Memo

To:	Mary Hill, Fast Track Panel Chair	Job No:	2548
From:	Graham Ussher; RMA Ecology Ltd	Date:	13 January 2026
cc:			
Subject:	Takitimu North Link Stage 2 Fast Track consenting application: review of ecological effects management approach		

Dear Mary,

The expert Panel has sought advice from Graham Ussher (Principal Ecologist at RMA Ecology Ltd) on matters relating to ecology for the proposed Takitimu North Link Stage 2 application made by the New Zealand Transport Agency (NZTA) Ltd under the Fast Track Amendment Act legislation.

My scope of work for this review report includes the following inputs (which form part of my overall deliverables to the Panel):

1. Review the ecological aspects of the application and supporting assessments, with a focus on potential impacts to freshwater, estuarine, and terrestrial environments;
2. Assess the adequacy of proposed freshwater and wetland mitigation and offset measures;
3. Provide input into relevant conditions and ecological management plans, including advice on whether a flexible management plan approach is appropriate, or whether draft plans should be provided by the applicant (with suggested content);
4. Provide a summary of key ecological risks and considerations; and
5. Provide recommendations on mitigation, monitoring, management plans, and consent conditions.

Information that I have reviewed for this report includes:

- Appendix 9.4.4. Boffa Miskell Limited 2025. Takitimu North Link – Stage 2: Ecological effects assessment. Report prepared by Boffa Miskell Limited for NZTA. Version 4.0 dated 31 July 2025.
- Appendix 9.4.9. BBO Ltd. 2025. Takitimu North Link Stage 2: Stormwater Assessment. Dated 24 July 2025.
- Appendix 9.4.5. Adrian Morton Landscape Architects Ltd. 2025. Takitimu North Link Stage 2. Landscape Visual Impact Assessment. Date 29 July 2025.
- Appendix 9.1.4. Proposed Wildlife Approval Conditions 24 October 2025.
- 144702-00-1200-1 General Arrangement Main Alignment Redacted. Site drawings.
- Takitimu North Link Stage 2 – Proposed resource consent conditions (December 2025); lodged on the EPA website on 22 December 2025.

This report provides a review of the information submitted by the Applicant for consideration by the Panel.

Separate advice has been provided by me to the Panel regarding written feedback received by the Panel from invited parties, including in particular the Director General of Conservation (on behalf of the Department of Conservation), Bay of Plenty Regional Council, and Western Bay of Plenty District Council (amongst others).

This report is structured as four sections:

1. Summary and general comments
2. Comments on values and effects assessment
3. Comments on effects management package
4. Comments on the draft set of conditions

I undertook a visit to parts of the site on 15 December 2025, including key shrubland, forest, wetland and stream areas, as well as to the proposed wetland restoration areas.

1 Summary and general comments

General comments following my review of the documents listed above, are provided below. These provide a concise summary of matters raised in my review.

1. The ecological investigations laid out in the Ecological Effects Assessment Report (hereafter 'EcIA') apply a range of standard techniques to survey and sample ecological communities and species of particular interest across the site, and have been thoroughly applied. For most ecological aspects, field investigations have involved on-site data collection. Where site investigations were not undertaken, the justification provided is reasonable (for invertebrates), or information has been collected using desktop and incidental observations rather than systematic survey (birds). While it is unusual to not undertake systematic surveys for ecological elements such as birds, I understand the rationale behind the Applicant's approach for this particular site and project. Where such an approach is implemented, I would expect that a precautionary approach to assuming presence and values is taken, and that this is followed through into an effects assessment, effects management programme, and implementation of mitigation and restoration responses.

2. The EcIA concludes that the site is heavily modified and comprises a matrix of (mostly) novel, exotic-dominated, young, low ecology value environments. I agree with that conclusion, and with the Applicant's approach of assuming presence and higher values where systematic assessment has not been undertaken; this is especially the case with rare or threatened birds within wetland areas. Wetland, marine, bat and stream assessments are comprehensive. Vegetation assessment is less so, but is justified given the nature of the environment. Surveys of lizards were undertaken although the scale and breadth of survey techniques (manual searching, and single layered ACOs at 38 locations) seems light given the large size and complexity of potential lizard habitats across the site; although ultimately the lack of native lizards detected is addressed by assuming presence and by implementing a best-practice approach to salvage and relocation, which will avoid harm and minimise effects if native lizards are present.

