

Memo

To:	Mary Hill, Fast Track Panel Chair	Job No:	2548
From:	Graham Ussher; RMA Ecology Ltd	Date:	24 February 2026
CC:			
Subject:	Takitimu North Link Stage 2 Fast Track consenting application: review of ecology conditions		

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.

I have previously provided a review of the Application materials to the Panel, and attended expert conferencing.

The Panel has now sought my opinion on key matters arising from the Panel's review of the revised set of conditions, dated February 2026, provided by the Applicant. In addition, the Panel has sought my opinion on the areas of disagreement identified in the letter prepared by NZTA and Bay of Plenty Regional Council (BOPRC) dated 16 February 2026.

Below, I have listed each of the queries from the Panel in italics, with my reply following.

Following the replies, I have included suggested changes to several resource consent conditions that reflect my recommendations.

1. Panel query 1

Magnitude of effects: (sub catchment or catchment scale, or site reach scale). The key issue for us is whether we need to resolve this issue or whether, as submitted by the applicant, it does not matter because effects will be appropriately managed through the conditions?

My reply

- 1.1 The conditions as proposed by the Applicant include wording that allows for the summing up of losses of individual watercourse length and the creation of new watercourse length across the entire project on a 1:1 replacement basis, with no incentive to focus residual loss management in each sub-catchment, or even in the District or Region. That is, the conditions do not explicitly treat each watercourse on an individual basis for the purposes of accounting for stream loss and gain. Mana whenua representatives at the ecology conferencing were clear that they regarded replacement of watercourse extent and values to be important at a watercourse sub-catchment basis, to the extent practicable.
- 1.2 The Stream Ecological Valuation (SEV) method guidance manual recommends that individual stream¹ extent (area) is replaced through the SEV calculation. It does not address instances of where multiple watercourses may be impacted in a single project, and so does not contemplate whether replacement

¹ For this project, 'stream' is referred to as 'watercourse' in line with the definition included in the Conditions.

of extent should be undertaken on an individual watercourse basis, or whether loss in one sub-catchment can be offset through gains in another sub-catchment.

- 1.3 In my experience of applying the SEV tool for many years, and of applying good practice for watercourse mitigation (through realignments) and offsetting, it is standard good practice when using an accounting approach for these instances, to treat loss of watercourse extent at an individual watercourse basis; that is, where works within a watercourse may result in the loss of watercourse extent, that loss is addressed either through works within the same watercourse within in the sub-catchment as a form of mitigation (where practicably feasible), or that loss not addressed in the watercourse sub catchment is addressed outside of the sub-catchment through offsetting. Offsetting requires that loss to be subject to the usual accounting approach whereby extent is replaced on a 1:1 area basis, and values are subject to multipliers that address time lags, risk and uncertainty of delivery.
- 1.4 For this project, my advice is to treat loss of watercourse extent on a watercourse-by-watercourse basis, with any watercourse length that is not fully replaced through realignment or mitigation works within the sub-catchment subject to offsetting provisions elsewhere.

2. Panel query 2

Potential values: as above, a key issue is whether this is an academic debate as submitted by the Applicant because the proposed effects-management approach and conditions will provide for the required ecological outcomes regardless? The submission from the applicant is that "NZTA's Proposed Conditions will ensure any impacted streams are returned to, at a minimum, the same value as they currently are. There is no requirement, under the FTAA for NZTA to improve or enhance the values of the streams." Do you agree?

My reply

- 2.1 The debate is not academic, because 1) standard industry practice and the application of the SEV methodology (the only accepted stream accounting tool available) requires that 'potential state' is used to calculate the value of residual losses (i.e. after mitigation/ realignment), rather than 'existing state', and 2) if watercourse loss is calculated at a sub-catchment level, then there will be many watercourse impacted by this project that result in net-loss of watercourse length, with that watercourse length then subject to an accounting exercise, of which 'potential state' is a fundamental concept when calculating replacement ratios.
- 2.2 Note that my opinion on how residual effects is assessed differs from that of DOC or Council, as expressed in their submissions and in the ecology conferencing. DOC and Council are of the opinion that watercourse realignment is a form of reclamation and that all losses of ecological values once a watercourse is modified should be subject to offsetting.
- 2.3 My opinion is based on industry practice, including how other Councils treat stream realignments. In those cases, realignments are considered a form of mitigation, which means that only losses of extent and/or values sustained after realignment are subject to offsetting, including consideration of 'potential value'.
- 2.4 For this project, that means that 'potential value' does not apply to watercourse realignment per se, but rather only to residual effects where watercourse length and values are not fully replaced through realignment.

