATEMENT OF EVIDENCE OF PARI WALKER ON BEHALF OF TE POUWHENUA O TIAKIRIRI KUKUPA TRUST

Dated 12 August 2026

Ka Tukua Te Tira Mate Ki

Tua o Paerau

Ka Noho Te Tira ora Ki

te Ao Turoa

Ka Tu Te Tira o Te Parawhau

Tēnā koe

E mihi kau ana ki a koutou i raro i te maru o ngā manaakitanga o te Runga Rawa. Ko au tēnei ko Pari Walker, he kaumātua nō Te Parawhau, e tuku atu ana i taku taunakitanga.

He honore nui ki ahau

1 For many years, I have served my hapū and wider community as a kaumātua in the role of Kaiarahi of many Kaupapa affecting Te Parawhau Hapū, such as cultural advisor, advocating for our tikanga and the protection of our taonga tuku iho. My mahi has included leading tuwhera, karakia, and significant cultural ceremonies across Te Tai Tokerau alongside advocating for the rangatiratanga of our hapū, Te Parawhau in Whangārei. These responsibilities have strengthened my ability to uphold kawa, tikanga to provide cultural assurance, and support organisations such as Hapū, Iwi, Government agencies, Community and Business groups to engage confidently and respectfully with Māori communities. My experience aligns closely with the expectations of this kaupapa. As a kaumātua of Te Parawhau, I have contributed to environmental and resource management kaupapa, including supporting the development of Te Mana Whakahono ā Rohe agreement with the Northland Regional Council. This mahi reflects my commitment to tino rangatiratanga, mana motuhake, and ensuring Māori voices are embedded in decision-making at every level. I am deeply committed to the Articles of Te Tiriti o Waitangi, and the principles of partnership. I bring a generational understanding of He Whakaputanga o Ngā Rangatira and the unique historical context of Te Taitokerau.

2 I currently hold the appointment of the Chairperson for Te Pouwhenua o Tiakiriri Kūkupa Trust (**the Trust**) and now would partake in providing matters related to this Kaupapa. I am authorised to provide this evidence on behalf of the Trust.

Whakapapa Connection

3. I submit my Genealogy line as follows:

Kūkupa moe i a Whitiao - Begat Ipuwhakatara Ipu ka

moe i a Papa - Begat Tito

Tito ka moe i a Makareta - Begat Te Ihi Wati

Te Ihi Wati ka moe i a Kiritahanga - Begat Wairoro Wairoro ka

moe i a Ripa - Begat Hohipere

Hohipere ka moe i a Rauna - Begat Pari ko te kai korero ahau.

4. I submit this genealogy as being important to show our connection to Te Mano Hiwa Ariki from our Tupuna Manaia of Ngāti Manaia to myself of Te Parawhau.

5. The relationship that Te Parawhau has with Te Mano Hiwa Ariki is embedded in whakapapa, atua, and kōrero tuku iho. This connection is carried each day by the rising of Te Hōkio, whose flight traces the whakapapa of the Hapū across the rohe, west to east from Tangihua to Taranga, from Parikiore in the north to Te Mano Hiwa Ariki in the south including all the whenua, moana, motu and awa in between affirming the mana of Te Parawhau and its unbroken association with Te Mano Hiwa Ariki and surrounding Outstanding Natural Landscapes including its rite of passage to Moana nui ā Kiwa. Te Parawhau asserts that it holds, under tikanga, a strong relationship with Te Mano Hiwa Ariki, as part of our ancestral lands, waters, sites and taonga as handed down from our paramount Rangatira, Manaia,Tahuhu-nui-o-Terangi, Kūkupa and his sons, Tirarau and Tiakiriri. A statement of the whakapapa and ancestral lineage that underpins Te Parawhau's relationship with Te Mano Hiwa Ariki is attached as Appendix A to this evidence.

6. I also submit that other hapū also indicate that they connect in some way to the same place and use other names to identify the area.

Kaitiakitanga in Practice

7. Te Parawhau has consistently advocated for an avoidance-first approach throughout its engagement with NZTA. Adverse effects should be avoided wherever practicable, including through the serious consideration of alternative alignments, design approaches and construction methodologies capable of avoiding or substantially reducing adverse effects on Te Mano Hiwa Ariki and the wider ancestral taiao. These matters are discussed in detail within the Te Parawhau Cultural Impact Assessment (CIA) and the submissions prepared on behalf of the Hapū by Georgina Olsen. Those documents are supported by the technical reviews

and expert evidence of Rebecca Lodge of Bay Ecological Consultancy Ltd and Jacqui Wairepo of Kūkūwai Consulting, who identify significant concerns regarding the scale and significance of adverse effects on freshwater environments, ecological systems, indigenous biodiversity, taonga species, ecological connectivity and the uncertainty associated with long-term restoration outcomes. In my view, their evidence reinforces many of the concerns consistently raised by Te Parawhau throughout the CIA regarding the protection of Te Mano Hiwa Ariki, ngā uara ahurea o Te Parawhau and the wider ancestral taiao.

8. These mahi whakaora are essential not only to address adverse effects, but also to restore and uphold the mauri of Te Mano Hiwa Ariki, uphold the mana of Te Parawhau, and reflect the responsibilities arising from Te Tiriti o Waitangi, including the principles of partnership, active protection and the recognition of rangatiratanga. Our CIA affirms that NZTA, as a Crown agency, must work with Te Parawhau in a manner that respects and provides for ngā uara ahurea o Te Parawhau, rangatiratanga, mauri ora and whakawhanaungatanga. This is necessary to ensure that Te Parawhau can continue to exercise its kaitiakitanga responsibilities and protect the interconnected wellbeing of ngā tāngata, whenua, wai and the wider taiao.

Te Pouwhenua o Tiakiriri Kūkupa Trust Mandate Past and Present

9. In 2018 Te Parawhau Hapū was continuing to build its collective body to bring all Hapū matters under the one roof. This Kaupapa for want of a better word collapsed leaving our Hapū exposed and vulnerable on many fronts.

10. The then kaumātua directed that all matters related to areas that impacted on Te Parawhau Hapū would be dished out to persons whom were skilled in those matters i.e. Resource management, Cultural, Karakia, relationships, Te Tiriti o Waitangi etc.

11. The Trust was formed under the above conditions, with the Tautoko to cover all those areas needing attention. The Trust holds a Mana Whakahone ā Rohe agreement with Northland Regional Council (NRC). A copy of our agreement is attached at Appendix B.

12. I consider that the current Te Parawhau Hapū collective has reaffirmed the mandate by majority representation.

The Fast Track Approvals Act (FTAA)

13. I would like to put some perspective in relation to the coming of the above legislation from our Hapū Te Parawhau and the trust role as the protector as such to matters that will impact on the Hapū. The Trust foresaw the dangers that could befall

our Taiao and Rangatiratanga.

14. Serious discussion took place amongst our Kaumātua to find ways to enable us to counter or at least have some voice in the Resource Management Act (RMA) process, and more recently (since 2024), the FTAA process that could be meaningful.

15. The answer found was to have a Mana Whakahono ā Rohe with NRC, due to the Hapū not having a stable organisation it was agreed by Kaumātua that Te Pouwhenua o Tiakiriri Trust (The Trust) would hold the Tohu for Te Parawhau Hapū and be an advocate for the Hapū. On the day of signing, it was agreed by all persons in attendance at Kaka Porowini that all would sign the document giving it legitimacy. Those signatories included prominent Te Parawhau Kaumātua and Rangatira, including Te Parawhau Ariki, Te Ihi Tito.

16. Since that time, until the present day, the Trust has continued to represent the interests of Te Parawhau including for the NZTA proposal before the Expert Panel.

17. As I have stated, our exercise of te tino rangatiratanga in our rohe is founded on our tupuna, Kūkupa. This is a solemn duty owed both to our tupuna and our future generations, as recorded in He Whakaputanga o Ngā Rangatira 1835 and Te Tiriti o Waitangi 1840. Te Tirarau (the son of Kūkupa and brother to Tiakiriri) and paramount Chief in 1840 was a signatory to both these documents.

18. Our uara ahurea based approach is set out in our Cultural Impact Assessment and the submission prepared on behalf of the Hapū. I adopt this approach, especially of our uara as ahi kā and haukāinga

Dated this 12 August 2026



Pari Walker (Trustee, Chairperson)

Appendix A
Mano Hiwa Ariki: Core Tribal Lineage Report

MANO HIWA ARIKI: CORE TRIBAL LINEAGE REPORT

1. Te Whhenua: The Sacred Landscape

Mano Hiwa Ariki is precisely defined in traditional tradition as the **ridgeline of 1,000 sacred peaks**. This majestic high-altitude spine forms the spiritual and geographic back-bone of the southern rohe, locking down tribal territories through the following markers:

- **Te Pae o Tū (The Eastern Anchor):** Establishing the coastal boundary, overlooking the sea and anchoring the sunrise horizon.
- **Taumata Tirotiro (The Central Spine):** The highest peak at the very centre of the range. It serves as the majestic lookout, watchtower, and spiritual apex over the entire region.
- **Pīroa Peak (The Western Anchor):** Locking down the inland extent of the range and defining the western parameters of authority.

2. Te Whakapapa: The Chronological Descent

The mandate and guardianship over the 1,000 sacred peaks of Mano Hiwa Ariki cascade through an unbroken chronological line of ancestral authority:

Ngāti Manaia (Manaia)	The primordial root anchor. Manaia establishes the foundational, cosmic, and spiritual rights (take tūpuna) over the entire skyline, stretching from the peaks of Mt Manaia down across the 1,000 sacred peaks of the inland ridgeline.
Ngāi Tāhuhu	The ancient tangata whenua base layer. This connection embeds deep, long-standing physical occupation (ahi kā) into the valleys and watercourses running below Taumata Tirotiro and extending out toward Te Pae o Tū.
Te Parawhau (Kūkupa)	The paramount political and military shield. Representing absolute sovereign authority, Kūkupa's mandate marks the entire ridge line as a protected corridor. Local military deployments and defensive rearguard actions were explicitly executed to enforce and maintain his supreme mana from east to west.

3. Alignment of Land and Lineage

This direct lineage framework demonstrates that the **1,000 sacred peaks of Mano Hiwa Ariki** are not separate from the people. The ancestral footprint flows seamlessly from the ancient beginnings of **Ngāti Manaia**, settles permanently in the soil with **Ngāi Tāhuhu**, and is defended through the sovereign political umbrella of **Te Parawhau under Kūkupa**. Every peak—from Te Pae o Tū in the east, through Taumata Tirotiro at the centre, to Pīroa in the west—remains locked under this combined traditional mandate.

Appendix B
Mana Whakahono a Rohe



Mana Whakahono ā Rohe

Statutory agreement between Northland Regional Council and hapū of Te Taitokerau

Northland
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Document versions

Updates and new parties to the Mana Whakahono ā Rohe statutory agreement between Northland Regional Council and hapū of Te Taitokerau will be recorded below.

ID: A1391520

Date	Change
5 December 2020	Te Patuharakeke Iwi Trust Board and Northland Regional council sign the agreement at Takahiwai Marae.
10 December 2020	Te Rūnanga o Ngāti Rēhia and Northland Regional Council at Whetu Marama Marae, Takou Bay.
29 April 2024	Te Pouwhenua o Tiakiriri Kukupa Trust (trading as Te Parawhau ki Tai) and Northland Regional Council at Kākā Porowini Marae, Whangārei.

Hapū Mana Whakahono ā Rohe

Definitions:

"The hapū" – means an individual hapū signatory

1. Karakia

Ko Rangi e tū iho nei,

Ko Papa e whakaahuarangi nei,

Ka puta ko ngā atua Māori,

Ko Tū,

Ko Rongo,

Ko Tāne,

Ko Haumietiketike,

Ko Tangaroa,

Ko Tāwhiri,

Ka puta te ira tangata ki te whei ao, ki te ao mārama,

Ka tuhi ki runga, ka rarapa ki raro,

Whakairia ake rā e Rongo ki runga, kia tina, tina!

Whano, whano, haramai te toki,

Haumi ē, hui ē

Tāiki ē!

2. Whakatauakī

Kei te whānau te mana whenua,

Kei te hapū te kaitiakitanga,

Kei te iwi te whakaae.

3. Mihi

Ka whati te tī,

Ka wana te tī,

Ka rito te tī,

He mihi mōteatea ki ngā hunga wairua,

Kua tānikohia e rātou te kahu tapu, e ngā mate haere, haere, whakaoti atu rā,

Āpiti hono tātai hono, te hunga wairua ki te whenua,

Āpiti hono tātai hono, ko te whenua ki te hunga ora.

Ngā reo korokī me te reo korohī,

E ngā mana,

E ngā reo,

E ngā rau rangatira mā,

Mauri tū, mauri tau, mauri ora.

4. Te tūāpapa o te whakaaetanga | Agreement foundations

4.1 Te Tiriti o Waitangi

Te Taitokerau hapū are extremely passionate about their heritage and give regard to Te Tiriti o Waitangi as the founding document of this country. It recognises a partnership between Māori and the Crown, and for Māori, further cements the intent of He Whakaputanga o Te Rangatiratanga o Nū Tīreni (1835 Declaration of Independence).

He Whakaputanga o Te Rangatiratanga o Nū Tīreni (Declaration of Independence) and Te Tiriti o Waitangi provide the foundation doctrines of authority and partnership that are being sought by hapū in Government, including Local Government.

4.2 Te Pae Tawhiti | Vision

"He waka hourua, eke noa" - "A double hulled canoe embarking on a voyage of unity"

This whakataukī is a metaphor that represents:

- Partnership.
- A challenging journey requiring determination and collaboration.
- The application of Te Ao Māori in our journey e.g. the wairua dimension.
- Understanding, caring for and adapting to our natural environment.
- Self-reliance and a sustainable economy.

4.3 Horopaki | Context

Te Mana Whakahono ā Rohe is a binding statutory arrangement that provides for a structured relationship under the Resource Management Act 1991 (RMA) between tangata whenua and councils.

The intent of Te Mana Whakahono ā Rohe is to improve working relationships between Tangata Whenua and Councils, and to enhance Māori participation in RMA decision-making processes, acknowledging that statutorily RMA decision making resides with councils.

Te Mana Whakahono ā Rohe does not replace the legal requirements for Te Mana Whakahono ā Rohe between Northland Regional Council and Iwi authorities.

Te Mana Whakahono ā Rohe cannot limit any statutory requirements set out in Māori settlement legislation or any other legislation that provides a role for Māori in processes under the RMA (e.g., particular rights recognised under the Marine and Coastal Area Act 2011).

4.4 Ngā Rōpū | Parties

Te Mana Whakahono ā Rohe is between Northland Regional Council and the hapū of Te Taitokerau listed in Schedule One.

4.5 Te tauākī whanaungatanga o Te Kaunihera ā rohe o Te Taitokerau | Relationship statement – Northland Regional Council

Northland Regional Council is committed to fostering healthy relationships and connections with hapū, leading to better quality outcomes including:

Supporting hapū mātauranga, expectations and aspirations.

- A greater understanding of one another's expectations and aspirations.
- Providing more clarity about priority areas of concern for hapū
- Increased opportunities to support hapū-led projects and to establish shared projects/joint ventures.
- Improved processes based on an understanding of one another's priorities, expectations and available resources.
- More efficient use of Council and hapū resources.

Healthy relationships are based on positive experiences, improving trust and confidence. Northland Regional Council sees Te Mana Whakahono ā Rohe as a significant step in the development of these hapū-council relationships.

4.6 Ngā tikanga o te whanaungatanga | Relationship principles

These are the principles that have guided the development of Te Mana Whakahono ā Rohe and will continue to guide the relationship between Northland Regional Council and the signatories:

- Working together in good faith and in a spirit of co-operation.
- Communicating with each other in an open, transparent, and honest manner.
- Recognising and acknowledging the benefit of working together by sharing each other's respective vision, aspirations and expertise.
- The Treaty of Waitangi Principles.[1]

[1] Refer Waitangi Tribunal principle of the Treaty - https://www.waitangitribunal.govt.nz/treaty-of-waitangi/principles-of-the-treaty/

5. Te Whakaaetanga | The Agreement

Northland Regional Council and the hapū agree:

- to meet all the obligations and commitments made in Te Mana Whakahono ā Rohe
- to cover their own costs to meet the obligations and commitments (unless otherwise stated).

Any obligation or commitment in a particular circumstance may be varied with the agreement of Northland Regional Council and the relevant hapū.

6. Te Mahere ā Rohe me te Tauākī Kaupapa Here ā Rohe | Regional Plan and Regional Policy Statement - processes and participation

Regional plans and regional policy statements are the primary regulatory tools in Northland Regional Council's toolbox for managing the use of natural and physical resources in Northland.

Regional policy statements provide an overview of the significant resource management issues of the region and objectives, policies and methods to achieve integrated management of the natural and physical resources of the region. It includes direction on tangata whenua participation in decision-making, plan development, consents and monitoring.

The Regional Plan includes objectives, policies and rules for the following matters:

- Soil conservation
- Water quality and quantity
- Aquatic ecosystems
- Biodiversity
- Natural hazards
- Discharge of contaminants
- Allocation of natural resources
- Assessing impact on tangata whenua values.

6.1 Ngā mahere whakahaere taiao ā hapū | Hapū Environmental Management Plans (HEMPs)

6.1.1 Whakamāramatanga | Background

Hapū Environmental Management Plans (HEMPs) may include:

- whakapapa (genealogy) and rohe (area of interest)
- environmental, cultural, economic and spiritual aspirations and values
- areas of cultural and historical significance
- outline of how the hapū expects to be involved in the management, development and protection of resources
- expectations for engagement and participation in RMA processes.

The RMA requires HEMPs to be taken into account when preparing or changing regional policy statements and regional and district plans – provided they have been recognised by an iwi authority and lodged with the council. They can also provide important guidance in the assessment of resource consent applications and other council functions.

6.1.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Provide a contestable fund of at least $20,000 per year as a fund to assist Tangata Whenua to develop or review their environmental management plans.[2]
- Set criteria for applications to the fund.
- If the hapū has lodged a HEMP with Northland Regional Council:
    - When preparing a plan change[3], Northland Regional Council will provide the hapū with a written assessment of how the HEMP was taken into account in a draft plan change, and will provide at least 20 working days for the hapū to provide written comment back to Northland Regional Council on the assessment and the draft plan change.
    - Record in the Section 32 report for all plan changes how relevant HEMPs have been taken into account when preparing or changing a policy statement or plan (as required by RMA sections 61 and 66), and will report on any comments made by the hapū on the draft plan change in relation to the HEMP.
    - Northland Regional Council will, in all resource consent decision documents for activities within the rohe of the hapū, record the HEMP and will provide a summary of how the HEMP was considered.

The hapū will:

- If applying to the contestable fund, demonstrate how the application meets the criteria.
- Provide Northland Regional Council with a copy of any draft HEMP the hapū develops (and intends to lodge with Northland Regional Council) and allow Northland Regional Council at least 20 working days to provide comment.
- Provide Northland Regional Council with an electronic copy of any HEMP they produce and want to be taken into account in resource management decisions.
- Provide evidence of endorsement from the hapū of any HEMP they provide to Northland Regional Council.
- Agree to Northland Regional Council recording on its website an electronic copy of any HEMP provided to Northland Regional Council and a map showing the geographic extent of the HEMP.

6.2 Te tautuhi i ngā wāhi me ngā takiwā whakahirahira | Identifying sites or areas of significance (SOS)

6.2.1 Whakamāramatanga | Background

The Regional Plan includes:

a) a set of rules and policies for the protection of SOS

b) criteria a SOS must meet to be considered and/or included in the Regional Plan

[2] The funding is not limited to signatory hapū. It is a contestable fund open to tangata whenua of Taitokerau.

[3] "Plan change" includes variations, changes to the regional plan or regional policy statement, and a new regional plan or regional policy statement.

c) maps of SOS.

The Regional Plan can only include SOS in freshwater or the coastal marine area. SOS on land are covered in district plans.

There are currently only a few SOS recorded in the Regional Plan. Hapū may want to add additional SOS to the Regional Plan to get the benefit of protection from the rules and policies.

The only way a SOS can be added to the Regional Plan is by a plan change. A plan change is a process set out in the RMA which requires notification, the ability for people to make submissions, and hearings.

6.2.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Provide the hapū with advice on the preparation of the processes and documentation required to meet the SOS criteria in the Regional Plan.
- Provide GIS assistance to the hapū to map their SOS (noting that staff resources may be limited at times through availability).
- Include any SOS provided by the hapū to Northland Regional Council, which meets the Regional Plan criteria (as determined by Northland Regional Council) and has the necessary supporting documentation, in the next relevant plan change to the Regional Plan as determined by Northland Regional Council.

The hapū will:

- Give at least 40 working days' notice of any request by the hapū for GIS assistance to map SOS. This will allow time for Northland Regional Council to plan the work around other commitments.
- Ensure that any SOS provided to the council for inclusion in the Regional Plan includes:
    - documentation to demonstrate how the SOS meets the criteria in the Regional Plan (Policy D.1.5)
    - a map of the SOS
    - a worksheet for the SOS consistent with the worksheet used for existing SOS in the Regional Plan.
- Provide Northland Regional Council a minimum of 20 working days for the opportunity to comment on the draft documentation supporting a SOS before it is formally lodged with Northland Regional Council.
- When submitting a proposed SOS to be included in the Regional Plan, provide at least one contact who will be available to talk with people who may be impacted by the SOS.
- Put forward an expert on the SOS who will be available to provide advice (at no cost to Northland Regional Council) on the SOS — e.g. at a hearing or preparing evidence for the Environment Court.

6.3 Ngā whakaarotau mō te panoni o Te Tauākī Kaupapa Here ā Rohe me Te Mahere ā Rohe | Policy statement and plan-change prioritisation

6.3.1 Whakamāramatanga | Background

Northland Regional Council prioritises the preparation or change of a policy statement or plan based on many factors including environmental risks, national requirements, available resourcing and the priorities expressed by the community and tangata whenua.

6.3.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Provide an opportunity to hapū to share their views with Northland Regional Council on their priorities for changes to the Regional Plan or Regional Policy Statement. This opportunity will be provided every three years prior to the notification of the draft Long Term Plan for submissions. (The Long Term Plan sets out Northland Regional Councils services, activities and finances. It is updated every three years).
- Upon request of the hapū, provide a written statement summarising how changes to the Regional Plan or Regional Policy Statement set out in the Long Term Plan were determined.

The hapū will:

- If providing Northland Regional Council with their views on priorities for changes to the Regional Plan or Regional Policy Statement, set out:
  - An explanation of why the hapū consider the changes are a priority.
  - Provide suggested wording changes to the Regional Plan or Regional Policy Statement (even if just in general terms) that are consistent with the form and structure of the Regional Plan or Regional Policy Statement.

6.4 Te wānanga tahi e pā ana ki te whakarite, ki te panoni hoki i tētahi Tauākī Kaupapa Here ā Rohe, Mahere ā Rohe rānei e tūtohitia ana | Consultation when preparing or change of a proposed policy statement or plan

6.4.1 Whakamāramatanga | Background

There are many benefits to consultation with Tangata Whenua including:

- identifying resource management issues of relevance
- identifying ways to achieve Tangata Whenua objectives in RMA plans
- providing for their relationship with their culture and traditions with ancestral lands, water, sites, wāhi tapu, and other taonga as set out in s6(e) of the RMA
- ensuring all actual and potential environmental effects are identified
- providing Tangata Whenua with active involvement in the exercise of kaitiakitanga.

The Treaty of Waitangi provides for the exercise of Kāwanatanga, while actively protecting Tino Rangatiratanga of Tāngata Whenua in respect of their natural, physical and spiritual resources. When acting under the RMA, councils and Tangata Whenua must take into account the principles of the Treaty of Waitangi (s8). Similar obligations are imposed on councils under the Local Government Act 2002 (LGA).

Statutory obligations and case law developed under the RMA have helped to translate how the obligations under the Treaty of Waitangi are to be given effect to in practice. Consultation, or the need to consult, arises from the principle of partnership in the Treaty of Waitangi – this requires the partners to act reasonably and to make informed decisions.

6.4.2 Te Whakaaetanga | The agreement

For every regional plan or regional policy statement change or preparation, Northland Regional Council will:

- Ask hapū for their views on how consultation with Tangata Whenua should be carried out. This will occur prior to the first time Northland Regional Council carries out any public consultation

(e.g. release of an issues and options paper or draft plan change) and ideally during the project planning for the change or preparation.

- Prepare a Tangata Whenua consultation plan which sets out how Northland Regional Council will consult with tangata whenua (either stand-alone or part of a wider consultation or engagement plan).
- Provide a copy of the draft Tangata Whenua consultation plan to hapū and provide 20 working days for the hapū to make any comments.
- Provide a copy of the final tangata whenua consultation plan to hapū.

The hapū will:

- Provide any comments on the draft Tangata Whenua consultation plan to Northland Regional Council no later than 20 working days after receipt.





6.5 Te rōpū whakarongo ki ngā tāpaetanga e pā ana ki te Tauākī Kaupapa Here ā Rohe me te Mahere ā Rohe | Regional plan and policy statement hearing panel

6.5.1 Whakamāramatanga | Background

The role of the hearing panel is to make recommendations to council on what changes should be made to the proposed wording of a change to a regional plan or regional policy statement.

In most instances, the hearing panel will include hearings commissioners, who are people with specialist expertise (e.g. water quality, planning and /or Te Ao Māori and Tikanga Māori).

6.5.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Maintain a set of criteria to be used when appointing an independent Māori commissioner (e.g. a commissioner with an understanding of Te Ao Māori/ Māori concepts and values associated with natural and physical resources, knowledge of tikanga Māori and a process for identifying conflict of interests).
- When preparing or reviewing the criteria to be used when appointing a Māori commissioner, invite the hapū to provide their views on the criteria.
- If Northland Regional Council chooses to appoint a Māori commissioner:
    - The hapū will be invited to nominate one candidate.
    - Northland Regional Council will assess all the candidates (including those nominated by the hapū) against the criteria.
    - Northland Regional Council will inform the hapū of the selection of the successful candidate.
- If Northland Regional Council intends to not appoint a Māori commissioner, then Northland Regional Council with communicate this to the hapū including the reasons.

The hapū will:

- If nominating a candidate for a Māori values commissioner, include an assessment of the candidate against the criteria.

6.6 Ngā rongonga e pā ana ki te Tauākī Kaupapa Here ā Rohe me te Mahere ā Rohe | Regional plan and policy statement hearings

6.6.1 Whakamāramatanga | Background

The RMA provides a lot of flexibility for the running of hearings for regional plans and regional policy statements. This includes where hearings are held and the process for running the hearing.

The RMA requires that when a hearing is held, tikanga Māori must be recognised where appropriate, and evidence can be written or spoken in Māori[4].

It is common practice for councils to hold some of the hearings on a marae.

6.6.2 Te Whakaaetanga | The agreement

Northland Regional Council will, for any regional plan or regional policy statement hearing:

- Ask the hapū whether the hearings (or part of) should be held on a marae, and if so, which marae.
- Consider the advice from hapū when making a decision as to when and if part or all of a hearing will be heard on a marae and which marae.

[4] Section 39.

The hapū will, if proposing a particular marae for a hearing:

- Outline the reasons why all or part of a hearing should be heard on the marae.
- Take into account the submitters (e.g. the number or submitters likely to attend if part of the hearing is on the marae, the geographic spread of the submitters and the costs to submitters of attending the hearing).
- Set out any particular tikanga that should be observed (e.g. because of the subject matter, people involved, or location).

7. Ngā āheinga aroturuki | Monitoring opportunities

7.1 Te aroturuki i te oranga taiao, te aroturuki ā-mātauranga Māori | State of the environment and mātauranga Māori monitoring

7.1.1 Whakamāramatanga | Background

Northland Regional Council monitors the state of Northland's environment. Northland Regional Council does not currently have a mātauranga Māori-based environmental monitoring programme in place.

The use of mātauranga Māori is a key opportunity for greater recognition of the role of hapū in the management of natural and physical resources. Opportunities for hapū to operationalise mātauranga Māori in contemporary environmental monitoring allows them to realise a number of aspirations including fulfilling their obligations as kaitiaki and providing for the retention and transfer of traditional knowledge to successive generations. When hapū are leading these discussions, they can ensure that mātauranga Māori is protected from misuse and misappropriation.

7.1.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Upon request of the hapū, meet with the hapū to discuss:
  - The state of the environment monitoring (current and planned) in their rohe
  - Any aspirations that the hapū has to undertake state of the environment monitoring on council's behalf
  - The potential to accompany council officers when they undertake state of the environment monitoring
  - Any aspirations the hapū has for council support of mātauranga Māori-based environmental monitoring, including:
    - Financial support
    - Input into the design of any council-supported regional mātauranga Māori-based environmental monitoring framework
    - Providing information and advice to assist hapū with their mātauranga Māori-based environmental monitoring
    - Providing training to hapū
    - Incorporating the results and recommendations of hapū monitoring in council's monitoring reports.
- Ensure Northland Regional Council's Group Manager responsible for state of the environment monitoring attends the meeting.

- Provide a written response to the matters discussed at the meeting, no later than 30 working days after the meeting.

  Note: To be clear - Northland Regional Council is not committing to deliver on any of the monitoring matters the hapū wishes to discuss.

- Should Northland Regional Council decide to support a regional mātauranga Māori-based environmental monitoring framework, it will ensure the hapū have opportunities to have input into its development and implementation.

7.2 Te aroturuki i ngā whakaaetanga rawa taiao | Resource consent monitoring

7.2.1 Whakamāramatanga | Background

Northland Regional Council must monitor compliance with resource consent conditions and their impact on the environment. There is the ability to involve hapū in resource consent monitoring including (for example) undertaking monitoring on council's behalf or accompanying council officers to monitor compliance. However, for this to happen there are issues that would need to be worked through, including capacity, health and safety requirements and legal issues of delegating authority to undertake council's monitoring functions.

7.2.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Upon request of the hapū, meet with the hapū to discuss the potential for people nominated by the hapū to be involved in monitoring compliance with resource consent conditions. This could include undertaking monitoring on council's behalf or accompanying council officers to monitor compliance.
- Ensure Northland Regional Council's Group Manager responsible for resource consent monitoring attends the meeting.
- Provide a written response to the request no later than 30 working days after the meeting.

The hapū will:

- provide a report to Northland Regional Council at least 10 working days prior to the meeting with Northland Regional Council, which outlines:
  - The proposal.
  - The reasons for the proposal.
  - If the proposal includes undertaking resource consent compliance monitoring on council's behalf, it must include an outline of capability and capacity to undertake the monitoring and what the benefits would be for undertaking the monitoring (instead of council staff).

7.3 Te arotake i te Tauākī Kaupapa Here ā Rohe me te Mahere ā Rohe | Review of the regional plan and regional policy statement

7.3.1 Whakamāramatanga | Background

Northland Regional Council is required by the RMA to review the Regional Plan and the Regional Policy Statement every five years (section 35). The review assesses whether the provisions are fit for purpose and whether any changes should be made. One of the matters considered when undertaking a review are Hapū Environmental Management Plans (HEMPs).

7.3.2 Te whakaaetanga | The agreement

Northland Regional Council will:

- Fund an independent planner with expertise in Māori perspectives to undertake a review of the Regional Plan and Regional Policy Statement when required by the RMA. The scope of the independent planner's review will be to assess the efficiency and effectiveness of the document being reviewed to implement Tangata Whenua aspirations.
- Invite the hapū to nominate one candidate for the independent planner's role.
- Assess all the candidates (there may a range of candidates e.g. nominated by other hapū or iwi organisations).
- Appoint the independent planner.
- Inform the hapū of the selection of the successful candidate and the reasons for that decision.
- Invite the hapū to a hui to discuss the document being reviewed. The outcomes from the hui will be recorded as part of the independent planner's review.
- Ask the hapū to provide any written comments they may have on the document being reviewed. The hapū will have up to 30 working days to provide written comments from the date of the invitation for written comments.
- The independent planner's review will include an assessment of the hui outcomes, HEMPs, and any other relevant information that may inform tangata whenua perspectives of the document being reviewed (e.g. settlement legislation).
- The draft report from the independent planner will be circulated to hapū, who will have 20 working days to provide comments. The independent planner will consider the comments in finalising the report.





8. Ngā āheitanga whakatau kaupapa me ētahi atu āheitanga | Decision-making and other opportunities

8.1 Te tautapa āheitanga, mana, haepapa rānei – Delegation of functions, powers or duties

8.1.1 Whakamāramatanga | Background

Section 34A of the RMA enables Northland Regional Council to delegate any of its RMA functions, powers or duties (with some exceptions).

8.1.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Upon request, meet with the hapū to discuss the delegation of any of Northland Regional Council's RMA functions, powers or duties to the hapū (in accordance with section 34A of the RMA). The meeting will include Northland Regional Council's chief executive officer and chair.
- Provide a written response to the delegation request no later than 30 working days after the meeting.

The hapū will:

- Prior to the meeting with Northland Regional Council, provide a report which outlines:
  - The proposed function, power or duty to be delegated and any conditions of the delegation.
  - The costs and benefits of exercising the proposed delegation compared to Northland Regional Council exercising the functions, powers or duty.
  - The capability and capacity of the hapū to exercise the delegation.

8.2 Ngā rōpū whakaaroaro whakaaetanga rawa taiao – Resource consent hearing panels

8.2.1 Whakamāramatanga | Background

Northland Regional Council regularly delegates decision making on notified resource consent applications to a hearing panel. In most instances, the hearing panel will include hearings commissioners, who are people with specialist expertise (e.g. water quality, planning and /or tikanga Māori).

8.2.2 Te Whakaaetanga | The agreement

Northland Regional Council will:

- Maintain a list of preferred independent Māori commissioners.[5]
- Consider a nomination from the hapū to be added to the list of preferred independent Māori commissioners.
- Provide a written decision on whether the nominee will be added to the list of preferred independent Māori commissioners within 40 working days of receiving the nomination. If the decision is to decline the nomination, the written decision will outline the reasons why.

[5]Commissioners with an understanding of Te Ao Māori/ Māori concepts and values associated with natural and physical resources, knowledge of tikanga Māori and a process for identifying conflict of interests.

- Decide whether a Māori commissioner is appointed to the hearing panel for a notified resource consent application. If a Māori commissioner is to be appointed, it will be from the list, unless there is good reason not to (e.g. due to unavailability or potential conflict of interest).
- If requested by the hapū, provide a written response within 20 working days of receiving the request outlining the reasons for its decision, for a notified resource consent application, to:
    - Include a Māori commissioner on the hearing panel.
    - Select a particular Māori commissioner.

The hapū will:

- If it wishes, nominate a Māori commissioner to be appointed to the list. The person nominated must, as a minimum, have a current Ministry for the Environment hearing commissioner's accreditation.
- As part of the nomination, provide a written report outlining why the person is nominated and what skills and/or expertise they have.

8.3 Te hātepe whakaaetanga rawa taiao - Resource consent application processing

8.3.1 Whakamāramatanga | Background

Northland Regional Council has the responsibility to process and make decisions on resource consent applications. Hapū can be involved in various ways including engagement with applicants prior to applications being lodged, receiving copies of resource consent applications within their rohe, or being an 'affected party' and making submissions on notified consents.

8.3.2 Te Whakaaetanga | The agreement

Circulation of resource consent applications

Northland Regional Council will:

- Encourage resource consent applicants to talk with hapū if the application is within the rohe of the hapū.
- Provide a copy of all resource consent applications within the rohe of the hapū after the application has been formally received.
- Provide hapū 12 working days to respond to Northland Regional Council from the date Northland Regional Council sent the copy of the resource consent application.
- If the hapū responds, Northland Regional Council will talk with the hapū representative (phone or meeting, followed by email) to get a better understanding of the hapū concerns or to let the hapū know what Northland Regional Council's response is to the concerns raised (with an explanation). This is to occur prior to a formal request for further information from the resource consent applicant, or before the decision on the resource consent application if no formal request for further information is made.