3. The assessment of effects in the EcIA report addresses each component of ecology in a step-wise manner through an assessment of values, potential type of effects, magnitude of effects and overall level of effect. All relevant terrestrial and aquatic (including marine) environments and key species are addressed. Coverage has been broad, although for some aspects depth of assessment could be greater and omits potentially important impacts. These include the potential for indirect effects on wetlands through localised dewatering and catchment changes, and the importance of terrestrial vegetation to the assumed presence of rare birds, including kaka, falcon and cuckoo.

4. The assessment of the scale, magnitude and level of potential adverse effects is thorough and follows the EIANZ effects assessment framework. The assessment would benefit from further discussion with the Applicant over how the following aspects have been addressed, or if not addressed, why they have been omitted:

    a. Potential dewatering effects on wetlands;
    b. Importance of terrestrial vegetation to rare birds; and

c. Why operational effects on wetlands (which are identified in Section 4.5 of the EcIA) appear to have been omitted from the effects calculations.

The matters raised in 4 (a) – (c) have the potential to under-estimate the importance of effects on ecology of the project, and through their omission result in unaddressed adverse effects that are more than minor.

5. The effects management package has been well thought through and is – at a conceptual level - comprehensive. I support the underlying approach that has been applied, which is to apply the step-wise effects management hierarchy, and to tailor management approaches based on a burden of proof framework. In essence, this means that that approaches where ecological outcomes are certain should be preferred, and should be subject to less risk management than approaches where outcomes are less certain or are novel in which case a more fulsome suite of risk management tools should be applied.

6. The Applicant describes a suite of approaches, tools and techniques for achieving biodiversity enhancements to balance unavoidable losses. These include minimisation through salvage and relocation, the need for careful management near to ecologically sensitive areas, habitat creation, and habitat restoration through planting, weed and animal pest control. The EcIA and associated appendices provide a working concept for this effect management package, although the detail of the package is left to a future Ecological Management Plan (EMP) (including a suite of sub-plans) that will deal with everything from stream realignment design, wetland creation, wetland restoration, pest control, and ecological monitoring.

7. While I support the working concept as presented by the Applicant, I do not have confidence that the implementation of this will achieve the stated goal of 'managing adverse effects to a no more than low level, and a positive effect for many components and habitats'. The principal reasons for this are because:

    a. The concept lacks the necessary detail to provide confidence that the locations and treatments needed to achieve ecological restoration and enhancement are feasible. That detail would normally be contained within a management plan, which would show how the feasibility of each part of the programme has been assessed and provide detail on its implementation;
    b. Wetland creation is identified as a concept but the locations are left to detailed design and may result in fragmented, small wetlands. The viability of creating hydrologically functioning wetlands along the project is left to others to assess during construction. The proposed wetland creation site at L'Anson Bush Park appears ideal, but has yet to be assessed by a hydrologist as to its ability to support a hydrological regime that will support wetland communities. One potential outcome is that none of the sites proposed by the Applicant are viable as wetland creation areas. Investigating feasibility now (and providing that evidence in an EMP) is important;
    c. The restoration concept does not provide detail needed to assess the value of restoration areas for some of the key species and their associated effects management described in the EcIA, for example, how created or restored wetlands will provide foraging and nesting habitat for fernbird, bittern, crake, and rail – all of which are assumed to be within impacted wetland areas, and for which wetland restoration areas must provide habitat if impacts are to be addressed.
    d. Likewise, the 15 ha of terrestrial riparian margin planting proposed as habitat for native terrestrial birds lacks planting specification to ensure that adequate habitat is created to cater for foraging and nesting for cuckoo, falcon and kaka – which is an objective of the effects management approach. Planting low-growing seral plant species will not cater for rare birds, or will take human generations to generate benefits;
    e. Replacement of habitat for native skinks is proposed through the 15 ha of riparian planting, with dense planting, woody debris, dense cover and leaf litter stipulated in the

EcIA. None of this is incorporated into planting plans – such as the landscape planting plans that refer to and show enhancement planting. How will this be assured through design?

