

**ENVIRONMENT COURT OF NEW ZEALAND
WELLINGTON REGISTRY**

**I MUA I TE KOOTI TAIAO O AOTEAROA
TE WHANGANUI-A-TARA**

ENV-2023-WLG-000005

Under	the Resource Management Act 1991
In the matter of	the direct referral of applications for resource consent and notices of requirement under sections 87G and 198E of the Act for the Ōtaki to North of Levin Project
By	Waka Kotahi NZ Transport Agency

**STATEMENT OF EVIDENCE OF SIOBHAN ALANA KARAITIANA
ON BEHALF OF MUAŪPOKO TRIBAL AUTHORITY IN SUPPORT OF THE
APPLICATION BY WAKA KOTAHI NEW ZEALAND TRANSPORT AGENCY**

CULTURAL IMPACT ASSESSMENT AND ECOLOGICAL EFFECTS

Dated: 4 July 2023

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INTRODUCTION

1. My full name is Siobhan Alana Karaitiana.
2. I am a Kaupapa Taiao Specialist at Kāhu Environmental, a role I have held since March 2021. As a Kaupapa Taiao Specialist, my work involves supporting iwi to engage in planning for the delivery of infrastructure projects (including experience with urban development, roading, quarries, hydropower, resource recovery, three waters and recreation), co-developing and writing values-based assessments, supporting the development of iwi positions in Resource Management Act 1991(**RMA**) processes and writing iwi environmental management plans. I also project manage iwi based environmental restoration, cultural monitoring and water quality intervention projects.
3. I am authorised to give this evidence on behalf of Muaūpoko Tribal Authority (**MTA**), the mandated organisation for the Muaūpoko Iwi, in relation to the application of Waka Kotahi New Zealand Transport Agency (**Waka Kotahi**) for resource consents and notices of requirement for designations (**NoRs**) in respect of the Ōtaki to North of Levin Highway Project (**Ō2NL Project** or **Project**).
4. MTA are one of the Ō2NL Project Partners, having worked closely with Waka Kotahi on the development of the Project. This has included participating in the shaping of the Ō2NL Project route selection and corridor refinement, communicating MTA's values associated with the Ō2NL environment and its position in terms of environmental effects of the Project, preparing a Cultural Impact Assessment (**CIA**), co-creating the Cultural and Environmental Design Framework (**CEDF**) and continuing to work with Waka Kotahi and Ngāti Raukawa ki te Tonga as the Project moves through the consenting process and beyond.
5. MTA acknowledges both the Treaty partnership it has with the Crown (including through Waka Kotahi) and the Project partnership it has with the Ō2NL Project team (both of which are described in more detail in the evidence of **Mrs Dianne Rump**).
6. MTA have become a section 274 submitter under the RMA in order to secure effects management outcomes that the CIA recommends but have not yet been adopted in full into the project and consent conditions. This includes:

- (a) recognition of the importance of Muaūpoko within the Horowhenua Block as Muaūpoko contemporary heartland;
 - (b) outcomes through design for their significant sites that the Project interacts with across the Project landscape; and
 - (c) security that any narrative about Muaūpoko in the Project moving forward will be respectful to the unique history of Muaūpoko as tangata whenua with a connection that stretches back over 600 years.
7. I was part of the team that prepared the Muaūpoko CIA on behalf of MTA and Lake Horowhenua Trust (**LHT**), which was included in Volume V of the Assessment of Assessment of Environmental Effects (**AEE**) and accompanied the application for resource consents and NoRs. As the principal author of the CIA, my role included:
- (a) attendance at Kāhui Ārahi (a group which includes mātauranga advisors and hapū leaders), whānau and rangatahi engagement sessions;
 - (b) collection and collation of Muaūpoko mātauranga, values, opinions on environmental management and aspirations;
 - (c) development of an assessment framework and cultural impact assessment methodology;
 - (d) development of effects mitigation strategies with Muaūpoko iwi leaders and key advisors;
 - (e) reporting to MTA Board of Trustees and working with Lake Trustee members; and
 - (f) engagement with the Project's technical specialists and designers to ensure effects on Muaūpoko values were being provided for in all aspects of the Project.
8. In preparing the CIA and my evidence:
- (a) I facilitated MTA involvement in the East of Levin Design Multi Criteria Analysis (**MCA**) process, authoring MTA's October 2021 report on the East of Levin Design MCA.¹ MTA's report assessed Muaūpoko cultural

¹ Appendix E to the *Ōtaki to North Levin Volume 2 Appendices: Detailed Business Case East of Levin Multi Criteria Analysis (MCA) Report*, October 2022: *Ōtaki to north of Levin: Vol 2: Appendices - Detailed Business Case East of Levin Multi Criteria Analysis (MCA) Report – October 2022* (nzta.govt.nz)

values and identified that a cutting would have unacceptable impacts on Muaūpoko relationship with Punahau/Lake Horowhenua.² The Project ultimately decided against a cutting into the Punahau aquifer, avoiding effects on the Lake and Muaūpoko.

- (b) I facilitated MTA involvement in the spoil site MCA regarding Muaūpoko cultural values³ which resulted in a deficit of spoil sites in the southern portion of the alignment around Pukehau maunga. Other sites in the Pukehau area were ultimately chosen to avoid infilling waterways that connect Pukehau with O Te Pua Swamp.
- (c) I provided a series of reviews and inputs into the CEDF, including a summary of the Muaūpoko cultural landscape and design responses as identified in the CIA. This material is attached as **Appendix A**.
- (d) I advised Waka Kotahi that a CEDF design audit was required to ensure the CEDF was embedded into the Project in an ongoing manner. This advice has manifested as condition **DTW5**.
- (e) I reviewed the AEE for accuracy with regards to how the Muaūpoko CIA was summarised. As part of this exercise I co-developed a summary table of mitigations with Waka Kotahi and engaged in discussions on how to resolve issues. This exercise led to the development of a Muaūpoko Management Plan condition (**DTW3**) and the associated objective and content set out in **Schedule 3**. Other proposed residual effects management actions were proposed in the CEDF (see **Appendix A**) and the Tangata Whenua conditions set (**DTW1**, **DTW2**, and **DTW5**).
- (f) I attended ecology workshops to help shape the ecological offset package and ensure it was responsive to Muaūpoko cultural landscape and values.
- (g) I reviewed and provided input into the ecological offset design principles which aimed to make the most of our ecological effort in the landscape to achieve integrated and broader outcomes greater than the sum of their parts.
- (h) I communicated the importance of the Ara-paepae- Wai Mārie spiritual pathway and Muaūpoko ngārara (lizard) taonga which helped shape

² MTA's October 2021 MCA report at page 16.

³ Stantec online GIS tool.

the approach to the ngārara offset package and conditions (**REM10** and **RTE5**).

- (i) I attended site visits to locations with key cultural and ecological values including significant waterways, wetlands, forest locations, and cultural landscapes.
- (j) I attended conditions workshops, in particular participating in discussion on conditions around sediment and erosion control and ecological management.
- (k) I reviewed all technical reports and drawings which resulted in adjustments to the landscape planting schedule to include gaps in the planting corridors and redirection of effort onto connections ki uta ki tai (mountains to sea) along waterways.

Qualifications and experience

9. I have the following qualifications and experience relevant to my evidence:

- (a) I have over five years' experience working as a Kaupapa Taiao Specialist for iwi, including three years in a previous role as resource management planner at Te Ao Tūroa Environmental Centre, the environmental arm of Rangitāne o Manawatū.
- (b) I hold a BSc (Hon) in ecology (2016) and a BSc (majoring in ecology with a minor in environmental science) (2014) from the School of Agriculture and Environment at Massey University.
- (c) I have undertaken cultural effects assessments and related planning implementation roles for Te Ahu a Turanga Manawatū-Tararua Highway Project, Gladstone Road realignment emergency works, Taitoko/Levin Drinking Water Scheme, Palmerston North Wastewater Scheme, Tara-Ika, Kākātangiata and Aokautere Urban Growth Areas, among others.
- (d) I am the author of Te Ao Tūroa Environmental Centre (**TATEC**) and MTA Environmental Management Plans that are in the process of being lodged with local councils. Iwi Management Plans have statutory influence under sections 61, 66 and 74 of the RMA, so that councils must take into account these plans when preparing or updating a regional policy statement, regional or district plan. The plans are also a

matter councils must have regard to when making a decision on a resource consent under section 104 of the RMA.

