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 REBUTTAL EVIDENCE OF NICHOLAS PAUL GOLDWATER ON BEHALF OF WAKA KOTAHI NZ TRANSPORT AGENCY

Dated 10 October 2023

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INTRODUCTION

1. My full name is **Nicholas Paul Goldwater.**

2. I prepared a statement of evidence (**Evidence**) regarding terrestrial ecology effects of the proposed Ōtaki to North of Levin Project (**Ō2NL Project** or **Project**), dated 4 July 2023.

3. My qualifications and experience are set out in my Evidence.

4. In this rebuttal evidence I use the same defined terms as in my Evidence.

5. I repeat the confirmation given in my Evidence that I have read the 'Code of Conduct' for expert witnesses and that my evidence has been prepared in compliance with that Code.

6. This rebuttal evidence responds to points made in evidence by:

   (a) Ms Amelia Geary, on behalf of the Royal Forest and Bird Protection Society of New Zealand (**Forest & Bird**);

   (b) Mr James Lambie, on behalf of Manawatū-Whanganui Regional Council (**Horizons**), Greater Wellington Regional Council (**GWRC**); and

   (c) Mr Bryn Hickson-Rowden, on behalf of Horowhenua District Council (**HDC**) and Kapiti Coast District Council (**KCDC**).

7. I attended expert conferencing on 7 August 2023 with:

   (a) Mr Lambie;

   (b) Mr Hickson-Rowden;

   (c) Ms Siobhan Karaitiana, representing Muaūpoko Tribal Authority; and

   (d) Mr Quentin Parr, representing Ngā Hapū o Ōtaki.

RESPONSE TO MS GEARY

Standards for landscape and natural character planting

8. Ms Geary considers that the conditions for landscape and natural character planting should require the same standard of management as the terrestrial ecology offset plantings. That would mean the conditions for landscape and natural character planting (DLV1 and RWB3) setting additional requirements

with respect to such actions as fencing, pest plant and animal control, plant survival, canopy cover, and post-planting monitoring.

9. However, the offset planting serves a different purpose to that of the landscape and natural character plantings. While landscape and natural character planting can provide positive ecological benefits, they do not provide for modelled ecological benefits that are being relied on to ensure that effects on ecological values are appropriately addressed. Higher standards need to be applied to offset planting because they are required to address residual ecological effects.

10. I acknowledge that throughout large parts of the Project area, terrestrial and freshwater offset planting will form large contiguous areas of habitat with landscape and natural character planting, which over time may become indistinguishable from each other in some areas. This is what Ms Geary refers to when she discusses the "whole of landscape approach"[1].

11. Once established, the landscape and natural character plantings will also provide ecological benefits such as increased fauna habitat and food resources, connectivity, and buffering, although I emphasise that I have not relied on these benefits for the purposes of addressing residual effects. In this regard, landscape and natural character planting should not be held to the same standards as those for terrestrial and offset plantings, and that, in my view, a five-year maintenance period is sufficient for landscape and natural character plantings to achieve appropriate levels of survivorship and canopy.

12. Mr James Lambie[2] and Ms Julia Williams[3] express similar opinions in their evidence, whereby the performance targets of offset plantings need not be applied to landscape and natural character plantings, and that the 90% survival rate and 80% canopy cover measures provided for in conditions DLV1 and RWB3 are adequate. Ms Williams also says in paragraph 36 of her evidence that:

> *"The 5-year maintenance period is more generous that a number of other large landscape projects I have been involved with, and it is not uncommon*

[1] Statement of Evidence of Amelia Geary, 14 September 2023, paragraph [15]
[2] Statement of Evidence of James Lambie, 26 September 2023, paragraph [27]
[3] Statement of Evidence of Julia Williams, 26 September 2023, paragraph [35]

for well implemented and maintained landscape plantings to achieve 80% canopy coverage in three years, let alone five years".

13. In paragraph 21 of her evidence, Ms Geary claims that the conditions for landscape and natural character plantings are "severely lacking in details and requirements to ensure that the planting survives beyond five years". In my view, it is the targets that are of key importance in these conditions, i.e., 90% survival and 80% canopy coverage at five years. It should not be the purpose of the conditions to outline the specifics in terms of planting and post-planting management.