3. Panel query 3

1.5x multiplier: The Panel agrees with the Applicant's submission that the application of this multiplier (as part of the SEV offsetting method) should not be applied as a rule so the question is whether it is needed to manage effects in this case. Mr Garrett-Walker's evidence is that there is no factual basis to apply a 1.5x multiplier in this instance, as there is no evidence of significant lag time, risk of default, or risk of restoration works failing. Therefore, the condition is more onerous than necessary. We would like to

understand whether you disagree (i.e. you consider there is a real risk that needs to be managed here) and, if so, what is the best approach for managing it?

My reply

- 3.1 The application of a 1.5 x multiplier should only be applied to the residual loss of watercourse values that would arise if watercourse length is not completely replaced for each watercourse subject to watercourse realignment.
- 3.2 Therefore, the application of the 1.5 multiplier (as part of the SEV offsetting method) will probably only apply to perhaps 20 % of the watercourse length on the site; it will not apply to all watercourses affected on the site.
- 3.3 The application of a 1.5 multiplier is a standard approach to managing time lags, risk and uncertainty of outcome, and is not onerous. Indeed, it should be regarded as being proportional to the delays adopted by the Applicant to undertaking offset works. If the Applicant elects to undertake offset works in advance of impacts, there could be a strong argument (to be made by the applicant to Council at the time of management plan implantation) for the multiplier to be set at less than 1.5 x. However, offsetting in advance of impacts is not proposed by the Applicant, so it is appropriate to apply a 1.5 x multiplier, as would normally occur when undertaking aquatic offset calculations.

4. Panel query 4

Success monitoring duration for stream realignments: DOC and BOPRC seek 10 years. NZTA says a performance-based outcomes focussed approach is more appropriate. NZTA's submissions don't state what that is. I understand you agree in principle and indicated this could be something like reference to the SEV methodology but this would come later (in the management plans). Our question is whether you consider it would be possible to bring some performance criteria into the conditions rather than specifying them in the management plans to come later. If so, can you suggest some wording?

My reply

- 4.1 I agree that listing performance standards in conditions is preferable.
- 4.2 Usually this would involve listing specific watercourse SEV current scores in the conditions as a point of pre-development reference, which would then form a post-realignment target.
- 4.3 Without these, it becomes more difficult, although standard wording that is usually included in this regard in stream consents elsewhere could be modified to provide for this in this set of Conditions. I have suggested wording to include in the Applicant's proposed Conditions in the next section of this letter.

5. Panel query 5

Maximum length on watercourses: The JWS recommends a condition specifying a maximum watercourse length of no greater than 3500m, of which no more than 500m is culverting or piping. The applicant does not accept this is necessary despite its expert agreeing such a condition could be imposed. We will need to consider whether the condition is more onerous than necessary. To assist us with this assessment, are you able to advise your reasons in support of such a condition?

My reply

- 5.1 I strongly support including a limit to stream disturbance in the Conditions.
- 5.2 This is not onerous because the 'limit' is the indicated lengths cited by the Applicant, with a generous margin on top.

- 5.3 It should be expected that an Applicant has undertaken at least a preliminary level of design for a project, including having knowledge of the impact of their project.
- 5.4 Without a limit to impacts it raises the issue of whether the Panel has transparency on the scale and magnitude of impacts arising from the project, and whether an unbounded level of stream loss may constitute a significant and controlled adverse effect.

6. Panel query 6

Wetland maintenance period: As above, NZTA seeks to rely on performance-based criteria but doesn't specify any in its closing material, and submits that ongoing maintenance in perpetuity, or for the entire duration of the consent, would be more onerous than necessary. Do you have a view on an appropriate period?