- (e) As part of the Iwi Management Plan development processes I co-designed Te Mana o te Wai statements and Te Mana o te Wai objectives for MTA and TATEC that describe how land and water management should provide for Te Mana o te Wai in their respective locations (which is required by the National Policy Statement for Freshwater Management 2020 (NPS-FM) clause 3.2(3)).
- (f) I also supported MTA and TATEC to develop their positions on other aspects of the NPS-FM including the delineation of local Freshwater Management Units, their long-term vision for their most important waterbodies (being Punahau/Lake Horowhenua and the Manawatū Awa respectively), whether they believe their most important waterbodies (or sections within) meet thresholds for designation as Outstanding Waterbodies using cultural and spiritual criteria, their views on local Environmental Values and associated Environmental Outcomes, and a Freshwater Management Allocation Framework that gives effect to their understanding of Te Mana o te Wai.
- (g) I have reviewed numerous consent applications on behalf of TATEC and MTA, some of these include Te Ahu a Turanga Manawatū-Tararua Highway Project, Gladstone Road realignment emergency works, Kiwirail's new Te Whanganui-a-Tara/Wellington ferry terminal, Kiwirail's Palmerston North Freight hub Notice of Requirement, Taitoko/Levin's short-term stormwater discharge to Punahau/Lake Horowhenua, Foxton Beach township's stormwater discharge to the Manawatū Estuary, Taitoko/Levin's drinking water take from the Ohau River, groundwater takes to supply Woodhaven gardens horticultural operations, groundwater takes to supply the Ohau Wines grape growing operation, HiRock Limited Te Mātai Quarry expansion, HiRock Limited Linton Quarry expansion and Hoult Contractors new Manawatū Riverside Quarry, among others.

Code of conduct

- 10. I confirm that I have read the Code of Conduct for expert witnesses contained in section 9 of the Environment Court Practice Note 2023. This evidence has been prepared in compliance with that Code. In particular, unless I state otherwise, this evidence is within my area of expertise and I

have not omitted to consider material facts known to me that might alter or detract from the opinions I express.⁴

Purpose and scope of the evidence

11. The CIA describes the values MTA and LHT hold with the environment, identifies and assesses the magnitude of effects the Project has on those values, and recommends actions for managing any adverse effects. My evidence does not repeat in detail the matters discussed in the CIA. Rather, this evidence:
- (a) summarises the key findings and recommendations of the CIA;
 - (b) provides more detailed comments on how the Project's ecological offset package takes into account Muaūpoko cultural landscape;
 - (c) discusses the Project's developments since the CIA was finalised, including:
 - (i) further work with Waka Kotahi on the Project;
 - (ii) MTA's submission and how I think it should be responded to; and
 - (iii) development and refinement of the CEDF and conditions;
 - (d) comments on issues raised in submissions that affect MTA and/or LHT; and
 - (e) comments on the section 87F/198D reports prepared by Manawātū-Whanganui Regional Council (**Horizons**), Greater Wellington Regional Council (**GWRC**), Horowhenua District Council (**HDC**) and Kāpiti Coast District Council (**KCDC**) (**council reports**) to the extent they have implications for MTA and/or LHT.

SUMMARY OF THE CIA

12. This section summarises the key findings and recommendations from the Muaūpoko CIA and, where relevant, provides additional context.

⁴ I note that my marital whānau and tamariki have whakapapa connections to Ngāti Hamua (Rangitāne ki Wairarapa). Rangitāne and Muaūpoko share many connections which stretch back to the migration of the Kurahaupō Waka to Aotearoa. I have disclosed this relationship to MTA and LHT, and I confirm that this does not affect the evidence that I am providing.

Key findings

13. The eastern alignment of the corridor avoids effects on the most sensitive Muaūpoko sites and ecosystems⁵.
14. MTA had a key role in helping shape the material supply strategy and corridor refinement East of Taitoko/Levin, which avoids a cutting into the Horowhenua gravels (these are headwaters of Punahau / Lake Horowhenua) and avoids impacts on significant mountain peaks.⁶
15. The impacts on the Waikawa, Koputaroa and Ohau Awa systems will be carefully managed through the material supply strategy, which eliminated sites that would be culturally inappropriate for this purpose and was developed on the basis of certain principles (including rangatiratanga and partnership, protection of taonga, Te Mana o te Wai, ki uta ki tai and preserving the natural shapes of te taiao and Papatūānuku). The strategy provides opportunities for open water habitats to be created and the relevant areas restored to a state of cultural health, and includes a range of design responses including but not limited to rehabilitation planting with outcomes for taonga species.⁷
16. An overbridge will be constructed along Queen Street East over State Highway 57, which has been designed to avoid a cutting into the headwaters of Punahau. The overbridge's design integrates cultural values through recognition of the ancient tree forts and wai-mārie (an underground waterway).⁸ The overbridge maintains visual connections with maunga Tararua from Taitoko township and Punahau / Lake Horowhenua. It also promotes a green corridor along Arapaepae spiritual pathway. The evidence of **Mr Dean Wilson** provides greater context for the significance to Muaūpoko of ancient tree forts, Pukehou, Arapaepae, and wai-mārie in the locality and the connections ki uta ki tai in the landscape.
17. Muaūpoko have expressed strong concerns about the Project's cumulative effects on whenua, waterways and taonga from sediment deposition, loss of taonga species habitat and stormwater contamination. Muaūpoko are therefore supportive of the ecological mitigation and offsetting package, the stormwater management and erosion and sediment control strategies which

⁵ Section 3.1 (Project Shaping – Route Selection) of Muaūpoko CIA, page 21, paragraph 2.

⁶ Section 3.1 (Project Shaping – Route Selection) of Muaūpoko CIA, page 24, paragraph 4

⁷ Section 3.5 (Gravel and sand supply sites) of the Muaūpoko CIA, pages 24 – 26.

⁸ Page 122-126 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

will reduce the magnitude of effects on te taiao. Muaūpoko kaitiaki will be part of the implementation of these aspects of the Project.⁹

18. The Horowhenua Block including Taitoko and Punahau / Lake Horowhenua is Muaūpoko contemporary heartland.¹⁰
19. The active and visual presence of Muaūpoko kaitiaki in the Horowhenua Block/Taitoko area and whānau/ hapū feedback loops are important to provide certainty to Muaūpoko whānau and hapū members that the whenua, wai and taonga species are being looked after from a cultural perspective.¹¹
20. In light of the large Project footprint, there is an increased chance, compared with current farming activities in the area, that historical and/or archaeological items will be found in the area during the Project's earthworks activities. However, the chance of finding such items is lower than would be the case if the Project were located further to the west.¹²
21. The CIA did not assess the take and use of construction water due to the late addition to the main application, however the iwi are concerned about cumulative impacts on surface water bodies that are experiencing effects in the summer period during low flows periods.
22. I understand from the CEDF, and from discussions with **Dr Jack McConchie**, that the overall strategy for managing water demand is to firstly minimise requirements and then to utilise water that becomes available to the Project through existing consented takes (from boreholes or takes that are authorised to occur on land that is acquired to allow construction of the Ō2NL Project). Opportunities to recycle water collected on site through dewatering and erosion and sediment control devices will also be explored.
23. These sources will be supplemented with water that is taken from awa that are traversed by the Project, and on the following basis:
 - (a) There will be low rates of abstraction to storage facilities to meet residual Project requirements;
 - (b) Water will be stored for use during the dry periods so that work can continue during the summer (prime construction season);

⁹ Section 3.7 (Ecological offset package) of Muaūpoko CIA, page 27 - 29.

¹⁰ Section 6 (Conclusions) of Muaūpoko CIA, page 110.

¹¹ Section 4.1 (Our Worldview) of Muaūpoko CIA, Table 4, page 34.

¹² Section 3.1 (Route Selection) of Muaūpoko CIA, page 21.

- (c) Water will only be taken when there is available resource, i.e., no abstraction below minimum flow so that there is enough water remaining to not adversely affect mauri of the waterways;
 - (d) Water will be taken using methods that avoid effects on fish (including risk of pollutants entering water courses);
 - (e) Water is to be used in the catchment derived (as far as practicable).
24. At this time, RMA consents are being sought for the **overall** amount of water that is needed by the Project, but ultimately the amount taken will be reduced under the strategy that I have described above.
25. I understand that the precise amounts of water proposed to be taken from each awa will generally be proportionate to the allocations specified in regional plans and that no take will occur below minimum flows. Water will only be taken from the Ohau River when it is at or above median flows. I understand from **Dr McConchie** that the "overall" represents less than 1% of combined median flows of these awa and represents the amount of water needed to irrigate 47 ha of pasture.
26. In principle this is encouraging and indicates that cultural concerns are being considered. However, I understand that discussions between **Dr McConchie** and Councils are ongoing and I would like to monitor these discussions ahead of reaching a definitive conclusion.

Recommendations

27. Key recommendations include the development of a Management Plan specifically responsive to Muaūpoko values¹³ that describes:
- (a) how Muaūpoko will implement their tikanga and its importance in the Horowhenua block;¹⁴
 - (b) the development of a communication strategy for Muaūpoko whānau and hapū members;¹⁵
 - (c) what roles and responsibilities iwi members will have;¹⁶

¹³ Section 4.1 (Our Worldview) of Muaūpoko CIA, Table 4, page 33.

¹⁴ Section 4.4.1.3 (The mauri of Punahau and its decline) of Muaūpoko CIA, page 62.

¹⁵ Section 4.1 (Our worldview) of Muaūpoko CIA, Table 4, page 35.

¹⁶ Section 4.3.1 (Mana whakahaere) of Muaūpoko CIA, page 44; Section 4.1 (Our Worldview) of Muaūpoko CIA, Table 4, page 34.