f. There is considerable inconsistency between the concept ecological restoration package as presented in the EcIA report, and the concept landscape planting plans presented in the landscape assessment report. There appears to be little coordination between these disciplines, which leaves open the potential for ecological detail essential to effects management being omitted or de-prioritised.
g. Stream realignment is key strategy for minimising effects on watercourses; however effective mitigation relies upon assurance that realigned watercourses will function and support values that are at least as great as the pre-development state. There is no detail provided in the EcIA to give assurance that will be achieved. Such detail would normally be an integral part of a EMP and be represented by baseline measures of habitat quality and complexity, fundamental design elements for stream reconstruction, and drawings that providing supporting long-section and cross-sections. Without this assurance to provide a reasonable burden of proof, the concept proposed by the Applicant of limiting stream effects management to realignment risks being invalidated, with the associated effects needing to be addressed by way of offset or compensation, both of which are less desirable approaches.
h. The stream effect management approach is predicated on the use of mitigation through realignment to achieve at least a 1:1 replacement of extent. For some streams, realignment will increase length, while for others stream length will be removed and replaced elsewhere in a different catchment. Stream realignment as a mitigation tool is only relevant where a specific stream remains the same length or greater following realignment. For streams where loss of length is proposed for this project, an offset accounting tool (such as the SEV:ECR model) should be applied to account for the permanent loss of stream length, and to calculate the minimum length of stream needed to be restored elsewhere. This has the potential to change the quantum of stream restoration needed for this project to achieve its stated goal of no-net-loss of stream values and extent. The Applicant should revisit the stream loss and accounting approach to incorporate this split between mitigation (replacement at a ratio of 1:1 extent and enhancement) and offsetting (replacement at a ratio determined by the SEV method).

8. As a result, I strongly recommend that an Ecological Management Plan, including the component parts cited in the EcIA, (that is, the Stream Management and Monitoring Plan, Avifauna Management Plan, and Wetland Management Plan) is prepared in draft form for the Panel. While consent conditions could provide an alternative to a draft EMP, I anticipate that the level of detail required in the relevant conditions would be extensive, unwieldy, and may still fail to provide adequate detail to assure delivery of the ecological benefits promised by the Applicant.

9. The concept effects management package has been tested by applying two forms of biodiversity offset/ compensation accounting tool. I generally agree with the approach, inputs and findings and support their use as a 'test' for the adequacy of the proposed ecological management actions, enhancements and locations. I have several queries regarding the use of these tools which would benefit from clarification by the Applicant. Some may affect the minimum areas proposed for restoration works. These include:

    a. How have operational effects on wetlands been incorporated into these models; the models appear to only address direct impacts?
    b. Uplift for stock management is assumed for restoration areas that are already fenced from stock – why? Is this claiming benefits that are unachievable?
    c. The duration set for achieving the predicted restored state varies from 10 – 15 years. Is this the expected length of time for ecosystems to establish, mature and deliver

benefits, or is this the time lag between loss of values in the footprint and delivery of the anticipated ecological benefits. If it is the latter (which it should be), the Applicant should provide assurance that wetland restoration works will start at the time of impacts (or preferably before), or if after, provide evidence that the benefits of planting and pest control can be realised in a shorter timeframe than the 10-15 years included in the models.

10. Consent conditions – Comments are provided on the set of draft conditions.

11. My review has raised some matters that should be clarified by the Applicant. Requests for further information in this regard are laid out below.
    a. Provide a draft Ecological Management Plan that addresses matters in paragraph 8 above.
    b. Clarify the aspects of the BOAM offset model use that are identified in Paragraph 9 above.
    c. Clarify why 2.56 ha of high value wetland and wetland avifauna habitats were included in the offset modelling, whereas the EciA states that there is 4.6 ha of high value and moderate value wetlands that provide rare wetland bird habitat. Why has 2.04 ha of wetland that is either high value or rare bird habitat not been considered in the offset calculations?
    d. Clarify why operational effects on wetlands have been omitted from the effects management package.
    e. Explain how the EcIA's recommendation for additional capacity and redundancy in sediment controls around the Ōmokoroa Wetland and Te Puna Stream have been incorporated into stormwater designs or conditions requiring this.

12. Overall, while the ecological effects assessment appears thorough and the package provided (in concept) appears comprehensive, I cannot discern from the information provided whether all substantive ecological effects have been addressed or if there will be multiple significant residual adverse effects after the Applicant's suite of management actions are implemented.