The hapū will include in any response to Northland Regional Council circulation of a resource consent application:

- A brief description of the cultural values of concern and the effects of the proposal on them.
- A hapū representative (and their contact details), with whom Northland Regional Council can discuss the resource consent application.

Fund for assisting hapū with their participation in significant resource consent applications

Northland Regional Council will:

- Maintain a fund of $20,000 per year[6] to assist hapū with funding their participation in significant resource consent applications (e.g. notified applications).[7]
- Set the criteria for the fund, including that it can only be used for providing evidence of cultural impacts and it cannot be used to support an appeal against a council resource consent decision.
- Make the decision on whether to fund a hapū application.

The hapū will:

- When applying to the fund, demonstrate how the application meets the criteria.

8.4 Akoranga – Training

8.4.1 Whakamāramatanga | Background

An important way to increase the capability of hapū to participate in resource management is to provide training. The number of Māori RMA technicians that have had any formal training is limited, and they are often expected to provide expert advice on a variety of complex planning and technical issues across a range of specialist areas.

The aim of the hearing commissioner's accreditation course is to provide participants with the skills and knowledge to guide them through the ethical, legal and practical requirements of decision making under RMA. Participants may not necessarily aspire to be hearing commissioners – the course provides a good overview of the RMA and how decisions are made.

8.4.2 Te Whakaaetanga | The agreement

Resource Management Act Training

Northland Regional Council will:

- Host a minimum of two and a maximum of four hui or wananga a year to provide training to hapū about the RMA and RMA processes.
- Provide up to $500 to support hosting each hui or wananga and make available staff to give presentations.
- Ask the hapū their views on the venue, dates and details of the hui or wananga.

Hearing Commissioner Accreditation

Northland Regional Council will:

- Maintain a contestable fund to cover the course costs[8] of three (3) Tangata Whenua per year to attend a Ministry for the Environment "Making Good Decisions" course (the courses to achieve certification to be a commissioner under the RMA).[9]
- Set criteria for the fund which will include eligibility and accountability criteria (e.g. must attend the full course and demonstrate capability to pass the course).

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[6] This is in addition to the fund supporting the review and preparation of HEMPs.

[7] The funding is not limited to signatory hapū. It is a contestable fund open to tangata whenua of Taitokerau.

[8] $2,148 excl gst per person as at January 2019.

[9] The funding is not limited to signatory hapū. It is a contestable fund open to tangata whenua of Taitokerau.

- Refuse to fund any nominee if they do not adequately meet the criteria as determined by Northland Regional Council.
- Upon request, discuss how Northland Regional Council may be able to provide successful candidates assistance or support in their preparation for the course.

The hapū will:

- Include the reasons why the person wants to do the course and demonstrate that they have the capability to pass the course in a nomination to receive funding from the contestable fund.

9. Ngā mahi kai huānga | Conflicts of interest

Te Mana Whakahono ā Rohe must include a process for identifying and managing conflicts of interest (s.58R, RMA).

A conflict of interest is where a person's position could be used to unfairly gain benefit for another interest.

Any council staff making a decision relating to the implementation of Te Mana Whakahono ā Rohe will abide by council policies for managing conflicts of interest.

Any councillor making a decision relating to the implementation of Te Mana Whakahono ā Rohe will abide by the council's Code of Conduct.

The risk of conflicts of interest arising for the hapū implementing Te Mana Whakahono ā Rohe is considered very low. Northland Regional Council is the decision-maker for actions where there may otherwise be such a risk (such as allocation of funding). However, if Northland Regional Council is of the view that there is an undue risk of a person representing the hapū — or a person receiving any benefit arising from the implementation of Te Mana Whakahono ā Rohe — having a conflict of interest, Northland Regional Council may ask for evidence of endorsement of that person from the hapū. Northland Regional Council may withhold implementing the relevant action until Northland Regional Council is satisfied with the evidence of the endorsement.

A conflict of interest does not arise for a person representing the hapū or receiving any benefit arising from the implementation of Te Mana Whakahono ā Rohe merely because they are a member of the hapū.

10. Te whakawāwā raruraru | Dispute resolution

Should a dispute arise about the implementation of Te Mana Whakahono ā Rohe, the hapū and Northland Regional Council undertake to work together in good faith to resolve the dispute.

If the dispute cannot be resolved, the following steps will be taken:

a) Any dispute may be referred to mediation in which an independent mediator will facilitate a negotiation between the hapū and Northland Regional Council between the Parties. Mediation may be initiated by either party by notice in writing to the other party, and must identify the dispute which is proposed for mediation.

b) Upon receiving notice of the mediation, the other party will set out their position in relation to the dispute or disagreement in writing, no later than 20 working days after receiving the notice.

c) A suitable representative from the hapū and Northland Regional Council with authority to resolve the dispute must attend the mediation.

d) The mediation is to occur between 40 and 60 working days after the notice of mediation is received.

e) The parties will agree on a suitable person to act as a mediator, or alternatively will request the Arbitrators and Mediators Institute of New Zealand Inc to appoint a mediator.

f) If the dispute is not resolved by mediation, then it shall remain unresolved, and neither party is obliged to carry out any action relating to the dispute.

g) Each party to pay for their own costs for the mediation, except Northland Regional Council will pay for the mediator.

11. Arotake | Review

Regular reviews of Te Mana Whakahono ā Rohe will ensure it works effectively and remains fit for purpose. The RMA requires a review every six years from the signing of Te Mana Whakahono ā Rohe as a default (section 58T).

11.1.1 Agreed review process

a) The first review will start no later than three months following the five-year anniversary of the first hapū signing Te Mana Whakahono ā Rohe (hereafter referred to as the review start date).

b) Northland Regional Council will undertake a review which will include (but is not limited to):

- An analysis of the extent the obligations and commitments have been met.
- An assessment of whether the obligations and commitments are still effective and remain fit for purpose.
- A recommendation on what changes (if any) should be made to Te Mana Whakahono ā Rohe. This may include the termination of Te Mana Whakahono ā Rohe either in its entirety or with individual hapū.

c) Northland Regional Council will provide a written copy of its review to the hapū. This must be provided to the hapū no later than 60 working days after the review start date.

d) The hapū will undertake their own review and provide a written copy of it no later than 100 working days after the review start date.

e) Northland Regional Council will organise a hui at a geographically central marae to discuss the reviews:

i. The hui will be held between no later than 140 working days after the review start date. The hui will be facilitated by an independent facilitator.[10]

ii. The hui will be with all the hapū.

iii. Northland Regional Council will appoint the facilitator and will aim to appoint someone with experience in tikanga, Māori perspectives and the RMA.

iv. Northland Regional Council will cover the costs of hosting the hui (but not the costs of the hapū attendance) and the independent facilitator.

v. The chief executive officer and the chair of Northland Regional Council will attend the hui.

vi. The equivalent of the chief executive officer and/or chair of each hapū will attend the hui.

[10] The facilitator is a dispute resolution practitioner who helps the parties reach their own resolution in mediation, but does not decide the outcome. The facilitator must be impartial and independent, fairly and objectively listen to the areas of disagreement, and help the parties to identify common ground and areas where agreement can be reached.

vii. A key objective of the hui will be to get a clear understanding of the respective views of the parties, including matters of agreement and disagreement.

viii. At the end of the hui, the outcomes will be recorded, and each party will confirm that it is an accurate record.

f) The record of the outcomes will be reported to Northland Regional Council at a full council meeting and the governance body for the hapū. Direction from council will also be sought on the next steps, with the objective of reaching agreement between Northland Regional Council and the hapū - but recognising that this may not be possible.

12. Ngā whakahounga | Amendments

Te Mana Whakahono ā Rohe may be amended at any time with the agreement (in writing) of the hapū and Northland Regional Council.

13. Te whakamutu | Termination

Te Mana Whakahono ā Rohe shall conclude six years from the date of signing, unless otherwise agreed by the hapū and Northland Regional Council.



Schedules

To the Mana Whakahono ā Rohe statutory agreement between Northland Regional Council and hapū of Te Taitokerau

Schedule 1 – Execution

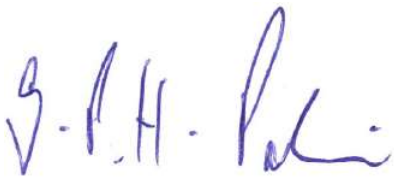
This Mana Whakahono ā Rohe statutory agreement is signed by Northland Regional Council and hapū of Te Taitokerau



Penny Smart

Chair, Northland Regional Council

Dated: 5/12/2020



Gilbert Paki
Chair, Te Patuharakeke Iwi Trust

Refer to Schedule 2 for the statement by Te Patuharakeke.

Dated: 5/12/2020



Penny Smart

Chair, Northland Regional Council

Dated: 10 Dec 2020



William Skipper (Kipa) Munro
Chair, Te Rūnanga o Ngāti Rēhia

Refer to Schedule 2 for the statement by Te Rūnanga o Ngāti Rēhia.

Dated: 10 Dec 2020

Pari Walker
Chair, Te Pouwhenua o Tiakiriri Kukupa Trust (trading as Te Parawhau ki Tai)

Refer to Schedule 2 for the statement by Te Parawhau ki Tai Hapū.

Tui Shortland
Acting Chair, Northland Regional Council

Dated: 29 April 2024

Schedule 2 – Hapū Statements

Hapū statements to this Mana Whakahono ā Rohe statutory agreement with Northland Regional Council.

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Patuharakeke Te Iwi Trust Board – Hapū Statement

Date: **30 September, 2020**
Author: **Juliane Chetham, Patuharakeke Te Iwi Trust Board**

Pepeha

Ko Manaia te Maunga
Ko Whangārei Terenga Paraoa te Moana
Ko Takahiwai te Marae
Ko Rangiora te Whare Hui
Ko Te Patuharakeke te Hapū
Tihei mauri ora!

Te Patuharakeke Mana Whenua Mana Moana

As outlined in the pepeha above, the whakapapa we give begins with Manaia as our maunga, Whangārei Terenga Paraoa as our moana, Rangiora as our whare tupuna, Takahiwai as our place to stand and we the people are Patuharakeke. Te Patuharakeke is derived from several Whangārei hapū that have origins in Ngai Tahuhu and Ngāti Manaia. Due to our composite hapū structure we have links to a number of contemporary iwi groups in the north, including Ngāti Wai, Ngapuhi nui tonu, and Ngāti Whatua. As such we acknowledge that in various areas mana whenua is shared with our neighbouring whānaunga hapū and iwi.

The Patuharakeke Rohe is located on the south side of the Whāngarei harbour and includes Takahiwai marae at Takahiwai. The rohe of Patuharakeke stretches on the seaward side, including the foreshore and seabed, from a point at the north of Mangawhai Heads to the entrance of the Mangapai River just south of Whāngarei. It includes the offshore islands out to Te Hauturu o Toi to Aotea and up through the Mokohinau's to Tawhitirahi and Aorangi (the Poor Knights) and encompassing Marotiri, Ngatuturu and Taranga (the Hen and Chickens). The boundary extends inland to include the Brynderwyn and Kukunui Ranges. The attached map provides a visual depiction of our current mainland and coastal rohe for the purposes of contemporary management. Patuharakeke hapū is represented by the Patuharakeke Te Iwi Trust Board (PTB)[11] and its various committees including the Taiao/Environmental Unit. PTB has held the mandate to *inter alia* pursue educational, economic, cultural advancement and the protection of all land, water and sea based resources since its establishment in 1990.

Kupu Whakataki

Over the last several decades Patuharakeke hapū have been faced with increasing pressure to respond and have input into a variety of issues including the increased industrialisation in our rohe, progression and redress of treaty claims, resource management planning and customary fisheries issues. **Some key issues for Patuharakeke in the environmental space include:**

11 https://www.patuharakeke.maori.nz/patuharakeke-trust-board

- Fresh and coastal water quality impacts from sedimentation and pollution, and
- Dredging and reclamation of Whangārei Terenga Paraoa, and
- Loss of biodiversity throughout the rohe, and
- Biosecurity risks to taonga species and their habitats, and
- Climate Change and its effects on our kainga, marae, wāhi tapu and other taonga; and
- Our ability to ensure ahikāroa, and kaitiakitanga can be maintained and enhanced.

Patuharakeke Te Iwi Trust Board has long played a strong advocacy role as mana whenua, ahi kā and kaitiaki in the environmental management space, including through consistent participation in council planning processes such as the development of the Northland Regional Policy Statement.

In recognition of the need to engage strategically in these matters Patuharakeke produced a Hapū Environmental Management Plan ('HEMP')[12] in 2014 which was lodged with NRC and the Whangārei District Council. Since 2016 PTB have also been represented on Te Taitokerau Māori and Council Working Party ('TTMAC') and its associated Māori Technical Advisory Group ('MTAG') and actively engages with NRC staff and Councillors through that forum on a wide range of issues of interest. PTB is also represented on a number of other NRC led committees such as the Whangārei Harbour Catchment Group and Ruakaka River Liaison Working Group. In addition, our Taiao/Environmental Unit maintains a number of operational relationships with various NRC teams and staff in relation to resource consent issues and processing, biodiversity and biosecurity matters, and monitoring of fresh and coastal waters.

Ngā Whāinga o te Mana Whakahono a Rohe

Through these existing relationships PTB have been able to successfully influence the shape of the Northland Proposed Regional Plan as it pertains to our rohe, eg. through the inclusion of several mapped Site of Significance to Tangata Whenua in the plan maps. We see this ongoing involvement as a contemporary expression of Rangatiratanga and kaitiakitanga. This Mana Whakahono a Rohe Agreement ('MWAR') presents another, more formal layer to the relationship that further supports the HEMP provisions, the existing representation on Te Taitokerau Māori and Council working party (TTMAC) and current collaboration on operational activities. It will provide a consistent and encompassing approach that brings many of these activities and aspirations together in a holistic fashion and secures an enduring relationship enshrined in the RMA in the event that internal NRC and PTB Governance, Operations and policies change over time. We anticipate the MWAR will enable a sustained focus between the parties on a number of areas that will support Patuharakeke mana whenua and kaitiaki objectives in regional planning such as: promoting use of Māori commissioners and marae as venue for hearings; opportunities for utilisation of Mātauranga Māori informed monitoring; improved participation in resource consent processes and compliance monitoring; and opportunities for capacity building and increased involvement in policy development.

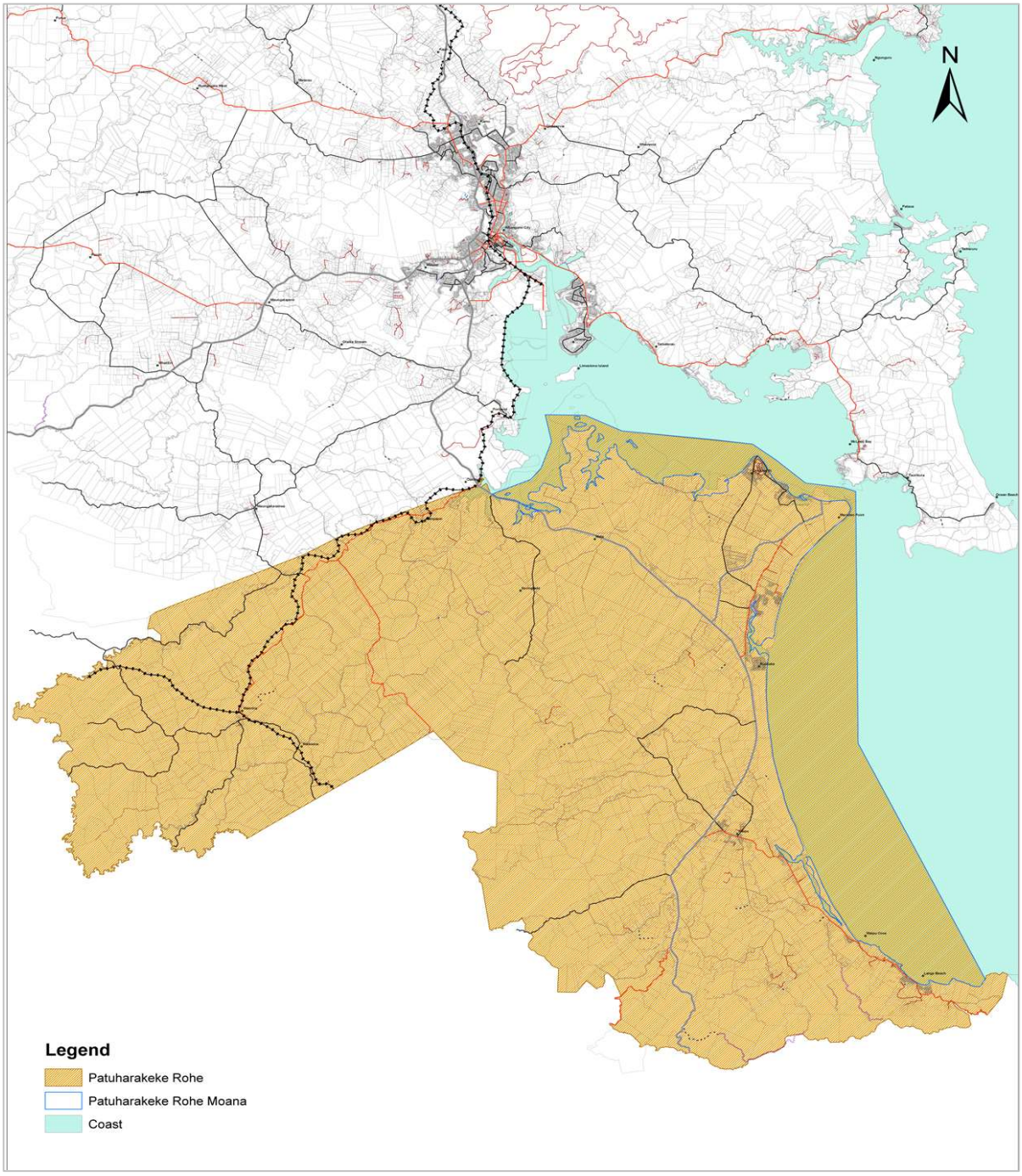
Kupu Whakatepe

We envisage Te Mana Whakahono a Rohe will provide for a more equitable partnership between Patuharakeke and NRC in resource management planning and decision-making. We look forward to

12 https://www.patuharakeke.maori.nz/hapu-environ-management

this journey together and contributing to improved and shared understandings and outcomes for our rohe.

Patuharakeke Rohe Map



Te Rūnanga o Ngāti Rēhia – Hapū Statement

Date: **10 December, 2020**
Author: **Te Rūnanga o Ngāti Rēhia on behalf of the hapū, Ngāti Rēhia**

Pepeha

Ko Matakā te tūtei ki te taha hauraro o te pūaha
Ko Rākaumangamanga ki te Rāwhiti.
E rere atū nei te Kerei Manqonui, te Awa o ngā Ranqatira
Titiro whakararo ki Orongo, ki Tākou awa
Te wāhi i mataaraaratia ai e Puhi
Te waka tūpuna o Mataatua e moe mai rā
Whiti whakateuru ki te nqāherehere nui o te Puketi
Pohutu noa atu ki te moana o Omapere
Awhiowhio te rangi kei runqa Whakataha Maunga
Kei raro ko te awa o Waitangi
Ka hirere ki Pokākā
Tōtika te whatumanawa o Īpipiri
Ko Ngāti Rēhia te hapū
Ko Ngāpuhi nui tonu te iwi
Ko Whitiora, ko Hiruharama Hou, ko Whetu Mārama ōnā marae
Tihewa mauri ora ki te wheiao, ki te ao Mārama

Matakā is the sentinel mountain that stands at the northern aspect of the harbour mouth
Rākaumangamanga stands in the East
Both Kerei Mangonui and The River of Chiefs flow there-ward Gazing Northward to Mount Orongo, and the River of Takou
The territory cautiously guarded by our ancestor Puhi
The ancestral canoe Mataatua there gently sleeps
Before crossing westward to join Puketi Forest Sweep past
And onward to plunge into Lake Ōmāpere
We turn rising skyward to Whakataha Mountain
The fountain head of Waitangi River below
Gushing eastward to Mount Pokākā
Inexorably to the heart of the Bay of Islands
Ngāti Rēhia the tribe
Ngāpuhi the nation
Whose Marae are Whitiora; Hiruharama Hou and Whetu Mārama
This breath drawn life animates the emergent world into broad day light

As set out in this pepeha, today, Ngāti Rēhia describe ourselves as a key hapū of Ngāpuhi covering a geographic area from Oromahoe, Lake Omapere and Waitangi in the south to Puketi, Te Tii and Takou Bay in the North, including the Bay of Islands and all the mountains, rivers, and forests in the general area depicted on the map attached. In the contemporary management system of today, Ngāti Rēhia are the recognised Tangata Whenua, Ahi Kā and Kaitiaki of our rohe moana and whenua.

Whakatauki o Ngāti Rēhia

Ngāti Rēhia matamomoe
Ngāti Rēhia matakaka

Ngāti Rēhia the sleeping giant
Ngāti Rēhia when awakens faces all challenges

Embedded within our whakapapa, stories, memories, and landscapes are the pathways for the expression and practice of our values and tikanga. It is through this whakapapa that we are inextricably linked to our world. Our social, cultural, environmental, and economic well-being is dependent on that continued connection and knowledge. The whakatauki above describes well the last two decades of history for Ngāti Rēhia. Despite the numerous pressures and challenges faced by Ngāti Rēhia over the years as a result of colonisation, Ngāti Rēhia have consistently taken advantage of opportunities provided to us to ensure our connection to our world, our culture and our mātauranga tuku iho is not lost.

It is from this lens that Ngāti Rēhia established Te Rūnanga o Ngāti Rēhia (TRONR) in 2002, to provide the platform for the political and operational leadership for our hapū within our rohe moana and whenua. The main objective of TRONR is to develop a sustainable economic, social, and cultural base for the continued growth of our hapū and to become actively involved in a range of issues associated with our role as tangata whenua and kaitiaki.



Since 2002, the Rūnanga has recorded our position as follows:

- Te Rūnanga o Ngāti Rēhia (TRONR) is the hapū authority of Ngāti Rēhia. Ngāti Rēhia hold Mana i te whenua and Mana i te moana over the traditional rohe of the hapū. TRONR acknowledges that such mana is not necessarily held exclusively. TRONR considers that overlaps in traditional authority between ngā hapū o Ngāpuhi are areas of "shared interest" rather than areas of conflict
- Te Rūnanga o Ngāti Rēhia, on behalf of Ngāti Rēhia claim Ahi-kā and tangata whenua status over this rohe
- Ngāti Rēhia are proudly Ngāpuhi and acknowledge the guardianship of times past and the mana in which resources were shared with other Ngāpuhi hapū, whose lives, stories, and whakapapa are also interwoven into the landscape. We acknowledge those common interests and kaitiakitanga of our neighbouring whanaunga hapū
- As of 2004, Ngāti Rēhia hapū were estimated to constitute a population of approximately 3,700, including those living at Takou and Te Tii as well as many residing around Kerikeri and the Bay of Islands.

Whakataunga horopaki

Our history and whakapapa, the pā on the ridgelines and the very names our ancestors bestowed on all parts of the landscape are testimony of a time before resource management, biodiversity, global warming, fee simple land title, council rates and carbon sinks. A time when our kaitiakitanga was the preferred management system and the tools of rāhui, tapu, manaaki and karakia were used in place of reserves, regulation, and policy.

In those times, the failure to live sustainably and in harmony with the environment and the seasons had severe and drastic consequences for our people. Successful management was entirely reliant on the strength of the whānau and hapū to work together for the collective good. It was reliant on the relationships forged by whanaungatanga and kotahitanga.

Since the advent of colonisation and the introduction of new cultures, species, values and processes, the management of our rohe and our resources has taken on many new characteristics. For the sustainability of the resources and rohe for which we are kaitiaki to be achieved, relationships today are far more complex. Not only are there all the traditional relationships to honour, nurture and reinforce with whānau, hapū and iwi but there are our relationships with all the new communities that have arrived, and continue to arrive, not to mention all the various agencies of government – at local, regional and central levels. We welcome these relationships.

Over the past decade or more, Ngāti Rēhia has witnessed an explosion of development in our rohe moana and whenua. This has led to an increase pressure on our hapū to provide advice and input into a variety of challenging and complex environmental, resource management, and treaty redress issues. These issues are compounded by the increasing desire for coastal lifestyles, the expansion of the Kerikeri-Waipapa urban area, and the growth in tourism.

Some key issues for Ngāti Rēhia in the environmental space are (including but not limited to):

- Degradation of the freshwater and coastal water bodies from development pressure, poor land use practices, sedimentation, and pollution.
- Loss of biodiversity throughout the rohe moana and whenua.
- Biosecurity risks to taonga species and habitats.

- Aquaculture and water allocation policies.
- Western Science not recognising Kaitiakitanga methodologies.
- Alienation of land and loss of access to traditional freshwater and coastal kai gathering areas.

The need to prepare an environmental management plan was identified by TRONR many years ago. The current Ngāti Rēhia Hapū Environmental Management Plan (Third edition, 2018) sets out our vision, values and responsibilities as Tangata Whenua and Kaitiaki of our rohe. TRONR believe that strong partnerships and relationships are fundamental to the successful application and implementation of our Hapū Environmental Management Plan and the aspirations of our hapū.

Ngāti Rēhia have and will continue to actively participate in the decision-making processes with the regional council, where those decisions affect the hapū, our values or taonga.

Mana Whakahono ā-Rohe

As set out above, Te Rūnanga o Ngāti Rēhia (TRONR) represents the Hapū of Ngāti Rēhia within its rohe moana and rohe whenua. Ngāti Rēhia is the recognised Tangata Whenua, Ahi-Kā and Kaitiaki of this area. Ngāti Rēhia see the whenua and moana as taonga. We have existed together with these taonga mai rānō, and our relationship with the land and sea is built on respect and the understanding that we are the Tangata Whenua, Ahi-Kā and Kaitiaki.

Ngāti Rēhia believe in and promote the agreements and promises made in both He Whakaputanga o Te Rangatiratanga o Niu Tireni and Te Tiriti ō Waitangi and are of the view that they are the founding documents of Aotearoa. The Waitangi Tribunal Te Paparahi o Te Raki 2016 Stage 1 Report found that Ngāpuhi never ceded sovereignty. It is on this basis that Ngāti Rēhia seek to meaningfully engage with the Northland Regional Council (NRC) on a regular basis. Additionally, the introduction of the Local Government Act 2002 and the amendments to the Resource Management Act 1991 have underscored the need for agencies to provide for the participation of tangata whenua in their decision-making and forward planning processes. Ngāti Rēhia welcomes these statutory directives and looks forward to working directly at this level with NRC under this formal agreement.

Ngāti Rēhia rohe map



Te Parawhau ki Tai – Hapū statement

Date: **29 April, 2024**
Author: **Te Pouwhenua o Tiakiriri Kukupa Trust, on behalf of Te Parawhau ki Tai hapū**

Whakataukī o Te Parawhau

Ka tukua te tira mate ki tua o paerau.
Ka noho te tira ora ki te ao tūroa.
Ka tū te tira o Te Parawhau.

Whakapapa ki te whenua o Te Parawhau

Ko te waka tenei i hoea mai
i te nuku o te whenua
i tawhiti pamamao Te Moana-a-Kiwa
Eke ki runga,
ki te Tai Tokerau!
Hiki nuku, hiki rangi e!

Ka haere tonu ai, ki Te-Hiku-o-te-rangi,
Kia kite i ahau,
I aku tupuna, e moe ake nei!
Tuku ana te mamae e!

Ka hoki ake au, ki runga Korokota,
ki te Pou whakairo,
i poua iho ai, ki te whenua!
Hei aha ra? Hei tohu ki nga uri e tau nei!

Tahuri whakamuri ki te taha rawhiti,
tera Manaia e tu kōhatu ra,
ka titiro whakararo ki Tauranga-Kotuku,
i whanau Kukupa,
nana I timata, te hapu, Te Parawhau!

Toro tika taku ara ki te tua whenua,
kia tae ki Parihaka,
Tera nga tupuna i mua i nga pakanga,
i Whakamataku,
i te hunga hoariri e!

Whakaroto taku rere, ki Parikiore,
Ka heke aku kamo,
Ki te here, ki te hono, ki te iwi o te rohe,
Kua takoto i te tohe,
Kia Kotahi tatou e!

Titaha taku ara, kia piki ki Maungatipa,
ka titiro aku mata,
ka wani mai ki runga o te maunga
Tangihua, ko te tangi tenei, mo ngā mokopuna, ki te herenga, i te riri,
Ko te kawa o Rahiri e!

Ka tahuri aku mata, ki runga i ngā awa,
ko te wairua,
ko te Mangakahia, ko te Wairoa
ka takoto te ara, te aniwaniwa ki runga
Whatitiri,
E kau ra e Rangiriri, i ngā awa, tokotoru,
Ki te mura o te ahi e!

Takahia ra e tama, te papa o Maungarongo,
kia werohia to kiri, e te angiangi.
kia tae koe ki runga, i te kupu o te rongo,
e mau ake nei, kumea te tauihu,
o te waka Tuatara, ki te Wairoa, ki te whare,
o Te Tirarau e!

E rere atu ra, ki te hauauru, ki te maunga Tutamoi,
kia tae koe ki runga o Maunganui,
E huri to mata ki te moana o Kaipara,
kia oho ki runga, e mau ki to tao,
kia poua iho ai,
ki te pounga rahui e!

E huri ki te tonga, takahia te akau, ki te
Ouepu ki te Ripiro,
kia tae koe ki Pouto
e Takato ake ra, te Tapairu Whakakahu,
te tuahine o Kukupa e moe ake ra,
ki ona tupuna
Titaha rawhiti, ki runga Hurihanga,
kia tae koe ki Mangawhai, i titia te raukura,
E te Tirarau e!

Kumea te uru, o te waka Tuatara, e hoe
Ki te raki,
Te Paepae-Atua, kia titiro atu koe,
He Tutara Kauika, i pae ki Urititi, ka uki,
ki uta, o te whare Kotohora, ki te rua, he
onepu, me ko Tangaroa,
te tarehutanga i tātaia e te iwi,
He tohu manatunga e!

E hoe ra e tama, ki te Motukaroro, ki te
Motu Matakohe, ki Motu-o-taua,
Ko te huihuinga, kahui o nga Tohora,
Terenga o nga Paraoa, i haere mai ratou i

te hau, marangai, whakaroto to hoe, ki runga o
Kaiwaka, e huri ki waho,
tau ki Onemama, e titiro,
ki runga ki te tihi o Manaia.
Nau ra tama, i takahe i te ara!
Te rohe, Te Parawhau e!

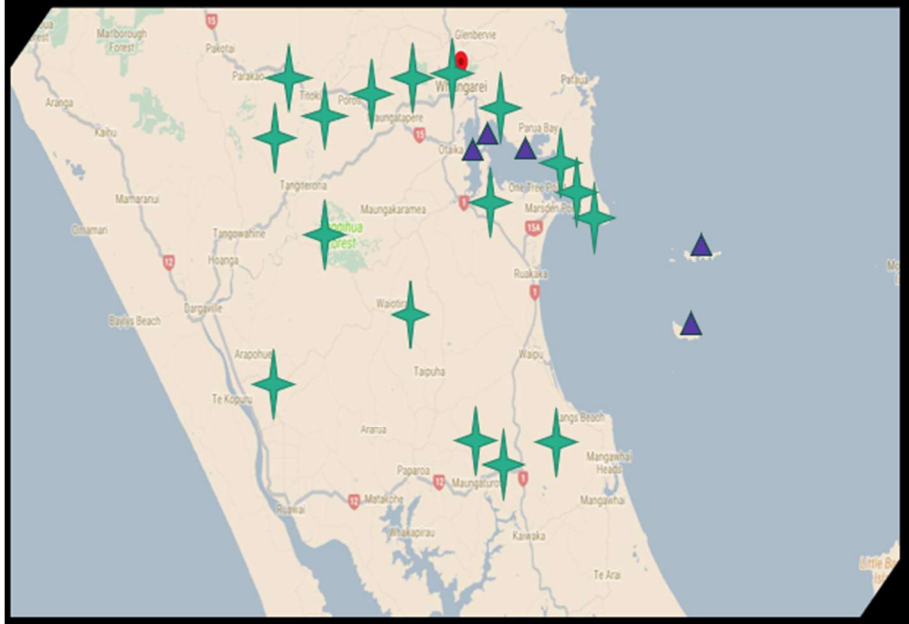
Te Tikanga o Te Parawhau

Mo te Mahere Taiao

Te Mahere o taiao a Te Parawhau is based on five non-negotiable values. These five uara ahurea (cultural values) are expressed as:

- Mana atua
- Mana o te wai
- Mana whenua
- Mana ao tūroa
- Mana tāngata

Te Parawhau ki Tai Rohe Maps



1. Te whara
2. Matariki
3. Manaia
4. Parihaka
5. Parakiore
6. Pukenui
7. Uma pahaha
8. Whatatiri
9. Tutamoe
10. Maunga tipa
11. Maunga raho
12. Tangihua
13. Ruarangi
14. Piroa
15. Te hurihanga a Kawharu
16. Maunga Whati
17. Taumata tirotiro I runga i te Mano Hiwa Ariki te Rerenga o te rā

Ka whaka te rawhiti ko

1. Taranga
2. Maui taha, Maui roto, Maui waho, Maui pae
3. Motu kiore
4. Matakohe
5. Motu-a -taua

Koia ko te karaka whati, ki a tū ko te hiore weku o te tohora.

Ko ngā whenua me ngā awa I waenganui ko whakiri ana a Kukupa mo te Hapū o Te Parawhau.


Te Parawhau Rohe Maunga & Te Parawhau ki Tai
Na te korero o Pari Walker
November 2020
*indicative only
Legend
Te Parawhau ki Tai
Te Rohe o Te Parawhau
Russell Rd
Parakiore
Pipiwai Rd
Pukenui
Pukemiro
Parahaki
Otaika Rd
Whatitiri
Umupahaha
Tutamoe
Manaia
Matariki
Te Whara
Ruarangi
SH 1 N
Cove Rd
Maungaraho
Dunn Rd
Te Hurihanga a Kawharu
Taumata Tirotiro
N
Google Earth
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Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2020 Google

Karakia kawa – ora o Te Parawhau

Ka takina te kawa
Te kawa i runga
Te kawa i raro
Te kawa i roto
Te kawa i waho
Te kawa turia, te kawa taia
Te kawa tuungia, te kawa manea
Te kawa pai!
Te kawa tuputupu nunui
Te kawa tuputupu ora ra
Te kawa rau uhiuhi
Te kawa rau matomato
Te kawa rau ataata
Tena te kawa, te kawa ka eke
Ka eke te uri o rae
Ki runga ee i te kawa!
Koia ko te aurara – he ara kau
He ara kau tupua
He ara kau Tawhito
Pera hoki ra
Te tupua tinini
Te tupua manomano
He manawa ariki
He manamana ta rongo
He manamana ta nuku
He manamana ta rangi
Taana Hikitia
Ki tenei toronga
Ko te kawa ora
ko te kawa ora
uuhi wero, haramai te toki, haumi e, hui e, taiki e!
Ka maatangi, ka piipiri
Ka whana
Ka whai ake i ona tara
Ka tuu kia Ranginui e tuu iho nei
Kia tau kia Papatuanuku e takoto nei
Ka piki i nga maunga nunui
Ko Te Whara, ko Matariki, ko Manaia, ko Parihaka, ko Pari-kiore, ko Pukenui, ko Umapahaha,
ko Whatitiri, ko Tutamoi, ko Maunga Tipa
Ko Maunga Raho, ko Tangihua, ko Ruarangi, ko Piiroa, ko Hurihanga-a-Kawharu, ko Taumatatirotiro,
ko Manohiwaariki, ko Maunga Whati
Eera e tuu mai nei
Kia kau i nga awa
Ko te Hooteo, ko te Haatea, ko Waiarohia, ko te Wairua, ko Mangakahia, ko te Wairoa, ko Piiroa,
ko te Ahuroa, ko te Waipu, ko te Ruakaakaa,
Ko te Mangapai, ko Otaika, ko Wai-iti, ko te Raumanga
E tere nei
kia tau ki nga whenua o Whangarei-Terenga-Paraoa
ko te paepae atua kei waho ra

ko Taaranga, ko Maui taha, ko Maui roto, ko Maui waho, ko Maui pai, ko Motukiore, ko Matakohe, ko Motuataua, e hii ake ana
kaa eeke, eke Tangaroa
eke panuku, eke penu
tuturu o whiti, whakamaua kia tina! Tina! Haumi e, hui e, taiki e!