- (d) how the iwi will induct Project members;¹⁷
- (e) how the iwi will participate in environmental and archaeological management;¹⁸
- (f) the details of a cultural health monitoring protocol;¹⁹ and
- (g) the process to record data.²⁰

28. Other recommendations include:

- (a) the integration of Muaūpoko narrative and cultural connections into a mahi toi plan to provide for the following wāhi tapū and values:²¹
 - (i) Muaūpoko spiritual pathway (Arapaepae), wai mārie and associated values;
 - (ii) Whakahoro, and specifically Muaūpoko early history and values associated with tree forts;
 - (iii) Ohau naming by Muaūpoko ancestor, wai Māori values through bridge design and implementation of the shared path; and
 - (iv) Connections ki uta ki tai including with Pukehou and its interlinked mana with Muaūpoko.
- (b) celebrating Muaūpoko cultural connections, with the following species²²:
 - (i) Ngata, in particular at Waiopahu Reserve and alongside the Ohau and Waikawa Awa;
 - (ii) Ngārara, in particular their management adjacent to Arapaepae and the creation of the predator proof sanctuary; and
 - (iii) Harakeke and Raupō, including the use of certain harakeke taonga and access to a raupō restoration area from the shared use path in the wai karito tributary;

¹⁷ Section 4.2 (Our whakapapa) of Muaūpoko CIA, Table 6, page 40.

¹⁸ Section 4.2 (Our whakapapa) of Muaupoko CIA, Table 6, page 41.

¹⁹ Section 4.3.2 (Manaaki te mauri o te taiao) of Muaūpoko CIA, Table 10, page 50.

²⁰ Section 4.3.2 (Manaaki te mauri o te taiao) Table 10, page 50.

²¹ Section 4.2 (Our Whakapapa) of Muaūpoko CIA, Table 6, Page 42.

²² Section 4.4.2 (Ara-paepae – Our spiritual pathway) of Muaūpoko CIA, Table 18, Page 66-68; Section 4.4.6 (Ohau) of Muaūpoko CIA, Table 26, Page 8; Section 4.4.5 (Koputaroa) of Muaūpoko CIA, Table 24, page 81; Section 4.4.9 (Taratua) of Muaūpoko CIA, Table 30, page 99.

- (c) Other environmental measures have been integrated into conditions and the CEDF, and are part of the Project's application. These include:
- (i) planting ki uta ki tai alongside waterways (condition **RTE7**);
 - (ii) pre-construction ecological surveys and salvages such as lizard, fish, tuna, bird and invertebrates where appropriate (conditions **RTE2, RTE3, RTE5, RTE6** and **RFE1**);
 - (iii) the need for fish passage to be maintained throughout construction and beyond (condition **RFE2**);
 - (iv) the need for an accidental archaeological discovery protocol (condition **RAH1**);
 - (v) the critical need for good sediment and erosion control procedures, spill prevention and response, and a robust stormwater management strategy through wetlands and soakage (conditions **RES1 – RES7, RCM4, RSW1 – RSW2** and **Schedule 8**);
 - (vi) plant species pellet for ecological mitigation in the CEDF²³ to respond to recommendations in point 24 (b)iii²⁴ and translocation of existing raupō reedland (condition **REM12**); and
 - (vii) creation of a lizard relocation area (condition **REM10**) in response to values identified in 28 (b)ii²⁵ and preferably 28 (b)i²⁶ as well. Preference for **REM10** to also uplift values associated with ngata is discussed in point 41 and 42.

29. Other initiatives proposed in the Muaūpoko CEDF material attached in **Appendix A** include:

- (a) planting areas within the Koputaroa with canopy forming species favourable to kererū to celebrate and give recognition to Muaūpoko traditional mahinga kai and taonga;

²³ Page 75 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

²⁴ Section 4.4.5 (Koputaroa) of Muaūpoko CIA, Table 24, page 81

²⁵ Section 4.4.2 (Ara-paepae – Our spiritual pathway) of Muaūpoko CIA, Table 18, Page 66-68

²⁶ Section 4.4.2 (Ara-paepae – Our spiritual pathway) of Muaūpoko CIA, Table 18, Page 66-68

- (b) rehabilitating material supply areas in a way that is sensitive to Muaūpoko concerns about inappropriate use of and access to the spaces;
- (c) minimising soil movement across cultural landscapes;
- (d) investigating opportunities to integrate Māori design into proposed noise walls at in Waihau and Waiauti that include / allow for Muaūpoko cultural values associated with Ngā Upapa and Pukehau to be expressed; and
- (e) investigating opportunities for harvesting of Māori resources from the shared use pathway such as harakeke and raupō,

ECOLOGICAL EFFECTS OF THE Ō2NL PROJECT

- 30. I have provided support to Muaūpoko and the Ō2NL Project by collecting information on, and communicating, Muaūpoko cultural values associated with ecosystems. I worked with the Project's ecologists to ensure ecological monitoring and the development of the effects management package is responsive to these values.

Stream Ecological Valuation (SEV)

- 31. Freshwater values accounting does not generally capture attributes from anthropogenically modified environments such as farm dams and in many cases it is not appropriate to do so. However in this instance we considered that open water in farm dams provided important habitat for tuna (a Muaūpoko taonga) across the extremely modified Project environment. The need to offset effects on open water habitat and salvage individual taonga to the greatest practicable degree is reflected in conditions **RTE1** and **RFE1e** respectively.
- 32. A SEV was undertaken by **Dr Alex James** and is included in the Project's Technical Assessment K. I am comfortable that the SEV accounts for most elements integral to Muaūpoko cultural values associated with freshwater, which considers a suite of attributes such as flow regime, connectivity with floodplains and groundwater, allowance for species migrations, habitat and biodiversity provisioning, and biogeochemical functions such as temperature control, oxygen availability and organic matter input.

Biodiversity Offset Accounting Model (BOAM)

33. The BOAM, which was undertaken by **Mr Nicholas Goldwater** and is included in the Project's Technical Assessment J, used attributes that were also important to terrestrial cultural values. I considered attributes such as canopy cover and height, understory cover, presence of emergent trees, vascular plant species diversity and food provisioning services for taonga species. These attributes were assessed across the range of impacted vegetation types such as radiata pine forest, indigenous treeland, mixed indigenous-exotic forest, mahoe scrub and restoration plantings which appropriately took into account cultural values.
34. The results of the assessment undertaken using the BOAM model showed that effects on terrestrial cultural values were able to be offset.
35. Furthermore, evaluation of the range of wetland types including exotic grazed wetland, hillslope seepage, raupō reedland, and fernland swamp appropriately considered attributes such as substrate and flow diversity, leaf litter depth, habitat richness, food provisioning for fauna/taonga species, canopy cover and height, and diversity of native plants.

Exclusions from the BOAM and/or SEV approaches

36. Mahinga kai and rongoa Māori provisioning of the ecosystems for Muaūpoko were not considered by the BOAM or SEV models. The values were considered very low to negligible in most locations for the following reasons:
- (a) access is not readily available to Muaūpoko;
 - (b) many of the environments are degraded, the effort for return in accessible areas is low-moderate; and
 - (c) the areas had historical values that do not exist currently.
37. Furthermore, by working with the Project's ecologists I found that impacts on mahinga kai and rongoa values were largely avoided or minimised and, where they were impacted, their enhancement has been provided for by the ecological and natural character effects management packages identified in the CEDF²⁷ and conditions **REM7**, **REM8**, **REM9**, **REM11** and **REM12**.

²⁷ Page 78-101 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

38. The values of mahinga kai and rongoa are addressed through the offset and natural character packages where a Project principle in the CEDF includes the integration of opportunities for mahinga kai and rongoa plant species into planting pellets across the whole Project landscape.²⁸

Offset package

39. I worked with the Project's ecology team throughout the development of the offset package to ensure Muaūpoko cultural landscape was considered in its design. There were natural synergies between ecology and cultural priorities, resulting in shared goals which included:
- (a) a focus on key catchments and connected stream lengths, and ensuring moderates sized streams are enhanced for the best outcomes;
 - (b) a focus on restoring natural degraded wetlands or reinstating wetlands where they have been lost; and
 - (c) reconnecting bush fragments, salvaging forest materials for reuse and increasing the size and viability of forest fragments.
40. Consideration of the Muaūpoko cultural landscape, during this work with the Project's ecology team, helped to target catchments and locations. Consequently, the Muaūpoko CIA describes support for the target ecological offset areas and their spread across the Ō2NL landscape.
41. Ngata and Ngārara are important kaitiaki in the landscape for Muaūpoko, especially the Ara-paepae/wai mārie area, where they are now rare and threatened with extinction. Because they are so uncommon in the landscape I was not satisfied that ecological surveys could conclude that effects of severing populations and loss of life will be avoided and less than minor. Therefore an offset project was designed wholly focused on offsetting impacts and promoting the long-term health of ngārara. The connections Muaūpoko have with Ara-paepae and ngārara are recognised in **Schedule 3** clauses (g) and (h), and conditions **RTE5** and **REM10**. A Lizard Relocation Area Management Plan (contained in **Schedule 7**) is also required.
42. The development of the ngārara relocation area and predator proof fence is ongoing. Muaūpoko have a strong preference for the Waiopahu Bush

²⁸ Page 53 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

Reserve as the recipient site which is 9 hectares in area and has high existing biodiversity values. Understanding that Waiopahu Reserve is strongly preferred by Muaūpoko, the Ō2NL Project team is engaging with landowners, the Department of Conservation, and Horowhenua District Council. The Project team has also sought expert advice from ecology and specialists in building predator proof fences to ensure that there are no fatal flaws in the ability to deliver a predator proof fence on the Waiopahu site.