My reply

- 6.1 The minimum expectation should be set at the period over which offset modelling is assumed by the Applicant to deliver the benefits promised at the offset sites.
- 6.2 For this project, that offset modelling assumes delivery of the wetland restoration outcomes by 10 years for Ōmokoroa Wetland – Western arm; Ōmokoroa Wetland – estuary margin and Merrin Wetland creation sites, and by 15 years for Ōmokoroa Wetland – Eastern Arm. The maintenance period should therefore match these as far as possible. I note for this project that because almost all ecological uplift is based around planting and plant establishment, there should be less onus on maintaining offset and compensation sites for a long period (35 years or in perpetuity) compared to other projects, as uplift ecological gains should persist when maintenance ceases or reduces.
- 6.3 If the Applicant wishes to reduce the duration of maintenance for wetlands, then the offset models that address wetland calculations need to be adjusted to deliver an outcome over a shorter period of time – which will require an adjustment upwards of the total area that needs to be restored or created to achieve no-net-loss.
- 6.4 Planting for watercourse realignment and enhancement programmes is for the purpose of achieving in-stream condition improvements, which should be reflected in the watercourse performance measures for these sites. Research elsewhere (Auckland) shows that stream condition following initial restoration actions (e.g. realignment, planting, weed control) initially drops for several years before improving. Limiting maintenance to 5 years is unlikely to result in fully established, self-sustaining planted areas, which is likely to jeopardise the achievement of watercourse performance measures.
- 6.5 A 10-year minimum maintenance period is more likely to deliver a well-established native dominated planting. I recommend that a minimum maintenance period of 10 years be set for all watercourse and wetland plantings.

Comments on the joint NZTA/ BOPRC letter

LC.01 Earthworks

NZTA and BOPRC are now agreed on the majority of the conditions. Areas where disagreement remain are:

- *Wetland Management Plan Condition 24.1(a)2.ii – BOPRC seeks reference to 'offsetting/compensating' instead of 'restoring'. NZTA opposes the change.*
- *Stream Management and Monitoring Plan– Condition 28.*
- *Ecological, Restoration and Landscape Planting – Condition 29 BOPRC seeks an additional clause requiring planting to maintain less than 5% pest plant cover for duration of consent. NZTA opposes this insertion.*

My reply

- Offsetting/ Compensation
 - It is appropriate to reference offsetting/ compensation because this clause addresses loss of values and extents, and therefore requires an effects management approach to do so.
 - Restoration as an action is silent on the methods or approach to addressing loss, whereas offsetting and compensation explicitly recognise that the loss will be addressed through a structured method of effects management including approach, calculations, management actions on the ground, monitoring and compliance reporting.
- Stream Management and Monitoring Plan
 - The letter does not state what the disagreement is in regard to this condition.
 - There are multiple issues raised by the Panel that relate to watercourse condition, including loss of extent, methods for addressing loss, standards for achieving effects management, and classification of loss as either remediation or mitigation. The previous section of this letter addresses all of these matters.
- Ecological, Restoration and Landscape Planting
 - The Applicant's response does not stipulate whether the opposition is to the duration of maintenance (35 years?) or the level of allowable weed cover (5 %).
 - My opinion is that maintenance should be undertaken for a period that it takes to achieve adequate cover and to deliver ecological benefits – and so should stipulate a minimum maintenance period, paired with targets that need to be achieved (irrespective of length of maintenance and management).
 - For other parts of the Application this is assumed to be 10-15 years. Ten (10) years would seem appropriate. Targets for watercourse realignment, wetland creation/ enhancement and any watercourse offsetting should be read in conjunction with this, as maintenance may ultimately be required for a longer period to achieve some ecological targets.

BC.01 Works in Waterbodies

NZTA and BOPRC are now agreed on the majority of the conditions.

Areas where disagreement remain are:

- *Reference to SQEPs – Conditions 9.3 and 10.1-10.3: BOPRC seek more specificity regarding what kind of SQEP is to certify. NZTA seek to retain the general reference to SQEP.*
- *General works – Condition 11. BOPRC seek an additional condition requiring temporary stream diversions to provide full fish passage. NZTA opposes.*
- *Culverts and Streams Condition 13 - BOPRC seek additional detail to be added to stream realignment detailed design Condition 13.3(a)4. NZTA opposes.*
- *Culverts and Streams Condition 13 – BOPRC seek additional conditions requiring that embankments be supervised by a Geotechnical Engineer and to specify a maximum stream length that may be realigned. NZTA opposes.*
- *Inspections, maintenance and monitoring Condition 15.1. BOPRC seeks reference to 5% AEP storm event, and an additional condition requiring 10 years post-construction monitoring. NZTA opposes.*

My reply

- SQEPs
 - I cannot answer this query; however, I would have thought that Council's review process when receiving a document for certification would first assess whether it had been prepared by a

suitably qualified person, and therefore that simply stating that a SQEP will undertake this is sufficient.