14. Ms Geary explains that her "*key point*" is that more detailed / stringent condition requirements are needed to:

    (a) provide certainty that the landscape and natural character plantings "*will successfully mitigate the landscape and visual effects of the highway*"; and

    (b) "*reduce the risk that these areas become weed and pest sources for the offset areas*".

15. Mr Lister responds to this evidence in terms of the mitigation of landscape and visual effects.

16. As long as appropriate site preparation and post-planting management are undertaken, I do not anticipate that the landscape and natural character plantings will be become sources of pest plants. In saying that, I do not need to rely on this occurring as instead I rely on the conditions that set performance targets and monitoring and management requirements for terrestrial ecological planting. So long as these conditions apply, then it is up to the constructor to work out how to precisely meet these conditions and they will need to specify this in the Ecology Management Plan and then the Ecology Offset Layout Plans.

17. Irrespective, if the specified terrestrial ecology targets (towards net gain) are not being met then remedial action will be required. As part of that process the constructor may choose to adopt the same or similar management and monitoring regime that is being used for terrestrial and wetland offset planting for any contiguous landscape and natural character planting areas e.g., at property #519. I would support that but note it is not needed to be specified now and that is a matter for later consideration by the constructor. I provide

further detail on managing planted areas in paragraphs 26 and 27 of my Evidence.

18. In order to ensure the successful establishment of all planted areas, browsing pests such as rabbits and pūkeko will be controlled, if required. It is inevitable that pest animals will utilise planted areas, although their control is not explicitly required in terms of effects management. In my view, managing pest animals in perpetuity in landscape and natural character plantings is beyond the scope of Project. I note that the only areas where the ongoing control of pest animals will be undertaken are the margins of stormwater ponds.

RESPONSE TO MR LAMBIE

The ongoing management of pest plants within natural character and landscape plantings

19. Mr Lambie acknowledges that insufficient management of pest plant and animals in the early years following planting can adversely affect the trajectory of landscape and natural character plantings. He goes on to say that the measures to check performance of the offset plantings are not required to be applied to landscape and natural character plantings, and he agrees with Ms Williams that the 90% survival rate and 80% canopy cover measures are adequate to ensure success[4].

20. Mr Lambie also makes the following clarification in paragraph 28 of this statement of evidence (my emphasis in bold):

> *"…where I state in my s87F Report that the performance standard for RWB3(a)(ii) and DLV1(b) should be revised to be consistent with the offsets, what I meant was that the percentage cover standard for non-offset forest and wetland habitats plantings should be set at the same level as the* ***percentage canopy cover*** *for the equivalent offset habitat. I did not mean to imply that the* ***faunal attributes and diversity*** *indices also apply."*

21. I agree with Mr Lambie that the 90% survival and 80% canopy cover measures are appropriate for landscape and natural planting, and I understand that he did not intend to imply that the attributes used to prepare the Biodiversity Offset and Accounting Models (BOAMs) should be applied as measures of success to landscape and natural character planting. As I have

[4] Statement of Evidence of James Lambie, 26 September 2023, paragraph [27]

previously responded to the issues raised in Ms Geary's evidence, I consider applying such measures to landscape and natural character plantings to be over and above what is required for the Project.

22. Based on my experience in revegetation projects, I am confident that the performance targets for landscape and natural character planting can be achieved within five years. When planting wetlands, for example, it is not uncommon for sedge species (e.g., *Carex* species) to form a near 100% canopy cover within three to four years, as long as site preparation, plant spacing, and post-planting maintenance have all been appropriately carried out. Other wetland species such as mānuka and harakeke (flax) can also attain 80% canopy cover within four to five years in good conditions.

23. However, Mr Lambie considers that the conditions should require "*maintenance of the natural character plantings to ensure that they remain indigenous-dominant (more than 50% indigenous cover) in the face of on-going threats of invasive weeds*". Mr St Clair has proposed to add a new clause RWB(a)(iii) accordingly. My understanding is that would place an ensuring 'life of project' obligation on Waka Kotahi.

24. While I agree that the long-term ecological viability of natural character planting requires indigenous vegetation to be dominant, I reiterate that the measures by which the residual effects of the Project are addressed rely more heavily on terrestrial and wetland offset planting as opposed to natural character planting. In my opinion, it is onerous for a condition to require Waka Kotahi to undertake weed control once a 90% survival rate and 80% indigenous canopy cover have been achieved, i.e., beyond five years. I discuss this point further below in relation to pest plant management requirements for offset planting.