43. These investigations are proceeding positively and currently indicate that the opportunity to develop a predator proof fence at Waiopahu Reserve and create a predator proof environment for ngārara and ngata will be able to be provided in a timely fashion. There may be a time lag between establishment of the predator free environment and needing to release ngārara but this can be managed through a soft release process that I have discussed with **Mr Goldwater**.
44. Also, I understand that while the Waiopahu Reserve opportunity is the preferred approach, there is a chance it may not be able to be realised. To manage this risk, an alternate ngārara release site at Arapaepae Road is proposed; this will be on land that is available to the Project and includes a proposed terrestrial planting area. This alternate location will also provide good outcomes which can be aligned with the Arapaepae spiritual pathway and Wai Mārie. This will not provide as strong a positive legacy outcome for Muaūpoko but nevertheless will be a positive enhancement that they will also support.

DEVELOPMENTS SINCE FINALISATION OF CIA

Further work with Waka Kotahi

45. Some packages of work in the iwi space have progressed with Waka Kotahi since finalisation of the CIA. These workstreams will ultimately feed into the Muaūpoko Management Plan (provided for under condition **DTW3** and **Schedule 3**) which will be prepared by a person / persons endorsed by MTA.
46. The Muaūpoko Management Plan will include a kaitiakitanga plan and cultural induction protocols. An interim kaitiaki plan and interim cultural induction plan is currently under development. The interim kaitiaki plan is part of the broader Muaūpoko kaitiakitanga plan and primarily seeks to manage activities of kaitiaki prior to main works starting, including any accommodation works including geotechnical and ecological investigations.

The kaitiaki plan will address health and safety, a description of the role of kaitiaki at the current time, contact details and onsite procedures.

47. Early work on the cultural induction plan has begun, with a view to implementing it prior to the intended establishment of Alliances to finalise the design and to undertake construction of the Project. It is important that Muaūpoko participate in the Project's (including the Alliance's) inductions of new staff to ensure that critical ecological, archaeological and cultural baseline information is passed on as soon as people start on the Project. Muaūpoko also have aspirations to run Muaūpokotanga events (perhaps quarterly for all new starters in the previous quarter) so that employees can be immersed in Muaūpoko history, tikanga, and values giving people a deeper understanding of who Muaūpoko are as an iwi. This will be developed as part of the cultural inductions package within the Muaūpoko Management Plan.
48. I am currently drafting a cultural health monitoring plan, which will also form part of the overarching Muaūpoko Management Plan, to set Muaūpoko project kaitiaki up with the tools to record observations about wai, taonga and significant sites out in the field. Muaūpoko have not had the opportunity to set up a monitoring protocol and data capture system to date so this is a key legacy outcome of the Project while also having practical application in the Project itself.
49. Other activities include the development of a Muaūpoko Broader Outcomes Framework that has fed into the Project's Broader Outcomes document and participation in the procurement spaces. The evidence of **Mrs Rump** describes these activities in greater detail.

MTA's submission

50. The MTA submission identified concerns around the accuracy and intent of the historical narrative and statements put forward about Muaūpoko by hapū groups of Ngāti Raukawa. The submission summarises the contested statements and includes excerpts from Waitangi Tribunal inquiry evidence from the Horowhenua Muaūpoko Priority Report that challenges the statements made by those hapū groups.
51. The submission also identifies that as a result of Muaūpoko not directly participating in other sections of highway projects within their traditional rohe (for example Mackays to Peka Peka, Peka Peka to Ōtaki and Transmission

Gully) and challenges with the Project partnership, they are concerned that there is a risk that the ongoing role of Muaūpoko in the Project will be eroded. The iwi seek certainty that their role as tangata whenua, and management of effects on cultural values in the Project, is secured through conditions and the CEDF.

52. MTA therefore seek the following:

- (a) Inclusion of Muaūpoko material in the CEDF (see **Appendix 1**) including identification of the Muaūpoko cultural landscape, sites of significance to Muaūpoko and how the Project will respond to these through design and mahi toi.
- (b) A description of Muaūpoko role in assessing the CEDF.
- (c) Recognition of the importance of Muaūpoko tikanga in the Horowhenua Block, the contemporary heartland of Muaūpoko.
- (d) Recognition of the importance of Muaūpoko tikanga with regards to early (pre-1820s) archaeology.
- (e) The development of a forum or process that provides for Muaūpoko equality in representation and decision making.
- (f) Protection of Muaūpoko going forward from the development of inappropriate narrative.

53. I make suggestions on how these requests can be provided by the Project moving forward.

Mahi toi

54. Kāhui Ārahi is the group of Muaūpoko mātauranga experts who come together to provide their knowledge and expertise for use in projects such as Ō2NL. On this Project, strong themes came through from the group which has shaped the identification of cultural effects, and emphasised the importance of specific sites and values that should be celebrated by the Project. The sites of significance and species connections Muaūpoko would like to see celebrated are part of the cultural landscape and the recognition and celebration of them is an effects management measure.

55. The sites and species have been recorded in **Schedule 3** to the conditions (in clauses (g) and (h)), however those clauses do not record the values

associated with these sites and species or provide any direction on project responses. A mahi toi strategy is the preferred vehicle for MTA to deliver their narrative and cultural connections with their significant sites, values and species. It would be helpful if further certainty could be provided around the use of this strategy within the context of Ō2NL, and how it fits together with the Muaūpoko Management Plan (and CEDF which is discussed further on).

56. In order to accurately reflect the outcomes of the Kāhui Ārahi sessions and appropriately capture the importance of those sites and values, I recommend that those values and Project responses be recorded in **Schedule 3** where clauses (g) and (h) are expanded upon. My preferred wording is in paragraphs 28 (a) and (b) of this evidence. This will provide sufficient direction to drive Project responses through design and appropriately manage effects on these cultural values.
57. The mahi toi strategy within the CEDF²⁹ talks about the need for a journey narrative and overall strategy to celebrate Horowhenua's identity and place, its connection to planting³⁰ and lighting³¹, to create community connectivity³² and bring names together³³. The CEDF identifies the opportunity to explore cultural narratives through mahi toi on page 108 and emphasises that "*Mahi toi is a powerful way of celebrating key sites on the highway and in telling the overall narrative of the district and its environment.*"
58. The relationship of the mahi toi strategy to Muaūpoko sites of significance, species and associated values has been identified by the iwi in the CIA³⁴ however has not been solidified in the CEDF. Insertion of Muaūpoko information contained in **Appendix A** alongside commentary about the relevance of the four significant sites and four species (being Ara-paepae, Ohau, Whakahoro, Pukehou, ngata, ngārara, harakeke and raupō contained within the **DTW3** Muaūpoko Management Plan **Schedule 3** clauses (g) and (h)) to Mahi toi would provide the necessary clarity and linkages between the CIA, Schedule 3 and the CEDF.

²⁹ Page 118 of the CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

³⁰ Page 142 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

³¹ Page 143 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

³² Page 42 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

³³ Page 6 of the Consent Version CEDF: [Volume 2, Appendix 3 - Cultural and environmental design framework consent version \(nzta.govt.nz\)](#)

³⁴ Section 4.2 (our whakapapa) of Muaūpoko CIA, Table 6, page 42.

59. I understand that mahi toi will be developed for the Project as a whole and the mahi toi strategy will be developed by the Project partners. I am currently working with Waka Kotahi and the hapū of Ngāti Raukawa ki te Tonga to develop a Project Mahi Toi strategy that seeks to secure appropriate design outcomes. This work is at a preliminary stage and will continue through next year. I suggest a series of mahi toi principles for incorporation into the CEDF to manage the input of each iwi partner into the mahi toi strategy.

The CEDF and condition DTW5

60. A CEDF sets out the baseline cultural and environmental landscape in a project area, and includes a series of design principles to describe the way in which the development should respond to the unique cultural and environmental conditions. The concept of a CEDF in part is to recognise that tangata whenua landscapes are intrinsic parts of the environment and traditional ways of assessing the environment need to be recognised.
61. The CEDF contains a suite of values and principles that have been developed by iwi partners and adopted for use by Waka Kotahi and the project. **Mrs Rump** discusses the development of the CEDF, and these values and principles, in her evidence.
62. The CEDF is a living document, with the current version lodged with the Project's application documents for designation and resource consents in October 2022. The CEDF is to be developed in conjunction with the Project Alliance through detailed design and condition **DTW5** requires that the Project must ultimately be consistent with the design principles in Chapter 3 and will be audited against Chapter 4 of the consent version CEDF.
63. I am concerned that cultural information about who each iwi are, their significant sites and appropriate design responses to the cultural landscape are not yet included in the CEDF. Because the CEDF (in its current state) does not include Muaūpoko information, Muaūpoko information does not currently need to be considered during detailed design, construction or auditing (directed by **DTW5**).
64. The proposed Muaūpoko cultural landscape, significant sites and design response material is attached as **Appendix 1**. As a way forward, this material could be inserted into Chapter 2 (cultural landscape context) and Chapter 4 (design responses) of the CEDF or alternatively a condition could be developed that requires Waka Kotahi to invite both iwi partners to insert their

cultural landscape, significant sites and associated design responses information into the CEDF.