    It is not clear if what is being promised (in concept) will be implemented to a set standard and produce the desired outcomes. Most of the elements for an effective ecological effects management package are described in the Application. However, I do not have confidence that the recommendations in the technical reports, or the consent conditions provide a robust enough framework to assure delivery of promised management of effects or enough detail to provide a decision maker or regulator confidence that beneficial actions will be undertaken, to the scale, location and quality proposed, or that appropriate management of adverse effects will result, as is anticipated by the Applicant.

2 Comments on values and effects assessment

The following is a list of matters of detail identified in my review. Some of these are minor; most have no fundamental implications for the direction or scale of the proposed effects management package. None constitute fundamental barriers to project design, although several may require additional information or re-calculation of the effects management package.

Resolving these matters would be helpful to the Panel and would provide greater assurance of the level to which the effects assessment and effects management package has been developed.

1. Lizards were surveyed using single layer ACOs laid out in 38 locations (some as clusters). My experience with lizard surveying indicates that triple stacked ACOs are far more effective at detecting copper (or ornate) skinks in highly modified environments. For a project of this size, I would have expected a more intensive survey effort, especially as similarly modified

environments elsewhere have found localised high densities/ important local hotspots of this species. Ultimately, this has little bearing for this project as the EcIA assumes that copper skinks are present and treats the site as such through requirements for salvage and relocation.

2. I support the pragmatic approach adopted by the Applicant's ecologist with regard to wetland delineation and classification. My site visit confirmed that for this site, rapid test and local topography were sufficient to provide assurance of wetland state without needing to implement more detailed methods.

3. Loss of 45 ha of habitat for native terrestrial birds is identified as an effect. In the absence of surveys, kaka, falcon and cuckoo are assumed to be present across the site. Given this assumption, would it not be important to recognise the value of and need for restoration of food sources, habitat and nesting areas for these species as part of the restoration programme? How will these outcomes be guaranteed through the EMP?

3 Comments on effects management package

1. I support the classification of stream realignment works as mitigation, provided there is sufficient detail to give assurance that realigned streams will at least provide the same or better instream and margin quality compared to prior to realignment, and within the same stream. Where loss of stream length/ area occurs within a specific stream, an offset accounting tool (such as the SVEV) should be applied.

2. Most design matters and assurance of quality and outcome are deferred to a future Ecological Management Plan. The lack of an EMP as part of the Application means that most of the detail needed to provide assurance of the Applicants concept effect management package, is absent. As a result, it is difficult to resolve inconsistencies and conflicts within the aspirational descriptions included in the EcIA, and means that I do not have confidence that the proposed package can or will deliver the full suite of promised benefits.

3. High value wetlands and wetland avifauna habitats are calculated by the Applicant to cover 4.6 ha (2.5 ha for moderate value wetlands and 2.1 ha for high values wetlands; Section 4.7 of the EcIA), yet only 2.56 ha of wetland is included in the offset calculations – why?

4. The EcIA recommends that sediment controls near to the Te Puna Stream and Ōmokoroa Wetland be designed to ensure there is capacity and redundancy to protect these ecologically sensitive areas. This is not explicitly addressed in the Stormwater Assessment report. How will this be guaranteed?

5. The EcIA provides maps of wetland restoration areas and describes stream realignment and riparian restoration. Some of this conflicts with proposed enhancement in the concept Landscape Management Plan. What locations in the Landscape Management Plan are specifically proposed to manage landscape effects, and are also proposed to manage ecological effects and what planting standard is applied to these areas? How will these conflicts be resolved?

6. Figure 1 Section Appendix 10 purports to show the Ōmokoroa Wetland restoration area in white, but large parts of that are proposed are under future road. That figure also states that everything to the east of the existing road will be lost – which does not match with the either the quantum of loss stated in the effects assessment, or the proposed restoration plans elsewhere. The actual area proposed for restoration needs to be clarified.

7. For Merrin Wetland, Figure 2 of Appendix 10 shows an orange polygon which is presumably existing wetland to be restored. There are substantial areas of dry land outside this bounded in white. What are these? The concept landscape mitigation plan states that these will be planted

with ‘proposed enhancement planting’ but no detail is given on purpose, species or management. Is this area part of the 15 ha of riparian planting proposed in the ecology Report – please clarify.

8. The wetland offset model (BOAM) uses indices as attributes. The measures behind those indices include quantitative and categorical measures and scores. These would appear to be ideal for monitoring success and achievement of biodiversity uplift. The EcIA does not provide detail on compliance or progress monitoring towards achieving the predicted biodiversity benefits – why not?