Ongoing management of pest plants within terrestrial offset plantings

REM13

25. Mr Lambie has a preference for offset plantings to be maintained in perpetuity in order to provide greater confidence in their long-term viability[5], a view that, as I understand, is also shared by Mr Logan Brown with respect to riparian offset plantings.

[5] Statement of Evidence of James Lambie, 26 September 2023, paragraph [38b]

26. I have responded to this issue in my Evidence in chief (paragraphs 157 to 163). To summarise, the main objective of the offset plantings is to establish indigenous habitats for the purposes of achieving net gains in indigenous biodiversity over time. The modelled net-gain outcomes per the Biodiversity Offset Accounting Model (BOAM) does not rely on in-perpetuity pest plant animal control; instead, it relies on meeting the targets in condition REM12 and monitoring requirements in condition REM19. As such, I consider that maintenance in perpetuity exceeds the requirements for the Project in terms of addressing the residual effects of permanent vegetation loss.

27. I acknowledge – as Ms Williams has mentioned – that weed invasion can occur in planted areas that have been maintained until canopy has achieved 90% or more cover, particularly shade-tolerant species (e.g., tree privet, cherry) and/or species that can smother the canopy (e.g., banana passionfruit and old man's beard. It is important to note, however, that there would be a legal obligation for Horizons and future landowners to meet the requirements of the Horizons Regional Pest Management Plan 2017-2037 in relation to managing pest species in areas planted for offset purposes. This provides a greater degree of confidence that serious pest plant infestations will be controlled.

28. As I understand, Waka Kotahi has never previously been required to be responsible (via consent conditions) for the permanent management of planted areas. It would be unduly onerous for it to be applied to the Project given the relatively small amount of indigenous vegetation within construction footprint.

Other conditions re offsetting implementation

29. Mr Lambie has suggested that REM12 more clearly address the expectation that the listed measures will be undertaken in order to achieve biodiversity net gain. The additional wording in this condition proposed by Mr St Clair does not, in my opinion, make a material difference, and I am happy to defer to the evidence of Ms McLeod on this matter.

30. I am supportive of the amendment made to REM19g(ii) in the evidence of Mark St Clair, which outlines in greater detail what steps would be required should net gain outcomes for terrestrial and wetland ecology not be achieved.

31. The new proposed clause (h) in condition REM19 proposed by Mark St Clair would require an inspection of all ecology offset sites to be undertaken 25 years after planting. In my opinion, if at year 15 the offset planting is on the appropriate trajectory in terms of canopy cover, diversity of indigenous species, and dominance of indigenous plants, then the requirement for another inspection at 25 years is unnecessary. If, however, it is evident that offset targets have not been achieved at year 15, then I consider an additional inspection at year 25 is warranted. I suggest that the condition is amended to reflect this.

RESPONSE TO MR HICKSON-ROWDEN

Suitably qualified person ("SQP")

32. Mr Hickson-Rowden has identified several ecological activities within the conditions that he considers should only be undertaken by a suitably qualified person[6]. He has made the recommendation that condition RGA6(ii) is amended to include to these specific activities[7].

33. I am supportive of Mr Hickson-Rowden's recommended change to the condition.

Timing of buffer planting

34. Mr Hickson-Rowden expresses concern about the timing of the buffer planting to mitigate the construction and operational effects of the O2NL Project and, as such, has recommended amending condition RTE7(b)(ii) so that it reads as:

> *be undertaken prior to the commencement of construction activities where it is practicable to do so or, at the latest before the end of the last planting season during the construction period*

35. I agree that that it would be beneficial for buffer planting to be established as soon as possible, either prior to or during construction. However, as I understand, this may not be practical due to issues of landowner approval and health and safety and, as such, there needs to be some flexibility retained in the condition. I note that ecological benefits will also be provided by buffer planting during the operational stage of the Project, i.e., the

[6] Statement of Evidence of Bryn Hickson-Howden, 26 September 2023, paragraph [14]
[7] Statement of Evidence of Bryn Hickson-Howden, 26 September 2023, paragraph [15]

vegetation will be at a stage where it can usefully mitigate edge effects and artificial light.

Nicholas Paul Goldwater

10 October 2023