65. I also recommend MTA be invited to participate in the Design Review Audit process. In particular, as a Project Partner they should have a lead role in assessing how the design responds to the CEDF's Project principles (alongside hapū of Ngāti Raukawa), Muaūpoko cultural landscape and their significant sites.

Other Tangata Whenua Conditions

66. The tangata whenua conditions set (which is still under development) alongside other references to iwi partner involvement throughout the broader conditions set minimum requirements for involvement of iwi partners in the Project. They provide important parameters and direction for strategic development and funding as the Project transitions into the next phases of implementation (including establishment of Alliance entities to finalise the design and undertake construction). The tangata whenua conditions are still under development and I will continue to work with Waka Kotahi over the coming months in order to finalise them.
67. A Iwi Partnership steering group type condition (the name of the group is to be determined) is also requested as an addition to the current Tangata Whenua Conditions set by MTA through their submission.
68. In particular, MTA state in their submission that they wish to see conditions that include a way of managing equal participation in the steering group, acknowledging the unequal representation of Project Partners on the Project and as such ensuring there is equal opportunity for each iwi's input. This could include equal membership of each iwi on the mana whenua steering group and/or a set of clear project controls that manage engagement.

Iwi Management Plans

69. MTA have also requested recognition of the importance of their role in management of cultural effects in the Horowhenua Block. In the CIA they have described how the Horowhenua Block is the contemporary heartland of the iwi. This could be resolved in a simple way through broadening the objective of the Muaūpoko Management Plan (as set out in Schedule 3 to the conditions) as follows:

The objective of the Muaūpoko Management Plan is to manage the adverse effects of the construction and operation of the Ō2NL Project on the cultural values of Muaūpoko, with particular focus on their management in the Horowhenua Block, Muaūpoko contemporary heartland.

70. Condition **DTW4** requires the development of a Ngāti Raukawa ki te Tonga Management Plan, which then links to Schedule 4 (Objective and content of the Ngāti Raukawa ki te Tonga Management Plan). I note there remain gaps in Schedule 4 as to which sites of significance, values and species narratives will be celebrated in the Project.
71. Each iwi in the Project will have their own sites of significance and values which can and should each be celebrated so long as it does not cause offence or belittle the mana of the other iwi. Stories of inter-iwi issues where the facts are not agreed should therefore be avoided in favour of sharing mātauranga in relation to the landscape and taiao or environment. The Muaūpoko CIA, associated CEDF material (**Appendix A**) and the proposed expansion of wording in **Schedule 3** focuses on mātauranga in relation to te taiao. To the best of my knowledge these sites, species narratives and values do not negatively interact with or affect Ngāti Raukawa.
72. Ideally the two groups' respective lists of sites and species can sit alongside each other, independent of one another, but part of an overall narrative.
73. MTA have expressed a preference in their submission to understand what sites of significance and narrative Ngāti Raukawa ki te Tonga see as important to the Project however I understand that this will not be complete through the consenting process. The CEDF could instead set out a series of principles that the mahi toi strategy will be guided by. These could include the following:
 - (a) Each iwi's respective significant sites and taonga species can sit alongside each other independent of one another but part of an overall narrative.
 - (b) Narrative will be shaped by mātauranga and values associated with te taiao. Muaūpoko have set these out early and Ngāti Raukawa ki te Tonga are in the process of developing theirs.
 - (c) Challenges in bringing narratives together will be managed through robust project controls set up under the Iwi Partnership Group (name to be confirmed).

Archaeology

74. The Muaūpoko CIA describes the ongoing and ancient connection that Muaūpoko have with the early tangata whenua peoples. The MTA submission seeks amendments to the Archaeological Discovery Protocol to better recognise the importance of Muaūpoko preferences for management of this early archaeology of Muaūpoko origin if discovered.
75. Because the Archaeological Discovery Protocol only provides for stop work provisions in response to an archaeological find, and any find must subsequently be managed under an archaeological authority from Pouhere Taonga, Heritage New Zealand, I do not recommend any amendments to the Archaeology Discovery Protocol condition. Notification of MTA is provided for as a Project Iwi Partner and therefore the knowledge they hold with regards to their ancient wāhi tapu and use of the landscape will be taken into account.
76. I do however encourage Waka Kotahi to have particular regard to the ancient connections the Muaūpoko CIA has outlined through the Pouhere Taonga archaeology authority application and subsequent management process of any finds.

COMMENTS ON SUBMISSIONS

- 76.1 The submissions from Mr Kevin Daly (of 257 and 267 Tararua Road) and James McDonnell Limited (**JML**) seek noise mitigation measures (for example a noise wall or bund) to screen the Tara-Ika subdivision from noise effects of the Ō2NL Project. Any noise wall or large bund in the Tara-Ika locality (or elsewhere) would have strong effects on Muaūpoko insofar as connections ki uta ki tai, which connect Muaūpoko spiritual pathway and connections to Tararua, would be impacted. Generally noise walls or bunds in urban settings create disconnection between spaces. If any noise wall or bund was to be considered MTA will need to advise the cultural effects of such a proposal and identify appropriate effects management actions.
77. I have read the Forest and Bird submission which states that they are satisfied that effects have been assessed correctly, that the offset calculations are appropriate and that avoidance of effects has been achieved wherever possible. However, Forest and Bird are concerned that the proposed offsets and mitigations will not be delivered to standard and will not be maintained in perpetuity, so that no net loss is not ensured. They also

have some specific concerns about some offset and mitigation being linked to consents that only have a life of 10 years, and that specific measures to ensure that planting survives as needed are not specified eg animal pest control.

78. I understand from **Mr Goldwater** that a net gain in ecological biodiversity will be attained by years 10-15 for wetlands and years 20-25 for terrestrial ecology. The conditions currently do not prescribe how targets will be met but I expect this detail to be developed as part of the preparation of Ecological Management Plans.
79. Forest and Bird also acknowledge and endorse the proposed construction of a predator-proof fence around either the restored Arapaepae Bush or Waiopahu Scenic Reserve to enhance and protect indigenous lizards and land snails. They consider this to be a certain way to ensure protection of those vulnerable species. However, Forest and Bird are concerned about the timing of fence construction and its utility as a refuge for salvage of lizards and snails ahead of initiation of road construction, and they are concerned that it may not be in place in time.
80. I am comfortable with the progress being made in respect of investigating the construction of a predator proof fence at Waiopahu Reserve. This action is supported by MTA, and I understand supported in principle by HDC. I also understand the initiative is supported by the Department of Conservation. In the event that the fence is not constructed in time, from discussions with **Mr Goldwater** I understand that there is a good alternative in the form of a soft release pen.
81. Finally, I understand Forest and Bird are concerned about salvage of land snails. I am comfortable that this will be managed through the development of the Ecology Management Plan and would welcome any input from Forest and Bird in its preparation.

COMMENTS ON THE COUNCIL REPORTS

82. The section 198D planning report of Helen Anderson on behalf of HDC and KCDC accurately summarises the outstanding issues raised by MTA, specifically in paragraph 202. However, I disagree with the planning assessment contained in Table 1: Horowhenua District Plan – Relevant Permitted Activity Conditions, that states that *"The proposed activity is not in*

*the vicinity of a site of significance to Tangata Whenua and therefore [conditions 16.6.22 and 19.6.13] is not relevant."*³⁵

83. Rather the fact of the matter is that there are no sites of significance recorded by Horowhenua District Council prior to the time the activity or development is proposed. It is an important distinction because **Mr Wilson's** evidence provides details of the nature and importance of four sites of significance being Arapaepae/wai mārie, Ohau Awa, Whakahoro and Pukehau that interact with Ō2NL which are protected as a matter of National Importance under s6e of the RMA. The Muaūpoko CIA also comments on a great range of sites of significance across the Ō2NL landscape.
84. I also disagree with the request that the conditions be amended to require provision of an acoustic landscape bund adjacent to the planned Tara-Ika urban growth area³⁶ on the same basis that I have described above. In other words, such a bund would have strong effects on Muaūpoko in that connections ki uta ki tai which connect Muaūpoko spiritual pathway and connections to Tararua would be impacted, and so if any such development was considered we would need to carefully manage any consequential effects.
85. With regard to the section 87F report prepared by Mark St. Clair for the Regional Councils, I agree with paragraph 140 that the tangata whenua values conditions should be referenced in the proposed regional conditions. I also consider paragraph 143 is an accurate description of MTA issues. I agree with paragraph 293 that further information and work is required to ensure the Project meets the One Plan and Proposed Natural Resources Plan objectives with regards to tangata whenua values.
86. With regards to Mr James Lambie's section 87F (terrestrial ecology) report, it is not my opinion that north to south connectivity along the highway is required to manage the Projects effects,³⁷ rather my view is that connectivity ki uta ki tai or mountains to sea is required. The Project enhances connections ki uta ki tai to fit with the way tangata whenua view the landscape, enhances connectivity away from the road corridor and along streams where species commonly exist in unmanaged riparian margins, and

³⁵ Section 198D Report of Helen Anderson – Planning – Kāpiti Coast District Council and Horowhenua District Council (28 April 2023), Attachment 7: Planning Assessment, Table 1 at page 510 and page 512 (PDF page references).