Appendix B

Expert Ecological Evidence

Rebecca Lodge

Bay Ecological Consultancy Ltd comprising:

- **Appendix B1 – Freshwater Fish Evidence**
- **Appendix B2 – Avifauna Evidence**
- **Appendix B3 – Terrestrial Ecology Evidence**
- **Appendix B4 – Freshwater Ecology Evidence**

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE **FAST TRACK APPROVALS ACT 2024 (FTTA or ACT)**

IN THE MATTER OF a substantive application by New Zealand Transport Agency Waka Kotahi for the Alternative to the Brynderwyn Hills Project

STATEMENT OF EVIDENCE OF REBECCA L. S. LODGE IN REGARD TO FRESHWATER FISH ON BEHALF OF TE POUWHENUA O TIAKIRIRI KŪKUPA TRUST ON BEHALF OF TE PARAWHAU HAPŪ

AUGUST 2026

Prepared from technical review of NZTA's ASSESSMENT OF EFFECTS ON FRESHWATER ECOLOGY NORTHLAND CORRIDOR 2B DOCUMENT: 10722-PTA-2B0-PE-RPT-0010

BAY ECOLOGICAL CONSULTANCY LTD
R. L. S. LODGE

1 EXECUTIVE SUMMARY

1.1 This evidence in regard to the impacts on freshwater fish is based on my technical review[1] of the *NZTA Waka Kotahi Assessment of Effects on Freshwater Ecology Northland Corridor 2b Document: 10722-Pta-2b0-Pe-Rpt-0010* for the Alternative to the Brynderwyn Hills Project. Throughout this evidence, the NZTA Freshwater Ecology Report is referred to as the FER or "the report" for brevity.

1.2 My review was commissioned by Te Pouwhenua O Tiakiriri Kukupa Trust (Te Parawhau Hapū) to evaluate the technical adequacy of the FER and the conclusions reached, to inform the Cultural Impact Assessment. It considers the FER assessment methodology; ecological valuation; assessment of effects; proposed mitigation and residual effects. My review followed the structure and section headings of the FER, with the assessment and critique presented in the same sequence as the matters addressed.

1.3 The FER was reviewed alongside the Assessment of Effects on Terrestrial Ecology Document 10722-PTA-2B0-PE-RPT-0011 (TER) and Assessment of Effects on Avifauna (Document No. 10722-PTA-2B0-PE-RPT-0009) (AER) as part of analysis of the ecological technical assessments prepared for the Project.

1.4 The freshwater mapping is incomplete, with headwater, intermittent and ephemeral streams incorrectly represented or omitted.

1.5 The desktop fish survey does not provide a sufficiently robust ecological baseline.

1.6 Headwater streams are systematically undervalued despite their role in spawning, recruitment, refuge and connectivity.

1.7 Ecological condition is repeatedly substituted for ecological value.

1.8 Fish habitat values in the FER rely on surrogate measures rather than ecological function and life-history requirements.

1.9 Threatened and At Risk species are repeatedly assigned reduced significance based on presumed low abundance rather than conservation status or demonstrated population assessment.

1.10 Fish populations are assessed as isolated reaches rather than connected catchment-scale populations.

1.11 FER Table 11 underpins the presented fish values, effect magnitude, fish passage and mitigation but lacks sufficient transparency and reproducibility.

1.12 Fish effects are systematically underestimated through reduced habitat values, catchment-scale averaging and proportional stream-loss assessments.

1.13 Fish passage requirements are reduced through simplified upstream habitat assumptions.

[1] BAY ECOLOGICAL CONSULTANCY LTD (2026) TECHNICAL REVIEW FOR TE POUWHENUA O TIAKIRIRI KUKUPA TRUST ASSESSMENT OF EFFECTS ON FRESHWATER ECOLOGY NZ Transport Agency Waka Kotahi | Roads of National Significance | Northland Corridor 2B Assessment of Effects on Freshwater Ecology – Document: 10722-PTA-2B0-PE-RPT-0010 Revision:A

1.14 Culvert design focuses on engineering compliance rather than maintenance of ecological function.

1.15 Stream reclamation and realignment are assumed to achieve ecological equivalence despite substantial uncertainty.

1.16 Residual effects remain low because habitat values and effect magnitudes have already been reduced.

1.17 Management, mitigation and monitoring are founded on the same reduced assessment framework.

1.18 Freshwater fish populations are sustained by connected habitat networks and complete life-history processes rather than individual stream reaches. Assessment methodologies that underestimate headwater streams, simplify fish passage, rely on catchment-scale averaging or substitute ecological function with surrogate measures will systematically underestimate effects on indigenous fish populations.

1.19 The FER assessment repeatedly substitutes ecological function with simplified surrogate measures, including stream size, fish abundance, Fish IBI, upstream habitat assumptions, proportional stream loss and catchment-scale averaging. Collectively, these methodological decisions reduce assigned fish habitat values, predicted project effects and subsequent management requirements, reducing confidence that the FER adequately represents the ecological values of indigenous freshwater fish habitats or the effects of the Project.

1.20 These combined material deficiencies & methodologies risk establishing an ecologically unsound precedent for future Northland Corridor stages and NZTA infrastructure projects.

2 INTRODUCTION

2.1 I provide this evidence on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust (Te Parawhau ki Tai).

2.2 I am the author of the *Technical Review For Te Pouwhenua O Tiakiriri Kukupa Trust of Assessment of Effects On Freshwater Ecology NZ Transport Agency Waka Kotahi | Roads of National Significance | Northland Corridor 2B Assessment of Effects on Freshwater Ecology – Document: 10722-PTA-2B0-PE-RPT-0010 Revision:A Bay Ecological Consultancy Ltd. (2026).*

2.3 This evidence focuses on the technical adequacy of the freshwater fish components of the FER, including:

- Fish survey methodology and ecological baseline.
- Fish habitat values and ecological function.
- Fish passage and ecological connectivity.
- Assessment of effects on indigenous fish populations.
- Culverting, stream reclamation and habitat replacement.
- Mitigation, monitoring and adaptive management.

2.4 My evidence considered the application of the FER framework alongside recognised New Zealand and regional ecological practice and is based on established principles of contemporary freshwater fish ecology and ecological assessment that:

- Indigenous fish populations are sustained by connected habitat networks rather than isolated stream reaches.
- Ecological function is a more reliable measure of fish habitat value than stream size, fish abundance or proportional stream length.
- Headwater, intermittent and ephemeral streams are integral components of river networks, supporting spawning, recruitment, refuge, dispersal and downstream ecosystem processes.
- Fish habitat should be assessed according to complete life-history requirements, including spawning, migration, larval dispersal, juvenile recruitment and adult habitat.
- Fish passage is one component of ecological connectivity and should not be considered in isolation from broader stream ecosystem function.
- Ecological effects should be assessed according to habitat function, connectivity, conservation significance and cumulative effects rather than proportional habitat loss alone.

Key freshwater fish references from within my wider FER review content included:

- Dunn, N.R., Closs, G.P., Crow, S.K., David, B.O., Goodman, J.M., Griffiths, M., Hicks, A.S., Hickford, M.J.H., Jack, D.C., Kitson, J.C., Ling, N., Waters, J.M., Wylie, M.J., Hitchmough, R.A. & Makan, T. (2025). Conservation status of New Zealand freshwater fishes, 2023. New Zealand Threat Classification Series 46. Department of Conservation, Wellington. 66 p.
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- Joy, M.K. (2019). A Fish Index of Biotic Integrity (IBI) for the Northland Region – Report and User Guide for Use with the Northland Fish IBI Excel Macro. Victoria University of Wellington / Envirolink report.
- Franklin, P.A., Baker, C.F., Gee, E., Bowie, S., Melchior, M., Egan, E., Aghazadegan, L. & Vodjansky, E. (2024). New Zealand Fish Passage Guidelines (Version 2.0). NIWA Client Report 2024157HN. National Institute of Water and Atmospheric Research, Hamilton, New Zealand. July 2024.
- White, R. & Baker, C. (2025). Incorporating eDNA into the Fish Index of Biotic Integrity (FIBI). In Environmental DNA Indicators for Supporting Implementation of the National Objectives Framework (NOF) in the NPS-FM. NIWA Project MFE25205. NIWA, Hamilton.
- Taylor, R. & Richardson, J. (2002). A Guide to Restoring Īnanga Habitat. NIWA Science and Technology Series No. 50.
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- Orchard, S. & Wilkinson, S. (2023). Opportunistic discovery of giant kōkopu (Galaxias argenteus) spawning in a tidal reach: site description and implications. New Zealand Journal of Marine and Freshwater Research, 58(4), 577–590.
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- Rowe, D., Hicks, M. & Richardson, J. (2000). Reduced abundance of banded kōkopu (Galaxias fasciatus) and other native fish in turbid rivers of the North Island of New Zealand. New Zealand Journal of Marine and Freshwater Research, 34(3), 547–558.
- Franklin, P.A. (2014). Dissolved oxygen criteria for freshwater fish in New Zealand: a revised approach. New Zealand Journal of Marine and Freshwater Research, 48(1), 112–126.
- Auckland Regional Council. (2000). Fish Passage Guidelines for the Auckland Region. Technical Publication 131

3 QUALIFICATIONS, EXPERIENCE AND CODE OF CONDUCT

3.1 I am a senior consulting ecologist based in Kerikeri, Bay of Islands. I have worked as an ecologist in across Te Taitokerau since 2011 and as Director and Principal Ecologist of Bay Ecological Consultancy Ltd since 2014. In this role I am ecological lead in multidisciplinary ecological assessments, field surveys, consenting advice, revegetation/ restoration and management plans, peer review and implementation client support.

3.2 I hold a BSc in Ecology, and a PGDipSci with Distinction from the University of Otago. I was the recipient of a FoRST Te Tipu Pūtaiao Doctoral Fellowship, during which my multidisciplinary research examined national ecotypic variation in tī kōuka with regard to wetland ecology, insect and disease vulnerability, and leaf fibre mechanical properties. I am a NES-CS (Contaminated Soils) SQEP, having practiced since 2013 in that field to remediation level.

3.3 I am currently the SME on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust for terrestrial vegetation and freshwater ecology for the Northern Motorway Extension, undertaking survey, technical reporting and review. I have worked on a contractual basis with Te Parawhau Hapū for approximately 3 years and continue to do so, undertaking peer review and ecological impact assessment within resource management processes. This has included large local infrastructure such as the Ahuroa River Water Treatment Plant Discharge consent renewal; ecological, contamination and discharge review of the Port Rd former Fertiliser Plant site remediation; terrestrial, freshwater, estuarine and contaminated land review of the Portland Cement Works interaction with the Tokitoki Stream, to support the Tokitoki Awa Taiao Management Action Plan.

3.4 I work in the forestry sector as an ecological consultant for forestry operations across Northland, including Waitangi, Punakitere, Waimatenui, Waipoua, Kirikōpuni and Ōpouteke within extensive high conservation value (HCV) areas, providing ecological management and restoration recommendations to support FSC accreditation. I undertake survey and provide training to crews, including methods for fish, fish passage; birds; wetland and terrestrial flora. I am also a regular participant in meetings of the Northland Forestry Environmental Working Group.

3.5 I regularly provide ecological reporting for regional authority consents and compliance response in relation to the NES-F and NPS-FM, including culvert design and fish passage, freshwater fish survey, wetland delineation and restoration. I am NIWA electric fishing certified and have guest lectured in wetland delineation at NorthTec.

3.6 I have provided reporting and consent implementation as ecological lead toward multiple papakāinga developments and an extensive range of private sector applications and management. Recent and ongoing work includes large-scale coastal, residential and infrastructure projects across Northland. At Wai Kōwhai Station, Purerua Peninsula, I have been lead ecologist since 2021 for a 54-lot coastal development, involving EcIA, wetland delineation, NES-F culvert compliance, wetland restoration, approximately 130 ha of revegetation design, and ongoing fish, bittern and kiwi survey and management.

3.7 At The Landing, Purerua Peninsula, I have provided ecological advice since 2014, including revegetation planning, a 20-year ecological review, fish and bird surveys, stream classification, wetland delineation, NES-CS HAIL reporting and ongoing ecological management. At Rangitane River Park, Kerikeri, I am the lead consultant ecologist for the ongoing development and post-consent implementation of the 115-lot subdivision, including reserve management and liaison with the external stakeholders committee.

3.8 Other recent work as principal ecologist includes EcIA and ecological assessment for jetty and boat ramp proposals, including estuarine and sediment assessment, wetland delineation, fish and bird surveys; revegetation planning and implementation. I am named on several WAA permits with the lead herpetologist.

3.9 I have also undertaken ecological peer review for the Far North District Council and participated in Commissioner hearing processes. For the Orongo Bay Zone Management Plan Change, I prepared the EcIA, culvert management plan and revegetation and management planning.

3.10 I am a member of the NZ Ecological Society; the National Wetlands Trust; NZ Freshwater Sciences Society; Australasian Land & Groundwater Association (ALGA) & NZ Plant Conservation Network.

3.11 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses. The matters addressed are within my area of expertise.

4.0 ECOLOGICAL BASELINE

4.1 A robust freshwater fish assessment depends on a complete ecological baseline. Accurate stream mapping, appropriate survey design and correct interpretation of fish data are fundamental to assessing fish habitat values, ecological connectivity and project effects. Deficiencies identified at this stage propagate throughout the subsequent assessment

4.2 STREAM MAPPING

4.2.1 Head Headwater, intermittent and ephemeral streams are incompletely and incorrectly mapped through a bespoke and unreproducible Digital Network Model, reducing the recognised extent of fish habitat, stream loss, fish passage and cumulative effects.

4.2.2 Intermittent and ephemeral streams are under- valued despite providing seasonal habitat, spawning opportunities, juvenile refuge and ecological connectivity.

4.2.3 Stream permanence is not a surrogate for ecological significance. Small and intermittent streams contribute to spawning, recruitment, refuge and downstream ecosystem function.

4.2.4 Incomplete stream mapping propagates through fish habitat valuation, culvert assessment, fish passage, offset calculations and cumulative effects.

4.2.5 An incomplete stream network therefore underpins every subsequent stage of the freshwater fish assessment, reducing confidence in the assessment of project effects.

4.3 FISH SURVEY

4.3.1 Survey effort through use of dated and limited NZFFD records and select eDNA sites is insufficient to comprehensively characterise indigenous fish communities across the Project area.

4.3.2 Survey timing does not adequately capture seasonal migration, spawning and juvenile recruitment.

4.3.3 Detection probability is inadequately considered, particularly for nocturnal, cryptic and naturally uncommon species.

4.3.4 Species absence should not be inferred from limited survey effort where suitable habitat remains.

4.3.5 Fish distribution, habitat utilisation and ecological values are therefore likely to be underestimated where survey effort, timing and detection limitations are not adequately accounted for.

4.3.6 Environmental DNA (eDNA) & eDNA Fish Index of Biotic Integrity (eDNA Fish IBI) are utilised and interpreted beyond current NIWA guidance. Fish IBI is applied beyond its intended purpose as an indicator of fish community condition. Fish IBI should not be used as a surrogate for ecological value, fish habitat significance or fish passage requirements.

4.3.7 Detection limitations for cryptic and naturally uncommon species are not adequately incorporated e.g. lamprey

4.3.8 eDNA (& NZFFD records) are truncated and interpreted without sufficient consideration of survey bias or detection probability.

4.3.9 eDNA cannot determine abundance, biomass, habitat quality, ecological condition, spawning habitat, life-history function or ecological value.

4.3.10 Downstream transport and persistence of eDNA limit interpretation of habitat occupancy and life-stage use.

4.3.11 NIWA recognises eDNA as a powerful species detection tool that complements, but does not replace, conventional fish surveys which along with habitat assessment remain necessary to interpret eDNA results.

4.3.12 Over-reliance on eDNA therefore reduces confidence in fish habitat valuation and the subsequent effects assessment, particularly where eDNA results are interpreted as evidence of abundance, habitat condition or ecological function.

4.3.13 The FER does not report or assess kōura, kōeke or freshwater mussel occurrences identified through either the early or later eDNA analyses, including *Echyridella aucklandica* (Threatened – Nationally Vulnerable) detected in the early dataset at Public Waihoihoi 1 and Lower Waihoihoi 559815/16.

4.3.14 The FER also does not report the uncategorised *Galaxias* or *Gobiomorphus* detections identified in the eDNA datasets, including multiple occurrences identified through our review and subsequent provision of the underlying data. These detections are ecologically relevant even where they cannot be resolved to species level. Broad *Galaxias* detections may plausibly represent kōaro, shortjaw kōkopu, giant kōkopu, or a combination of these taxa. Known overlap in 16S sequence variants can limit reliable discrimination between giant kōkopu and shortjaw kōkopu in such datasets. Similarly, unresolved *Gobiomorphus* detections may represent common bully (*G. cotidianus*), upland bully (*G. breviceps*), redfin bully (*G. huttoni*) or Cran's bully (*G. basalis*), with some sequence groupings constrained to a smaller subset of species but not necessarily to one species.

4.3.15 The omission of these detections from the FER results in potentially significant fish and freshwater fauna values being excluded from the habitat assessment. Unresolved eDNA detections should not be treated as ecologically meaningless; rather, they identify the potential presence of native taxa within the relevant catchment and warrant consideration alongside habitat suitability, connectivity and other survey evidence**.**

4.3.16 NZFFD records are interpreted without sufficient recognition of survey bias and detection limitations including that record frequency reflects survey effort rather than ecological importance and naturally uncommon, nocturnal and cryptic species are likely to be under-represented.

4.3.17 Fish habitat significance is therefore likely to be underestimated where record frequency and Fish IBI are given greater weight than the limitations of the underlying dataset and the ecological requirements of individual species.

4.3.18 Lamprey receive insufficient species-specific assessment. Absence of records should not be interpreted as absence where suitable habitat and migration pathways remain. Adult lamprey are nocturnal and cryptic, resulting in inherently low detection probability in NRC SoE and NZFFD records in Northland to date.

4.13.20 Ammocoete habitat within fine sediment deposits is not systematically identified or assessed. Conventional survey techniques including standard eDNA survey have limited effectiveness for detecting ammocoetes.

4.3.21 Lamprey occurrence is better predicted by habitat suitability and catchment connectivity than opportunistic survey records.

4.3.22 Threatened, At Risk and Regionally Significant species are assigned reduced significance based on presumed low abundance rather than their recognised conservation status and ecological requirements. This is also an incorrect application of EIANZ Table 2 criteria

4.3.23 Banded kōkopu (and other Naturally Uncommon) occur naturally at low densities and should not be assessed by abundance alone.

5.0 FISH HABITAT VALUES

5.1 Ecological condition is repeatedly substituted for ecological value, with habitat significance influenced by non standard measures of condition rather than the ecological functions and values supported by the habitat. Modified and grazed streams are assigned reduced values despite retaining important ecological functions e.g as locally documented inanga spawning habitat.

5.2 EiANZ Table 4 Criteria and RPS (2018) Appendix 5 Significance Criteria as well as specific recommendation from regional expert guidance[2] cited are not applied in a transparent allocation of habitat significance.

5.3 FER Table 11 systematically assigns low values to streams proposed for culverting and reclamation

5.4 Fish abundance, although not provided by the available data, is used as a surrogate for habitat significance. This introduces an unsupported assumption that habitats supporting supposedly numerically fewer fish are of lower ecological value regardless of function e.g. spawning habitat or expected assemblages of fish in lower numbers e.g. headwater streams with banded kokopu (At Risk Naturally Uncommon) ; long fin eel (At Risk -Declining).

5.4 Headwater streams are consistently assigned lower ecological values despite their role in spawning, recruitment, refuge, food-web production and downstream ecosystem processes. Adult fish presence is emphasised over life-history requirements.

5.5 Fish habitat valuation relies on flawed bespoke surrogate measures including stream size, eDNA, eDNA Fish IBI, upstream habitat assumptions and proportional stream length rather than ecological function.

5.6 Fish populations are assessed as individual, isolated stream reaches thereby giving insufficient recognition to ecological connectivity and movement between habitats.

5.7 Spawning habitat, migration corridors and recruitment processes receive limited weighting within habitat assessments despite being fundamental components of fish life-history requirements.

5.8 Collectively, these approaches result in fish habitat value being assessed primarily through opaque condition, abundance and spatial metrics rather than ecological function, conservation significance and connectivity, creating a risk that the significance of headwater, spawning, recruitment and refuge habitats is systematically underestimated. These limitations indicate that the ecological baseline underestimates freshwater fish habitat, ecological connectivity and fish values, reducing confidence in all subsequent stages of the assessment as below Fig 1 from my technical review.

[2] McArthur, K. & Beveridge, A. (2015). Freshwater Native Fish in Northland: Conservation status, critical habitat requirements and recommendations for management. Northland Regional Council. Report No. 2015/036.

FIGURE 1. THE ASSESSMENT CASCADE



6.0 CULVERTING

6.1 Table 11 habitat values directly determine the significance assigned to culvert effects.

6.2 Streams assigned Negligible–Low habitat values consequently receive correspondingly lower predicted culvert effects.

6.3 Headwater streams are repeatedly assessed as having low culvert effects because of their reduced assigned habitat values rather than their ecological function within the wider stream network.

6.4 Fish passage is treated as the principal ecological effect of culverting, despite the permanent modification of stream habitat associated with installation of the culvert.

6.5 Culvert effects are assessed primarily through engineering performance rather than demonstrated maintenance of ecological processes.

6.6 Hydraulic compliance is assumed to maintain ecological function without demonstrating that the resulting engineered channel will retain the range of ecological functions provided by the natural stream.

6.7 Natural channel morphology, substrate diversity, hydraulic variability and habitat complexity are permanently altered within culverted reaches.

6.8 Provision of fish passage alone cannot maintain spawning, nursery, refuge and feeding habitat where the underlying stream habitat has been modified or lost.

6.9 Riparian-stream interactions, groundwater exchange, sediment transport and organic matter processing are also altered by culverting but receive limited consideration within the effects assessment.

6.10 Fish habitat extends beyond the physical culvert footprint; however, ecological effects are largely assessed in relation to the engineered channel rather than the wider habitat network.

6.11 Multiple culverts are assessed individually despite their potential to progressively fragment habitat and ecological connectivity across the catchment.

6.12 The cumulative effects of multiple culverts on fish populations, dispersal and recolonisation are therefore likely to be underestimated.

6.13 Post-construction ecological performance is assumed rather than demonstrated, including whether the engineered structures will maintain ecological function over the longer term.

6.14 Uncertainty regarding culvert performance does not materially alter the assessed effect significance or residual effects because habitat values have already been reduced within the assessment framework.

6.15 Consequently, failure of culverts to fully maintain ecological function would have limited influence on the final assessment because effect magnitude has already been substantially determined by the reduced habitat values assigned to the affected streams.

6.16 The assessment therefore assumes that maintaining fish passage through engineered culverts is equivalent to maintaining natural stream ecosystem function. This does not account for the broader loss and modification of habitat, altered ecological processes, cumulative fragmentation and long-term consequences for fish populations. Culvert effects are consequently likely to be systematically underestimated

7.0 STREAM RECLAMATION

7.1 Stream realignment effects are assessed using habitat values and effect magnitudes already reduced through the Section 4 assessment.

7.2 Replacement channels are assumed to restore ecological function despite acknowledged uncertainty.

7.3 Ecological equivalence is inferred rather than demonstrated. Replacement stream length is substituted for habitat quality, ecological function and life-history value.

7.5 Natural channel evolution is replaced by an engineered channel design. Geomorphic processes, including sediment transport, channel adjustment and floodplain interaction, require prolonged recovery and cannot be immediately recreated.Habitat complexity, including pools, riffles, undercut banks, woody

debris and natural substrate diversity, develops over extended timeframes and cannot be assumed following construction.Riparian vegetation requires many years to provide shading, bank stability, organic matter inputs and spawning habitat comparable to natural channels. Groundwater–surface water interactions and natural flow permanence may differ from those of the original stream.

7.6 Fish passage through a replacement channel does not demonstrate restoration of ecological function.Spawning habitat, nursery habitat, refuge habitat and feeding habitat are assumed to recover despite limited supporting evidence.

7.7 Species-specific habitat requirements for banded kōkopu, longfin eel, lamprey and juvenile galaxiids are not explicitly demonstrated.

7.8 Monitoring is primarily directed towards channel establishment rather than long-term ecological function or fish population persistence.

7.9 Uncertainty regarding habitat recovery does not materially alter effect significance because habitat values and effect magnitudes have already been reduced.

7.10 Failure of replacement channels to achieve ecological function would have limited influence on residual effects because the assessment has already concluded that effects are less than minor.

7.11 The assessment therefore assumes that engineered stream realignments will achieve ecological equivalence with natural channels. This assumption is not demonstrated, yet it underpins the conclusion that residual effects on freshwater fish remain low. The assessment consequently assumes successful mitigation rather than evaluating the consequences if mitigation fails to achieve the intended ecological outcome. Because habitat values and effect magnitudes have already been reduced, uncertainty regarding mitigation success has limited influence on the final assessment of residual effects

8.0 ASSESSMENT OF EFFECTS ON FRESHWATER FISH

8.1 OVERVIEW

8.1.1 The assessment of freshwater fish effects is dependent upon the ecological values assigned in **Table 11**. Where habitat values are underestimated, the magnitude, significance and residual effects of the Project are similarly reduced.

8.2 EFFECTS ASSESSMENT AND TABLE 11

8.2.1 Table 11 is the primary framework through which fish habitat values are translated into effect magnitude, significance, fish passage requirements, mitigation and residual effects.

8.2.2 The ecological values in Table 11 are derived using modified assessment methodologies, with insufficient transparency to independently reproduce the resulting value assignments.

8.2.3 Streams proposed for culverting and realignment are commonly assigned Negligible–Low or Low values despite supporting indigenous fish habitat and ecological connectivity. Headwater and intermittent streams are particularly affected by this approach, with stream size, intermittent flow and presumed low fish abundance contributing to reduced values.

8.2.4 Fish abundance and ecological condition are substituted for ecological value, while threatened and At Risk species are assigned reduced significance based on presumed abundance rather than conservation status. Spawning habitat, recruitment, migration corridors and ecological connectivity receive comparatively limited weighting.

8.2.5 Local habitat effects are further diluted through catchment-scale averaging, with habitat extent and proportional stream loss given greater weight than the ecological function of the affected reaches.

8.2.6 Uncertainty associated with incomplete stream mapping, limited fish surveys and assumptions regarding fish abundance is generally not reflected as increased uncertainty in the effects assessment. Rather, reduced habitat values contribute to lower effect ratings.

8.2.7 Table 11 is therefore the principal mechanism through which modified habitat values are translated into reduced ecological effects, with the initial reduction in habitat value subsequently influencing effect magnitude, significance, mitigation requirements and residual effects.

8.3 FISH HABITAT EFFECTS

8.3.1 Headwater and intermittent streams are assigned lower effects based on stream size, flow characteristics and presumed low fish abundance rather than their ecological function within the wider stream network.

8.3.2 Fish habitat effects are assessed primarily through habitat extent rather than function, with insufficient weighting given to spawning, recruitment, refuge and migration functions and to population processes such as recruitment, recolonisation and resilience.

8.3.3 The approach also results in reduced significance being assigned to habitat supporting threatened and At Risk species, including longfin eel, where presumed abundance appears to outweigh recognised conservation status.

8.3.4 Local habitat loss is further moderated through catchment-scale averaging, reducing the apparent significance of effects on individual reaches and their contribution to the wider connected fish habitat network.

8.3.5 Incomplete stream mapping and survey uncertainty are not adequately reflected in the effects assessment, despite their potential to result in under-identification of fish habitat and species values.

8.3.6 Fish habitat effects are therefore systematically influenced by the reduced habitat values established in Table 11, with effect magnitude and significance reduced before the consequences of the proposed works and mitigation are fully considered.

8.4 KEY TECHNICAL ISSUES

8.4.1 The principal concern is that Table 11 operates as the primary mechanism through which modified habitat values are translated into reduced predicted fish effects**.**

8.4.2 This is compounded by the substitution of habitat extent, presumed abundance and ecological condition for ecological function and conservation significance; simplified assumptions regarding fish passage; engineering-focused assessment of culverts; and assumed ecological equivalence of stream realignment.

8.4.3 Catchment-scale averaging further reduces the apparent significance of local ecological effects, while uncertainty in the ecological baseline does not materially increase the assessed effects.

8.4.4 Residual effects are consequently reduced substantially through the assessment methodology rather than being demonstrated through evidence of maintained ecological function.

8.4.5 The assessment framework is therefore relatively insensitive to whether mitigation successfully maintains or restores the ecological functions of affected fish habitat. This substantially reduces confidence in the resulting assessment of freshwater fish effects.

9.0 FISH PASSAGE, MITIGATION AND MANAGEMENT

9.1 OVERVIEW

9.1.1 The management recommendations presented in the FER are founded on the ecological values and effects assessment developed in previous sections. Consequently, where habitat values and effect significance have been reduced through modified assessment methodologies, the proposed avoidance, mitigation, monitoring and offsetting requirements are similarly reduced.

9.1.2 Rather than independently managing ecological risk, the recommendations largely reinforce conclusions already reached through the assessment framework.

9.2 EFFECTS MANAGEMENT

9.2.1 Effects management recommendations inherit the methodological deficiencies identified throughout the assessment. Modified ecological values, bespoke value classifications, catchment-scale magnitude thresholds and reduced effect ratings directly determine management responses.

9.2.2 Residual effects are assumed to remain less than minor even where stream realignment objectives are not achieved, culvert performance is poor or fish passage is interrupted.

9.2.3 Ecological uncertainty is not reflected through a precautionary management response.

9.2.4 Management recommendations therefore reinforce predetermined assessment outcomes rather than independently managing ecological risk.

9.2.5 Habitat loss is accepted where effects have already been reduced through catchment-scale averaging and modified magnitude thresholds. Avoidance is consequently subordinated to predetermined low effect ratings rather than ecological significance. These reduced ecological values underpin subsequent decisions regarding avoidance, mitigation, monitoring and offsetting.

9.3 STREAM RECLAMATION AND REALIGNMENT

9.3.1 Stream reclamation assumes ecological function can be maintained through replication of channel form, flow, velocity, substrate and riparian condition. Ecological equivalence is assumed despite limited supporting evidence.

9.3.2 Engineered channels cannot immediately replicate natural geomorphic, hydrological and groundwater processes, and ecological recovery requires time.

9.3.3 Residual effects are given as less than minor even where stream realignment objectives are not achieved. Successful channel construction does not demonstrate restoration of natural stream ecosystem function, yet mitigation success has limited influence on the final effect significance.

9.4 CULVERT DESIGN

9.4.1 Recommended culvert design measures largely reflect minimum regulatory requirements rather than demonstrated ecological mitigation.

9.4.2 Compliance with fish passage standards is presented as evidence that stream values are maintained. Engineering compliance does not demonstrate maintenance of natural stream ecosystem processes.

9.4.3 Successful fish passage does not, by itself, maintain natural habitat complexity, sediment processes, riparian interactions or other ecological functions. The assessment therefore treats baseline engineering performance as evidence of ecological mitigation, while residual effects remain less than minor even where culvert performance or fish passage objectives are not achieved.

9.5 STREAM REALIGNMENT AT SPOIL SITES

9.5.1 Stream establishment on engineered spoil material remains uncertain, including uncertainty regarding stream permanence, groundwater interaction and aquatic habitat development. Ecological function on engineered spoil is therefore assumed rather than demonstrated, with insufficient long-term evidence to establish ecological equivalence.

9.5.2 A trial-and-error approach to stream establishment is inconsistent with the effects management hierarchy. Compensation is proposed should mitigation fail, with unquantifiable effects particularly to downstream nominated mitigation site within the shortly connected habitat in the Waipu North/ South catchment.

9.6 NATURAL INLAND WETLANDS AS FRESHWATER FISH HABITAT

9.6.1 Wetland management recommendations inherit the modified value assessments developed earlier in the FER.Ecological condition and vegetation composition are given greater weight than hydrological function and ecosystem processes.

9.6.2 Wetlands considered exotic-dominated are assigned reduced significance despite remaining natural inland wetlands and potentially providing freshwater fish habitat.

9.6.3 Hydrological connectivity, fish access and landscape context are insufficiently incorporated into management decisions. For freshwater fish, this risks underestimating the role of wetlands within the connected freshwater network, including their contribution to fish access, refuge and wider ecological processes.

9.7 GROUNDWATER DRAWDOWN AND FRESHWATER FISH HABITAT

9.7.1 The Groundwater Effects Report defers the ecological consequences of groundwater drawdown for streams, wetlands and freshwater ecosystems, as fish habitat, to the FER. Consequently, deficiencies in stream mapping, habitat valuation, fish habitat assessment and wetland assessment are propagated into other technical disciplines within the project.

9.7.2 The assessment accepts that groundwater drawdown may convert perennial streams to intermittent systems, intermittent streams to ephemeral channels and reduce wetland extent, while affected habitats are repeatedly assessed as less than minor because they are considered small or of low value.

9.7.3 Changes in hydrological regime, habitat permanence, water temperature, dissolved oxygen, refuge availability and fish access are not assessed.

9.7.4 Project-specific groundwater model uncertainty is given limited weight, despite the groundwater assessment acknowledging that stream-flow reductions cannot be quantified for individual realigned streams without detailed design.

9.7.5 The management recommendations do not incorporate a precautionary response proportionate to the uncertainty surrounding groundwater drawdown effects on streams, wetlands and freshwater fish habitat.

10.0 OVERALL OPINION

10.1 I conclude that the FER's assessment of freshwater fish values, effects and management is affected by a connected sequence of methodological decisions that progressively reduces the apparent significance of freshwater fish effects.

10.2 This cascade begins with an incomplete **ecological baseline**, including incomplete mapping of headwater, intermittent and ephemeral streams, insufficient fish survey effort, and limitations associated with eDNA, Fish IBI, NZFFD records and lamprey detection.

10.3 These limitations flow into **habitat valuation**, where stream size, presumed fish abundance and ecological condition are given greater weight than ecological function, conservation status, life-history requirements and catchment connectivity.

10.4 The resulting values are carried into **Table 11**, which then determines effect magnitude, significance, fish passage requirements, mitigation and residual effects. The methodology used to derive these values is insufficiently transparent and not independently reproducible.

10.5 Reduced values consequently flow into the **effects assessment**, including catchment-scale averaging and proportional stream-loss assessments, and then into **culvert design, fish passage and stream realignment**, where engineering performance and assumed ecological equivalence are relied upon despite uncertainty regarding maintenance or restoration of ecological function.

10.6 The same assumptions flow into **wetland and groundwater assessments**, where potential effects on fish habitat, stream permanence and hydrological connectivity are assessed through ecological conclusions already established in the FER.