- General works
 - In my experience it is unusual to require temporary culvert crossings to be fish passage compliant.
 - What is the definition of 'temporary' in the regional plan?
 - Installing a fish passage compliance culvert will involve excavating the stream bed to ensure culvert embedment – which will be very damaging to a stream – all for a temporary crossing. That seems excessive.
 - My opinion is that it should not be necessary to achieve full fish passage for temporary crossings.
 - If reference to fish passage for temporary crossings is seen as desirable by the Panel, it could temper this by stating that fish passage will be maintained 'where practicable, including minimising excavation of the stream bed and banks'.
- Culverts and streams
 - The additional detail requested by BOPRC is not listed, so I do not know the extent of that request.
 - I agree with the need to specify a maximum stream length that may be realigned. The previous section of this letter addresses this matter.
- Inspections/ maintenance
 - This query is outside of my area of expertise.

Recommended changes to Conditions

Modifications to the Condition set provided by the applicant in February 2026 are provided below. Recommended changes are highlighted in yellow to address the issues I have provided an opinion on above.

LC.01

24.1 The Consent Holder shall prepare a Wetland Management Plan (WMP). The purpose of the WMP is to manage any effects of the Project on Natural Wetlands (including through offset and compensation for Wetlands), and on habitat values for avifauna associated with Natural Wetlands.

(a) *The WMP shall include:*

1. *Identification of the Natural Wetland(s) that will be modified, fragmented, partially lost, or wholly lost as a result of Project Works, and the timing and extent of that loss including with respect to area and values (including any loss of values or extent of Natural Wetland outside the Designation Boundary).*
2. *Details of the restoration planting, wetland creation and habitat rehabilitation to be undertaken within the Designation Boundary to ensure no loss of values and extent of Natural Wetland(s) identified in 1 by:*
 - i. *protecting and restoring the indigenous biodiversity values of the remaining areas of Natural Wetland(s) identified in 1; and*
 - ii. *offsetting/compensating the indigenous biodiversity values of the lost extents of the Natural Wetland(s) identified in 1.*

28.1 The Consent Holder shall prepare a **Stream Management and Monitoring Plan (SMMP)**. The purpose of the SMMP is to:

- (a) Manage potential construction effects on the receiving freshwater environment;
- (b) Establish ecologically successful Watercourse realignments, including through:
 - 1. Quantification of the existing Watercourse values within the Watercourses to be reclaimed as assessed by the Stream Ecological Valuation (SEV) method; and
 - 2. Design measures to achieve a no net loss in Watercourse function, values and extent by individual stream, and potential ecological values as assessed by the Stream Ecological Valuation (SEV) method.
- (c) Address situations where a Watercourse realignment has not achieved all expected Watercourse values, by establishing mechanisms to manage any adverse effects;
- (d) The total length of Watercourses impacted by permanent reclamation and culverting or piping shall be no greater than 3500m, of which no more than 500m is culverting or piping; and
- (e) Implement, monitor and report on measures to confirm achievement of 28.1(a), (b), (c) and (d).

28.4(e) Success measures and criteria designed to confirm no net loss of Watercourse functions, extent and values, as informed by a baseline assessment of each Watercourse to be impacted. The baseline success measures and criteria shall include the SEV value of each impacted watercourse. If the baseline assessment identifies a potential residual loss in function or values or extent that cannot be managed within the relevant affected Watercourse, the SMMP shall include a mitigation and/or offset package (using for example, the SEV:ECR accounting approach) that demonstrates how this residual effect will be managed, including any success targets and/or criteria specific to managing the residual effects that are identified.

29.6 All planting required under the EMP and associated subplans (including for streams, wetlands and their margins) shall be maintained for a minimum period of ten years from the date planted, with annual monitoring to assess the establishment of planting and to identify any constraints to achieving Condition 29.5. At the conclusion of the minimum ten year monitoring and maintenance period, a SQEP will prepare a report setting out whether Condition 29.5 has been achieved. This report shall be provided to BOPRC.

BC.01

13.12 The total length of Watercourses impacted by permanent reclamation and culverting or piping shall be no greater than 3500m, of which no more than 500m is culverting or piping.

Yours sincerely,



Graham Ussher

Principal Ecologist²

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