³⁶ Paragraph 80e) of the Section 198D Report, which relies on Ms S Wilkening report paragraphs 59 to 65.

³⁷ Section 87F report of James Stuart Lambie - Terrestrial Ecology – Manawatū-Whanganui Regional Council and Greater Wellington Regional Council, page 25-27.

where possible provide layered benefits of stream restoration. Furthermore, I have sought that the Project retains mowed gaps in the north to south corridor to help prevent the spread of pests and weeds along the highway corridor. Waka Kotahi responded by adjusting the planting design to include gaps along the corridor and refocused efforts ki uta ki tai along streams.

Siobhan Alana Karaitiana

4 July 2023

APPENDIX 1 MUAŪPOKO CEDF INFORMATION

Recognising Muaūpoko Cultural Landscape (Chapter 2 material)

We trace our whakapapa back to our atua, however we also recognise our ancestors who reached Aotearoa during the waka migration from our ancestral homelands in Hawaiki. They are Kupe (an early adventurer), Toi-te-huatahi (Toi the explorer, the grandfather of Whātonga), and Whātonga (a rangatira and captain of the Kurahaupō Waka).

Our story of Kupe is considered an account of our origins in Aotearoa, in which Kupe, a chief from Hawaiki, argued with Muturangi whose pet octopus had stolen bait from his fishing lines. Kupe boarded the waka Matahourua with his companion Ngake (or Ngahue) aboard Tawirangi (or Tawhirirangi). The pair set sail in pursuit of the octopus to Aotearoa where it was finally killed at place known as Arapaoa. Kupe travelled on, naming places in Aotearoa along the way. The two islands in Te Whanganui-a-Tara (the Wellington harbour) were named for his daughters (or nieces), Matiu and Mākaro, he discovered greenstone in the South Island, later returning to Hawaiki from Hokianga. Upon his return, Kupe informed his (our) people of the new land he had discovered, one of whom was his nephew Turi, who captained the Aotea waka to these shores.

Meanwhile, the Kurahaupō waka, including Whātonga, arrived on the west coast at Tongapōrutu. Whātonga found his grandfather Toi-te-huatahi at Whakatāne, then ventured onwards to Heretaunga where he settled and sent his sons Tara-Ika and Tautoki to Te Ūpoko o te Ika a Maui (the head the fish of Maui/southern North Island) to explore and live. Muaūpoko descend from Tara-Ika, however Tara-Ika is also the ancestor of Ngāi Tara and because of this shared whakapapa, many Muaūpoko people consider themselves Ngāi Tara or Ngāi Tara ki te Mua Ūpoko o te Ika a Maui. The half brother of Tara-Ika was Tautoki, the father of our whanaunga Rangitāne.

Muaūpoko is translated to mean ‘head of the fish’ or ‘people of the head of the fish’, the fish being Te Ika a Māui, the North Island of New Zealand. The fish’s head is the bottom of the North Island, where Muaūpoko are born of the land, nourished from its resources and interred in the whenua. According to some of our people, Muaūpoko are descended from tangata whenua who lived on the land preceding waka arrivals from the Pacific, referred to as Mua-o-te-tangata or Muatetangata. But for most, Muaūpoko story of origin began with the arrival of Kupe from Hawaiki

on the Matahourua waka, or more recently, the migration of Whātonga on the Kurahaupō waka many hundreds of years ago.

Some Muaūpoko believe the Tararua Range was named after Hotuwaipara and Reretua, the two wives of Whātonga and mothers of Tara-Ika and Tautoki respectively. But others claim the range was named after Tara Ika himself, who'd already been memorialized in some features of the land where he established his people, for example Te Whanganui-a-**Tara** and Te waewae Kāpiti o **Tara Ika** rāua ko Tautoki (Kāpiti Island).

Our mana lives on in our traditional rohe through the names of places, our mātauranga and through the connections of our people, stories handed down through our generations. We have worked with Waka Kotahi to develop this CEDF from conception and will continue to support its development and implementation into construction, ensuring it is authentic in representation of our people and our whakapapa, and is responsive to our mātauranga and lore.

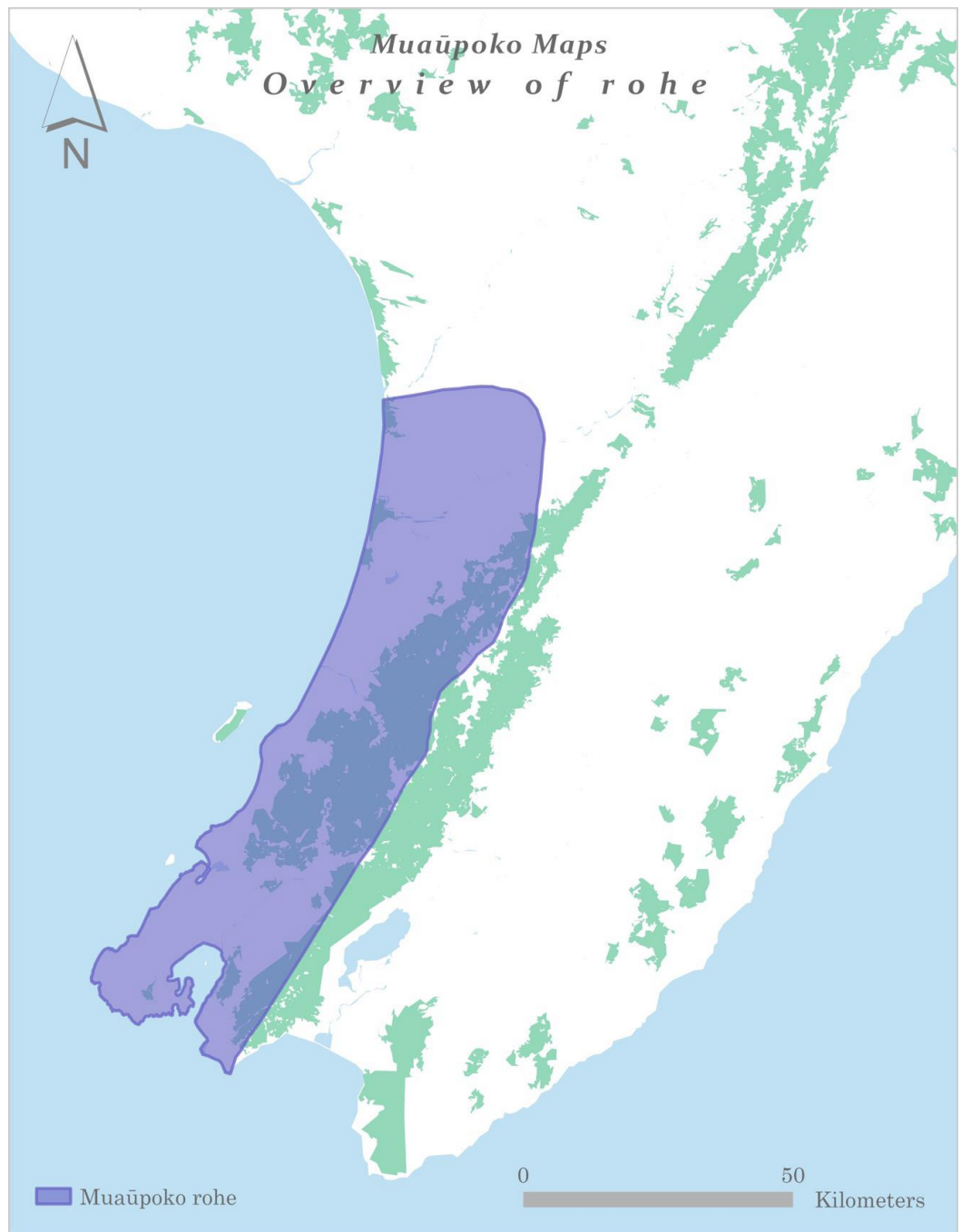


Figure 1: Ngai Tara ki Mua Ūpoko o te Ika a Maui traditional rohe for CEDF

Muaūpoko significant sites and design principles (Chapter 4 material)

Ngā Upapa

Ngā Upapa are geomorphological features within the upper Koputaroa catchment and located within the Horowhenua Block, our heartland. They are the shape of mounds and associated with wahine. They are wāhi tapu, places our people go for spiritual enlightenment. The mounds themselves have been physically avoided by the Ō2NL project. The alignment also avoids the flow of wai from Ngā Upapa, associated puna (freshwater springs), traditional settlement sites, and traditional mahinga kai sites in the vicinity. The project crosses Wai Karito, a tributary of the Koputaroa Stream, our traditional mahinga kai site is connected to puna (freshwater springs) and is named for the raupō seedhead (karito). Today, the stream has dried up and is more ephemeral in nature but still contains exotic-dominated wetlands.