10.7 The resulting **mitigation and management response** is therefore based on already-reduced habitat values and effect magnitudes. The framework is consequently relatively insensitive to whether mitigation successfully maintains ecological function.

10.8 This is particularly relevant to the **Schedule 9 freshwater fisheries provisions of the Fast-track regime**, where species, habitat quality, connectivity, structure design and fish passage require adequate technical resolution. The limitations in the FER reduce confidence that these matters have been sufficiently characterised to inform fish passage and structural design.

10.9 The assessment cascade can therefore be summarised as:

incomplete baseline → reduced habitat values → Table 11 value assignment → reduced effects → reduced fish passage and mitigation requirements → assumed mitigation success → low residual effects.

- **10.10** In my opinion, this methodology substantially reduces confidence in the FER's conclusions regarding freshwater fish habitat values, Project effects, fish passage and residual effects. The assessment should therefore be revisited at the baseline and habitat valuation stages using transparent, repeatable and ecologically defensible New Zealand methodologies before reliance is placed on the effects and mitigation conclusions. Blanket adoption of the FER methodologies in future Northland Corridor stages or wider NZTA projects risks establishing a precedent for systematic underestimation of freshwater ecological values, project effects and management requirements.

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE **FAST TRACK APPROVALS ACT 2024 (FTTA or ACT)**

IN THE MATTER OF a substantive application by New Zealand Transport Agency Waka Kotahi for the Alternative to the Brynderwyn Hills Project

STATEMENT OF EVIDENCE OF REBECCA L. S. LODGE ON BEHALF OF TE POUWHENUA O TIAKIRIRI KŪKUPA TRUST ON BEHALF OF TE PARAWHAU HAPŪ

AUGUST 2026

Prepared from technical review of NZTA WAKA KOTAHI ASSESSMENT OF EFFECTS ON AVIFAUNA

NORTHLAND CORRIDOR 2B DOCUMENT: 10722-PTA-2B0-PE-RPT-0009

BAY ECOLOGICAL CONSULTANCY LTD
R. L. S. LODGE

1 EXECUTIVE SUMMARY

1.1 This evidence is based on my independent technical review of NZ Transport Agency Waka Kotahi's Assessment of Effects on Avifauna Northland Corridor 2b Document: 10722-PTA-2B0-PE-RPT-0009 for the Alternative to the Brynderwyn Hills Project , thereafter referred to as the AER for brevity. The review considers the assessment methodology, ecological interpretation, assessment of effects, proposed mitigation and biodiversity offsetting, with particular emphasis on the relationship between freshwater ecosystems and avifauna.

1.2 The AER adopts recognised ecological assessment frameworks; however, it relies heavily on existing information, desktop interpretation and limited project-specific field data. Targeted surveys were not undertaken for several key species, including North Island kiwi, Australasian bittern, North Island fernbird and spotless crake, despite co inciding with the key booming season for bittern for example.

1.3 A principal concern is the progressive constraint of the assessment. Limitations in survey effort and habitat mapping flow into reduced recognition of habitat availability and ecological value, which then flow into reduced effect magnitude and a corresponding reduction in the mitigation response.

1.4 The AER also inherits limitations from the *NZTA Waka Kotahi Assessment of Effects on Freshwater Ecology Northland Corridor 2b Document: 10722-Pta-2b0-Pe-Rpt-0010* referred to herein as the FER for brevity. Constrained freshwater mapping and valuation are carried into the avifauna assessment, reducing recognition of the wider freshwater habitat network supporting feeding, movement and refuge.

1.5 The distinction between the Indicative Alignment, Proposed Designation and progressively constrained Zone of Influence further narrows the ecological area considered, despite connected wetlands, riparian habitats, indigenous forest and adjacent landscapes functioning as ecological units.

1.6 Habitat availability is understated through simplified habitat associations, particularly for pasture, riparian and wetland environments. Several Regionally Significant species are also assigned lower ecological values than warranted.

1.7 The effects assessment places greatest emphasis on direct habitat loss and vehicle collision mortality, with comparatively limited treatment of prolonged construction disturbance, indirect mortality, displacement, breeding failure, reduced refugia, increased predation risk, cumulative effects and reduced prey availability resulting from freshwater ecosystem modification.

1.8 The interaction between freshwater processes and avifauna is not adequately incorporated. Fish passage, prey production and wetland ecosystem function are material to the ecological value of habitat used by wetland and riparian birds, particularly matuku-hūrepo.

1.9 The proposed wetland replacement is derived from the constrained wetland mapping adopted in the FER and principally addresses wetlands identified for Threatened or At Risk wetland birds. It does not demonstrate replacement of the wider freshwater habitat network or equivalent ecological function.

1.10 The principal wetland offset is located outside the affected Waihoihoi and Ahuroa catchments and therefore does not demonstrate ecological equivalence for local wetland bird populations or replacement of biodiversity values within the affected landscape.

1.11 Proposed revegetation and a five-year maintenance period do not demonstrate replacement of mature indigenous forest structure, seasonal food resources or long-term ecosystem processes. Implementation uncertainty, temporal loss, stochastic events and long-term management requirements are insufficiently addressed.

1.12 In my opinion, the AER demonstrates replacement of areas of habitat rather than demonstrated replacement of the ecological functions supporting avifauna. The assessment therefore does not establish with sufficient confidence that indigenous biodiversity values, ecological processes, habitat connectivity and ecological resilience within the Waihoihoi and Ahuroa catchments will be maintained over the long term.

2 INTRODUCTION

2.1 I provide this evidence on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust (Te Parawhau ki Tai).

2.2 I am the author of the *Technical Review of the Assessment of Effects on Avifauna Report 10722-Pta-2b0-Pe-Rpt-0009 Northland Corridor 2b: Northern Motorway Project. Technical Report Prepared For Te Parawhau Hapū.*

2.3 This evidence addresses the technical adequacy of the AER and the conclusions reached, including assessment methodology, habitat and species valuation, assessment of effects, freshwater–avifauna interactions, mitigation and biodiversity offsetting.

2.4 My review draws on the AER, associated ecological technical assessments, and field observations undertaken alongside the WSP ecology team during October–December 2025.

2.5 The focus of this evidence is the ecological basis of the AER conclusions. I have considered not only direct habitat loss, but also the ecological processes and habitat relationships necessary to maintain indigenous bird populations over the duration of construction and into operation.

2.6 Particular attention is given to the interaction between terrestrial, riparian, wetland and freshwater habitats because the ecological function of these systems cannot reasonably be assessed as isolated habitat polygons.

3 QUALIFICATIONS, EXPERIENCE AND CODE OF CONDUCT

3.1 I am a senior consulting ecologist based in Kerikeri, Bay of Islands. I have worked as an ecologist in across Te Taitokerau since 2011 and as Director and Principal Ecologist of Bay Ecological Consultancy Ltd since 2014. In this role I am ecological lead in multidisciplinary ecological assessments, field surveys, consenting advice, revegetation/ restoration and management plans, peer review and implementation client support.

3.2 I hold a BSc in Ecology, and a PGDipSci with Distinction from the University of Otago. I was the recipient of a FoRST Te Tipu Pūtaiao Doctoral Fellowship, during which my multidisciplinary research examined national ecotypic variation in tī kōuka with regard to wetland ecology, insect and disease vulnerability, and leaf fibre mechanical properties. I am a NES-CS (Contaminated Soils) SQEP, having practiced since 2013 in that field to remediation level.

3.3 I am currently the SME on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust for terrestrial vegetation and freshwater ecology for the Northern Motorway Extension, undertaking survey, technical reporting and review. I have worked on a contractual basis with Te Parawhau Hapū for approximately 3 years and

continue to do so, undertaking peer review and ecological impact assessment within resource management processes. This has included large local infrastructure such as the Ahuroa River Water Treatment Plant Discharge consent renewal; ecological, contamination and discharge review of the Port Rd former Fertiliser Plant site remediation; terrestrial, freshwater, estuarine and contaminated land review of the Portland Cement Works interaction with the Tokitoki Stream, to support the Tokitoki Awa Taiao Management Action Plan.

3.4 I work in the forestry sector as an ecological consultant for forestry operations across Northland, including Waitangi, Punakitere, Waimatenui, Waipoua, Kirikōpuni and Ōpouteke within extensive high conservation value (HCV) areas, providing ecological management and restoration recommendations to support FSC accreditation. I undertake survey and provide training to crews, including methods for fish, fish passage; birds; wetland and terrestrial flora. I am also a regular participant in meetings of the Northland Forestry Environmental Working Group.

3.5 I regularly provide ecological reporting for regional authority consents and compliance response in relation to the NES-F and NPS-FM, including culvert design and fish passage, freshwater fish survey, wetland delineation and restoration. I am NIWA electric fishing certified and have guest lectured in wetland delineation at NorthTec.

3.6 I have provided reporting and consent implementation as ecological lead toward multiple papakāinga developments and an extensive range of private sector applications and management. Recent and ongoing work includes large-scale coastal, residential and infrastructure projects across Northland. At Wai Kōwhai Station, Purerua Peninsula, I have been lead ecologist since 2021 for a 54-lot coastal development, involving EcIA, wetland delineation, NES-F culvert compliance, wetland restoration, approximately 130 ha of revegetation design, and ongoing fish, bittern and kiwi survey and management.

3.7 At The Landing, Purerua Peninsula, I have provided ecological advice since 2014, including revegetation planning, a 20-year ecological review, fish and bird surveys, stream classification, wetland delineation, NES-CS HAIL reporting and ongoing ecological management. At Rangitane River Park, Kerikeri, I am the lead consultant ecologist for the ongoing development and post-consent implementation of the 115-lot subdivision, including reserve management and liaison with the external stakeholders committee.

3.8 Other recent work as principal ecologist includes EcIA and ecological assessment for jetty and boat ramp proposals, including estuarine and sediment assessment, wetland delineation, fish and bird surveys; revegetation planning and implementation. I am named on several WAA permits with the lead herpetologist.

3.9 I have also undertaken ecological peer review for the Far North District Council and participated in Commissioner hearing processes. For the Orongo Bay Zone Management Plan Change, I prepared the EcIA, culvert management plan and revegetation and management planning.

3.10 I am a member of the NZ Ecological Society; the National Wetlands Trust; NZ Freshwater Sciences Society; Australasian Land & Groundwater Association (ALGA) & NZ Plant Conservation Network.

3.11 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses. The matters addressed are within my area of expertise.

4.0 ASSESSMENT METHODOLOGY

4.1 OVERALL APPROACH

4.1.1 The AER adopts recognised ecological assessment frameworks, which provides an appropriate general structure for assessment.

4.1.2 The principal limitation is not the existence of a framework, but the ecological information and assumptions entered into it. Where the baseline is incomplete or habitat relationships are simplified, the subsequent valuation and effects assessment are correspondingly constrained.

4.1.3 The AER relies substantially on existing information, desktop interpretation and limited project-specific field data. This represented a missed opportunity to establish a robust project-specific baseline across the Proposed Designation and wider Zone of Influence.

4.1.4 For avifauna, survey design needs to reflect species detectability, seasonality, breeding behaviour, habitat use and movement. These considerations are material where conclusions are subsequently relied upon to determine effects and mitigation.

4.2 SURVEY COVERAGE AND TARGETED SPECIES

4.2.1 No targeted surveys were undertaken for North Island kiwi, Australasian bittern, North Island fernbird or spotless crake, despite these species being potentially affected by the Project.

4.2.2 This is material because absence of targeted survey evidence does not establish absence of a species or absence of breeding or movement habitat.

4.2.3 For matuku-hūrepo, the absence of breeding-season booming surveys and targeted occupancy surveys leaves uncertainty over local occupancy and breeding use.

4.2.4 For mātātā, local occupancy and breeding habitat were not confirmed through targeted surveys. The same uncertainty applies to pūweto, for which no targeted surveys were undertaken despite the species being identified as potentially affected.

4.2.5 For North Island kiwi, habitat use is broader than indigenous forest alone. Pasture, scrub, wetlands and riparian habitats can provide foraging and movement habitat, and these associations are not sufficiently recognised in the assessment.

4.3 ZONE OF INFLUENCE AND SPATIAL SCOPE

4.3.1 The AER distinguishes between the Indicative Alignment, Proposed Designation and progressively constrained Zone of Influence.

4.3.2 While spatial definition is necessary for an effects assessment, progressively constraining the Zone of Influence risks excluding ecological effects that operate through connected wetlands, riparian habitats, indigenous forest and adjacent landscapes.

4.3.3 Birds do not use these habitat categories as discrete units. Movement, feeding, breeding, refuge and dispersal occur across connected habitat mosaics.

4.3.4 The spatial framework therefore needs to reflect the ecological feature being assessed rather than simply the progressively reduced project footprint.

5.0 HABITAT AND ECOLOGICAL VALUES

5.1 HABITAT AVAILABILITY

5.1.1 Habitat availability is underestimated through simplified habitat associations, particularly for pastoral, riparian and wetland environments.

5.1.2 This is important for species such as North Island kiwi, which use a wider habitat mosaic for foraging and movement than indigenous forest alone.

5.1.3 Similarly, wetland and riparian habitat should not be treated solely as discrete areas of vegetation. Their value includes connectivity, access to prey, refuge, movement pathways and interaction with freshwater processes.

5.1.4 Where the mapped extent of habitat is reduced at the baseline stage, the apparent area of habitat affected is necessarily reduced at the effects stage.

5.2 SPECIES ECOLOGICAL VALUE

5.2.1 Several Regionally Significant species are assigned lower ecological values than warranted, reducing the assessed level of ecological effect.

5.2.2 North Island kiwi is Regionally Significant in Northland. Its assessment should recognise the broader habitat mosaic used for foraging and movement rather than concentrating on indigenous forest.

5.2.3 For species such as matuku-hūrepo, mātātā and pūweto, the absence of targeted occupancy and breeding information introduces uncertainty that should be carried through the effects assessment rather than resolved by assuming lower ecological value.

5.2.4 Ecological value should reflect the species and habitat relationship actually being assessed, including breeding, feeding, refuge, movement and prey-production functions.

6.0 SPECIES-SPECIFIC FINDINGS

6.1 NORTH ISLAND KIWI

6.1.1 The AER underestimates North Island kiwi habitat use by placing emphasis on indigenous forest and insufficiently recognising pasture, scrub, wetlands and riparian habitats used for foraging and movement.

6.1.2 No targeted kiwi surveys were undertaken despite kiwi being Regionally Significant in Northland.

6.1.3 The absence of targeted survey therefore leaves uncertainty regarding occupancy, habitat use and movement through the Project area.

6.2 MĀTĀTĀ – NORTH ISLAND FERNBIRD

6.2.1 Local occupancy and breeding habitat for mātātā were not confirmed through targeted surveys.

6.2.2 The proposed wetland replacement outside the affected Waihoihoi and Ahuroa catchments does not demonstrate replacement of habitat or ecological function for local populations.

6.2.3 For a species associated with wetland and riparian habitat, replacement should address the ecological system supporting local occupancy rather than simply provide an equivalent mapped area elsewhere.

6.3 MATUKU-HŪREPO (AUSTRALASIAN BITTERN)

6.3.1 No targeted surveys for matuku-hūrepo were undertaken, including seasonal booming surveys during the breeding period, despite the species being cryptic and difficult to detect through opportunistic observations. The field programme therefore did not adequately address the period of highest detectability for breeding birds.

6.3.2 The absence of records cannot reliably establish absence or low use of the Project area where survey effort was not directed at detecting matuku-hūrepo. This is particularly important given the limited survey effort and the absence of targeted breeding-season surveys.

6.3.3 The AER overly concentrates matuku-hūrepo habitat on Wetland 8 and raupō-dominated breeding habitat, without adequately recognising the extensive foraging habitat used beyond breeding wetlands.

6.3.4 Radio-tracking evidence indicates that breeding adults can use extensive foraging territories extending approximately 15 km from breeding wetlands, including farm drains, spring-fed channels, ephemeral wetlands and flooded pasture. These habitats therefore form a functional wetland mosaic rather than isolated habitat patches.

6.3.5 Within the Project area, the Waihoihoi River margins and the Waipū Nursery Pond provide suitable shallow-margin foraging habitat, yet these habitats are not adequately recognised in the AER.

6.3.6 The underlying FER assessment under-represents wetlands, drains and headwater habitats. These limitations are carried directly into the AER and consequently reduce the recognised extent of potential matuku-hūrepo foraging habitat and the connectivity of the wider wetland network.

6.3.7 Fish passage and freshwater habitat modification are relevant to matuku-hūrepo effects because alteration of headwater streams, wetlands and fish passage can reduce indigenous fish distribution, abundance and associated prey availability. The AER gives insufficient consideration to this indirect ecological pathway.

6.3.8 This is particularly important because maintenance of indigenous fish distribution and abundance, including fish passage, is identified as a conservation priority for matuku-hūrepo, whereas the FER concludes that fish passage to upper catchments is not required for freshwater ecological function.

6.3.9 The assessment therefore does not adequately recognise the functional relationship between wetland habitat, connected freshwater systems and prey availability for matuku-hūrepo. Assessment of wetland area alone does not demonstrate maintenance of the ecological function supporting the species.

6.3.10 The combination of limited targeted survey, restricted habitat associations, incomplete recognition of connected foraging habitat and insufficient consideration of freshwater prey pathways is likely to underestimate the extent and ecological significance of matuku-hūrepo habitat affected by the Project.

6.4 PŪWETO – SPOTLESS CRAKE

6.4.1 No targeted surveys were undertaken despite pūweto being identified as potentially affected.

6.4.2 This increases uncertainty regarding occupancy, habitat use and the adequacy of proposed mitigation.

7.0 ASSESSMENT OF ECOLOGICAL EFFECTS

7.1 DIRECT AND INDIRECT EFFECTS

7.1.1 The AER places greatest emphasis on direct habitat loss and vehicle collision mortality.

7.1.2 Comparatively limited consideration is given to prolonged construction disturbance, indirect mortality, displacement, breeding failure, reduced refugia, increased predation risk, cumulative effects and reduced prey availability.

7.1.3 These effects are not necessarily independent. Habitat loss, fragmentation, disturbance and reduced prey availability can interact to reduce habitat suitability beyond the area directly occupied by the Project.

7.1.4 The effects assessment should therefore consider the ecological function of the affected habitat and the processes by which that function may be reduced over time.

7.2 CONSTRUCTION DISTURBANCE

7.2.1 Construction disturbance may extend over several years and can affect birds through noise, activity, displacement, reduced access to feeding and breeding areas and altered predator–prey relationships.

7.2.2 Construction lighting is treated as a temporary effect; however, security lighting, construction compounds and night works may occur over several years.

7.2.3 The duration and spatial extent of disturbance should therefore be assessed as an ecological effect rather than treated solely as a short-term construction inconvenience.

7.3 CUMULATIVE AND CONNECTED EFFECTS

7.3.1 The AER does not adequately incorporate cumulative effects arising from simultaneous changes to terrestrial, riparian, wetland and freshwater systems.

7.3.2 For avifauna, ecological effects can accumulate through reduced habitat availability, severed movement pathways, altered prey production and increased disturbance.

7.3.3 The assessment should recognise that a wetland bird population may be affected by both direct wetland loss and reduced prey production resulting from changes elsewhere in the connected freshwater network.

8.0 FRESHWATER–AVIFAUNA INTERACTIONS

8.1 INHERITED FER ASSUMPTIONS

8.1.1 Unfortunately**,** like other technical reporting in the NZTA Substantive Application suite, the AER inherits habitat values and ecological assumptions from the FER.

8.1.2 Limitations in freshwater habitat mapping and valuation are therefore carried through into the avifauna assessment.

8.1.3 This is important because freshwater habitat is not merely a separate ecological component. It supports prey production, feeding habitat, movement and wetland ecosystem function for indigenous birds.

8.2 FISH PASSAGE AND PREY PRODUCTION

8.2.1 The interaction between freshwater ecological processes and avifauna is not adequately incorporated into the effects assessment.

8.2.2 In particular, reduced fish passage and diminished fish productivity may reduce prey availability for wetland birds, including matuku-hūrepo.

8.2.3 Accordingly, assessing wetland effects solely by wetland area or vegetation type does not demonstrate maintenance of the ecological function supporting wetland birds.

8.3 WIDER FRESHWATER HABITAT NETWORK

8.3.1 The wider freshwater network includes headwater streams, drains, floodplain wetlands and riparian habitats that support feeding, movement and refuge for indigenous birds.

8.3.2 The proposed mitigation does not compensate for this wider network.

8.3.3 The ecological significance of these connected habitats should therefore be assessed as a functional network rather than as separate mapped features.

9.0 MITIGATION AND MANAGEMENT

9.1 AVIFAUNA MANAGEMENT PLAN

9.1.1 Mitigation relies heavily on future management through the Avifauna Management Plan, with important ecological outcomes deferred until post-consent implementation.

9.1.2 Where baseline occupancy and habitat use have not been adequately established, post-consent management cannot reliably substitute for pre-consent assessment of effects.

9.1.3 Management should address measurable ecological outcomes, not simply implementation of activities.

9.2 WETLAND REPLACEMENT

9.2.1 The proposed wetland replacement is derived from the constrained wetland mapping adopted in the FER and focuses primarily on wetlands identified for Threatened or At Risk wetland birds.

9.2.2 This approach does not compensate for the wider freshwater habitat network of headwater streams, drains, floodplain wetlands and riparian habitats.

9.2.3 The proposed replacement wetlands emphasise raupō establishment but provide no assurance that equivalent shallow-water foraging habitat, natural hydrology, fish passage or prey production will be achieved.

9.2.4 The principal wetland offset is located south of the Brynderwyn Hills, outside the affected Waihoihoi and Ahuroa catchments.

9.2.5 Accordingly, it does not demonstrate ecological equivalence for local wetland bird populations or replacement of biodiversity values within the affected landscape.

10.0 REVEGETATION AND BIODIVERSITY OFFSETTING

10.1 FOREST HABITAT

10.1.1 Proposed revegetation and a five-year maintenance period do not demonstrate replacement of mature indigenous forest structure, seasonal food resources or long-term ecosystem processes.

10.1.2 There is no assurance that taraire, kahikatea, northern rātā, kohekohe, tōtara, pūriri, karaka and rimu will establish at densities sufficient to restore ecological function.

10.1.3 Nor is there sufficient assurance that pest control and long-term management will maintain these outcomes through to maturity.

10.1.4 The ecological value of mature forest includes developed structure, food resources, refuge and connectivity that cannot be recreated immediately through planting.

10.2 TEMPORAL LOSS AND IMPLEMENTATION UNCERTAINTY

10.2.1 The offset assessment does not adequately address temporal loss between removal of established habitat and development of replacement habitat.

10.2.2 It also gives insufficient consideration to implementation uncertainty, stochastic events and the long-term management required for replacement ecosystems to achieve ecological maturity.

10.2.3 A five-year maintenance period does not demonstrate that replacement ecosystems will become self-sustaining or provide equivalent ecological function.

10.3 OFFSETTING PRINCIPLES

10.3.1 The proposed mitigation does not demonstrate consistency with accepted biodiversity offsetting principles, including the Northland Regional Policy Statement 2018, section 4.4.2; the National Policy Statement for Indigenous Biodiversity, Appendix 3; and the Department of Conservation’s Guidance on Good Practice Biodiversity Offsetting in New Zealand (2014).

10.3.2 In particular, the assessment does not demonstrate like-for-like replacement, ecological equivalence, adequate accounting for temporal loss, management and implementation uncertainty, long-term maintenance or no overall loss of indigenous biodiversity.

11.0 ASSESSMENT CASCADE

11.1 The principal technical concern can be expressed as a cascade through the assessment process.

11.2 First, limited project-specific survey effort and constrained spatial definition reduce the recognised baseline of species occupancy and habitat availability.

11.3 Second, simplified habitat associations and inherited freshwater assumptions reduce the ecological extent and function attributed to habitats used by avifauna.

11.4 Third, several species are assigned lower ecological values than warranted, reducing the starting point for the effects assessment.

11.5 Fourth, the effects assessment concentrates on direct habitat loss and vehicle collision while giving less weight to disturbance, displacement, breeding failure, reduced refugia, predation risk, cumulative effects and prey reduction.

11.6 Fifth, the resulting effects assessment supports a mitigation response based principally on replacement habitat areas and future management.

11.7 Sixth, because replacement habitat is assessed largely by area and establishment rather than demonstrated ecological function, the residual effects are correspondingly reduced.

11.8 The resulting sequence is therefore: limited baseline → constrained habitat extent and ecological context → reduced species and habitat values → reduced assessed effects → reduced mitigation response → assumed replacement function → low residual effects.

11.9 In my opinion, this sequence is material because the uncertainty is not independent at each stage. Limitations introduced at the baseline and valuation stages are carried forward into the effects, mitigation and offset conclusions.

12.0 CONCLUSIONS

12.1 The AER adopts recognised ecological assessment frameworks, but its conclusions are constrained by reliance on existing information, limited project-specific survey effort and progressively restricted spatial consideration.

12.2 The absence of targeted surveys for North Island kiwi, matuku-hūrepo, mātātā and pūweto leaves material uncertainty regarding occupancy, breeding use and habitat function.

12.3 Habitat availability is understated through simplified habitat associations, particularly for pasture, riparian and wetland environments, and through inherited limitations in freshwater habitat mapping and valuation.

12.4 Several Regionally Significant species are assigned lower ecological values than warranted, reducing the assessed level of effect.

12.5 The effects assessment gives insufficient weight to prolonged construction disturbance, indirect mortality, displacement, breeding failure, reduced refugia, predation risk, cumulative effects and reduced prey availability arising from freshwater ecosystem modification.

12.6 The interaction between freshwater processes and avifauna, including fish passage, prey production and wetland ecosystem function, is not adequately incorporated.

12.7 The proposed wetland replacement does not demonstrate replacement of the wider freshwater habitat network or ecological equivalence for local wetland bird populations within the affected Waihoihoi and Ahuroa catchments.

12.8 The proposed revegetation and five-year maintenance period do not demonstrate replacement of mature indigenous forest structure, seasonal food resources or long-term ecological processes.

12.9 The assessment does not adequately address temporal loss, stochastic events, implementation uncertainty or the long-term management necessary for replacement ecosystems to achieve ecological maturity.

12.10 Accordingly, the AER demonstrates replacement of habitat area rather than demonstrated replacement of ecosystem function.

12.11 It has not been demonstrated with sufficient confidence that indigenous biodiversity values, ecological processes, habitat connectivity and ecological resilience within the Waihoihoi and Ahuroa catchments will be maintained over the long term.

12.12 I consider that the AER conclusions regarding the magnitude of avifauna effects, adequacy of mitigation and residual effects should be considered with caution unless the identified deficiencies in baseline survey, spatial scope, habitat valuation, freshwater–avifauna interactions and ecological equivalence of mitigation are resolved.

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE **FAST TRACK APPROVALS ACT 2024 (FTTA or ACT)**

IN THE MATTER OF a substantive application by New Zealand Transport Agency Waka Kotahi for the Alternative to the Brynderwyn Hills Project

STATEMENT OF EVIDENCE OF REBECCA L. S. LODGE ON BEHALF OF TE POUWHENUA O TIAKIRIRI KŪKUPA TRUST ON BEHALF OF TE PARAWHAU HAPŪ

AUGUST 2026

Prepared from technical review of NZTA's Assessment of Effects on Terrestrial Ecology (Document 10722-PTA-2B0-PE-RPT-0011)

BAY ECOLOGICAL CONSULTANCY LTD
R. L. S. LODGE

1 EXECUTIVE SUMMARY

1.1 This evidence is based on my technical review[1] of the terrestrial vegetation component of NZTA Waka Kotahi's Assessment of Effects on Terrestrial Ecology, Document 10722-PTA-2B0-PE-RPT-0011, for the Alternative to the Brynderwyn Hills Project. Throughout this evidence, the NZTA Terrestrial Ecology Report is referred to as the TER or "the report" for brevity.

1.2 My review was commissioned by Te Pouwhenua O Tiakiriri Kukupa Trust (Te Parawhau Hapū) to evaluate the technical adequacy of the TER and the conclusions reached, to inform the Cultural Impact Assessment. It considers the TER assessment methodology; ecological valuation; assessment of effects; proposed mitigation and residual effects. My review followed the structure and section headings of the TER, with the assessment and critique presented in the same sequence as the matters addressed.

1.3 The TER was reviewed alongside the Assessment of Effects on Freshwater Ecology (FER) and Assessment of Effects on Avifauna (Document No. 10722-PTA-2B0-PE-RPT-0009) (AER) as part of analysis of the ecological technical assessments prepared for the Project.

1.4 The TER adopts the EIANZ EcIA framework as an appropriate reporting structure. My review considered the application of this framework alongside recognised New Zealand and regional ecological practice and documentation.

1.5 The TER was supported by ample field survey and vegetation mapping. The principal concerns are not to this inventory of vegetation affected by the Project, but to the insufficient recognition of regional ecosystem context assigned that inventory, limited transparency in the ecological significance assessment, and the subsequent treatment of effects and mitigation.

1.6 The classification of the vegetation units is not consistently aligned with recognised New Zealand botanical classification typologies.

1.7 Consequently, remnant lowland ecosystem associations, including the WF7 Pūriri Forest Complex WF8 Kahikatea–Pūkatea Forest and lowland examples of WF9 Taraire–Tawa–Podocarp Forest, are not consistently described as such. Following from this, the FER gives insufficient consideration to regional significance, including the Waipū Ecological District PNAP, Threatened Environment Classification (TEC), and regional biodiversity prioritisation frameworks. Consequently, these highly depleted ecosystem associations are not afforded an appropriate level of significance despite their limited remaining extent and representative value (<20% remaining in Northland).

1.8 The TER also does not consistently apply significance rating of individual species i.e *EIANZ Table 2 Criteria for assigning ecological value to species*. Regionally significant or locally distinctive indigenous flora, including lowland ribbonwood *(Plagianthus regius subsp. regius), Veronica macrocarpa var. macrocarpa, Coprosma rigida*, kawaka *(Libocedrus plumosa)* and kōtukutuku *(Fuchsia excorticata*), are in several instances assigned *Low* ecological value rather than the *Moderate* value provided for under Table 2 EIANZ criteria.

1.9 The TER does not provide sufficient ecological descriptors referencing significance assessment criteria of EIANZ 2018 *(Table 4 Criteria for assigning ecological value to vegetation and habitats)* and the Northland Regional Policy Statement 2018 (*Appendix 5 Areas of significant indigenous vegetation and significant habitats of indigenous fauna in terrestrial, freshwater and marine environments*) to enable independent assessment and verification of the significance assigned to the individual vegetation inventory units.

[1] BAY ECOLOGICAL CONSULTANCY LTD. (2026). TECHNICAL REVIEW OF THE ASSESSMENT OF EFFECTS ON TERRESTRIAL ECOLOGY REPORT 10722-PTA-2B0-PE-RPT-0011 NORTHLAND CORRIDOR 2B: NORTHERN MOTORWAY PROJECT. TECHNICAL REPORT PREPARED FOR TE PARAWHAU HAPŪ.

1.10 The TER's vegetation significance assessment is not independently reproducible. The absence of any linkage between the individual vegetation unit codes and significance presented in Appendix F and the mapped vegetation polygons in Appendix E substantially limits transparency, reproducibility and independent technical review. This was communicated at the draft stage March 2026 to NZTA via email prior to lodgement, with no rectification. Without clear cross-referencing between mapped vegetation units and their assigned significance ratings, the assessment cannot be readily audited or independently verified. As a result, the ecological significance ratings cannot be reliably reconciled with the broad vegetation communities described in Appendix D or with the areas reported as affected in the effects assessment.

1.11 In the Applicants *Designation Conditions - Appendix A - Avoid Areas* the kahikatea stands that represent recognized PNA site #Q08/233 are to be avoided. This follows a highly public outcry of these visually apparent tress adjacent the primary Waipū access from SH1. However this treatment does not extend further kahikatea dominant area in farmland distant from public view, represented by Q08/277 and despite being allocated a Very High Significance rating, illustrated in *Designation Conditions Appendix C Existing Indigenous Vegetation Sheet 5*. This is despite it perhaps having amplified significance value due to kauri, as riparian to wetland and a headwater containing indigenous fish species with threat status and in contiguous fernbird habitat *(At Risk – Declining).* This also illustrates the unfortunate silo approach of the NZTA individual ecological reports. Wetlands and watercourses are contained in separate mapping i.e- *Resource consent conditions - Appendix A – Existing Wetlands & Appendix B – Watercourses*, limiting interpretation of the functional significance of vegetation as riparian to complex ecological units incorporating avian and fish habitat and as freshwater protection

1.12 The consequences extend to the effects assessment and mitigation calculations. Where the ecological value assigned to affected vegetation cannot be verified, confidence in the reported magnitude of vegetation effects, residual effects and biodiversity offset requirements is correspondingly reduced.

1.13 Permanent loss and fragmentation of *High* and *Very High* significance indigenous vegetation remain key residual project effects. The habitat fragmentation and edge effects assessment criteria TER Table 23 do not adequately account for the existing highly fragmented condition typical within the Waipū Ecological District. Consequently, additional fragmentation and edge effects on remnant indigenous vegetation are not differentiated from effects occurring within larger or more intact indigenous forest. Further fragmentation of already depleted WF7, WF8 and WF9 ecosystem remnants has disproportionately greater consequences for ecosystem representation, connectivity and long-term resilience.

1.14 The proposed mitigation relies principally on restoration planting and vegetation enhancement but does not demonstrate ecological equivalence, like-for-like replacement, or restoration of the composition, structure and ecological function of the affected WF7 Pūriri forest complex, WF8 Kahikatea associations and WF9 Taraire–tawa–podocarp associations. The proposed offset strategy places particular emphasis on replacement of kauri as a species, but does not demonstrate restoration of the broader indigenous canopy assemblage characteristic of the affected or potential forest communities. Key canopy and fruiting species are not considered despite their important contribution to forest structure, seasonal food resources, ecological processes and long-term ecosystem function.

1.15 The proposed mitigation and biodiversity offset strategy does not adequately demonstrate consistency with the biodiversity offsetting principles contained within the Northland Regional Policy Statement (2018, Section 4.4.2), the National Policy Statement for Indigenous Biodiversity (2023, Appendix 3), or non statutory Department of Conservation's *Guidance on Good Practice Biodiversity Offsetting in New Zealand* (2014).

1.16 The proposed five-year vegetation maintenance period is insufficient to demonstrate certainty of self-sustaining forest establishment or long-term offset outcomes. Long-term commitments to pest management, browser control, ecological monitoring and adaptive management are not demonstrated,

despite these being fundamental to recruitment of late-successional canopy species, ecosystem resilience and achievement of biodiversity offset objectives. In this regard, the TER does not adequately address temporal loss or the time required for replacement vegetation to develop mature indigenous forest composition, structure and ecological function, consistent with recognised biodiversity offsetting principles.

1.17 The TER identifies the Auckland Council *Kauri Hygiene Standard Operating Procedures* as the principal biosecurity measure for managing kauri dieback risk. However, the primary statutory framework as the National Pest Management Plan (Biosecurity Act 1993) requires preparation and implementation of an approved Earthworks PA Risk Management Plan for works within Kauri Hygiene Zones. The TER does not adequately assess the potential effects of construction activities, including vegetation clearance, bulk earthworks, spoil handling and machinery movement, to spread *Phytophthora agathidicida* within and between catchments. The ecological investigations represented a missed opportunity to undertake baseline sampling for *Phytophthora agathidicida* within indigenous kauri stands proposed to be disturbed. Reliance on visual canopy assessment or sap exudation is insufficient, as infected kauri may remain asymptomatic for many years.

1.18 The report concludes that residual vegetation effects may be acceptable in light of the Project's enabling benefits. This extends beyond the role of an ecological assessment, which should objectively evaluate ecological effects and the effectiveness of proposed mitigation.