9. An offset/ compensation package for wetlands is presented:

    a. The package includes extensive restoration works to address the loss of 2.56 ha of high value wetlands and avifauna habitat.
    b. As raised in paragraph 3.3 above, the 2.56 ha included in the models does not address all of the stated high and moderate value wetland/ rare wetland bird habitat – why not?
    c. The package to address effects on the 2.56 ha includes 33.10 ha of restoration split over the Ōmokoroa wetland and the Merrin Wetland. This area is made up of 14.88 ha of riparian planting, 13.70 ha of freshwater wetland restoration (inclusive of 2.56 ha of wetland creation), and 4.52 ha of saltwater wetland restoration.
    d. The package to address loss of moderate value wetlands is proposed at a ratio of 1: 2 for creation or 1:1:1 for restoration and creation, and for loss of low value wetlands at a ratio of 1:1 creation. How has potential state as a concept laid out in the NES-F been taken into account when setting these ratios?
    e. Why has the loss of Moderate value wetland not been modelled the same as for High value wetland?
    f. It is unclear from the above what the actual total tallies for wetland creation and restoration are – although they appear to be substantial. The compensation for loss of high value wetlands alone has absorbed 33 ha of saline and freshwater wetland works. The addition of low and moderate wetland restoration could add another ca. 5.7 ha of wetland creation, or less with additional wetland restoration. Where will all of these areas come from? Deferring identifying the location of these areas to an EMP is not acceptable.
    g. The concept effects package for wetlands reads like an aspirational wish list. To be credible, this needs substance, which in this case means identifying potential sites now, undertaking a feasibility analysis of those sites and preparing a realistic programme of management that is achievable and measurable. That detail cannot be included in conditions of consent - it should be included in a draft EMP.

4 Comments on the draft set of conditions

1. Conditions 10 - 12 – specify additional design measures for erosion and sediment control devices to protect the Ōmokoroa Wetland and Te Puna Stream from weather event related sediment discharges.

2. Condition 15 – I recommend that an EMP is provided in draft form for the Panel to assess.

3. Condition 23
    a. Add in maximum extent of wetland that will be removed;
    b. Add in minimum areas of wetland that will be created and wetland that will be restored;
    c. List the locations where wetlands will be created and restored such that the minimum restoration or creation areas will be achieved;
    d. Modify 23(6) to reflect the need to create habitat to support native lizards, and to support kaka, cuckoo, falcon, bittern, fernbird, crake, and banded rail. This may require

that wetlands are created or modified to support deeper water levels (for example, for bittern foraging) or dense plantings of wetland species favoured as refuge or nesting areas for some species.

4. Condition 25
    a. Add in requirements for riparian planting and wetland restoration programmes to cater specifically for rare and threatened birds that are assumed present across the site, specifically, kaka, cuckoo, falcon, bittern, fernbird, crake, and banded rail.

5. Condition 27
    a. Add in maximum length of streams that will be removed;
    b. Add in minimum areas of streams that will be created through realignment;
    c. Revise 27 (6) to be specify actions required if ecological monitoring shows that ecological measures of success (for example, SEV targets, MCI targets) are not met, such as a requirement to prepare a Further Stream Management Plan to address shortfalls in the achievement of biodiversity outcomes for streams, and an obligation to achieve this at alternative locations if existing locations fail to achieve minimum standards.

6. Condition 28.
    a. Add requirements that planting under the EMP shall include habitat features for native skinks, and that planting plans will include shrub and tree species, and habitat features where appropriate, to cater for kaka, cuckoo, and falcon.
    b. Modify 28.5 to state that planting included as part of an offset or compensation action will be maintained for a minimum of 10 years (for Ōmokoroa Wetland – Western arm; Ōmokoroa Wetland – estuary margin; Merrin Wetland; Wetland creation sites) and 15 years (for Ōmokoroa Wetland – Eastern Arm) as part of the achieving the offset or compensation target biodiversity scores.

7. Appendix 3 – Ōmokoroa Wetland Complex
    a. This figure is difficult to interpret in terms of where and what the restoration constitutes. As it stands, parts of the restoration area appear to be placed under proposed road.

Yours sincerely,

Graham Ussher

Principal Ecologist[1]

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