Ngā Upapa design response

- Wai Karito tributary is planted with raupō and is accessible for harvesting from the shared-use pathway (this may require redevelopment of physical properties of the stream to create wetlands to host raupō in places accessible to the SUP).
- Investigations undertaken to implement a tāniko or similar kaupapa Māori design on the noise wall that recognises, connects to and integrates with our Ngā Upapa landscape.

Koputaroa

The Koputaroa catchment is characterised by seepage repo (wetlands) and deep valley streams leading to a swamp known to us by two names, firstly Roto Ramarama (for the large stands of ramarama, *Lophomyrtus bullata*, that once surrounded the repo). Secondly, this large swamp is the shape of the Hokioi wing. We believe Koputaroa is named for the wing of the Hokioi bird (the Haasts eagle) that our ancestors encountered when settling in the area. The alignment passes Waoku (a wāhi tupuna where kererū were traditionally harvested), and Kohitāne (a place where our tāne/men would train), Kawiū (Muaūpoko marae), O Pae and Orea (traditional tuna hunting and storage sites) and interacts with valuable wetland remnants that support wetland birds such as pūweto, kawau, weweia, and matuku.

Koputaroa design response

- Areas within the Koputaroa landscape are planted with canopy-forming ngahere species that are favourable to kererū, including kōwhai, kohekohe, nīkau, miro, tawa and pigeonwood/porokaiwhiri. The outcome being a ngahere with high habitat and food values for kererū.
- Investigate the restoration of wetlands in the Koputaroa area with ramarama
- cut and fills are minimised

Ohau

We have whakapapa connections to Haunui a Nanaia from the Aotea waka, he travelled through our region naming waterways and places along his journey. His journey for us represents discovery of the area whereby the Ohau River was named O-Hau 'of Haunui.' Our ancestor Te Rangitakoru sung a nursery rhyme for his daughter Wharaurangi featuring the journey of Haunui, the naming and discovery of the awa Ohau.

The Ohau has many wāhi tupuna, wāhi tapu and wāhi taonga which we still recognise and interact with today. Of particular importance is Make Retu in the upper Ohau valley. It is our spiritual power centre. The Ohau Awa supports many taonga such as ngata and ngārara (indigenous lizard and snail populations), dotterels nest in the river gravels while tuna, banded kōkopu, kōaro, shortjaw kōkopu, torrentfish and pirahau (lamprey) thrive in the awa itself.

Ohau design response

- The quarry/material supply site is restored for habitat values associated with tuna, manu, ngārara and ngata, and is screened with plantings when viewed from the new open-water habitat/quarry site.
- The river bridge and quarry is designed to minimise any new access to the awa. Excluding vehicle access, including motorbikes. Facilities such as rubbish bins and picnic tables are moved from the awa edge and floodplain, and away from carparks. Appropriate signage is installed that recognises the naming of Ohau and the environmental tikanga of the area.
- The new river bridge includes recognition of Make Retu, our spiritual powerhouse that characterises the qualities of the upper catchment.

Waiwiri

Waiwiri is our traditional name for both the river and the lake –Waiwiri is named for the shimmering waters of the lake. Papaitonga is actually the name for one of the islands within the lake that our ancestors built. Our ancestors settled around Waiwiri over five centuries ago, the lake provided abundant resources for our people and was in close proximity to Punahau/Lake Horowhenua. Our traditional pathways connected Waiwiri, Punahau, out to Hokioi estuary and up into our cultivation grounds and further to the Tararua Ranges. The ngāhere surrounding Waiwiri is one of the last remaining coastal dune forests on the West Coast of the North Island and is where our people have studied and collected rongoa for over twenty generations. Our ancestors recognised the quality of the soils around Waiwiri and the lower Ohau and cultivated land within temporary clearings throughout the area.

Waiwiri design response

- Reuse the soils of Haumia-tiketike in local landscaping.
- Maintain the soils within the local area – do not allow them to cross south of the Ohau or north of Tara-Ika.

O Tara Rere

Tara-Rere was a place where Tara-Ika moved quickly along. Tara being one of our ancestors described earlier in the CEDF, and rere meaning to fly or move quickly. The O Tara Rere fore-hills are characterised by low slopes and wind the flies along, giving speed to one's step.

Poroporo was a place where trees growing berry fruit could be found, large quantities of the poroporo berry, its leaves and bark were harvested as a rongoa for itching, sores, infections, and ulcers. A track starting at the base of the maunga takes you along to the location of kai poroporo.

These fore hills are a source of mauri stone (greywacke) used in our cultural ceremonies

O Tara Rere design response

- The project supports Muaūpoko to source mauri stones from O Tara Rere where practicable
- Poroporo are incorporated into the planting pellet

Tararua (Whakahoro, Waikawa)

Whakahoro included the expansive flat coastal area from the fore hills around Manakau to the coast (maunga to moana). The area had characteristically large and old birding trees and tree forts. These tree forts were often built in old-growth kahikatea rākau. Our ancestors lived in these tree forts as a means to move about the landscape quickly and hunt manu. Our connections with these tree forts in the land go back to the time of Whatonga who encountered the ancients living like this. The tradition was carried on for many generations and was a great advantage to our people in times of traditional tribal warfare.

The Waikawa Awa and Manakau Awa are mahinga kai, in particular our people maintained extensive watercress beds, and our people still harvest watercress in small quantities today. Some of our people hunt in the Tararua Ranges and foothills for deer in the area. Our taonga species include shortfin tuna/eel, longfin tuna/eel, various types of bullies, giant kōkopu shortjaw kōkopu kōaro, torrentfish, lamprey/pirahau, and inanga.

Tararua (Whakahoro, Waikawa) design response

- Use of tree forts as a mahi toi design parameter alongside the shared-use pathway.
- Share our traditions and history related to tree forts and Whakahoro in this location and across the project in the form of signage and mahi toi.
- Conduct planting to connect the awa ki uta ki tai and connect ecological corridors along the awa including planting for ngata and ngārara outcomes.
- Investigate the use of tāniko on noise walls to reconnect the landscape and road users with te ao Māori and our values.

Pukehou

Pukehou is the place where Haunui a Nanaia stopped and undertook a ritual to show respect for the important connections between maunga and moana, the ranges, Waitohu awa and repo complex. Puke being reference to the mound/hill.

Pukehou features significantly in our whakapapa, history and korero. The settlement and mahinga kai sites of Moutere and Kopureherehe are ancient, the names connected to our homelands in Hawaiki. It is an extremely significant and spiritual landscape.

Our ancestors Rangihouhia, Te Hakeke, Rangihikaka and Puhi whakapapa to this area. They lived in the Moutere and Kopureherehe (forest lakes) areas and regularly travelled the region to collect resources and hunt. Such encampments have been found in the project alignment adjacent to O Te Pua Swamp. Our ancestors collected fresh-water resources from the Waiaute stream that has its headwaters to the east of Pukehou. It was a key navigational point and enabled view of the entire lowlands and Tararua Ranges. Our ancestor Te Hakeke composed a lament for his son from this point. This lament was composed with references to landmarks for Muaūpoko. It was a mahinga kai area for birding and berries, It also provided a safe refuge point from raiding taua.

Pukehou design response

- Focus on restoration planting in the gullies to connect O Te Pua headwaters with the toe of Pukehou maunga
- Recognise our ancient connections and names back to Hawaiki through whakapapa in the design of mahi toi and signage.