1.19 The review concludes that, while the vegetation survey and mapping provide an inventory assessment of the vegetation affected by the Project, insufficient recognition of regional ecosystem context, limited transparency in the ecological significance assessment, and shortcomings in the proposed mitigation and biodiversity offsetting reduce confidence in the assessment of vegetation effects.

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2 INTRODUCTION

2.1 I provide this evidence on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust (Te Parawhau ki Tai).

2.2 I am the author of the *Technical Review of the Assessment of Effects on Terrestrial Ecology Report 10722-Pta-2b0-Pe-Rpt-0011 Northland Corridor 2b: Northern Motorway Project. Technical Report Prepared For Te Parawhau Hapū. Bay Ecological Consultancy Ltd. (2026).*

2.3 This evidence addresses the technical adequacy of the TER and the conclusions reached, including TER assessment methodology; ecological valuation; assessment of effects; proposed mitigation and residual effects.

2.4 My review considered the application of this framework alongside recognised New Zealand and regional ecological practice and documentation. Key reference included:

- Atkinson, I.A.E. (1985). Derivation of vegetation mapping units for an ecological survey of New Zealand. New Zealand Journal of Botany, 23, 361–378;
- Davis, M., Head, N.J., Myers, S.C. & Moore, S.H. (2016). Guidelines for Assessing Significant Ecological Values. Science for Conservation 327. Department of Conservation;
- EIANZ (2018). Ecological Impact Assessment (EcIA) Guidelines for Use in New Zealand: Terrestrial and Freshwater Ecosystems;
- EIANZ (2026). Ecological Impact Assessment (EcIA) Guidelines for Use in New Zealand: Terrestrial and Freshwater Ecosystems – Interpretation of Scale in Assessment of Ecological Values and Magnitude of Ecological Effects. August 2026;
- Leathwick, J. (2018). Indigenous Biodiversity Rankings for the Northland Region. Prepared for Northland Regional Council; Lux, J., Martin, T. & Beadel, S. (2007). Natural Areas of Waipū Ecological District: Reconnaissance Survey Report for the Protected Natural Areas Programme. Department of Conservation;
- Northland Regional Council (2018). Regional Policy Statement for Northland
- Singers, N.J.D. & Lawrence, J. (2018). Potential Ecosystems of Northland. Prepared for Northland Regional Council;
- Singers, N.J.D. & Rogers, G.M. (2014). A Classification of New Zealand's Terrestrial Ecosystems. Science for Conservation 325
- Department of Conservation; Department of Conservation (2014). Guidance on Good Practice Biodiversity Offsetting in New Zealand

3 QUALIFICATIONS, EXPERIENCE AND CODE OF CONDUCT

3.1 I am a senior consulting ecologist based in Kerikeri, Bay of Islands. I have worked as an ecologist in across Te Taitokerau since 2011 and as Director and Principal Ecologist of Bay Ecological Consultancy Ltd since 2014. In this role I am ecological lead in multidisciplinary ecological assessments, field surveys, consenting advice, revegetation/ restoration and management plans, peer review and implementation client support.

3.2 I hold a BSc in Ecology, and a PGDipSci with Distinction from the University of Otago. I was the recipient of a FoRST Te Tipu Pūtaiao Doctoral Fellowship, during which my multidisciplinary research examined national ecotypic variation in tī kōuka with regard to wetland ecology, insect and disease vulnerability, and leaf fibre mechanical properties. I am a NES-CS (Contaminated Soils) SQEP, having practiced since 2013 in that field to remediation level.

3.3 I am currently the SME on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust for terrestrial vegetation and freshwater ecology for the Northern Motorway Extension, undertaking survey, technical reporting and review. I have worked on a contractual basis with Te Parawhau Hapū for approximately 3 years and continue to do so, undertaking peer review and ecological impact assessment within resource management processes. This has included large local infrastructure such as the Ahuroa River Water Treatment Plant Discharge consent renewal; ecological, contamination and discharge review of the Port Rd former Fertiliser Plant site remediation; terrestrial, freshwater, estuarine and contaminated land

review of the Portland Cement Works interaction with the Tokitoki Stream, to support the Tokitoki Awa Taiao Management Action Plan.

3.4 I work in the forestry sector as an ecological consultant for forestry operations across Northland, including Waitangi, Punakitere, Waimatenui, Waipoua, Kirikōpuni and Ōpouteke within extensive high conservation value (HCV) areas, providing ecological management and restoration recommendations to support FSC accreditation. I undertake survey and provide training to crews, including methods for fish, fish passage; birds; wetland and terrestrial flora. I am also a regular participant in meetings of the Northland Forestry Environmental Working Group.

3.5 I regularly provide ecological reporting for regional authority consents and compliance response in relation to the NES-F and NPS-FM, including culvert design and fish passage, freshwater fish survey, wetland delineation and restoration. I am NIWA electric fishing certified and have guest lectured in wetland delineation at NorthTec.

3.6 I have provided reporting and consent implementation as ecological lead toward multiple papakāinga developments and an extensive range of private sector applications and management. Recent and ongoing work includes large-scale coastal, residential and infrastructure projects across Northland. At Wai Kōwhai Station, Purerua Peninsula, I have been lead ecologist since 2021 for a 54-lot coastal development, involving EcIA, wetland delineation, NES-F culvert compliance, wetland restoration, approximately 130 ha of revegetation design, and ongoing fish, bittern and kiwi survey and management.

3.7 At The Landing, Purerua Peninsula, I have provided ecological advice since 2014, including revegetation planning, a 20-year ecological review, fish and bird surveys, stream classification, wetland delineation, NES-CS HAIL reporting and ongoing ecological management. At Rangitane River Park, Kerikeri, I am the lead consultant ecologist for the ongoing development and post-consent implementation of the 115-lot subdivision, including reserve management and liaison with the external stakeholders committee.

3.8 Other recent work as principal ecologist includes EcIA and ecological assessment for jetty and boat ramp proposals, including estuarine and sediment assessment, wetland delineation, fish and bird surveys; revegetation planning and implementation. I am named on several WAA permits with the lead herpetologist.

3.9 I have also undertaken ecological peer review for the Far North District Council and participated in Commissioner hearing processes. For the Orongo Bay Zone Management Plan Change, I prepared the EcIA, culvert management plan and revegetation and management planning.

3.10 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses. The matters addressed are within my area of expertise.

4.0 ASSESSMENT METHODOLOGY

4.1 ASSESSMENT FRAMEWORK

4.1.1 The TER adopts the Ecological Impact Assessment (EcIA) Guidelines (EIANZ, 2018) as its overarching assessment framework.

4.1.2 The report appropriately describes the sequential assessment process by:

1. identifying ecological values using the four EIANZ criteria of representativeness, rarity/distinctiveness, diversity and pattern, and ecological context;
2. assigning ecological value to vegetation and habitats;
3. assessing the magnitude of effects;

4. combining ecological value and effect magnitude to determine overall ecological effect; and
5. identifying mitigation requirements where Moderate or greater adverse effects are predicted.

4.1.3 The TER directly reproduces the key EIANZ assessment tables for ecological value (EIANZ Tables 4 & 6, magnitude of effect (EIANZ Table 8) scale (EIANZ Table 9) and the ecological effects matrix (EIANZ Table 10), which is the basis for a transparent and nationally recognised framework for evaluating ecological effects. This is in contrast to the NZTA Assessment of Effects on Freshwater Ecology (NZTA 10722-PTA-2B0-PE-RPT-0010), which modified aspects of the EIANZ methodology.

4.2 DESKTOP ASSESSMENT

4.2.1 The desktop assessment draws on a range of national information sources for an appropriate foundation for vegetation mapping and ecological assessment. However, the TER could have been further strengthened by greater reference to established national and Northland vegetation classification and significance frameworks, including:

- Atkinson, I.A.E. (1985). *Derivation of vegetation mapping units for an ecological survey of New Zealand*. New Zealand Journal of Botany, 23, 361–378.
- Walker, S., Price, R., Rutledge, D., Stephens, R.T.T., Lee, W.G., et al. (2007). *New Zealand's Threatened Environment Classification*. Manaaki Whenua – Landcare Research.
- Singers, N.J.D. & Rogers, G.M. (2014). *A Classification of New Zealand's Terrestrial Ecosystems*. Science for Conservation 325. Department of Conservation, Wellington.
- Singers, N.J.D. & Lawrence, J. (2018). *Potential Ecosystems of Northland*. Report prepared for Northland Regional Council.
- Leathwick, J. (2018). *Indigenous Biodiversity Rankings for the Northland Region*. Report prepared for Northland Regional Council.
- McCarthy, J.K., Monks, A. & Wiser, S.K. (2025). *National ecosystem typology – Northland terrestrial pilot*. Manaaki Whenua – Landcare Research, Manaaki Whenua Contract Report LC4630. Prepared for the Ministry for the Environment

4.2.2 In particular, the Northland framework:

- explicitly adapts the national ecosystem classification of Singers and Rogers (2014) to Northland environmental conditions and ecological districts using Northland-specific datasets, including PNAP surveys, NZ Forest Service mapping, soils, geology and historical vegetation to develop regional ecosystem typologies;
- integrates soils, geology, landform, hydrology, climate and historical vegetation to predict **potential** ecosystem distribution. This allows better interpretation of highly modified landscapes rather than describing existing vegetation alone and is also relevant for any revegetation programmes to inform a natural and expected community or association;
- provides the regional mapping framework that underpins biodiversity assessment and restoration planning across Northland through provision of predictive ecosystems, their rarity and rankings of areas.[2]

4.2.3 Alongside the Waipū Ecological District PNA Report[3] these provide regional context for vegetation classification, ecosystem rarity, representativeness and ecological significance within the designation.

[2] https://services2.arcgis.com/J8errK5dyxu7Xjf7/arcgis/rest/services/Northland_Biodiversity_Ranking/FeatureServer

[3] Lux, J., Martin, T. & Beadel, S. (2007). Natural Areas of Waipū Ecological District: Reconnaissance Survey Report for the Protected Natural Areas Programme. Department of Conservation

4.3 FIELD ASSESSMENT

4.3.1 The field surveys undertaken between September and November 2025 provide the basis for vegetation mapping and ecological assessment.

4.3.2 While the TER references Atkinson (1985) and reproduces the structural notation, the application of vegetation nomenclature is not always consistent with either Atkinson (1985) or the terminology adopted throughout the Northland Protected Natural Areas Programme (PNAP) reports.

4.3.3 The report combines structural classes into composite vegetation units, for example *Broadleaved species scrub forest,* despite forest and scrub representing distinct structural classes under the Atkinson and PNAP frameworks. Similarly, units such as *Tōtara forest/native broadleaf scrub*, *Kahikatea-pukatea forest/native scrub/tradescantia*, and *Tōtara-kauri/broadleaf scrub* combine structurally distinct vegetation classes into a single mapping unit.

4.3.4 This distinction is more than semantic. Under the Atkinson (1985) and PNAP frameworks, scrub, shrubland, treeland and forest have specific structural definitions that provide a consistent basis for vegetation mapping and comparison between surveys.

4.3.5 Combining these structural classes into composite vegetation units reduces transparency and makes comparison with PNAP mapping, regional ecosystem classifications and other ecological assessments more difficult.

4.3.6 Terminology such as *scrub* may also be interpreted as implying an earlier successional stage or lower ecological value, potentially influencing the reader's perception of indigenous vegetation.

4.4 ALIGNMENT CHANGES WITHIN THE PROPOSED DESIGNATION

4.4.1 The TER correctly recognises that the Indicative Alignment is subject to refinement during detailed design and that ecological effects have therefore been considered across the wider Proposed Designation.

4.4.2 However, the ecological values within the Proposed Designation are spatially heterogeneous and include highly variable vegetation types, wetlands, riparian corridors and regionally significant indigenous ecosystems.

4.4.3 Consequently, changes to the final alignment within the Proposed Designation have the potential to materially alter the extent, location and significance of ecological effects.

4.4.4 The conclusion that the ecological assessment, proposed mitigation and recommendations would remain appropriate irrespective of future alignment refinement is not fully supported by the variation in ecological values across the designation footprint.

4.4.5 Alignment refinement should therefore continue to apply the mitigation hierarchy, with priority given to avoidance of regionally significant indigenous vegetation, riparian remnants, wetlands and highly depleted ecosystem types before consideration of mitigation or restoration

5.0 REGIONAL ECOSYSTEM CONTEXT

5.1 Within the designation and the Waipū Ecological District, the Ahuroa River, Waihoihoi and encompassing Waipū lowlands occupy one of Northland's most extensively modified landscapes. The 2007 PNAP identifies the original lowland forests, floodplain forests and wetlands as having been extensively cleared, drained and fragmented through agricultural development, leaving only scattered indigenous remnants.

5.2 Under the Northland Potential Ecosystems framework, these landscapes were historically dominated by:

(a) **WF7 Pūriri Forest complex**, including:
    (i) WF7.1 Pūriri–tōtara Forest;
    (ii) WF7.2 Pūriri–taraire Forest; and
    (iii) WF7.3 Pūriri–kahikatea Forest;
(b) **WF8 Kahikatea associations**, occupying floodplains, wetlands and poorly drained alluvial soils;
(c) **WF9 Taraire–tawa–podocarp Forest**, on fertile lowland terraces and lower hill slopes; and
(d) **WF11 Kauri–podocarp–broadleaved Forest**, on surrounding ridges and hill country.

5.3 Leathwick (2018) demonstrates that these ecosystem types underpin regional biodiversity prioritisation.

5.3.1 The *WF7 Pūriri Forest* complex retains only approximately 10–12% of its original regional extent.

5.3.2 *WF8 Kahikatea–pūkatea forest* retains only 10.2% of its original extent and is one of Northland's most depleted floodplain ecosystems.

5.3.3 Although *WF9 Taraire–tawa–podocarp forest* retains approximately 61% of its regional extent, fertile lowland examples within the Waipū Ecological District have been extensively reduced and fragmented.

5.4 At the time of the PNAP report almost two decades ago (2007), the units described therein were recognised as significant historical clearance, drainage and agricultural development across the Waipū lowlands. Despite ongoing ecological succession and local changes in vegetation composition, these same remnants continue to comprise the principal indigenous vegetation resource within the Project area and surrounding landscape. Their continued persistence demonstrates that they remain the best representative examples of the original lowland ecosystems of the Waipū Ecological District and reinforces their enduring ecological significance.

FIG 1: LOCAL WAIPŪ PNA REPORT UNITS IN RELATION TO THE DESIGNATION



5.5 Consequently, many indigenous remnants derive much of their ecological significance from representing these highly depleted ecosystems rather than their present floristic composition alone. This important regional context is not consistently reflected within the assessment.

5.6 There were only very tiny remnants of the following habitat types which approximate the former vegetation, although in much poorer condition: taraire forest (WF9), titoki–kowhai–tōtara forest, titoki–tōtara forest, pūriri–tōtara treeland (WF7.1), tōtara–taraire–kanuka treeland, kahikatea–pūriri treeland (WF7.1), and kōwhai–kahikatea forest (WF8).

5.7 All kahikatea-dominated vegetation (WF8 Kahikatea associations) are considered highly significant because they represent one of the **Waipū** ED/ Northland's most depleted indigenous ecosystem types. However, several kahikatea-dominated vegetation associations are assigned only Moderate ecological value within Appendix F. Owing to the absence of transparent linkage between the vegetation assessment codes in Appendix F and the mapped vegetation polygons in Appendix E, it is not possible to determine where they are, correlate them with the PNAP report, determine the basis for these significance ratings, or independently verify whether they appropriately reflect the ecological significance of these highly depleted WF8 ecosystems.

5.8 Q08/233 and Q08/227 are identified as kahikatea dominant (refer Figure 1 below). In the *Applicants Designation Conditions - Appendix A - Avoid Areas* the kahikatea stands that represent recognized PNA site #Q08/233 are to be avoided. This follows a highly public outcry of these visually apparent trees adjacent the primary Waipū access from SH1. However this treatment does not extend further kahikatea dominant area in farmland distant from public view, represented by Q08/277 and despite being allocated a Very High Significance rating, illustrated in *Designation Conditions Appendix C Existing Indigenous Vegetation Sheet 5*. Instead it is given a Very High Significance ratingThis is despite it perhaps having amplified significance value due to kauri, as riparian to wetland and a headwater containing indigenous fish species with threat status and in contiguous fernbird habitat (At Risk – Declining). This also illustrates the unfortunate silo approach of the NZTA individual ecological reports. Wetlands and watercourses are contained in separate mapping i.e- *Resource consent conditions - Appendix A – Existing Wetlands & Appendix B – Watercourses*, limiting interpretation of the functional significance of vegetation as riparian to complex ecological units incorporating avian and fish habitat and as freshwater protection.

5.9 Both the PNAP mapping and also the national Threatened Environment Classification (TEC) below, as standard assessment scoping, were initially included in the early draft versions of the TER, but such consideration is omitted from the application documents.

5.10 There is no consideration of the Threatened Environment Classification (TEC) mapping in the body of the report. TEC is a commonly referenced national biodiversity prioritisation layer derived from Land Environments of New Zealand (LENZ) environments and informs one of the four National Priorities for Protecting Rare and Threatened Native Biodiversity on Private Land[4].

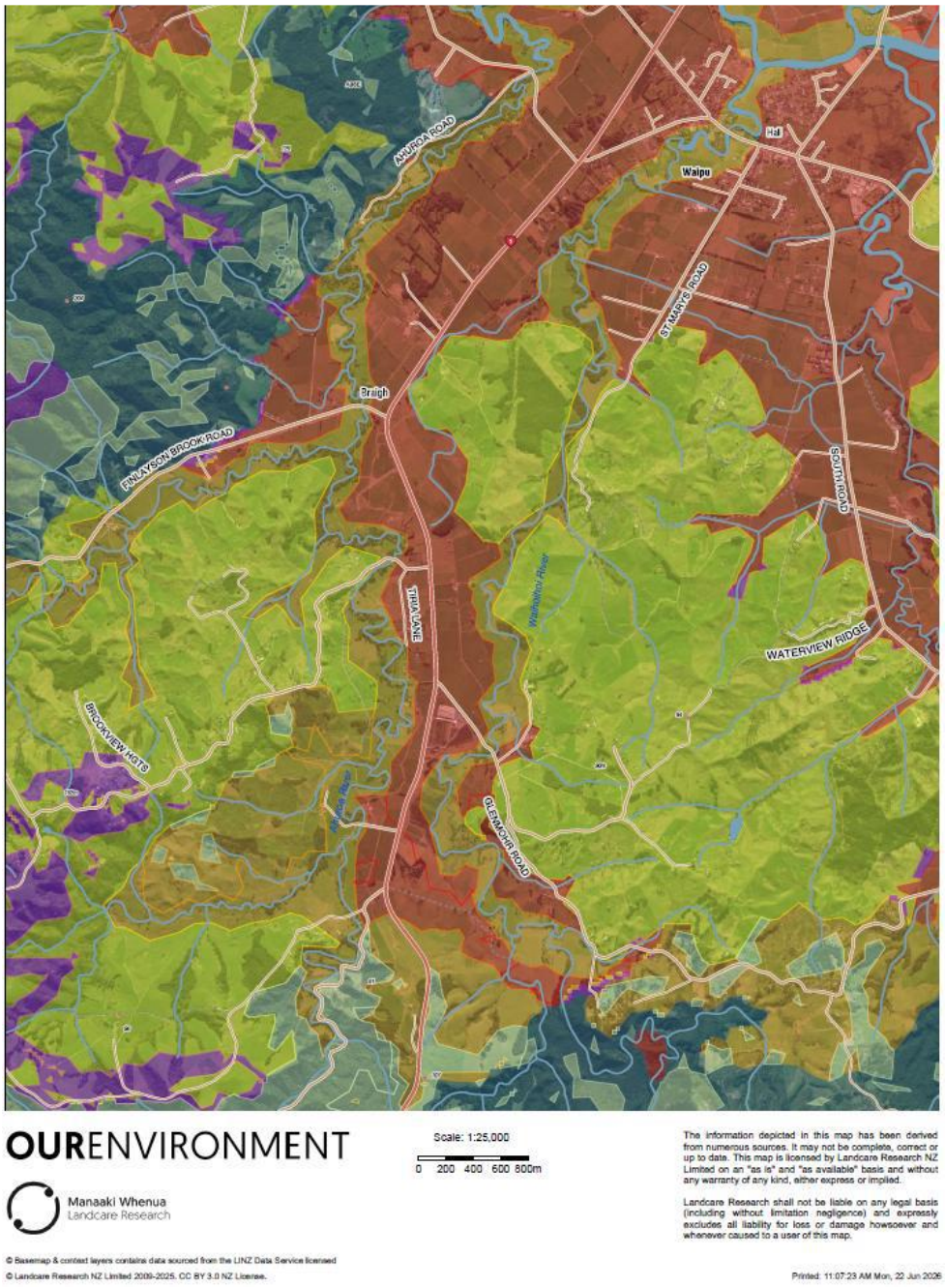
National Priority 1: *To protect indigenous vegetation associated with land environments (defined by Land Environments of New Zealand at Level IV) that have 20% or less remaining in indigenous cover.*

5.11 The first two classes of the national TEC mapping layer have been incorporated into regional policy and as a measure of significance of site vegetation. In Northland, as nationally, the majority of these classes are located in lowland and coastal areas.

5.12 National Priority 1 includes TEC mapping areas *Class 1 (Acutely Threatened <10% indigenous cover remains),* and *Class 2 (Chronically Threatened 10–20% indigenous cover remains),* shown below in red and orange. The TEC identifies extensive land environments in the wider Project area as Acutely Threatened or Chronically Threatened, with less than 20% indigenous cover remaining. Class 1 forms the dominant portion of the Designation

[4] Ministry for the Environment & Department of Conservation. (2007). *Protecting Our Places: Information about the Statement of National Priorities for Protecting Rare and Threatened Biodiversity on Private Land*. Ministry for the Environment, Wellington. Reference ME 805.

FIG 2: LOCAL TEC CLASSIFICATION



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5.13 Indigenous vegetation and fauna habitat that is present is likely to be significantly modified or degraded, and sometimes severely so. This does not detract from their importance, as they may constitute all that remains of indigenous cover in some areas, and that is the very reason why it is a national priority to protect them.

5.14 The TER does not consistently translate this regional depletion into ecological value. Present condition is given greater emphasis than ecosystem representation, historical depletion, rarity, connectivity and restoration potential.

6.0 VEGETATION TYPES — APPENDIX D

6.1 The vegetation inventory is supported by comprehensive field surveys and generally robust species identification. However, interpretation of the associations identified in *Appendix D Vegetation Classifications and Descriptions,* mapped in *Appendix E Vegetation Types*, and their subsequent ecological significance in *Appendix F Summary of Vegetation Types and Values (*significance ratings*)*, is constrained by insufficient recognition of regional ecosystem types and the context of highly depleted lowland ecosystems. The following examples are such examples from the Appendix D nomenclature.

6.2 ***Anthropogenic Tōtara Forest*** is not recognised within accepted New Zealand vegetation classification systems and refers to a management state. Occurrences of tōtara together with pūriri, kahikatea, rimu, tānekaha and other podocarps as per the TER description indicate modified expressions of the *WF7 Pūriri Forest* complex, and locally WF8 or WF9 depending on soils and landform. Classification principally as tōtara forest therefore undermines interpretation of the significance of these as remnants of highly depleted lowland forest types.

6.3 ***Kahikatea Forest Variants*** appear to represent differing structural or disturbance states rather than separate ecosystem types and closely correspond with *WF8 Kahikatea–pūkatea forest*. Better familiarity should have been implicit die to the rarity of this ecosystem and its importance as one of the last remaining floodplain forest types within the Waipū Ecological District.

6.4 ***Broadleaved Scrub Forest*** combines mutually exclusive structural vegetation classes. Forest and scrub should remain separate structural units consistent with Atkinson (1985). The description of these communities as having a low-stature canopy of less than 10 m is also misleading, as vegetation approaching 10 m in height is more appropriately described as short or low forest rather than low-stature scrub. This conflation may understate differences in structural complexity, successional stage and ecological value.

6.5 ***Crack Willow–Exotic Trees–Remnant Native Trees/Mixed Exotic and Native Shrub*** is described primarily through its existing exotic canopy, with indigenous remnant trees becoming secondary descriptors despite representing the principal ecological values. These areas are better interpreted as highly modified riparian remnants of former WF7 and WF8 alluvial forest. The indigenous component signals the former composition of these riparian remnants, which with regional familiarity should be recognized and therefore contribute more strongly to the significance assessment. They continue to provide riparian shading, bank stability, freshwater habitat, ecological connectivity and restoration opportunity.

6.6 ***Remnant Riparian Podocarp–Hardwood–Kānuka Treeland*** represents one of the most ecologically significant vegetation types identified within the Project area. The assemblage of tōtara, pūriri, taraire, kohekohe, kahikatea, miro, rewarewa, coastal kōwhai, lowland ribbonwood and tītoki indicates remnants of former lowland podocarp–broadleaved riparian forest rather than just value as structural treeland. Indigenous regeneration, epiphytes, lianes and mokimoki demonstrate considerable ecological integrity despite historical modification. These areas represent modified expressions of WF7 Pūriri Forest complex, WF8 Kahikatea–pūkatea Forest and, locally, WF9 Taraire–tawa–podocarp Forest.

6.7 ***Exotic Pine Forest/Native Broadleaf Scrub*** combines plantation forest and indigenous regeneration within a single vegetation type. Frequent large pūriri together with kānuka, māhoe, kawakawa, karaka, kohekohe and other indigenous pioneer species indicates active indigenous succession beneath the plantation canopy and evident within gullies and riparian margins, with disproportionate ecological function where it provides riparian shading, bank stability, freshwater habitat and ecological connectivity. Depending on landform and soils, many stands are likely to be developing towards WF7, WF8, WF9 or WF11 ecosystems. These riparian areas are also recognised through the management requirements of the NES Commercial Forestry, including Forestry Earthworks Management Plans and Harvest Plans, which require protection during works of waterways, fish habitat, mapped spawning areas, Hochstetter's frog habitat .

6.8 ***Kohekohe–Taraire–Tawa–Podocarp/Broadleaf Forest*** closely corresponds with WF9 Taraire–tawa–podocarp Forest and represents an important remnant of Northland's warm, fertile lowland forest. This should have been recognized due to regional depletion and ecological representation within the Waipū Ecological District.

6.9 ***Tōtara–Kauri/Broadleaf Scrub*** is better interpreted as regenerating WF11 indigenous forest rather than a separate vegetation type.

6.10 ***Tōtara–Kānuka Forest/Mixed Native and Exotic Scrub/Ranked Grassland*** nomenclature combines canopy composition, shrub layer, pasture and ecological condition (ranked grassland – rank?) From the type description under this heading variation reflects disturbance history rather than any recognized ecosystem identity and likely represents modified expressions of WF7, WF8 or WF9 depending upon environmental setting. The reference to ranked grassland throughout is also unclear; and ranked may imply management; value or potentially refer to wetland.

6.11 ***Kānuka Forest*** is classified principally by dominant canopy species despite described supporting diverse associated indigenous canopy species. Under national and regional typology, kānuka commonly represents a persistent successional canopy within several ecosystem types rather than defining the ecosystem itself. Many stands are therefore likely to represent recovering expressions of WF7, WF9 or locally WF11, depending upon soils, topography and associated canopy composition. Greater emphasis should be placed on the associated canopy species, environmental setting and successional trajectory to allocate type.

6.12 As demonstrated, **t**he TER classification of vegetation can obscure the ecological system represented where modification has altered ideal composition but key indigenous regeneration and remnant canopy species remain.

7.0 APPENDIX E – FIELD SURVEYS AND OBSERVATIONS

7.1 Inventory mapping in Appendix E provides good spatial representation of the extent of survey but is simple in its ability for the reader to make independent interpretation of significance. As before Appendix D nomenclature generally reflects present vegetation composition rather than the underlying historic or potential ecosystem represented. No visual of Waipū Ecological District PNAP Units is shown; TEC classification; or the Northland Biodiversity Framework which displays the potential ecosystems and rarity framework (Leathwick 2018; Singers & Lawrence 2018). I provide comment based on my own observations alongside the WSP ecologists during their fieldwork referencing the Appendix E sheets.

7.2 – Sheet 1. *Kahikatea forest remnants* correspond closely with WF8 Kahikatea–pūkatea Forest – some of the last remaining examples of this highly depleted ecosystem within the Waipū Ecological District.

7.3 – Sheet 2. *Kahikatea–pūkatea forest/native scrub* represents a modified expression of WF8 rather than a separate vegetation type. The *Crack willow* type corridors provide continuous riparian cover to Robertson's Stream and associated tributaries, while indigenous canopy components indicate remnants of former alluvial riparian forest. These areas continue to provide important freshwater fish habitat, riparian shading, bank stability and ecological connectivity.

7.4 – Sheet 4. Crack willow vegetation should be interpreted as modified riparian forest rather than simply willow vegetation. The indigenous canopy component reflects the former riparian forest composition and contributes significantly to ecological value. Extensive areas mapped as *Planted Native Vegetation* should not be considered to have inherently lower ecological value solely because they are planted. These areas were established as mitigation to restore and protect waterways and indigenous

riparian vegetation and now contribute to ecological connectivity, riparian buffering and long-term catchment restoration. Anthropic tōtara forest also provides important indigenous riparian cover protecting waterways and adjacent catchments.

7.5 – Sheet 5. This area represents the landscape described in the Freshwater as ***Waipū North and Waipū South*.** The subdivision into numerous discrete vegetation units places undue emphasis on differences in grazing intensity, weed invasion and vegetation condition. These areas function as a largely contiguous indigenous vegetation complex exhibiting varying degrees of historical modification rather than discrete ecosystem types. Much of the vegetation represents modified structural or successional expressions of the same underlying WF7, WF8 and WF9 ecosystems. Fragmentation into multiple vegetation units therefore obscures common ecosystem identity, ecological connectivity and catchment function.

7.6 This then carries through to the portioning of ecological significance, as illustrated in Designation Conditions, Appendix C – Existing Indigenous Vegetation, Sheet 5. Here, a portion of a contiguous vegetation unit is artificially assigned a lower level of significance, resulting in a corresponding reduction in the level of protection afforded. This in turn flows through to the offset calculations, reducing the area and/or level of compensation required.

7.7 Collectively, these remnants protect upper catchments, wetlands, seepages and headwater streams throughout the Ahuroa and Waihoihoi catchments. The Kohekohe–taraire–tawa–podocarp forest components represent WF9 Taraire–tawa–podocarp Forest, a warm lowland forest ecosystem that has been extensively reduced within the Waipū Ecological District. Their significance is not adequately conveyed by subdivision into separate vegetation units based principally on local modification.

7.8 Anthropic tōtara forest provides important indigenous vegetation protecting upper catchments, wetlands, streams and headwater drainage systems. Its ecological significance extends beyond floristic composition through maintenance of indigenous catchment processes, water quality and landscape connectivity.

7.9 Kauri have recently been re classified as *Regionally Declining* in Northland due to disease, lack of mature individuals and recruitment. There is no guarantee that mature individuals as present can be replaced in an offset due to stochastic events; ongoing disease effects and climate change.

7.10 The Sheet 5 vegetation complexes represent the northern edge of one of the largest remaining indigenous vegetation networks within the Waipū District and should be assessed collectively rather than as numerous isolated vegetation units.

8.0 VEGETATION SIGNIFICANCE ASSESSMENT & APPENDIX F

8.1 Appendix F presents the tabulated vegetation significance assessment; however, the information cannot be adequately interpreted or independently verified.

8.2 The TER states that ecological values have been assigned in accordance with the EIANZ EcIA Guidelines. However, application of the EIANZ Table 4 criteria of representativeness, rarity/distinctiveness, diversity and pattern, and ecological context is not demonstrated for the individual vegetation communities.

8.3 The same limitation applies to assessment against the Northland Regional Policy Statement (2018) Appendix 5 criteria, which provide the regional context for determining ecological significance in Northland.

8.4 The vegetation significance assessment appears to place greater emphasis on vegetation inventory and current condition than on ecosystem representation, regional rarity, historical depletion, ecological connectivity and ecological function.

8.5 This is material where vegetation has been modified but retains mature indigenous canopy, regeneration and ecological function. A modified remnant may remain ecologically significant because it represents one of few surviving examples of a depleted ecosystem.

8.6 The vegetation assessment codes presented within Appendix F are not referenced on the vegetation polygons shown within Appendix E or elsewhere in the TER. It is therefore not possible to determine which mapped vegetation units correspond to individual significance assessments. This issue was identified during review of earlier draft reporting and conveyed via email (17/3/26 Georgina Olsen -Te Pouwhenua O Tiakiriri Kūkupa Trust to Hannah Thompson -NZTA Principal Environmental Planner as intermediators) but has not been addressed in the final TER.

8.7 The significance ratings cannot consequently be reconciled with the mapped vegetation, the vegetation descriptions presented in Appendix D, or the ecological context described within the assessment.

8.8 As presented, Appendix F functions as an isolated tabulated list. The absence of clear cross-referencing between vegetation mapping and significance assessment reduces transparency and prevents the assessment from being independently reproduced, audited or technically reviewed.

8.9 This format also prevents independent verification of the effects assessment as to vegetation areas reported as affected in *TER Table 16 Vegetation loss (ha) (by type) within the Proposed Designation.* It is not possible to determine which mapped vegetation communities contribute to the reported areas of permanent loss, temporary disturbance or fragmentation as per TER *Table 17: Magnitude and overall level of unmitigated effects on vegetation within the Proposed Designation.*

8.10 Several kahikatea-dominated vegetation associations representing WF8 Kahikatea–pūkatea Forest are assigned only Moderate ecological value in Appendix F. Given the lack of linkage between Appendix F and Appendix E, the basis for these ratings cannot be independently verified. This is particularly relevant to WF8 because kahikatea-dominated associations represent one of Northland's most depleted indigenous ecosystem types and are regionally significant within the Waipū Ecological District. Consequently, it cannot be determined whether effects on representative examples of WF7 Pūriri associations, WF8 Kahikatea associations and WF9 Taraire associations have been appropriately recognised.

8.11 Likewise, it cannot be determined whether vegetation units identified by the Waipū Ecological District PNAP, or vegetation within Class 1 and Class 2 TEC landscapes (<20% indigenous cover), has been appropriately recognised within the assessment.

8.12 This is a material technical deficiency. If an ecological value cannot be spatially traced to the vegetation being affected, the resulting loss calculations, effects magnitude and mitigation requirements cannot be reliably audited.The uncertainty therefore extends beyond presentation of the maps. It reduces confidence in the reported vegetation effects, residual effects and biodiversity offset calculations.

8.13 The TER does not consistently apply the individual species value criteria in EIANZ Table 2. Under the adopted framework, species that are locally uncommon or distinctive at Ecological District scale warrant Moderate ecological value.

8.14 Examples identified in the review include lowland ribbonwood (*Plagianthus regius* subsp. *regius*), *Veronica macrocarpa* var. *macrocarpa*, *Coprosma rigida*, kawaka (*Libocedrus plumosa*) and kōtukutuku (*Fuchsia excorticata*) treated as Low ecological value despite their local or regional significance.

8.15 *Coprosma rigida* was also recorded within the Braigh Road kahikatea remnants (Q08/233) identified in the Waipū PNAP, supporting the representative nature and regional significance of those alluvial forest remnants.

8.16 Failure to recognise distinctive or uncommon species in accordance with EIANZ Table 2 has the potential to reduce the ecological significance assigned to the vegetation communities in which they occur and, consequently, the resulting assessment of ecological effects.

8.17 The TER appropriately recognises the importance of kauri as a taonga species and we note they have been classified as Regionally Declining in Northland since the assessments due to disease, lack of mature individuals and recruitment.