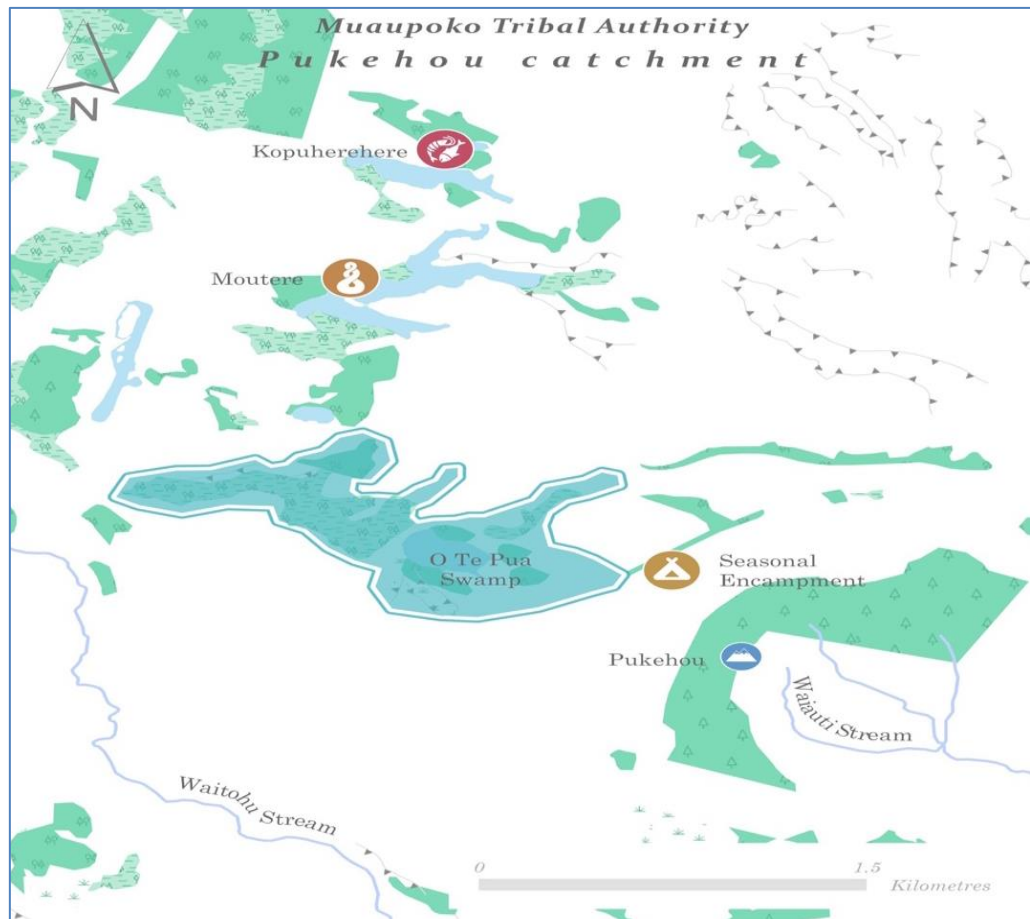


Figure 1: an example of our cultural landscape within the project

Page 3- Muaūpoko heartland and design responses (Chapter 4 material)

Punahau/Lake Horowhenua

Punahau/Lake Horowhenua, the Hōkioi Stream and the connected surface waters, groundwaters, puna and wetlands from te Pae Maunga Tararua to Te Moana o Raukawakawa, encompasses the Muaūpoko heartland. These areas and features are absolutely central to the mauri, wairua and identity of the iwi. The mana of Punahau, Hōkioi, the catchment and connections, and the mana of Muaūpoko are inextricably linked. The lake and Hōkioi Stream are highly valued taonga – as prolific and unrivalled sources of food and natural resources, they provided for the physical and spiritual sustenance of Muaūpoko. The Punahau/Lake Horowhenua lake bed, surrounding land and the Hokioi Stream is privately owned by Muaūpoko Lake Horowhenua Trust. The lake is traditionally known to Muaūpoko as Punahau (or Waipunahau), loosely translated as ‘the spring of vitality.’ The name highlights the once abundant life supporting life capacity of the lake and and Muaūpoko understanding of the lake’s unique groundwater properties.

Punahau was shrouded with dense forest of pukatea, kahikatea, and rata on the lake margin; surrounded by huge wetland areas with a plentiful supply of raupō, harakeke, kākahi (freshwater mussels), īnanga (whitebait), pātiki (flounder) and tuna (eels). Native birds such as kererū were found in their thousands. These species were main components of our ancestors' diets. From the lake inland to the Tararua Range stood rangatira (chiefs of the forest) of nīkau, miro, karaka, tawa and rimu, among other taonga, which provided food, shelter, and other necessities for survival.

In te reo Māori, Horo-whenua translates to “landslide or erosion of the land”, the name Horowhenua now applies to the wider region and the lake. The word Horowhenua was traditionally used by our ancestors to describe the erosional processes and landslips that occur along the stretch of whenua, that starts in the Tararua Range, and the characteristics of the resulting soils at a macro scale. Muaūpoko people understand through their mātauranga that the Horowhenua links the Tararua Range with Punahau, that the gravel fan in this location contain the headwaters or lifeblood of Punahau, and the land is interconnected through groundwater and underground rivers to the lake. The land upon which the highway project traverses is interconnected with the lake, understanding this is at the heart of understanding the Muaūpoko connection and significance of the cultural impact of this project.

The groundwaters are fed by sacred lakes and sites within the Tararua Ranges. The gravel fan is highly porous and absorbs the majority of rainwater within the landscape. It is only in particularly heavy rainfall events that surface-runoff channels form. As a result, groundwater levels are highly dynamic across the landscape and freshwater springs, known as puna, are common. The movement of water through the Horowhenua fan is dynamic in both time and space. We value the natural movement of wai. We know of a number of springs that have been lost to us- Waihou, Te Wai o Haunga, and Hau Tū to name a few. Those that remain in our knowledge such as Maunu Wahine and O-Hau are extremely valuable to us.

Punahau, its waterways and connections are of great spiritual significance to our people as the lake waters are seen as a connecting of the underground (Papatūānuku) with the sky (Ranginui) and the resting places of our ancestors. The Mauri of our rohe and people can be monitored and measured based on the health of our lake. The Wairua of our people is also connected, and it is well recognised that if the lake is not healthy or strong in mauri then the people will also suffer and

vice versa. It is understood that the Hauora and strength of our people will also feed the Hauora of Punahau. Our people and our waterways are inextricably.

Arapaepae

Arapaepae was a trail that crisscrossed the Arapaepae ridge. This trail within the Horowhenua Block, leading from Lake Horowhenua to the Tararua Range, adjacent to what is now known as Queen Street East was used by Muaūpoko bird-snaring parties and those gathering mahinga kai. This trail is said to have been first marked out by our early ancestor Haere-Tu-Te-Rangi. It is a highly valued ancestral and spiritual pathway, a pathway that Muaūpoko spirits traverse to depart into the afterlife. It is the pathway our people take when they have passed on from the living world. The Arapaepae trail is connected to Maunu Wahine and Waimārie.

Maunu Wahine

Maunu Wāhine (a sacred place for our women and children) and Waiopahu Reserve are also connected to Arapaepae, our spiritual pathway. Maunu Wahine is located just west of Waiopahu Reserve but included the wider area. The site was a natural open glade in the forest surrounding the base of a large-forked Rimu tree. It provided wai Māori (drinking water), tuna (eels), kiekie fruits and freshwater shellfish. It was a place where people could rest, on their way across the ranges or back and where the study of rongoa took place. It is a place of study and learning- specifically for women and children. Maunu Wahine is visited by Muaūpoko women to this day where they feel a spiritual peace and sense of place and connection while on the site, they participate in the collection of rongoa and wānanga in the nearby Waiopahu Reserve. Muaūpoko have secured the restoration of Maunu Wahine through an Open Space Reserve via Horowhenua District Councils Tara-Ika Plan Change.

Waimārie

The Waimārie is both a surface water and groundwater feature that is fed by a natural spring close to Maunu Wāhine, the waterway follows the spiritual pathway Arapaepae connecting with Punahau/Lake Horowhenua. Waimārie is characterised by high groundwater levels (as confirmed by the material supply investigation workstream) and its connections to the Arapaepae bush remnants, Waiopahu Reserve and Maunu Wahine.

Taonga species

Ngārara (*Oligosoma ornatum*) have been found within the Arapaepae bush remnants connected to our spiritual pathway and ngata are traditionally known to be present. Ngārara or lizards are associated with the atua Whiro. Because of Whiro's reputation, ngārara can be bad omens and associated with death, however they can also be seen as guardians or kaitiaki to be released near the burial sites of loved ones and used as a talisman to provide protection. We see these ngārara as watching over our spiritual pathway and departed spirits. We believe the populations of ngārara in each of the remnants and our spiritual pathway is intimately interconnected and that the health of these populations will impact the strength of the wairua of our pathway.

Muaūpoko heartland design responses

- The queen st east overbridge design avoids impacts on Punahau/Lake Horowhenua and is responsive to our values associated with Ara-paepae and wai mārie. The design incorporates tree forts to celebrate connections to Whakahoro and all along the coastline where our tree forts existed. The overbridge is designed slightly off centre to avoid interrupting visual connections with our maunga Tararua.
- The lizard offset package of works and terrestrial planting package takes into account our values associated with Arapaepae, maunu wahine and our value of ki uta ki tai. It is critical that the lizard offset site development remains associated with our spiritual pathway so our kaitiaki can continue to oversee the departing spirits of our people. We prefer the site is at Waiiopehu Reserve as a means to also protect our ngata kaitiaki and the old Rangatira of the ngāhere that still exist.
- Waimarie surface water features will be ecologically restored and the underground properties of the awa celebrated and shared with our community through the use of signage and mahi toi.
- Recognise Ki uta ki tai values and their interlinkages with Muaūpoko heartland in the Tararua roundabout



Figure 3: Lake Horowhenua and Tararua Ranges, view from Hokio Stream, 1875. [Painted by John Barr Clarke Hoyte (1835–1913). From the Auckland Art Gallery collection].