8.18 The TER gives comparatively little emphasis of significance to broader mature indigenous canopy species. Mature pūriri, taraire, kohekohe, tōtara, kahikatea, rimu, northern rātā and rewarewa have both ecosystem and habitat-function significance, arising from the combination of depleted ecosystem representation, mature indigenous structure, species composition, connectivity, and riparian function. These cannot be replaced by the currently proposed conditions in any meaningful time frame.

8.19 Riparian vegetation is particularly important. Remnant alluvial podocarp–broadleaved units along the Ahuroa and Waihoihoi catchments includes mature kahikatea, tōtara, pūriri, taraire, kohekohe, tītoki and rewarewa. They represent some of the last surviving alluvial indigenous riparian forests along the Ahuroa and Waihoihoi catchments, with significance extending beyond floristics to their role in riparian connectivity, indigenous seed sources, freshwater habitat, ecological resilience and restoration potential, not simply as discrete areas of vegetation within the Project footprint.

8.20 The presence of exotic canopy species does not remove these values. In the Crack Willow–Exotic Trees–Remnant Native Trees/Mixed Exotic and Native Shrub vegetation type, the indigenous component represents the remaining residual structure of former alluvial forest and provides a basis for restoration.

8.21 Where such vegetation has been assessed as part of an isolated riparian river or wetland system, benchmarking permanent loss against a substantially larger regional vegetation extent risks diluting the magnitude of the effect. EIANZ's recent 2026 clarification[5] supports assessment at the scale of the ecological feature.

8.22 The TER should therefore demonstrate explicitly the scale at which each ecological feature has been valued and ensure that effect magnitude is assessed at the corresponding scale. Broader district, regional or national extent may provide context but should not replace the ecologically appropriate scale of the feature

8.23 The TER should therefore clearly distinguish local ecological significance from wider regional context rather than allowing the wider extent of vegetation elsewhere to diminish the significance of the particular remnant system affected.

8.24 The significance of the vegetation therefore cannot be assessed solely by area, condition or current canopy dominance. Ecosystem representation, connectivity and ecological function are material components of the value of these remnants.

8.25 In conclusion, the TER presents a conservative significance assessment of many modified indigenous vegetation remnants within the Waipū Ecological District which is not independently reproducible or auditable.

[5] EIANZ(AUGUST 2026) Advice note Ecological Impact Assessment (EcIA). EIANZ Guidelines for use in New Zealand: terrestrial and freshwater ecosystems Interpretation of scale in assessment of ecological values and magnitude of ecological effects

9.0 VEGETATION LOSS, FRAGMENTATION AND TEMPORAL EFFECTS

9.1 The TER identifies direct loss of 39 ha of indigenous-dominated vegetation, including approximately 3.3 ha of riparian margin vegetation, together with direct loss of 60 ha of exotic-dominated vegetation, approximately 8.5 ha of which is riparian margin.

9.2 The TER identifies 18 ha of *Very High,* 7 ha of *High*, 4 ha of *Moderate* and 12 ha of *Low ecological value* vegetation within the total 99 ha vegetation loss.

9.3 The relevant issue is not the reported area alone. The ecological effect depends on the communities and functions represented within those areas and whether their significance has been correctly assigned. For example as discussed in Section 6 the nomenclature used and lack of recognition of TER *Crack Willow–Exotic Trees–Remnant Native Trees/Mixed Exotic and Native Shrub* & *Remnant Riparian Podocarp–Hardwood–Kānuka Treeland* as modified riparian remnants of former WF7 and WF9 alluvial forest belies their regional and functional significance.

9.4 Because Appendix F cannot be reliably reconciled with the mapped vegetation units, it is not possible to confirm whether the full significance of affected vegetation has been captured in these area-based calculations.

9.5 The TER identifies habitat fragmentation as an effect but does not adequately account for the existing landscape context. The Waipū lowlands are already highly fragmented following historical clearance, with indigenous vegetation largely confined to isolated forest remnants, riparian corridors and wetlands, including vegetation identified through the PNAP as *best of the last* indigenous vegetation.

9.6 In Threatened Environment Classification environments with less than 20% indigenous cover, further loss or severance of remnant vegetation cannot reasonably be treated as equivalent to fragmentation within a largely intact indigenous landscape. Each additional loss or severance has greater implications for ecological integrity, connectivity and long-term resilience.

9.7 The Project will fragment contiguous indigenous vegetation and existing remnants, reducing connectivity and increasing isolation. In an already fragmented landscape, further dissection reduces opportunities for movement, seed dispersal, recolonisation and recovery.

9.8 Riparian corridors are particularly sensitive because their ecological value depends on continuity along waterways and connections between terrestrial and freshwater systems. Fragmentation therefore affects function beyond the area directly cleared.

9.9 The TER does not clearly distinguish fragmentation of extensive indigenous forest from fragmentation of isolated remnant vegetation. This is relevant because many affected vegetation communities represent highly depleted WF7, WF8 and locally WF9 ecosystems within the Waipū Ecological District.

9.10 The application of the fragmentation criteria in Table 17 therefore risks normalising incremental loss within an already fragmented landscape and understating the effects of further dissection of remnant indigenous vegetation and riparian corridors.

9.11 Permanent clearance of mature indigenous forest removes established canopy structure, species composition, seed sources, microclimate and associated ecological relationships that cannot be immediately replaced through planting.

9.12 The time required for replacement vegetation to develop mature structure and function represents a period of ecological loss. The longer the replacement takes, the longer the residual effect remains.

9.13 The TER does not adequately account for this temporal dimension in its conclusions regarding mitigation and offsetting.

10.0 MITIGATION, RESTORATION AND BIODIVERSITY OFFSETTING

10.1 The proposed mitigation in the TER and proposed conditions relies principally on restoration planting and vegetation enhancement. These measures may provide future ecological gains, but the assessment does not demonstrate that they replace the same ecological values that will be permanently lost.

10.2 Restoration of pasture or plantation forest to indigenous vegetation is not equivalent to replacement of mature indigenous forest removed by the Project.

10.3 The mitigation strategy should therefore be evaluated according to ecological equivalence, rather than simply hectares planted or the number of plants established.

10.4 The proposed mitigation does not demonstrate restoration of the composition, structure and ecological function of affected WF7, WF8 and WF9 associations.

10.5 The offset strategy places particular emphasis on kauri replacement. This does not demonstrate replacement of the wider indigenous canopy and fruiting assemblage represented by the affected forest communities.

10.6 Species including pūriri, taraire, tōtara, kahikatea, northern rātā, kohekohe, rimu, rewarewa, karaka and tītoki contribute to canopy structure, seasonal food resources, seed production and longer-term ecosystem processes. These functions are not replaced simply by planting kauri.

10.7 The assessment therefore does not demonstrate like-for-like replacement of the ecological communities being removed.

10.8 Mature forest structure develops over long timeframes. Replacement planting will initially lack the mature canopy complexity, large-tree habitat, established seed sources, epiphyte and liane assemblages, and developed microclimate of the vegetation removed.

10.9 Late-successional canopy development also depends on successful recruitment, pest and browser control, seed dispersal and long-term management. These processes cannot be assumed to occur within a short establishment period.

10.10 The proposed five-year vegetation maintenance programme is insufficient to demonstrate successful establishment of a self-sustaining indigenous forest ecosystem.

10.11 Long-term commitments to pest management, browser control, ecological monitoring, adaptive management and measurable ecological performance are not adequately demonstrated.

10.12 The proposed biodiversity offset strategy does not adequately demonstrate consistency with the biodiversity offsetting principles in Northland RPS 2018 section 4.4.2, NPSIB 2023 Appendix 3 and the Department of Conservation's *Guidance on Good Practice Biodiversity Offsetting in New Zealand* (2014).

10.13 In particular, the assessment does not adequately demonstrate like-for-like replacement, ecological equivalence, accounting for temporal loss, management and implementation uncertainty, long-term maintenance, measurable ecological outcomes and no overall loss of indigenous biodiversity.

10.14 Enhancement of an existing indigenous remnant should not automatically be treated as offsetting because the area already provides ecological value. Similarly, restoration of degraded land does not by itself replace the mature ecological structure permanently removed.

11.0 KAURI DIEBACK AND BIOSECURITY

11.1 The TER identifies implementation of the Kauri Hygiene Standard Operating Procedures as the principal biosecurity measure for managing kauri dieback risk.

11.2 The Kauri Hygiene Standard Operating Procedures were developed by Auckland Council for activities undertaken on land owned or managed by Auckland Council and its Council-Controlled Organisations. They provide operational hygiene procedures for reducing the spread of *Phytophthora agathidicida*, but do not constitute the primary statutory framework governing earthworks associated with this Project.

11.3 Under the Biosecurity Act 1993, protection of kauri from *Phytophthora agathidicida* is regulated through the National PA Pest Management Plan administered by Tiakina Kauri within Biosecurity New Zealand, Ministry for Primary Industries. The National PA Pest Management Plan provides the statutory framework for preventing the spread of the pathogen across kauri lands.

11.4 Rule 5 of the National PA Pest Management Plan requires an occupier proposing earthworks within a Kauri Hygiene Zone to prepare and implement an approved Earthworks PA Risk Management Plan. The purpose of the Plan is to identify, assess and manage the risk of spreading *Phytophthora agathidicida* through earthworks, machinery, vehicles, equipment and the movement of soil.

11.5 As the Project traverses public land containing indigenous kauri, compliance with the statutory requirements of the National PA Pest Management Plan should form the primary biosecurity framework for construction activities, with the Auckland Council Kauri Hygiene Standard Operating Procedures providing supporting operational guidance where applicable.

11.6 A direct construction effect not specifically considered within the TER is the potential spread of *Phytophthora agathidicida* within and between catchments during vegetation clearance, bulk earthworks, spoil handling and construction activities.

11.7 Construction activities involving vegetation clearance, bulk earthworks, spoil handling and movement of machinery across catchments have the potential to redistribute contaminated soil where the pathogen is present. Particular care is therefore required where soil is transferred across drainage divides, through the Mūtū corridor, or into areas where sediment may enter waterways and be transported downstream.

11.8 The terrestrial field investigations provided an opportunity to undertake targeted baseline sampling for *Phytophthora agathidicida* within indigenous kauri stands proposed to be disturbed. In my opinion, this represented a missed opportunity to establish the current distribution of the pathogen before construction activities commence and before preparation of the required Earthworks PA Risk Management Plan.

11.9 The absence of visible canopy symptoms should not be interpreted as confirmation that *Phytophthora agathidicida* is absent. Infected kauri may remain asymptomatic for many years before external symptoms become evident, and pathogen distribution cannot therefore be reliably inferred from visual assessment alone.

11.10 I understand previous surveillance undertaken within the Project area by the Northland Regional Council is now approximately seven years old (pers. comm. Candace Rameka, Biosecurity Officer –

Kauri Protection, Northland Regional Council). Given the elapsed time, historic surveillance information alone is unlikely to provide an adequate baseline immediately prior to construction.

11.11 During this period, opportunities for pathogen spread may have occurred through recognised vectors. Stock continue to have access to portions of the Waipū South indigenous vegetation complex from the southern boundary despite historical Northland Regional Council-funded fencing to exclude livestock from parts of the site. Livestock movement is recognised as a potential mechanism for transporting contaminated soil.

11.12 I also understand from the owner of the Murray property that feral pigs occur within the Project area. Wild pigs are recognised as an important vector for the spread of *Phytophthora agathidicida* through soil disturbance and movement of contaminated soil adhering to their feet and snouts, while rooting activity may facilitate transfer of the pathogen between infected and previously uninfected areas.

11.13 Consequently, the distribution of *Phytophthora agathidicida* within the Brynderwyn catchments may have changed since previous surveillance was undertaken. Establishing a contemporary baseline prior to construction would provide greater confidence in biosecurity management and assist in minimising the risk of pathogen spread within and between catchments during construction.

12.0 CONCLUSIONS

12.1 The TER provides a useful vegetation inventory supported by comprehensive field survey and mapping, and its adoption of the EIANZ EcIA framework is appropriate.

12.2 However, the ecological significance assigned to that inventory is not sufficiently transparent or independently reproducible. Appendix F does not provide adequate linkage to mapped vegetation units in Appendix E, and the vegetation descriptions do not consistently provide the ecological information required to verify the assigned significance.

12.3 The TER also under-recognises the regional ecological context of the Waipū Ecological District. Highly depleted lowland ecosystems, including WF7, WF8 and lowland WF9 associations, are not consistently recognised according to their historical depletion, representativeness, rarity and ecological function.

12.4 Several modified vegetation types represent residual or regenerating indigenous forest rather than discrete low-value vegetation classes. The Remnant Riparian Podocarp–Hardwood–Kānuka Treeland is a particularly important example, representing modified WF7, WF8 and locally WF9 riparian forest with ecological connectivity and freshwater functions.

12.5 The TER's fragmentation assessment does not adequately account for the already fragmented condition of the Waipū lowlands. Further loss or severance of remaining indigenous vegetation and riparian corridors has greater ecological consequence in this context than an equivalent loss within an intact landscape.

12.6 The August 2026 EIANZ clarification on scale reinforces the need to ensure that ecological value and effect magnitude are assessed at ecologically corresponding scales. Broader district, regional or national context should inform the assessment but should not dilute the significance of a particular connected ecological feature.

12.7 The proposed mitigation and offsetting does not demonstrate ecological equivalence or like-for-like replacement of mature indigenous forest. The emphasis on kauri replacement does not address the broader indigenous canopy and fruiting assemblage or the full ecological functions of the affected communities.

12.8 The five-year maintenance period does not demonstrate long-term restoration success, self-sustaining forest development or replacement of mature forest function. Temporal loss, restoration uncertainty and long-term management requirements remain insufficiently addressed.

12.9 Kauri biosecurity also requires further assessment against the statutory National PA Pest Management Plan framework, including construction pathways for *Phytophthora agathidicida* movement and applicable Earthworks PA Risk Management Plan requirements.

12.10 Accordingly, the ecological evidence does not establish with sufficient confidence that the terrestrial vegetation effects have been fully characterised or that the proposed mitigation and biodiversity offsetting will achieve ecological equivalence or no overall loss of indigenous biodiversity.

12.11 The Expert Panel should therefore treat the TER's conclusions regarding the significance of vegetation effects, residual effects and adequacy of mitigation with caution unless the identified deficiencies in ecological valuation, spatial scale, fragmentation assessment and offsetting are resolved.

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE FAST TRACK APPROVALS ACT 2024 (FTTA or ACT)

IN THE MATTER OF a substantive application by New Zealand Transport Agency Waka Kotahi for the Alternative to the Brynderwyn Hills Project

STATEMENT OF EVIDENCE OF REBECCA L. S. LODGE ON BEHALF OF TE POUWHENUA O TIAKIRIRI KŪKUPA TRUST ON BEHALF OF TE PARAWHAU HAPŪ

AUGUST 2026

Prepared from technical review of NZTA Waka Kotahi Assessment of Effects on Freshwater Ecology (Document 10722-PTA-2B0-PE-RPT-0010)

BAY ECOLOGICAL CONSULTANCY LTD
R. L. S. LODGE

1 EXECUTIVE SUMMARY

1.1 This evidence is based primarily on my independent technical review of NZTA Waka Kotahi's Assessment of Effects on Freshwater Ecology NZTA Waka Kotahi Assessment of Effects on Freshwater Ecology (Document 10722-PTA-2B0-PE-RPT-0010) for the Alternative to the Brynderwyn Hills Project, referred to as the FER throughout for brevity.

1.2 My review was commissioned by Te Pouwhenua o Tiakiriri Kūkupa Trust on behalf of Te Parawhau Hapū to evaluate the technical adequacy of the FER and the conclusions reached in relation to freshwater ecological values, effects and management.

1.3 The FER contains a substantial amount of technical information. My principal concern, however, is not an isolated technical error. It is that a series of interconnected methodological decisions progressively reduce ecological values, predicted effects, mitigation requirements and residual effects. The consequence is an assessment outcome that I consider is not sufficiently robust, transparent or independently reproducible.

1.4 The FER departs from recognised New Zealand freshwater ecological assessment practice through modification of established approaches, including EIANZ ecological impact assessment without acknowledgement, Stream Ecological Valuation, Fish IBI, wetland assessment approaches and bespoke ecological value and effect-magnitude criteria. The modified approaches are not sufficiently transparent to allow the assessment to be independently reproduced.

1.5 The ecological baseline is also incomplete. Stream mapping, wetland delineation, field survey coverage and habitat assessment do not adequately characterise headwater, intermittent and ephemeral streams or the freshwater functions associated with them. Fish survey information does not sufficiently address seasonal migration, recruitment, spawning and detection probability.

1.6 The use of eDNA, Fish IBI and eDNA-derived MCI is also material. In the FER these tools are used in ways that extend beyond their role as complementary assessment tools, including as surrogates for abundance, ecological value and habitat significance. In my opinion, this contributes to an over-reliance on numerical or surrogate measures in place of ecological function.

1.7 The FER repeatedly gives greater weight to present condition and measurable extent than to ecological function, connectivity and life-history requirements. Modified streams, exotic-dominated natural inland wetlands and headwater systems retain important hydrological, biodiversity and ecological functions in these coastal catchments despite poor apparent condition.

1.8 The assessment of effects then builds on those reduced values. Catchment-scale averaging and proportional habitat-loss calculations dilute local effects, while habitat extent is repeatedly used as a proxy for habitat function. Effects on spawning habitat, migration pathways, recruitment, population resilience, ecosystem processes and cumulative fragmentation are therefore not fully captured.

1.9 Fish passage, culvert and stream-realignment assessments similarly place substantial emphasis on hydraulic performance, engineering compliance and assumed upstream habitat extent. Compliance with minimum fish-passage requirements is presented as mitigation even though such requirements represent baseline regulatory expectations. The FER also assumes that replacement or realigned channels will achieve ecological equivalence without demonstrating recovery of geomorphic processes, habitat quality or species-specific requirements.

1.10 Natural inland wetlands are systematically vulnerable to the same methodological issue. Exotic composition and perceived condition are given undue weight relative to hydrological function, ecosystem processes, ecological context and restoration potential. This reduces the ecological value assigned to wetlands before the effects management hierarchy is applied and therefore weakens the emphasis on avoidance.

1.11 Groundwater assessment is interconnected with these deficiencies. Where the FER provides the ecological basis for determining the acceptability of groundwater effects, uncertainty regarding stream

permanence, wetland hydrology and groundwater-dependent ecosystems is carried into the groundwater assessment. In my view, the resulting management approach is not sufficiently precautionary.

1.12 Overall, I consider that the FER does not provide a sufficiently transparent, repeatable or scientifically robust basis for determining the freshwater ecological effects of the Project or the adequacy of proposed management measures. The Panel should therefore treat conclusions regarding ecological value, effect magnitude, residual effects and mitigation adequacy with caution unless the identified deficiencies are resolved.

2 INTRODUCTION

2.1 I provide this evidence on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust on behalf of Te Parawhau Hapū.

2.2 I am the author of the Technical Review for Te Pouwhenua O Tiakiriri Kukupa Trust **Assessment Of Effects On Freshwater Ecology** NZ Transport Agency Waka Kotahi | Roads of National Significance | Northland Corridor 2B Assessment of Effects on Freshwater Ecology – Document: 10722-PTA-2B0-PE-RPT-0010 Revision:A

2.3 This evidence addresses the technical adequacy of the FER and the conclusions reached, including the assessment methodology, existing ecological baseline, ecological valuation, freshwater ecosystem assessment, effects assessment, fish passage and stream works, wetlands, groundwater, and proposed mitigation and management.

2.4 My review considered the FER alongside recognised New Zealand ecological assessment practice and the other ecological assessments prepared for the Project. In particular, I considered whether the methods adopted in the FER provide a transparent and reproducible basis for assigning ecological value and predicting ecological effects.

2.5 I have retained the principal findings and technical conclusions of my review in this evidence and have not sought to expand the evidence beyond matters addressed in the technical review. In that regard it does not address the 13 July issued Additional Application Material, which is soon to be reviewed at a series of hui.

3 QUALIFICATIONS, EXPERIENCE AND CODE OF CONDUCT

3.1 I am a senior consulting ecologist based in Kerikeri, Bay of Islands. I have worked as an ecologist in across Te Taitokerau since 2011 and as Director and Principal Ecologist of Bay Ecological Consultancy Ltd since 2014. In this role I am ecological lead in multidisciplinary ecological assessments, field surveys, consenting advice, revegetation/ restoration and management plans, peer review and implementation client support.

3.2 I hold a BSc in Ecology, and a PGDipSci with Distinction from the University of Otago. I was the recipient of a FoRST Te Tipu Pūtaiao Doctoral Fellowship, during which my multidisciplinary research examined national ecotypic variation in tī kōuka with regard to wetland ecology, insect and disease vulnerability, and leaf fibre mechanical properties. I am a NES-CS (Contaminated Soils) SQEP, having practiced since 2013 in that field to remediation level.

3.3 I am currently the SME on behalf of Te Pouwhenua o Tiakiriri Kūkupa Trust for terrestrial vegetation and freshwater ecology for the Northern Motorway Extension, undertaking survey, technical reporting and review. I have worked on a contractual basis with Te Parawhau Hapū for approximately 3 years and continue to do so, undertaking peer review and ecological impact assessment within resource management processes. This has included large local infrastructure such as the Ahuroa River Water Treatment Plant Discharge consent renewal; ecological, contamination and discharge review of the Port Rd former Fertiliser Plant site remediation; terrestrial, freshwater, estuarine and contaminated land

review of the Portland Cement Works interaction with the Tokitoki Stream, to support the Tokitoki Awa Taiao Management Action Plan.

3.4 I work in the forestry sector as an ecological consultant for forestry operations across Northland, including Waitangi, Punakitere, Waimatenui, Waipoua, Kirikōpuni and Ōpouteke within extensive high conservation value (HCV) areas, providing ecological management and restoration recommendations to support FSC accreditation. I undertake survey and provide training to crews, including methods for fish, fish passage; birds; wetland and terrestrial flora. I am also a regular participant in meetings of the Northland Forestry Environmental Working Group.

3.5 I regularly provide ecological reporting for regional authority consents and compliance response in relation to the NES-F and NPS-FM, including culvert design and fish passage, freshwater fish survey, wetland delineation and restoration. I am NIWA electric fishing certified and have guest lectured in wetland delineation at NorthTec.

3.6 I have provided reporting and consent implementation as ecological lead toward multiple papakāinga developments and an extensive range of private sector applications and management. Recent and ongoing work includes large-scale coastal, residential and infrastructure projects across Northland. At Wai Kōwhai Station, Purerua Peninsula, I have been lead ecologist since 2021 for a 54-lot coastal development, involving EcIA, wetland delineation, NES-F culvert compliance, wetland restoration, approximately 130 ha of revegetation design, and ongoing fish, bittern and kiwi survey and management.

3.7 At The Landing, Purerua Peninsula, I have provided ecological advice since 2014, including revegetation planning, a 20-year ecological review, fish and bird surveys, stream classification, wetland delineation, NES-CS HAIL reporting and ongoing ecological management. At Rangitane River Park, Kerikeri, I am the lead consultant ecologist for the ongoing development and post-consent implementation of the 115-lot subdivision, including reserve management and liaison with the external stakeholders committee.

3.8 Other recent work as principal ecologist includes EcIA and ecological assessment for jetty and boat ramp proposals, including estuarine and sediment assessment, wetland delineation, fish and bird surveys; revegetation planning and implementation. I am named on several WAA permits with the lead herpetologist.

3.9 I have also undertaken ecological peer review for the Far North District Council and participated in Commissioner hearing processes. For the Orongo Bay Zone Management Plan Change, I prepared the EcIA, culvert management plan and revegetation and management planning.

3.10 I am a member of the NZ Ecological Society; the National Wetlands Trust; NZ Freshwater Sciences Society; Australasian Land & Groundwater Association (ALGA) & NZ Plant Conservation Network.

3.11 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses. The matters addressed are within my area of expertise

4.0 ASSESSMENT METHODOLOGY

4.1 ASSESSMENT FRAMEWORK

4.1.1 The FER adopts and modifies several recognised freshwater ecological assessment approaches, including the EIANZ EcIA framework, Stream Ecological Valuation, Fish IBI and wetland assessment approaches.

4.1.2 A principal issue is the extent to which established methods and significance criteria have been altered through weighting, averaging, condition-based adjustments and bespoke ecological value and effect-magnitude criteria.

4.1.3 The modified methodology is not sufficiently transparent to allow an independent reviewer to reproduce the ecological value and effect assessments from the information presented.

4.1.4 The FER also attributes its modified approach to be that of the EIANZ Guidance by alteration of the standard framework tables without acknowledgement. In my opinion, this is material because the resulting methodology differs from the recognised EIANZ approach applied elsewhere in the Project ecological assessments, and the scientific or technical basis for those departures is not demonstrated.

4.1.5 The effect is cumulative. Early methodological assumptions flow through ecological valuation, effects assessment, mitigation design, monitoring and residual effects. I refer to this as an assessment cascade, whereby reduced ecological values lead to lower predicted effects and consequently reduced management requirements.

4.2 USE OF THE NPS-FM VALUES FRAMEWORK

4.2.1 The NPS-FM Values Framework is used in the FER beyond its intended role by treating identified values as a quasi-scoring system.

4.2.2 In my opinion, this contributes to reduced ecological value assignments for streams and natural inland wetlands. Identifying a value is not equivalent to assigning a numerical ecological significance rating, and the values framework should not substitute for an ecological significance assessment.

4.2.3 This is particularly important where a freshwater system retains ecological, hydrological or biodiversity function despite being modified or supporting a relatively low abundance of fish.

5.0 EXISTING ECOLOGICAL BASELINE

5.0.1 The ecological baseline is incomplete owing to deficiencies in stream mapping, wetland delineation, field survey coverage and habitat assessment.

5.1 BESPOKE DIGITAL NETWORK AND STREAM MAPPING

5.1.1 The FER relies on a bespoke Digital Network (DN) to define the stream network, classify stream permanence and calculate total stream length. This is therefore a fundamental input to the effects assessment.

5.1.2 The underlying DN and sufficient modelling methodology have not been provided for independent reproduction. The FER does not adequately identify the source elevation data, modelling parameters, stream initiation thresholds, DEM conditioning or subsequent manual edits.

5.1.3 Field investigations identified multiple discrepancies between the DN and observed stream characteristics, including reaches mapped as ephemeral that were observed as permanent or intermittent. Some observed reaches were also absent from the FER mapping.

5.1.4 This is consequential because the FER excludes ephemeral reaches from further assessment. Misclassification of permanent or intermittent reaches as ephemeral can therefore result in freshwater habitat being excluded from the ecological assessment.

5.1.5 The DN also provides the stream-length denominator used to calculate the proportion of stream affected. Any omission or misclassification of stream extent therefore directly reduces the reported magnitude of effect.

5.1.6 The issue is particularly important for headwater, spring-fed and wetland-associated systems. Field investigations identified apparently ephemeral reaches that were spring-fed, as well as unmapped seepages supporting freshwater fauna. These systems can provide spawning habitat, juvenile recruitment, refuge, nutrient processing and connectivity to downstream ecosystems even where their size or permanence is limited.

5.1.7 In my opinion, the DN should be treated as a preliminary modelling tool rather than a definitive representation of the freshwater network. It requires systematic field validation, particularly in headwater and steep-terrain environments.

5.2 FISH SURVEY, eDNA AND FRESHWATER FISH VALUES

5.2.1 The freshwater fisheries provisions of Schedule 9 of the Fast-track regime require a sufficiently detailed assessment of affected freshwater fisheries, including the species present, habitat quality, connectivity, fish passage and the effects of structures and works. The assessment needs to be sufficiently resolved to inform decisions regarding fish passage and management of affected fisheries.

5.2.2 In my opinion, the FER does not provide the level of technical or ecological resolution required for a complex freshwater fisheries assessment. It relies substantially on generalised assumptions regarding fish presence, habitat value and distribution rather than sufficiently site-specific assessment of species, habitat and connectivity.

5.2.3 This is particularly important where the Project involves multiple stream crossings, culverts, stream realignment and potential interruption of fish passage. The adequacy of fish passage cannot be reliably determined without a sufficiently robust understanding of the species and habitats potentially affected.

5.2.4 The fish assessment relies on a combination of field survey, eDNA and the New Zealand Freshwater Fish Database (NZFFD). In my opinion, these provide useful complementary information but have not been sufficiently integrated to establish a robust site-specific fish baseline.

5.2.5 The eDNA results are particularly overextended. eDNA is appropriately used as a complementary detection tool, but it does not directly measure fish abundance, biomass, population structure or condition. Detection is also influenced by transport, dilution, degradation and shedding rates.

5.2.6 The FER nevertheless uses eDNA results to inform Fish IBI and broader conclusions regarding ecological condition. NIWA has identified that eDNA and conventional fish sampling are not directly

interchangeable and that existing Fish IBI frameworks should not simply be substituted with eDNA data without further calibration.

5.2.7 The eDNA dataset is also insufficiently transparent. Sampling locations, datasets and site identifiers are inconsistently presented, and earlier eDNA results are not adequately mapped. This limits the ability to determine where detections occurred and how they relate to connected habitats.

5.2.8 Non-detection is given inappropriate weight in parts of the FER. For cryptic, migratory, patchily distributed or low-abundance species, absence from an eDNA or conventional survey cannot reasonably be treated as evidence of absence without considering detection probability, survey design and habitat suitability.

5.2.9 The NZFFD is a valuable regional information source, but it is an opportunistic dataset derived from surveys undertaken for different purposes and using different methods. It therefore provides useful evidence of species occurrence but cannot be treated as a comprehensive site-specific inventory.

5.2.10 The FER reduces the NZFFD information into broad catchment and distance-from-coast groupings. This substantially reduces its ecological resolution and obscures individual records, spatial connectivity and habitat relationships.

5.2.11 My review of the underlying NZFFD records identified fish occurrences that are not reflected in the FER summary, including īnanga and other species within the Ahuroa and Waihoihoi catchments. In some instances, the FER conclusions regarding absence of records appear inconsistent with the underlying database. Refer to my report Figs 19; 20; 23 Tables 15;16; 18 & 19 for illustration of my alternate findings in regard to eDNA & NZFFD records

5.2.12 There are also discrepancies between the FER NZFFD summary and the available underlying records for species including torrentfish and Cran's bully. The absence of mapped individual records makes it difficult to determine whether records have been excluded, assigned to different spatial groupings or derived from an earlier dataset.

5.2.13 Record frequency is also used in the FER in a manner that risks implying relative abundance. Frequency of records within the NZFFD is not an abundance measure and is strongly influenced by sampling effort, accessibility, method and historical survey bias.

5.2.14 The fish assessment gives insufficient consideration to spawning and other critical life-history habitats. This is particularly important for īnanga, where spawning habitat and the associated landward riparian zone are integral components of the habitat requirement. Available regional information identifies potential and confirmed spawning areas within the Project catchments.

5.2.15 More generally, assessment of fish habitat should consider migration, spawning, recruitment and refuge functions rather than simply the fish recorded during a particular survey. These functions can extend beyond the surveyed channel and may be seasonally expressed.

5.2.16 My mapping and review of the available fish information produced a materially different picture from the conclusions presented in the FER. The combined information indicates longitudinal use of the Ahuroa and Waihoihoi systems by a more diverse fish assemblage, including Threatened and At Risk species, than is conveyed by the FER summary.

5.2.17 This is particularly relevant to species such as longfin eel, banded kōkopu, redfin bully, īnanga, torrentfish, giant kōkopu and Cran's bully. The presence of a species at one location should not be treated as isolated where hydrological connectivity provides potential access to adjoining reaches.

5.2.18 I also consider that the FER alters the significance of fish species through its interpretation of their distribution and abundance. Species that are expected to occur at particular elevations or within particular habitat types are treated as having reduced significance, rather than their recognised conservation status and ecological function being retained as independent indicators of value.

5.2.19 In particular, the use of expected distribution patterns, natural barriers and low recorded frequency to diminish the significance of At Risk species is not appropriate. A species does not become less ecologically significant because it is naturally uncommon or occurs only within particular habitat or elevation ranges.

5.2.20 The FER also uses the presence of more common species to characterise fish communities as having limited ecological value. This risks overlooking the significance of less frequently detected species and the functional diversity of the assemblage.

5.2.21 Overall, I consider that the fish assessment places excessive reliance on limited detection datasets and subsequent interpretation, while insufficiently considering habitat suitability, connectivity, spawning, recruitment and species-specific life-history requirements.

5.2.22 In my opinion, the fish baseline should integrate field observations, eDNA and NZFFD records as complementary lines of evidence, with appropriate consideration of detection limitations and spatial connectivity. The available evidence does not support the level of certainty with which the FER assigns fish ecological values and concludes that affected streams generally have low to moderate significance.

5.3 HABITAT ASSESSMENT, WATER QUALITY AND MACROINVERTEBRATE METRICS

5.3.1 The FER uses Stream Ecological Valuation (SEV), Rapid Habitat Assessment (RHA), water quality information and macroinvertebrate metrics to characterise stream condition. These are useful assessment tools, but the FER modifies and combines their outputs in ways that reduce their transparency and ecological meaning.

5.3.2 The FER does not apply the standard SEV methodology in full. It uses only the physical components of the SEV model, excluding the non-physical components relating to ecological functions, connectivity and biotic integrity.

5.3.3 This is a material departure from the SEV methodology. Removing the non-physical components changes the construct being measured: the resulting score is principally a measure of physical habitat condition rather than the broader ecological functions represented by a standard SEV. It should therefore not be treated as directly equivalent to a standard SEV score.

5.3.4 This modification also has a directional effect on the assessment. Physical habitat metrics are less able to capture ecological value associated with connectivity, hydrological function and biotic integrity, particularly in smaller headwater and lower-structure systems. These values can therefore be systematically under-represented.

5.3.5 The modified SEV scores are then carried forward into the FER ecological value assessment and combined with other metrics under Table 11. This creates a further layer of interpretation between the underlying SEV observations and the final ecological value assigned to each stream.

5.3.6 The FER also assigns a subjective value to the Waihoihoi Main Stem despite no SEV having been undertaken at that site. This demonstrates that the SEV-derived information is not being applied consistently across the assessed waterways.

5.3.7 The modified SEV outputs are subsequently used to support predictions of retained value following stream modification and culverting. This extends the uncertainty further, as predicted post-construction SEV values are presented as evidence of retained ecological value despite the underlying SEV methodology having already been modified.

5.3.8 In my opinion, the modified approach should not be presented as a conventional SEV assessment. If the purpose is to assess physical habitat condition, that should be stated explicitly. If the purpose is to assess ecological value, the full ecological dimensions of the SEV methodology cannot appropriately be removed and then replaced through subjective value adjustments.

5.3.9 The same issue occurs with the RHA. RHA assesses physical habitat condition and is intended to complement biological assessment; it does not directly measure ecological significance or biological community condition. The FER nevertheless treats the RHA score as a proxy for ecological value and further modifies the published scoring bands. I resolved differing RHA scores from that of the WSP field team at a selection of sites I accompanied them to (refer my Report Appendix B: RHA Scores For Select Sites)

5.3.10 The combined effect is that standardised assessment tools are progressively modified, their outputs are converted into different scoring bands, and the resulting values are then aggregated into a bespoke ecological value framework. This reduces the transparency, repeatability and comparability that are key purposes of using established ecological assessment methods.

5.3.11 The FER also places considerable emphasis on EPT taxa and MCI results when characterising stream condition. These metrics provide only part of the ecological picture. Fish utilise a broad range of aquatic invertebrates as prey, and the absence or low representation of EPT taxa does not demonstrate an absence of suitable food resources or fish habitat.

5.3.12 Invertebrate communities are influenced by habitat characteristics including flow, substrate, vegetation and organic matter. A stream supporting a different invertebrate assemblage from a fast-flowing, stony EPT-dominated system is not necessarily ecologically poor.

5.3.13 The Robertson Tributary provides an example. Its dense instream and riparian vegetation and slower-flowing habitat provide conditions suited to particular fish species and life stages. This type of habitat is consistent with the ecology of species such as giant bully, which is commonly associated with slower-flowing and wetland-influenced environments. The habitat should therefore not be discounted simply because it does not support a high EPT component.

5.3.14 The fish records from Robertson Tributary, including longfin eel, banded kōkopu and bully species, provide direct evidence that the reach remains functionally utilised by indigenous fish.

5.3.15 The water quality evidence also provides a more nuanced picture than the generalised characterisation of poor condition in the FER. Contemporary regional monitoring data, together with the fish and habitat information, provide evidence that some waterways continue to support functioning aquatic communities.

5.3.16 The Waihoihoi Main Stem is a further example. Although the FER reports a low eDNA-derived MCI result, the available fish information identifies a diverse indigenous fish assemblage, including īnanga, giant bully, longfin eel, banded kōkopu, redfin bully, smelt and torrentfish. This demonstrates continued functional fish habitat despite the reported macroinvertebrate condition.

5.3.17 Similarly, the Robertson Tributary supports indigenous fish despite its modified physical and macroinvertebrate condition. This demonstrates why ecological condition should not be equated with ecological value.

5.3.18 In my opinion, the FER gives insufficient consideration to the relationship between habitat structure, invertebrate food resources and fish ecology. MCI and EPT metrics should be interpreted as indicators of particular aspects of stream condition, rather than as a general measure of ecological value or fish habitat quality.

5.3.19 Taken together, the physical habitat, water quality, macroinvertebrate and fish evidence indicates that these waterways are modified in places but remain functionally utilised by indigenous aquatic communities. The FER's broader characterisation of such waterways as poor therefore does not adequately reflect the ecological functions they continue to provide.

5.4 TABLE 11 – ASSESSMENT OF ECOLOGICAL VALUES

5.4.1 Table 11 is the point at which the various ecological datasets and assessment tools are converted into the final ecological value assigned to each stream. In my opinion, this is one of the most consequential parts of the FER because the subsequent effects assessment relies on these value assignments.

5.4.2 The methodology used to derive the Table 11 values is not a standardised ecological assessment framework. It combines modified SEV, RHA, NRC biodiversity condition scores, eDNA-derived Fish IBI, water quality, fish threat status and other information under EIANZ and Northland Regional Policy Statement criteria, followed by a subjective Value Conclusion.

5.4.3 These inputs measure different ecological attributes and cannot appropriately be summed or averaged without a transparent and scientifically justified weighting framework. Physical habitat condition, water quality, fish abundance, fish threat status and ecological connectivity are not interchangeable measures of ecological value.

5.4.4 The Table 11 process therefore introduces multiple layers of professional judgement after the underlying datasets have already been modified. The resulting Value Conclusion is not directly reproducible from the source data and is not equivalent to an EIANZ ecological significance assessment.

5.4.5 There are also instances where the ratings appear inconsistent with the underlying information. For example, Waipū South has a biodiversity condition score above the relevant ecosystem-type mean but is nevertheless assigned a LOW rating. The Leathwick condition methodology does not establish universal LOW, MODERATE or HIGH thresholds, so these descriptors represent an additional interpretation by the FER rather than an output of that methodology.

5.4.6 Similarly, an RHA score of 28, classified as FAIR under the RHA methodology, is assigned a LOW value within the FER. This changes the meaning of the underlying standardised assessment and introduces another unsubstantiated scoring conversion.

5.4.7 The treatment of Fish IBI is particularly problematic. The FER uses an eDNA-derived Fish IBI within Table 11 despite the limitations identified in relation to using eDNA as a substitute for conventional fish IBI data. The supporting data are also incompletely reported.

5.4.8 Table 11 also gives insufficient weight to the actual conservation values present. A fish assemblage containing Threatened or At Risk species should not receive a reduced ecological value simply because overall species richness or an index score is relatively low. Fish IBI measures departure from an expected assemblage; it does not measure habitat irreplaceability, spawning function, recruitment value or conservation significance.

5.4.9 The use of catchment position as a basis for assigning **Negligible** value to headwater reaches is particularly difficult to support. Headwater position does not, in itself, establish low ecological value and must be considered alongside habitat function, fish passage, connectivity and species use.

5.4.10 The Table 11 approach also fails to adequately recognise site-specific ecological values. The highest-ranked Leathwick site identified in the assessment is Robertson Tributary, yet it is assigned a **Negligible** overall value in Table 11. This illustrates the disconnect between the underlying ecological information and the final value conclusion.

5.4.11 The FER further states that streams upstream and downstream of assessed reaches are assumed to have the same or similar values, with no obvious better or poorer reaches requiring separate assessment. This is difficult to reconcile with the assessment itself, which identifies a broad range of stream conditions from Very Poor to High.

5.4.12 This approach is particularly problematic where individual reaches provide specific ecological functions, including īnanga spawning habitat, banded kōkopu habitat, longfin eel migration pathways, headwater refuge or wetland connectivity. Such values cannot appropriately be averaged away because the wider catchment contains a larger area of modified stream habitat.

5.4.13 In my opinion, Table 11 therefore produces a systematic downward pressure on ecological value. The process begins with modified assessment tools, applies additional scoring thresholds and subjective interpretations, and culminates in a Value Conclusion that is not independently reproducible.

5.4.14 This is consequential to the effects assessment because the lower the ecological value assigned at Table 11, the lower the level of effect that can subsequently be attributed to the same physical loss or modification.

5.4.15 I therefore do not consider the Table 11 ecological value conclusions to provide a sufficiently robust basis for the subsequent assessment of freshwater effects. The underlying ecological information should instead be considered directly, with recognised assessment frameworks applied without unsubstantiated modification and with site-specific ecological functions and conservation values retained in the assessment.

5.5 NATURAL INLAND WETLANDS – MAPPING, CHARACTERISATION AND ECOLOGICAL FUNCTION

5.5.1 I consider the wetland baseline in the FER to be incomplete. My field mapping identified additional natural inland wetland areas (shown in my report- *Appendix C Wetland Maps)* and a more extensive and connected wetland resource than is represented in the FER. Recently release NRC indicative wetland mapping[1] supports the incompleteness. The FER itself acknowledges that its mapped baseline is likely to underestimate the true extent of natural inland wetlands.

5.5.2 The FER provides limited spatial and ecological description of the wetlands assessed. In several cases, wetlands are treated as discrete polygons without adequately describing their hydrological connections, associated streams, wetland margins or relationship with adjoining wetland areas.

5.5.3 This is important because several wetlands form connected ecological units. For example, Wetlands 14 and 15 are closely linked by flow, while Wetlands 13 and 16 form important connections within the Waihoihoi and associated tributary network. Treating these areas as separate units understates their collective hydrological and ecological function.

5.5.4 Wetland 16 is a particularly clear example. It has been artificially divided into separate portions despite functioning as a connected ecological unit. This separation reduces the apparent extent and significance of the wetland and can lead to lower values being assigned to individual portions.

[1] https://experience.arcgis.com/experience/588ba304a02b4a22beb1ebb33cafc03e

5.5.5 The same issue occurs where wetlands and streams are assessed independently. Wetlands can provide headwater storage, groundwater interaction, downstream flow regulation, nutrient processing, fish passage and seasonal habitat. Their ecological function therefore cannot be adequately assessed by considering the wetland polygon in isolation from the connected freshwater network.

5.5.6 Wetland 18 provides another example, being associated with a spring and natural wetland vegetation. Its hydrological function is therefore directly relevant to the assessment of connected freshwater systems and cannot appropriately be assessed solely on the basis of vegetation composition.

5.5.7 I consider the FER's treatment of exotic-dominated wetlands to be a significant methodological weakness. The presence of exotic vegetation or grazing does not remove the ecological functions of a natural inland wetland. Hydrology, soils, wetland processes and habitat function remain relevant irrespective of whether the vegetation is predominantly indigenous or exotic.

5.5.8 The FER effectively treats exotic dominance as evidence of low ecological value. This conflates vegetation condition with ecological function. In a highly modified landscape, exotic-dominated wetlands may represent modified remnants of the original wetland system and can retain important hydrological, habitat and connectivity functions.

5.5.9 The indigenous component of these wetlands should also not be disregarded. Species such as *Isolepis prolifera*, swamp millet and indigenous rushes, sedges and wetland herbs remain components of these systems. Their presence contributes to the remaining indigenous wetland expression within a highly modified landscape.

5.5.10 Exotic-dominated wetlands can also provide habitat for indigenous fauna. Wetland vegetation provides cover, foraging habitat, organic matter and aquatic invertebrate production, and can provide seasonal habitat for freshwater fish and wetland birds. The ecological value of such habitat therefore cannot be determined solely from the proportion of exotic vegetation present.

5.5.11 This is particularly relevant to the Project area where wetlands are connected to streams supporting indigenous fish. Wetlands 13 and 16, for example, occur at important points within the connected Waihoihoi tributary network and function as ecological bottlenecks for hydrology, indigenous biodiversity and fish passage.

5.5.12 Wetland 12 also contains kahikatea and represents a remnant of the regionally rare WF8 kahikatea swamp forest ecosystem. Assigning such a wetland a Negligible biodiversity value does not adequately recognise its rarity, indigenous vegetation or ecological context.

5.5.13 I also consider that the FER's characterisation of some wetlands as essentially wet pasture is misleading where those areas meet the definition of natural inland wetland. Grazing and exotic dominance describe current land use and vegetation condition; they do not establish that the wetland lacks hydrological or ecological function.

5.5.14 The FER's approach is therefore circular in places: areas are recognised as natural inland wetlands, but their wetland functions are then discounted because their present vegetation and land use resemble surrounding pasture. This effectively uses modification to discount the very ecological functions for which natural inland wetlands are protected.

5.5.15 In my opinion, wetland ecological value should be assessed from the combined evidence of hydrology, soils, vegetation, habitat, ecological processes, connectivity and species use. Exotic dominance should be treated as a condition attribute, not as a proxy for absence of ecological function or low ecological value.

5.5.16 The differences between my wetland mapping and the FER mapping, together with the limited description of wetland function and the discounting of exotic-dominated wetlands, mean that I do not consider the FER to provide a sufficiently reliable baseline of the natural inland wetland resource.

5.5.17 This is consequential to the effects assessment. If wetland extent and connectivity are underestimated and ecological value is reduced because of vegetation condition, subsequent calculations of wetland loss, magnitude of effect and mitigation requirements will also be understated. The FER's use of catchment-scale proportional wetland loss further compounds this problem by diluting the effects on individual functionally important wetland systems.

6.0 ASSESSMENT OF EFFECTS

6.1 GENERAL ASSESSMENT OF EFFECTS

6.1.1 The effects assessment is built on ecological values that have already been reduced through the modified valuation framework. The effects assessment therefore cannot recover ecological value that has been discounted at the baseline stage.

6.1.2 The FER assesses effect magnitude primarily as a proportion of the freshwater resource within the relevant catchment. This is not an appropriate proxy for ecological effect where important values occur at reach or site scale. A relatively small area may contain critical spawning, recruitment, refuge, spring, wetland or fish-passage habitat.

6.1.3 Catchment-scale averaging consequently dilutes local ecological effects. The loss or severance of a particular habitat feature does not become ecologically insignificant because it represents a small percentage of the total catchment resource.

6.1.4 This is particularly important for headwater streams. The FER discounts effects where streams are small, intermittent or support relatively few fish, despite field records of banded kōkopu in upper Pine and Waipū South headwaters. Low abundance does not establish low ecological importance for an At Risk – Naturally Uncommon species.

6.1.5 Habitat extent is repeatedly used as a proxy for habitat function. This understates effects where relatively small areas provide disproportionate ecological functions, including spawning, recruitment, refuge, migration and connectivity.

6.1.6 Changes in flow permanence are also underweighted. Conversion of perennial reaches to intermittent systems, or intermittent reaches to ephemeral flow paths, can alter water temperature, dissolved oxygen, refuge availability, fish access and ecosystem processes. These are functional ecological changes, not simply changes in stream length.

6.1.7 The cumulative effects of multiple stream crossings, culverts, realignment and habitat modification are similarly understated. Fragmentation can reduce longitudinal connectivity and access to spawning, rearing and refuge habitat beyond the physical footprint of each individual structure.

6.1.8 The same approach is applied to wetlands. The FER uses an incomplete catchment-scale wetland denominator while acknowledging that the mapped baseline is likely to underestimate the actual extent of natural inland wetlands. This uncertainty should reduce confidence in the quantitative effects assessment, rather than support a lower apparent percentage loss.

6.1.9 Wetland effects are also assessed largely as direct area loss, with insufficient consideration of fragmentation, altered hydrology, groundwater drawdown, edge effects and loss of connectivity between functionally connected wetland systems.

6.1.10 In my opinion, the combined effect of these assessment choices is to systematically understate freshwater ecological effects. The methodology assesses effects against a catchment-scale denominator that bears limited relationship to the scale at which many freshwater ecological functions are expressed.

6.2 FISH PASSAGE, CULVERTS AND STREAM REALIGNMENT

6.2.1 Fish passage requirements are determined in part from the reduced habitat values and simplified assumptions regarding upstream fish habitat. This creates a risk that under-detection or under-valuation of fish species results in reduced fish-passage requirements.

6.2.2 The FER does not provide sufficient structure-specific information on the number, location, dimensions and hydraulic design of proposed culverts to allow fish-passage effects to be assessed with confidence. This also limits assessment of cumulative and reach-scale connectivity effects.

6.2.3 The culvert assessment focuses substantially on hydraulic performance and engineering compliance. These are important considerations, but compliance does not demonstrate maintenance of natural stream ecosystem function or access to upstream habitat.

6.2.4 Minimum fish-passage requirements are also presented as mitigation where they represent baseline regulatory expectations. I do not consider regulatory compliance, by itself, to demonstrate that adverse ecological effects have been avoided or adequately mitigated.

6.2.5 The FER assumes that stream realignment and reclamation can maintain ecological values through replication of channel form, flow, velocity, riparian condition and substrate. This does not demonstrate ecological equivalence to the natural stream being replaced.

6.2.6 A constructed replacement channel may reproduce selected physical characteristics without reproducing the geomorphic processes, habitat complexity, ecological connectivity or species-specific functions of the original stream.

6.2.7 The FER further concludes that even where stream realignment objectives are not achieved, residual effects may remain less than minor because the affected length is a small proportion of the catchment. This makes the success of the proposed mitigation largely irrelevant to the ultimate effects conclusion.

6.2.8 The assessment therefore places substantial reliance on future monitoring and adaptive management. In my opinion, this is insufficient where failures in channel morphology, hydrology, ecological function or fish passage may be difficult or impracticable to remedy once construction is complete.

6.2.9 Ecological success should therefore be designed into stream and culvert works at the outset. The NIWA Fish Passage Guidelines emphasise fish passage as a fundamental design objective, particularly for long or embedded culverts where later remedial intervention may be impracticable.

6.3 WETLAND EFFECTS

6.3.1 The wetland effects assessment inherits the deficiencies in the wetland baseline and ecological valuation. In particular, incomplete mapping and reduced ecological values mean that the magnitude of effects is assessed against an already understated resource.

6.3.2 The FER uses catchment-scale proportional wetland loss to determine magnitude. This dilutes effects on individual wetlands and does not recognise that a relatively small wetland can perform a disproportionately important hydrological or ecological function.

6.3.3 The assessment also focuses on wetlands directly intersected by the Indicative Alignment and does not adequately assess wider effects on connected wetland systems, including groundwater drawdown, altered hydrology, sedimentation, fragmentation and edge effects.

6.3.4 This is particularly important for functionally connected wetland systems such as Wetlands 13 and 16, which occur within the connected Waihoihoi tributary network and provide important hydrological and ecological connectivity.

6.3.5 The FER's conclusion that effects are very low also reflects its earlier treatment of exotic-dominated wetlands as having negligible or low ecological value. The effects assessment therefore carries forward an ecological value that has already been reduced because of vegetation composition and perceived condition.

6.3.6 Wetland loss or degradation can affect functions beyond the footprint itself, including water storage, flow regulation, nutrient processing, aquatic habitat, fish passage and wetland fauna habitat.

6.3.7 The effects management hierarchy is consequently weakened. Where ecological value is reduced before effects are assessed, the threshold for requiring avoidance is correspondingly lowered.

6.3.8 In my opinion, wetland effects should be assessed at the scale of the affected wetland system and its functions, including connected hydrological and ecological features, rather than primarily as a percentage of total catchment wetland area.

6.4 GROUNDWATER EFFECTS ON STREAMS AND WETLANDS

6.4.1 The groundwater assessment relies materially on the FER when determining the ecological significance and acceptability of predicted groundwater effects.

6.4.2 This creates a feedback between the assessments. Uncertainty in the FER regarding stream permanence, wetland hydrology and groundwater-dependent ecosystems is carried into the groundwater assessment, while groundwater uncertainty can in turn affect interpretation of freshwater ecological effects.

6.4.3 The groundwater assessment acknowledges that drawdown may alter stream and wetland hydrology, including conversion of perennial streams to intermittent systems, intermittent streams to ephemeral flow paths and reduction in wetland extent. These are fundamental changes in freshwater ecosystem function.

6.4.4 Despite this, the FER repeatedly discounts these effects because the affected systems are characterised as small, ephemeral or supporting relatively few fish. This repeats the same methodological problem identified elsewhere in the assessment.

6.4.5 The field evidence does not support this assumption. Banded kōkopu were recorded in upper Pine and Waipū South headwaters, demonstrating that headwater systems provide habitat for At Risk – Naturally Uncommon fish. They are expected in low numbers naturally, not as a reflection of insufficient or adverse habitat.

6.4.6 Where the underlying freshwater baseline is incomplete, I do not consider it appropriate for uncertainty to be resolved by assuming lower ecological value or ecological acceptability.

6.4.7 The potential conversion of permanent or intermittent freshwater habitat through groundwater drawdown should be assessed as a change in ecological function, rather than simply as a change in the amount of stream length or wetland area.

6.4.8 In my opinion, the actual and potential direct and cumulative effects of groundwater alteration on streams and wetlands within the Waihoihoi and Ahuroa catchments remain insufficiently defined.

6.4.9 I therefore consider that the groundwater management recommendations do not adequately reflect the ecological uncertainty identified in the freshwater assessment and do not apply a sufficiently precautionary approach.

7.0 MITIGATION, MANAGEMENT AND MONITORING

7.1 The proposed mitigation measures inherit the reduced ecological values and effects magnitudes established earlier in the FER. The management response is therefore calibrated to effects that I consider have already been understated.

7.2 The effects management hierarchy is weakened where avoidance is considered only after ecological values and effect magnitude have been reduced through the bespoke assessment framework. The FER repeatedly concludes that stream and wetland effects are less than minor because the affected resource represents a small proportion of the wider catchment.

7.3 For streams, the proposed mitigation includes stream realignment, reclamation, culvert design, fish passage measures and riparian planting. These measures are presented as capable of retaining or restoring ecological values, but the FER provides limited evidence demonstrating that the proposed replacement habitats will achieve ecological equivalence.

7.4 In particular, the proposed stream realignment approach relies on reproducing channel form, flow, velocity, riparian condition and substrate. These physical attributes do not demonstrate recovery of the wider ecological functions of a natural stream, including geomorphic processes, habitat complexity, connectivity and species-specific habitat requirements.

7.5 Riparian replacement is also relatively prescriptive, including a proposed 10 m indigenous planting width. However, where mature indigenous riparian vegetation is removed, planting a standard width does not provide like-for-like replacement of mature canopy, structural complexity, shading, bank stability or the habitat functions provided by established vegetation.

7.6 This is particularly relevant where existing riparian vegetation includes mature kahikatea and other indigenous canopy associated with WF8 alluvial systems. Replacement planting cannot replicate the ecological function of mature riparian forest within the timeframe of the Project.

7.7 The fish salvage provisions also warrant caution. Where dewatering or diversion occurs, fish salvage is dependent on a Suitably Qualified Person determining that a watercourse supports a viable fish population. Given the deficiencies in the FER's fish baseline and the under-valuation of individual species and reaches, I have limited confidence that this threshold will consistently identify all ecologically important fish habitat.

7.8 Fish salvage also addresses immediate mortality risk but does not compensate for the residual loss or degradation of habitat. The FER does not adequately resolve where salvaged fish will be transferred or whether the receiving habitat is suitable for the particular species and life stages concerned.

7.9 The proposed fish-passage measures similarly rely substantially on minimum regulatory requirements. These provide a baseline standard rather than demonstrating that the particular ecological effects of each culvert have been avoided or mitigated.

7.10 There is also uncertainty regarding the specific watercourses to which some proposed protective conditions apply. For example, the review identified difficulty determining which watercourse is intended to be protected by the proposed crossing-avoidance condition. This illustrates the practical consequence of deficiencies in the underlying freshwater mapping.

7.11 The wetland mitigation is similarly affected by the incomplete baseline. Where wetland extent and connectivity have not been adequately mapped, mitigation cannot confidently be designed to compensate for the full ecological function affected.

7.12 The proposed wetland measures should therefore not be limited to replacement of mapped wetland area. They should address hydrological function, connectivity, habitat, indigenous vegetation and restoration potential, including effects on connected wetland and stream systems.

7.13 The need for this is demonstrated by the Ahuroa īnanga spawning system. Regional restoration work has identified substantial spawning utilisation in the Ahuroa River, with approximately 352,574 eggs estimated, and has applied stock exclusion, riparian planting, habitat enhancement and pest management to improve spawning function and egg survival. This demonstrates the type of **functional, targeted management** required where freshwater habitat supports important life-history processes.

7.14 This is materially different from treating mitigation as replacement of an equivalent area or length of freshwater habitat. For fish, ecological outcomes depend on maintaining access to a connected mosaic of spawning, rearing, feeding and refuge habitats.

7.15 The proposed monitoring and adaptive management framework is therefore particularly important, but I do not consider monitoring alone sufficient to address the identified uncertainty. Monitoring should test ecological outcomes, including fish passage, fish use, habitat function, channel stability, hydrology and wetland function, rather than simply confirm that construction specifications have been met.

7.16 In my opinion, mitigation should be designed around the **ecological function at risk at each affected site**, rather than the catchment-scale value assigned by the FER. This is particularly important for īnanga spawning habitat, banded kōkopu habitat, longfin eel migration corridors, high-quality headwater refugia and connected wetland systems.

7.17 Overall, I consider that the proposed mitigation is not sufficiently site-specific or function-based to provide confidence that the freshwater ecological values affected by the Project will be maintained. The deficiencies in the baseline and valuation assessment also create a risk that important habitats are omitted from, or given insufficient weight within, the management response.

8.0 CONCLUSIONS

8.1 The FER does not provide a sufficiently reliable, transparent or repeatable basis for evaluating the freshwater ecological effects of the Project. The issues identified are not isolated technical differences but form a consistent pattern of methodological departures and unsupported assumptions.

8.2 The freshwater baseline is insufficiently robust, with deficiencies in stream mapping, wetland delineation, survey coverage, habitat assessment and interpretation of existing records. These deficiencies materially affect the ecological values subsequently assigned.

8.3 The FER's assessment is fundamentally dependent on a bespoke Digital Network (DN) model that has not been made available for independent review or reproduced from the information provided. The underlying datasets, stream initiation thresholds, flow-accumulation parameters, DEM conditioning, manual edits and classification rules are not disclosed.

8.4 This is particularly concerning because the FER states that, following classification**,** ephemeral systems have not been considered further in the assessment**.** This effectively treats the classification as an absolute exclusion of ecological value, rather than assessing the functions of individual reaches.

8.5 My field verification identified numerous discrepancies in the DN, including reaches mapped as ephemeral that were observed as intermittent or permanent, spring-fed reaches mapped as rain-fed ephemeral, and stream reaches absent from the FER mapping. Examples include Pine North and Streams K, M, O, P, Q, R and S identified in my report as Appendix 1: Waterway Maps, with indigenous fish recorded in some reaches classified as ephemeral.

8.6 The problem is therefore not simply one of classification terminology. If intermittent or permanent reaches are incorrectly classified as ephemeral, they are removed from the recognised freshwater resource and excluded from the effects assessment. This directly reduces the quantity of stream habitat against which Project loss and modification are calculated.

8.7 The effect is compounded because the DN-derived stream length forms the denominator for the proportional effects calculations. Any under-mapping or misclassification therefore reduces both the recognised stream resource and the reported proportion of that resource affected. The same error can consequently operate twice: first by excluding habitat from consideration, and secondly by diluting the remaining loss across the reduced or distorted resource base.

8.8 Established EIANZ assessment methodologies and tables have also been modified. In particular, the FER alters standard EIANZ scoring tables and thresholds while continuing to attribute the resulting framework to the source EIANZ documents. This risks giving the modified methodology the appearance of being an EIANZ-derived standard when the assessment criteria and scoring have in fact been materially changed.

8.9 Other established assessment methodologies, including SEV, RHA, Fish IBI and wetland assessment, have similarly been modified or combined within a bespoke valuation framework without sufficient justification or demonstrated scientific basis. These departures reduce transparency, repeatability and comparability and have the effect of reducing the ecological values assigned to freshwater habitats.

8.10 A central concern is the repeated conflation of ecological condition with ecological value. Modified, grazed or exotic-dominated systems may nevertheless retain important hydrological, ecological, biodiversity and restoration functions. This is particularly relevant to headwater streams, intermittent waterways, springs and natural inland wetlands.

8.11 The fish assessment similarly under-represents freshwater values through limited survey resolution, over-reliance on eDNA and non-detection, incomplete use of NZFFD records, insufficient consideration of spawning and recruitment habitat, and the subsequent reduction of species significance through the bespoke valuation process.

8.12 The effects assessment compounds these limitations through catchment-scale averaging and proportional habitat-loss calculations. These approaches dilute local effects and insufficiently account for ecological function, connectivity, fish passage, spawning, recruitment and cumulative fragmentation.

8.13 The wetland assessment is similarly affected by incomplete mapping and undervaluation of exotic-dominated natural inland wetlands. Wetlands are too often assessed as vegetation assemblages rather than integrated hydrological ecosystems providing water storage, groundwater interaction, nutrient processing, habitat and connectivity.

8.14 The proposed mitigation and management measures inherit these limitations. Stream realignment, culverts, fish passage, riparian restoration and wetland management are relied upon to achieve ecological outcomes without sufficient project-specific evidence demonstrating ecological equivalence.

Monitoring is also relied upon to address uncertainties that may be difficult or impracticable to remedy after construction.

8.15 Regulatory compliance is at times presented as ecological mitigation. Compliance with minimum statutory requirements does not, in itself, demonstrate that adverse ecological effects have been avoided, remedied or offset.

8.16 The implications extend beyond the FER. Its ecological values and effects conclusions inform groundwater, construction water, project design, consent conditions and environmental management. The methodological assumptions and uncertainties are therefore propagated through the wider Project framework.

8.17 In my opinion, the cumulative effect of these methodological departures is to **systematically understate freshwater ecological values and the likely magnitude and significance of adverse effects**. The deficiencies are interconnected, such that the combined effect is substantially greater than any individual issue considered in isolation.

8.18 I am concerned that adoption of these non-standard assessment approaches within future stages of the Northland Corridor, or more broadly across NZTA infrastructure projects, could establish a precedent whereby freshwater ecological values, effects and management requirements are systematically reduced through bespoke methodologies while retaining the appearance of recognised assessment practice.

8.19 This also has implications for relationships with iwi and communities in Northland. Where established ecological assessment frameworks are materially altered in ways that systematically reduce the significance attributed to freshwater values, there is a risk of undermining confidence in the independence and integrity of the assessment process. In my opinion, continued use of such approaches risks eroding trust in how freshwater taonga, locally significant ecological values and matters of importance to iwi and communities are identified, assessed and ultimately provided for.

8.20 I consider that the FER should be revisited using recognised, transparent and repeatable New Zealand freshwater assessment methodologies, with adequate field validation and appropriate consideration of ecological function, connectivity, fish habitat and wetland values.

8.21 Until this occurs, I consider that the conclusions of the FER regarding freshwater ecological values, effects and the adequacy of proposed management should be afforded **limited weight** in informing the Panel's decision-making.

Appendix C

Expert Ecological Evidence

Jacqui Wairepo

Kūkūwai Consulting

BEFORE THE EXPERT PANEL **FTAA-2603-1178**

UNDER THE	**FAST TRACK APPROVALS ACT 2024** (**FTAA** or **Act**)
IN THE MATTER OF	a substantive application by New Zealand Transport Agency, Waka Kōtahi for Section 2B of the Northern Corridor, Northland

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STATEMENT OF EVIDENCE OF JACQUELINE WAIREPO ON BEHALF OF TE POUWHENUA O TIAKIRIRI KUKUPA TRUST (TE PARAWHAU KI TAI)

Dated 12 AUGUST 2026

Prepared from technical review of NZTA's Assessment of Effects on Terrestrial Ecology and Assessment of Effects on Avifauna for Section 2B of the Northland Corridor

Kūkūwai Consulting Limited
Jacqueline Wairepo

1. Executive Summary

1.1 I have prepared an independent technical review of the ecological information submitted for the Alternative to Brynderwyn Section 2B project, with a focus on terrestrial fauna including herpetofauna, avifauna, long-tailed bats, and kauri snails.

1.2 The Project Designation (PD) encompasses modified pasture and plantation forestry, with higher ecological values concentrated in indigenous forest remnants, wetlands, and Significant Natural Areas. These habitats support several Threatened and At-Risk species.

1.3 While the ecological assessments apply the EIANZ Ecological Impact Assessment (EcIA) framework, confidence in many conclusions is limited. Survey durations were short relative to the scale of the project, several taxa have low detectability, and key assumptions rely on mitigation techniques that have not yet been demonstrated as effective; particularly salvage, relocation, and large-scale habitat restoration for Hochstetter's frogs.

1.4 The most significant ecological uncertainty relates to Hochstetter's frogs. Up to 35,000 individuals have been reported as potentially, and no mitigation pathway has been identified that could adequately protect this regionally distinct species.

1.5 Residual effects for several taxa have been assessed as Low or Very Low, but these outcomes depend heavily on assumptions not supported by the evidence provided. In my opinion, residual effects for Hochstetter's frogs, cryptic wetland birds, and other low-mobility fauna are likely to remain Moderate to High even after mitigation, offset, and compensation measures are applied.

1.6 If approved, I recommend additional multi-season surveys, early (advanced) restoration, urgent development of frog salvage and translocation trials, and strengthened fauna management measures including kiwi-specific protocols. Greater certainty regarding mitigation effectiveness should be established before the proposed designation is confirmed.

2. Introduction

2.1 This evidence provides an independent peer review of four ecological documents prepared by Waka Kōtahi NZTA for the Alternative to Brynderwyn Section 2B project:

a. Assessment of Effects on Terrestrial Ecology
b. Assessment of Effects on Avifauna Ecology
c. Draft Designation Conditions [Appendix E1]
d. Wildlife Act Approval Application [2 April 2026]
e. Proposed Designation Conditions

2.2 My review evaluates the information, methods, analyses, and conclusions presented in these documents as they relate to terrestrial wildlife of ecological, conservation, and cultural significance.

2.3 This review has been prepared to inform the Cultural Impact Assessment undertaken by Te Parawhau Hapū on behalf of Te Pouwhenua o Tiakiriri Kukupa Trust.

2.4 The purpose of the review is to determine whether the information provided offers a sufficiently robust basis for understanding the magnitude and level of effects on indigenous wildlife values within the PD.

2.5 Field surveys underpinning the ecological assessments vary in scope and intensity. Some taxa including long-tailed bats, kauri snails, and lizards were surveyed relatively intensively, but

survey durations were short relative to the scale of the project and the low detection probabilities of these species.

2.6 Avifauna assessments relied heavily on opportunistic observations and desktop records. While this provides a reasonable species list, it offers limited confidence regarding current distribution, abundance, and habitat use.

2.7 All ecological assessments apply the EIANZ EcIA framework. My review identifies several areas where in my opinion the assumptions have overstated the likely success of mitigation efforts, particularly for translocation and habitat restoration measures.

3 Qualifications, experience and code of conduct

3.1 My name is **Jacqueline Wairepo**. I am a fauna ecologist and herpetologist with 16 years of experience working with indigenous wildlife in Aotearoa New Zealand, 10 of which I have been working as an ecological consultant.

3.2 I have specialized in herpetofauna since 2016, and have extensive experience in survey design, salvage operations, translocation, and population management for a wide range of herpetofauna species.

3.3 I have held DOC Certifications for long-tailed bats since 2018 and am approved to undertake all activities associated with High Impact operations (Certification Level 3).

3.4 Since 2021, I have operated as an independent Northland-based wildlife and herpetological specialist, regularly preparing and implementing Fauna Management Plans that include each of the above taxa, as well as dedicated Lizard Management Plans.

3.5 I am well known to technical specialists within the Department of Conservation, including the National Bat Recovery Group, the National Lizard Technical Advisory Group (TAG), and the National Frog Recovery Group.

3.6 I have been a named authority on numerous Wildlife Act Authority permits since 2016.

3.7 I provide expert Technical Advice to the Department of Conservation on lizards for Wildlife Approval Applications under the Fast Track Act for other large infrastructure projects.

3.8 My experience also includes extensive survey and salvage work for kauri snails, and Hochstetter's frogs, as well as having undertaken a broad range of avifauna related work since 2010.

3.9 My Consulting experience includes fauna-focused ecological assessments for numerous significant infrastructure projects including roading, wind farms, solar farms, hydro schemes, dams and rural developments.

3.10 I have been the Technical Lead for Herpetology on the Mt Messenger Bypass project since 2023.

3.11 I have provided expert evidence for hearings relating to lizard values and impacts associated with nationally significant infrastructure.

4 Code of Conduct

4.1 I confirm that I have read the Expert Witness Code of Conduct contained in the Environment Court Practice Note 2023.

4.2 I agree to comply with it.

4.3 My evidence is within my area of expertise.

4.4 I have not omitted material facts that might alter or detract from my opinions.

5 Scope of Evidence

5.1 This evidence reviewed the adequacy of the ecological information submitted for the Alternative to Brynderwyn Section 2B project, with a focus on terrestrial wildlife values within the PD.

5.2 The assessment examined whether survey methodologies and survey effort were sufficient to reliably determine species presence, distribution, abundance, and habitat use.

5.3 Actual and potential ecological effects were evaluated, including direct, indirect, cumulative, and long-term effects on indigenous fauna.

5.4 The review considered the appropriateness and likely effectiveness of proposed avoidance, mitigation, offset, and management measures, and whether they aligned with established best practice.

5.5 Attention was given to whether the assessments and conclusions presented in the ecological reports were supported by evidence, ecological principles, and current best practice.

5.6 The Wildlife Act Approval Application and proposed designation conditions were also reviewed, with commentary provided on their adequacy, completeness, and recommended amendments to ensure effective protection of indigenous wildlife.

6 Process undertaken for the technical assessment

The following information was reviewed:

a. Terrestrial ecology and avifauna EclAs
b. Wildlife Act Approval Application
c. Proposed designation conditions

d. Baseline field survey data
e. GIS habitat mapping, and species distribution records
f. Species-specific reports for bats, lizards, kauri snails, and Hochstetter's frogs
g. Relevant scientific literature and DOC best-practice guidance
h. Local ecological knowledge, including that provided through Te Parawhau Hapū.

7 Lizards

7.1 In forming my assessment on lizard values within the PD, I have relied on the applicant's survey data, my own experience with lizard ecology in Northland, and the EIANZ EcIA framework. While the survey methods used are standard and appropriate, in some cases the application of the methods were suboptimal and as such the dataset is not as robust as the assessment suggests. In my view, the survey effort does not provide a reliable basis for concluding that lizard populations are sparse across the PD.

7.2 Copper skink was the only species detected; however, Pacific gecko and elegant gecko are confirmed as present, and ornate skink and forest gecko are highly. Low detection rates are common in dense or structurally complex habitats, and I do not consider the absence of records to be evidence of low abundance. The ecological value assigned to these species is appropriate.

7.3 The habitats affected by the project (forest margins, riparian corridors, regenerating vegetation, plantation edges and native forest fragments) are all areas I would expect skinks and geckos to use. These habitats are already fragmented, and in my opinion

the project will further exacerbate fragmentation effects. The assessment acknowledges this but then downplays its significance by focusing on the proportion of habitat affected rather than the ecological function of those habitats. In my view, habitat connectivity is of equal value to habitat extent and represents a key issue for lizard values within and surrounding the PD.

7.4 I have reviewed the applicant's assessment of effects, and in my opinion it underestimates the magnitude of several key impacts. Injury and mortality during vegetation clearance are real risks, and the assumption that salvage will capture most individuals and that relocated lizards will survive is not supported by evidence. Capture probability for cryptic or arboreal species is inherently low, and relocation outcomes are highly variable. These uncertainties are not reflected in the applicant's conclusion of Low residual effects.

7.5 The assessment also relies heavily on the assumption that restored and enhanced habitats will provide functional replacement habitat within an ecologically meaningful timeframe. I am unconvinced this is likely to be the case. It can take decades for restored habitats to develop the structural complexity required for lizards, particularly arboreal geckos. Connectivity plantings will not function as dispersal corridors for many years. These time-lags mean that actual residual effects are likely to be greater than those reported.

7.6 I am also concerned that indirect effects (namely noise, vibration, lighting and dust) have been acknowledged during construction but not considered in the long-term. These disturbances can influence habitat quality and lizard behaviour, particularly in small forest remnants adjacent to the motorway corridor. In my view,

the assessment does not adequately address these ongoing effects.

7.7 The applicant concludes that residual effects on lizards will be Low and therefore do not warrant inclusion in the offsetting or compensation package. This assessment is based on optimistic assumptions about salvage success, habitat restoration, and long-term survivorship that are not supported by evidence. If survivorship is lower than assumed, residual effects are likely to be substantially higher.

7.8 Overall, while the survey methods and proposed mitigation measures are standard, I do not support a conclusion of Low residual effects. A precautionary approach is warranted. In my assessment, residual effects on lizards should be considered at least Moderate due to habitat fragmentation, mortality risk, displacement, and uncertainty around mitigation outcomes.

8. Kauri Snails and Other Invertebrates

8.1 In forming my opinion on the assessment of the project on kauri snails and other terrestrial invertebrates, I have relied on the applicant's survey data, my own experience with land snail ecology in Northland, and the EIANZ EcIA framework. The survey methods used are appropriate for detecting kauri snails and other priority invertebrates. However, the limited spatial coverage and the small proportion of suitable habitat actually searched, means the dataset provides only a very limited picture of invertebrate distribution within the PD.

8.2 Kauri snails are naturally patchy in their distribution, often occurring at low densities across broad areas but forming dense, highly localised clusters in favourable microhabitats in Northland

forests. These clusters can be missed even with reasonable survey effort, particularly when surveys occur during dry periods or when only a small proportion of suitable habitat is searched. The applicant acknowledges this patchiness but then relies on low detection rates to infer low abundance across the PD. In my opinion, this is not a reliable assumption.

8.3 The ecological value assigned to kauri snails as High is appropriate given their At Risk–Declining status.

8.4 Where I disagree with the assessment is in the magnitude assigned to these effects. Habitat loss is assessed as Low following mitigation, but this conclusion relies heavily on the assumption that kauri snails occur at uniformly low densities across the PD. In my opinion, this assumption is not supported by the limited survey coverage. The Brynderwyns contain extensive areas of suitable microhabitat that were not surveyed, and the species' propensity for patchy distribution means that even small areas of habitat loss could affect a disproportionately large component of the local population.

8.5 Fragmentation effects are also understated. Kauri snails are highly sensitive to desiccation, temperature fluctuations, and predation pressure. Edge effects can extend well beyond the immediate footprint of vegetation clearance, altering microclimatic conditions in ways that reduce habitat suitability. In my view, the assessment does not adequately consider how fragmentation may isolate microhabitat patches, reduce dispersal opportunities, or expose snails to increased predation pressure.

8.6 The proposed mitigation package of salvage and relocation, habitat enhancement, pest control, and connectivity plantings is broadly consistent with best practice for other taxa. However, its

effectiveness for kauri snails is highly uncertain. Salvage is inherently limited by the cryptic nature of snails and the depth of leaf litter and debris they occupy. An unknown proportion will be detected and relocation outcomes have not been evaluated at scale. Habitat restoration and offset planting will take decades to develop the structural and microclimatic complexity required for high-quality snail habitat. In my opinion, the assumption that these measures will reduce residual effects to Low is optimistic and not supported by evidence.

8.7 I am also concerned that the assessment does not propose any monitoring framework to determine management objectives will be met. Without monitoring, it will not be possible to verify survivorship of populations or the long-term suitability of restored habitats. In my view, this represents a significant gap in the assessment and further undermines confidence in the conclusion of Low residual effects.

8.8 Overall, while the report correctly identifies the types of impacts expected for kauri snails and other invertebrates, it consistently assumes high mitigation effectiveness and low population density despite substantial uncertainty. A precautionary approach is warranted but is not demonstrated in the report. Given the patchy distribution of kauri snails, their strong microhabitat associations, the limitations of salvage, and the long lag-phase associated with habitat restoration, I consider that Moderate residual effects are likely to persist for an extended period following construction.

8.9 Finally, given the long timeframe between now and project commencement, I strongly recommend that further targeted surveys be undertaken to improve understanding of kauri snail distribution within the PD. In my view, this is essential to reduce

uncertainty and ensure that any salvage, relocation, or mitigation measures are appropriately designed and implemented.

9. Avifauna

9.1 I have reviewed the applicant's desktop assessment, habitat mapping, and limited field survey data. While the framework is generally well-structured, the level of field survey input is lacking. Only twelve five-minute bird counts were undertaken, and no targeted surveys were completed for cryptic or regionally significant species such as Australasian bittern or North Island brown kiwi. In my view, this represents a significant gap, particularly given the well-documented presence of kiwi in the Brynderwyns and the extensive local ecological knowledge held by community groups such as the Piroa Conservation Trust.

9.2 The assessment relies heavily on historical records and inferred habitat suitability to determine species presence. While desktop information is useful, it is not a substitute for targeted field surveys in a landscape where kiwi presence is widely understood through predator control programmes, long-term Landcare activity, and regular community observations. The absence of nocturnal call counts, dog-assisted detection, or structured engagement with the local community limits confidence in conclusions regarding avifauna distribution within and adjacent to the PD.

9.3 Similar limitations apply to other sparsely recorded or highly mobile species. For example, kākā are known locally to occur in the wider Brynderwyn and Mangawhai landscape with some regularity. Wetland habitats are also undervalued in parts of the assessment, despite documented fernbird presence in modified

wetlands around Waipu. This highlights the importance of field surveys rather than reliance on broad habitat categorisation and desktop assessments.

9.4 Overall, the assessment would have benefited from a more substantial field programme, including repeated seasonal surveys across forest, farmland, plantation forestry, and wetland habitats. Given the size and ecological diversity of the PD, the current level of effort is relatively limited and reduces confidence in conclusions regarding species presence, habitat use, and ecological significance.

9.5 The effects assessment identifies approximately 370 ha of habitat loss, including 37 ha of native forest and scrub and around 3 ha of wetland and riparian habitat. While this provides a useful overview, several aspects warrant further consideration. The assessment identifies only limited wetland loss, yet approximately 2.4ha is considered potential habitat for Threatened and At-Risk species such as bittern and fernbird. In my view, the ecological value of these wetlands has been understated, particularly given the documented use of small, modified wetlands by fernbird and other wetland-associated species.

9.6 The assessment applies a narrow “primary habitat” approach, excluding species not considered to rely on the PD as core habitat. This approach can under-represent functional use of the landscape by a range of species that utilise farmland, forest margins, and wetlands opportunistically for foraging and other activities. These species may still be subject to relevant effects, including collision risk, disturbance, and fragmentation.

9.7 I am also concerned that operational effects of the new motorway also pose substantial risk to wetland-associated species such as

pāteke and Australasian little grebe, which have been noted in the Avifauna Impact Assessment as low-fliers and vulnerable to collision risk associated with road corridors and bridge structures. The scale of a four-lane motorway environment with increased traffic volume, lighting, and barrier effects, is likely to impose cumulative effects to a range of avifauna species beyond those associated with the existing two-lane SH1.

9.8 The recommended mitigation package, including an Avifauna Management Plan (AMP), wetland replacement, and lighting controls, provides a reasonable framework for many species. However, despite its local and regional important, insufficient attention has been given to kiwi due to its 'Not Threatened' status. Despite recognising potential kiwi presence within plantation forestry, the assessment does not include standard kiwi management measures commonly applied on major infrastructure projects. These include pre-construction kiwi surveys, dog-assisted detection, monitoring programmes, and construction timing restrictions around the breeding season. The breeding season window identified in the report may also underestimate the duration of nesting activity in Northland where chicks have been known to hatch into March and April.

9.9 The proposed wetland replacement ratio of 1:1 is unlikely to fully address temporary habitat loss, lag effects associated with habitat establishment, and ongoing disturbance from road operation. In my view, either advanced wetland creation or a higher replacement ratio (e.g., 2:1) should be considered to provide a net gain outcome and account for temporal losses in habitat function.

9.10 While the assessment is technically well-prepared, confidence in several conclusions is constrained by reliance on older data,

notable data gaps, and the absence of targeted surveys to confirm species presence, habitat use, and breeding activity. Given the likely lead-in time before construction, I strongly recommend robust baseline surveys, including targeted kiwi surveys within plantation forestry, broader avifauna inventories across forested areas, and seasonal wetland surveys (e.g., bittern booming season). These would strengthen confidence in the assessment and better inform the AMP.

9.11 Overall, while the desktop assessment is consistent with standard assessment framework, in the absence of having undertaken comprehensive surveys for a range of species a more precautionary approach in all aspects of avifauna assessment and management is warranted. This would improve confidence that adverse effects on avifauna are appropriately identified and managed to ensure no net loss of avifauna values in the local area.

10. Long-tailed Bats

10.1 In forming my opinion on long-tailed bat values within the Project Designation (PD), I have reviewed the applicant's acoustic survey data, habitat assessments, and desktop information. The survey methods used are standard and appropriate. The survey effort was substantial for a single season; however, in my view it still represents only a snapshot in time. Long-tailed bats can travel up to 25 km per night and regularly shift between foraging corridors, commuting routes, and roosts. As a result, the available data provides only partial insight into how bats use the Brynderwyn and Waipu landscape across seasons and years.

10.2 The report divides the PD into four habitat Zones, all assessed as High or Very High value. This aligns with my understanding of

the landscape: the Brynderwyn Hills Forest Complex, riparian corridors, wetlands, and scattered indigenous remnants all provide important foraging and commuting habitat. While the survey results suggest low levels of recorded activity across these Zones, I do not consider low acoustic detections to be evidence of overall low use. It is well-established that bat activity can vary substantially with weather, season, prey availability, and roost location. Without multi-season data, the interpretation of habitat use remains uncertain.

10.3 Overall, while the survey duration is reasonable for an initial baseline, confidence in the conclusions is constrained by limited temporal coverage and relatively low levels of recorded activity. In my opinion, additional surveys across multiple seasons and years would substantially improve understanding of habitat use, occupancy patterns, and the relative importance of the PD to the local bat population.

10.4 The effects assessment identifies habitat loss, fragmentation of foraging and commuting corridors, and disturbance from lighting and construction noise. Approximately 163 ha of high-value bat habitat will be lost, including 49 ha of commercial forestry. The assessment appropriately identifies fragmentation as having a Very High unmitigated effect, recognising that disruption of movement pathways can lead to avoidance behaviour and reduced access to key resources.

10.5 Where I disagree with the assessment is in the conclusion that all residual effects will be Low following mitigation. This conclusion relies heavily on the assumption that restoration planting will re-connect fragmented landscapes and “grow” new forests currently in pasture. These restored habitats will take decades to develop the structural complexity required for bats,

particularly in areas where connectivity between the eastern and western Brynderwyns is already tenuous. The Central Mitigation Area is of particular concern, where post-harvest conditions may create a temporary fragmentation barrier until indigenous restoration planting matures.

10.6 The assessment also identifies potential mortality from vehicle collision and operational disturbance from lighting and noise. These impacts are well-described, but again are scaled down to Low post-mitigation. In my opinion, this does not adequately consider the scale of a four-lane motorway environment, where increased traffic volume, lighting, and barrier effects may impose cumulative impacts beyond those associated with the existing SH1.

10.7 The proposed mitigation package includes avoidance protocols for tree-felling, retention of vegetation corridors, installation of bat hop-overs, lighting restrictions, and buffers around occupied roosts. These measures are generally appropriate and align with standard practice. The tree-felling protocol, when implemented correctly, is effective at avoiding direct injury or mortality and is supported.

10.8 However, in researching the literature, the effectiveness of hop-overs remains uncertain, particularly at the scale of a high-speed, multi-lane motorway. With this uncertainty, hop-overs should be regarded as supplementary and experimental in this context.

10.9 The proposed mitigation measures also do not fully address the extended timeframes required for habitat restoration. The extended lag-time may result in long-term behavioural changes, including avoidance of the PD and reduced access to key

foraging areas. These risks are not reflected in the conclusion of Low residual effects.

10.10 Overall, while the assessment identifies relevant impacts and applies standard mitigation measures, it relies heavily on optimistic assumptions about mitigation effectiveness and does not adequately consider time-lags, seasonal variability, or long-term behavioural responses. In my opinion, a precautionary approach is warranted. Residual effects should retain at least Moderate uncertainty to ensure they are appropriately included within the Residual Effects Management Plan.

10.11 Given the likely lead-in time before construction, I strongly recommend a multi-season survey programme covering spring, summer, and autumn over multiple years. Surveys should expand to include riparian corridors, forest fragments, ridgelines, and plantation forestry commuting routes. In my view, this should be complemented by a radio-tracking programme to identify key roosting sites (particularly potential maternity roosts) and high-use corridors within the PD. These areas should be treated as “no-go” zones for construction activities.

11. Hochstetter’s Frogs

11.1 In assessing the reported effects of the project on Hochstetter’s frogs, I have relied on the applicant’s survey data, my own experience with this species, and the EIANZ EcIA framework. Hochstetter’s frogs are one of the most sensitive fauna groups potentially affected by the project. Their distribution in Northland is extremely limited, confined to the Brynderwyn and Waipu forests, and recent genetic work confirms that the Northland taxon is distinct from other Hochstetter’s frog populations

nationally. In my view, this elevates the significance of any impact within the PD, as the project affects what is effectively a regionally unique taxon.

11.2 The applicant's survey effort was comprehensive, including streams within plantation and indigenous forest. Survey results provides a good baseline for understanding frog distribution throughout the PD and the transparency in reporting previous salvage data and potential abundance is supported.

11.3 The effects assessment quantifies approximately 3.85 km of indigenous stream habitat loss and 10.3 km of plantation stream habitat loss. Density-based extrapolation suggests that between 35,000 and 40,000 frogs could be affected by direct habitat loss and fragmentation. This should be considered as representative of a population-scale impact on a regionally distinct taxon, and the magnitude of effect is appropriately assessed as High. However, given the genetic distinctiveness of the Northland lineage and the proportion of its known range affected, I consider that a Very High magnitude classification may be justified under the EcIA framework.

11.4 I strongly disagree with the assessment around indirect effects associated with vibration, sedimentation and dust. These have all been classified as Low magnitude post-mitigation which is not supported by the evidence. Hochstetter's frogs rely on cool, shaded, stable stream microhabitats with low sediment levels. Even modest increases in sedimentation can alter substrate suitability and reduce resource (habitat, food) availability and quality. The Brynderwyn landscape contains numerous seepages, tributaries, and permanently moist habitats, and the potential for cumulative sedimentation and vibration effects is high. There is no precedent for large infrastructure projects

affecting stronghold populations of Hochstetter's frogs, and the uncertainties associated with prolonged construction vibration are not acknowledged in the assessment. In my view, these indirect effects cannot be confidently assessed as Low.

11.5 The assessment also provides very little discussion of genetic consequences associated with fragmentation. The creation of an isolated "island" of the Central Mitigation Area between the existing and proposed SH1 poses a risk of genetic isolation over time. Given the species' low mobility and strong microhabitat associations, fragmentation could reduce gene flow, limit recruitment, and decrease resilience to natural disturbance events such as storms and high sedimentation deposits including landslides. These risks are significant and should be reflected in the magnitude and level of effects.

11.6 The proposed mitigation package includes salvage and relocation, enhancement of approximately 16 km of stream habitat, riparian restoration, stock exclusion, pest control, and establishment of three mitigation sites. While these measures are standard for other taxa, their effectiveness for Hochstetter's frogs is uncertain. There is no proven methodology for successful translocation of this species at population scale. Outcomes depend heavily on recipient site conditions, resident population density, and carrying capacity; all of which are poorly understood. The fact that all proposed mitigation sites already contain frog populations increases uncertainty, as carrying capacity constraints may limit the ability of these sites to absorb large numbers of salvaged frogs.

11.7 I am particularly concerned about the suitability of the Central Mitigation Area. This site will be harvested prior to construction, substantially reducing habitat quality for an extended period

(potentially decades). The proposal to retain a 10 m riparian buffer is unlikely to provide sufficient habitat complexity or stability for frogs. In my opinion, this site is not suitable as a primary release location unless harvesting is avoided or restoration is undertaken many years in advance. It is unclear how staging will occur, and the risk of isolating thousands of frogs within narrow riparian margins is high. Observations of frogs on spurs and ridgelines indicate that their habitat use is not restricted to riparian margins alone, and fragmentation of these broader habitats may further constrain dispersal.

11.8 Habitat enhancement through riparian planting will take considerable time to develop the microclimatic conditions required for optimal frog habitat. Functional equivalence may not be achieved for decades, and indirect effects such as sedimentation and hydrological change may persist well beyond construction. In my view, these lag phases and uncertainties are not reflected in the conclusion that injury, mortality, displacement, and indirect effects can be reduced to Low.

11.9 Overall, while the assessment is transparent in quantifying population-level impacts, the conclusion that mitigation reduces all but habitat loss and fragmentation to Low residual effects is not supported by precedent or evidence. There is no successful precedent for translocation at this scale, and the ecological constraints of receiving environments (combined with harvesting, time delays, fragmentation and genetic risks) mean that residual effects are likely to be much higher. In my opinion, a precautionary interpretation would support High residual effects across all impact categories, not just direct habitat loss and fragmentation.

11.10 In summary, Hochstetter's frogs represent the most significant terrestrial ecological constraint within the PD. The scale of impact, the genetic distinctiveness of the Northland taxon, the uncertainties associated with translocation, and the long lag phases associated with habitat restoration collectively indicate that the proposed mitigation package is unlikely to achieve the outcomes claimed. In my view, the assessment does not provide sufficient confidence that adverse effects can be reduced to acceptable levels or within an acceptable timeframe, and this should represent a project-stopping point.

12. Assessment of Mitigation and Mitigation Sites

12.1 In forming my assessment on the adequacy of the proposed mitigation package, I have reviewed the EcIA, the residual effects assessment, and the information provided on the Northern and Central mitigation sites. It is unclear why these have been put forward as 'mitigation' when they do not avoid, minimise or remedy the effects of the project footprint within the project footprint. Instead, these sites have been put forward to address residual effects associated with the project. In my view this should be considered as part of a residual effects, compensation package. As such, they rely on an accurate assessment of residual effects to guide the scale of the package. At present, these assessments appear to be consistently undervalued, optimistic and rely on assumptions about salvage, translocation, and future habitat establishment that are not supported by evidence.

12.2 Across multiple taxa, the assessment reduces Moderate or High unmitigated effects to Low residual effects based on mitigation

measures that have uncertain or unproven effectiveness. This includes reliance on salvage and relocation for lizards, kauri snails and Hochstetter's frogs; habitat enhancement for bats; and habitat replacement and management planning for avifauna. In my opinion, these reductions are not justified given the uncertainties identified in the earlier sections of my evidence.

12.3 The mitigation package is centred on three sites, two of which (the Northern and Central Sites) I have assessed. Both provide opportunities for ecological restoration, but they differ significantly in baseline value, feasibility, and the level of additionality they are likely to deliver.

12.4 The Northern Site (approximately 54.5 ha) is already a relatively high-value area comprising mature kauri–podocarp–broadleaf forest and associated stream networks. Proposed gains include enhancement of 3.2 ha of existing vegetation and conversion of approximately 30 ha of pasture to indigenous cover. While these measures will contribute to ecological improvement over time, the opportunity for meaningful additionality within an acceptable timeframe is limited given much of the site's existing condition.

12.5 The Central Site (approximately 114 ha) is considerably more uncertain. It is dominated by plantation forestry with scattered indigenous remnants and stream networks supporting frog populations. The proposal relies heavily on future transition to indigenous vegetation following forestry harvesting, with several measures described as occurring "if required" or subject to future confirmation. In my view, this introduces substantial uncertainty around timing, delivery, and ecological trajectory. If harvesting proceeds, habitat quality will decline significantly for an extended period of potentially decades, creating a temporal disconnect between impact and mitigation effectiveness. This undermines

confidence in the site as a suitable offset location and raises serious concerns about its suitability as a release site for salvaged fauna.

12.6 The package includes restoration planting, pest control, covenant protection, and stream enhancement. However, there is no quantitative analysis linking these activities to the specific residual effects identified for individual species and habitats. Due to its labelling as 'mitigation', no biodiversity offset modelling has been provided that would support the areas and activities suggested as providing 'balance' to the impacts. In my opinion, this is a critical gap. Without clear calculations demonstrating how proposed actions will achieve no-net-loss or net gain, it is not possible to assess whether the presented package is proportionate to the scale of impact.

12.7 The Northern Site aligns more closely with forest and freshwater values and provides scope for enhancement of bat, lizard, frog, and forest bird habitat. In contrast, the Central Site contains broadly defined or conditional measures, including unclear expectations around indigenous revegetation and the role of the proposed 10 m riparian buffer. It is not clear whether this buffer is intended as a harvest exclusion zone, a restoration area, or a standard operational setback. In my view, this lack of clarity further reduces confidence in the site's ability to deliver meaningful ecological outcomes.

12.8 Confidence in the mitigation package is further constrained by limited detail on implementation timing, duration, and performance standards. Pest control is proposed for a five-year period, but the commencement point is unclear. Given the long development timeframes for restored ecosystems and the vulnerability of many native species to predation, five years is

unlikely to be sufficient to achieve durable ecological outcomes. This is of particular concern given that indigenous herpetofauna is long-lived and slow to reproduce, requiring much longer timeframes to protect newly relocated individuals and confirm establishment through breeding and recruitment before protective measures are discontinued. Vegetation maintenance is proposed until 80% canopy closure, but longer-term management responsibilities are not defined. Clearly defined objectives and adaptive management triggers would improve certainty around delivery and a suite of criteria against which success may be measured.

12.9 The Central Site is particularly sensitive to timing. If plantation harvesting proceeds, there will be a substantial lag between habitat loss and restoration maturity. This reduces the utility of the site in the short to medium term and raises concerns about its suggested suitability as a fauna release site. Conversely, avoiding harvesting altogether would substantially improve ecological continuity and increase the potential for meaningful ecological gain through a staged restoration approach.

12.10 The monitoring framework remains high-level and defers key details to future management plans. Species-specific monitoring is described as occurring “where appropriate” or “if required”, with baseline requirements and performance measures yet to be defined. In my opinion, robust multi-season baseline monitoring should be required for key taxa (including avifauna, Hochstetter’s frogs and long-tailed bats), with clear objectives, performance thresholds, and triggers for adaptive management. Similar clarity is required for lizards and terrestrial invertebrates, where residual effects remain uncertain.

12.11 Overall, while the mitigation package has the potential to address a portion of the project's ecological effects, it is constrained by uncertainty in delivery, timing, and additionality within meaningful timeframes. It doesn't adequately address residual effects in a clearly quantifiable framework, neither does it address it as compensation for residual effects that cannot be mitigated through avoidance or salvage protocols. The Northern Site provides some additionality, but further detail is required regarding stream enhancement and quantification of ecological gains. The Central Site is considerably less certain due to its dependence on plantation harvest timing and delayed restoration outcomes.

12.12 In my opinion, without further information on dedicated residual effects (i.e., offset) calculations, implementation timeframes, monitoring design, and long-term management commitments, it is not possible to have confidence that the package will adequately mitigate, offset or compensate ecological impacts upon resident terrestrial fauna.

13. Wildlife Approval and Proposed Conditions

13.1 In forming my opinion on the Wildlife Approval application, I have reviewed the species proposed for authorisation, the duration of the approval, and the adequacy of the proposed conditions. In my view, the application is incomplete and does not yet provide sufficient certainty that all protected wildlife potentially affected by the project will be managed in accordance with the Wildlife Act 1953.

Species Covered by the Approval

13.2 The application seeks authorisation for copper skink and "any other lizard protected under the Wildlife Act". In my opinion, this approach is unnecessarily broad. Wildlife Approvals should identify and assess the particular species known or reasonably expected to occur within the project area, not seek blanket approval for all native lizards irrespective of likelihood of occurrence. This creates a mismatch between the species listed for authorisation and the species actually provided for within the planning documents.

13.3 Birds and bats are excluded from the Wildlife Approval on the basis that effects can be avoided. While this is common for small-scale projects, it is not appropriate for a multi-year, large-scale infrastructure project with substantial vegetation clearance and earthworks operations in significant natural areas (SNAs). In the absence of detailed management plans, it is not possible to determine whether all activities can be undertaken without creating a risk of harmful disturbance, injury, or incidental mortality to protected birds or bats. In my view, both groups should be included within the Wildlife Approval. The risk of excluding them from the Wildlife Approval is that there is no legal mechanism for incidental mortality in the event that even a single bird or long-tailed bat is injured or killed.

13.4 Additional authorisations may also be required for radio-tracking of long-tailed bats and kiwi, and for kiwi egg uplift if encountered. These activities constitute handling of protected wildlife and must be authorised under the Wildlife Act. Excluding these taxa creates a risk that future activities could inadvertently result in offences without legal protection.

13.5 A significant omission is the absence of a Complex Freshwater Fisheries Application, despite the presence of protected and Threatened freshwater species such as lamprey and Hochstetter's frogs. Where culverts, diversions, dams, or stream modifications may affect protected wildlife, a concurrent Wildlife Approval is required under Schedule 7 of the Fast-track Approvals Act. As such, this gap must be addressed before the application can be considered complete.

Duration of Approval

13.6 The application proposes a 20-year approval period, despite construction being anticipated to occur over approximately six years. In my view, this duration is not appropriate. Species populations can change substantially over two decades, and many management tools and best-practice protocols will evolve during that time. If a long-term approval is considered necessary, it should include mandatory review and update requirements at defined intervals (e.g., every five years) to ensure conditions remain current and fit for purpose.

Environmental Management Plan and Best Practice Measures

13.7 The application states that an Environmental Management Plan (EMP) will be prepared to demonstrate best practice. However, without a draft EMP, it is not possible to determine whether the requirements of Clause 2(1)(f) of Schedule 7 have been satisfied.

The application relies on future documentation rather than providing the necessary information at the time of assessment[1].

13.8 The application also asserts that best-practice measures will be applied to Hochstetter's frogs. In my opinion, this cannot be demonstrated because there is currently no best-practice methodology for the salvage or translocation Hochstetter's frogs. As a result, the applicant cannot presently show that recognised best practice will be implemented for this species.

Assessment of Residual Effects Associated with Salvage

13.9 The application concludes that salvage will result in Low residual effects for lizards and frogs. In my view, this conclusion is not supported by evidence. For Hochstetter's frogs, there is substantial uncertainty regarding survival during and after salvage. As stated repeatedly, no precedent exists demonstrating successful translocation at population scale, and the proposed recipient habitats may already be at or near carrying capacity. Increased competition, displacement, and predation pressures are likely.

13.10 The assumption that handling, salvage, and incidental mortality will be Low for both frogs and lizards is also optimistic. For frogs, a substantial proportion of individuals may not survive either the salvage process or the indirect effects associated with relocation. For lizards and terrestrial invertebrates, residual effects may be lower but are still likely to exceed those presented in the application. In my opinion, a Low to Moderate residual effect rating is more appropriate.

[1] At the time of preparing this document it is noted that a draft EMP has been submitted; however, I have not had the opportunity to review and incorporate it into this Statement of Evidence.

Proposed Conditions: Long-tailed Bats

13.11 The proposed bat-related conditions are insufficient given the scale and duration of the project. They focus primarily on DOC's standard vegetation clearance procedures, which are necessary but do not constitute a comprehensive management framework.

13.12 A full Bat Management Plan (BMP) should be required and submitted as part of the substantive application so the Panel may assess its adequacy. This should include survey requirements, monitoring protocols, habitat management, vegetation clearance procedures, contingency responses, adaptive management triggers, and long-term protection of important roosting habitats. Current conditions do not provide sufficient detail to demonstrate that adverse effects can be adequately avoided, remedied, mitigated, offset or compensated.

13.13 The limited scope of conditions appears to rely on an assumption that bat abundance is low. While it represents a good start, I do not agree that the available survey information supports this conclusion with confidence. Survey effort is insufficient to determine roost locations, movement corridors, seasonal habitat use, or the significance of habitats potentially affected by the project. Until this information is available, the proposed conditions do not provide confidence that effects on bats will be appropriately managed.

13.14 Accordingly, bats should be included within the Wildlife Approval, and preparation of a comprehensive BMP should be required as a condition of both the Wildlife Approval and the Project Designation.

Proposed Conditions: Avifauna

13.15 The proposed bird-related conditions are generally appropriate for most species. However, the absence of any kiwi-specific provisions is a significant omission. Kiwi require specialised management by suitably qualified (i.e., certified) and experienced kiwi-ecologists and are particularly vulnerable to construction activities.

13.16 The Avifauna Management Plan (AMP) should include a dedicated kiwi management section outlining survey requirements, pre-construction assessments, construction protocols, monitoring, contingency measures, and procedures for responding to kiwi detections. Specialist involvement must include trained detector dogs and certified kiwi-specialists.

13.17 Kiwi should also be included within the Wildlife Approval to ensure that all handling, monitoring, and potential egg uplift activities are legally authorised.

Proposed Conditions: Other Fauna

13.18 Conditions relating to lizards and invertebrates will likely be developed as part of the Wildlife Approval. These should require full implementation of species-specific management plans and incorporate DOC's standard conditions where appropriate. Given the uncertainties identified earlier in my evidence, conditions should be sufficiently detailed to ensure that salvage, handling, and habitat management are undertaken in a precautionary and enforceable manner[2].

[2] At the time of preparing this document proposed Conditions have been submitted on 13 July; however, these have not been reviewed in detail and are therefore not included within this Statement of Evidence.

14. Conclusions

14.1 In forming my overall assessment on the ecological implications of the proposed designation, I have critically reviewed the baseline surveys, desktop assessments, and mitigation proposals provided. While survey effort has been substantial for some taxa, considerable uncertainty remains regarding species distribution, abundance, habitat use, population connectivity, and the likely effectiveness of key mitigation measures. These uncertainties are particularly significant given the extended lead-in period before construction and the reliance on mitigation activities that have not yet been developed in detail or demonstrated as effective at the scale proposed.

14.2 Across multiple fauna groups, conclusions regarding residual effects rely heavily on assumptions about species abundance, mitigation effectiveness, habitat recovery timeframes, and long-term population responses. In my view, these assumptions are not yet supported by evidence. Of significant concern is the planning around Hochstetter's frogs, where substantial uncertainty remains regarding translocation success, carrying capacity of recipient sites, long-term survivorship, dispersal behaviour, and population persistence following relocation.

14.3 The current mitigation strategy is constrained by a fundamental temporal mismatch: ecological effects will occur immediately following construction, whereas restoration and enhancement measures will take many years, and in some cases decades to mature. This lag phase is not adequately reflected in the current assessment and contributes significant uncertainty to predicted residual effects. There is no commentary suggesting that there will be a residual effects management package, with typical

offset and compensation activities referred to as ‘mitigation’ with a distinct lack of quantifiable analysis to determine if impacts could be balanced in an ecologically appropriate timeframe. As a result, there is a risk that some residual effects to terrestrial fauna may be permanent and irreversible.

14.4 Additional uncertainty arises from the deferral of key ecological management plans, monitoring requirements, survey specifications, and mitigation methodologies to future stages. In my opinion, greater certainty around these matters should be established prior to confirmation of the designation as the purpose of the Fast Track process is to have all available information and planning submitted to the Panel for assessment so that a fully informed decision may be made.

14.5 Based on the information currently available, the proposal could be acceptable for lizards, long-tailed bats, terrestrial invertebrates, and avifauna. However, this will require the current effects assessment to be refined and the provision of an overall mitigation, offset, and compensation package to be developed that can demonstrate no-net-loss of terrestrial biodiversity values over an appropriate term.

14.6 The same conclusion cannot be reached for Hochstetter’s frogs. The scale of impact (i.e., the potential loss of tens of thousands of individuals), cumulative effects of future harvesting, genetic isolation risks, and the extremely limited range of the regionally distinct Northland taxon represents a Very High and unacceptable level of ecological risk. No proposal has been identified that would suitably offset or compensate for these impacts within any meaningful timeframe. In my view, the current management proposal for this species is inadequate and must be reconsidered.

15. Recommendations

15.1 If the designation is approved in its current location, a staged ecological refinement framework should be adopted. This would use the pre-construction period to progressively improve ecological understanding, refine mitigation, offset and compensation measures, and test key assumptions before they are relied upon at project scale.

15.2 Priority survey work should be undertaken for indigenous birds, bats, and Hochstetter's frogs. For birds, dedicated field surveys are required to establish current species presence and habitat use, particularly for Threatened species such as Australasian bittern and locally significant kiwi populations. For long-tailed bats, multi-season surveys are needed to understand activity patterns, roosting behaviour, movement corridors, and habitat utilisation.

15.3 For Hochstetter's frogs, small-scale translocation trials should be undertaken in coordination with DOC to test survivorship, site fidelity, dispersal behaviour, and interactions with resident populations. Long-term monitoring of proposed mitigation sites should be used to establish baseline population densities, assess carrying capacity, and determine whether habitat enhancement measures can support the number of individuals anticipated to be relocated.

15.4 Opportunities to avoid or reduce impacts should be explored during detailed design. Retaining high-value habitat areas where practicable may provide greater certainty of ecological outcomes than reliance on future restoration or unproven translocation programmes. Where avoidance is not possible, alternative and additional mitigation sites that already function as high-quality

habitat (but still offer opportunities for additionality) should be investigated.

15.5 Population viability modelling should be undertaken for Hochstetter's frogs. This will help assess long-term persistence within the isolated habitats of the proposed Central Mitigation Area. With the high level of uncertainty associated with this site, there should be no suggestion that it will serve as a frog release site and an alternative, additional release area (or several) should be identified as a priority.

15.6 Key ecological management measures, monitoring requirements, survey specifications, and mitigation methodologies should be defined prior to designation confirmation. This includes detailed management plans for bats, kiwi, frogs, lizards, and invertebrates, as well as clear performance standards and adaptive management triggers.

15.7 Given the Very High level of ecological risk associated with Hochstetter's frogs, the current management proposal should be reconsidered. Alternative alignment options, alternative mitigation sites, or alternative project staging may be required to ensure that effects on this species are avoided or reduced to an acceptable level.