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31 July 2026

Attention: Hannah Goslin, Consultant Consents Planner, Otago Regional Council

Kia ora,

Freshwater Ecology Review – RM25.034: Southern Link Inland Port FTAA

Scope of review

Beca Limited (Beca) has been engaged by Otago Regional Council (ORC) to undertake a technical review of the Freshwater Ecological Impact Assessment and the associated RM25.034 consent application documents under the Fast Track Approvals Act 2024 (FTAA).

The application relates to the proposed development of the Southern Link Inland Port (SLIP) at 270–292 Dukes Road North, Mosgiel (the site).

As a commenting party under the FTAA, ORC acknowledges that it does not have the responsibility to set conditions of any consent if it were determined to be granted. However, ORC will become the regulatory authority responsible for administering and enforcing those conditions for the duration of the consent. ORC therefore has a particular interest in making sure that monitoring, trigger, and review frameworks are clear, measurable and enforceable in practice.

Acknowledging this context, these review comments focus on matters that ORC considers are material to the determination of this application and consent conditions that could be proposed, should the consents be granted. At a high level, there have been concerns with regard to the rigor upon which the level of effect (assessed as Low), and the ecological value of the receiving environment (assessed as High) has been determined by the applicant. In our view, the assessment does not presently provide an adequate evidential basis for these conclusions, and the proposed adaptive management framework is not yet sufficiently developed to manage the resulting uncertainty. We set out our reasoning thematically in the below sections, alongside actions that could be considered to address those issues.

Summary of the Proposal and Freshwater Ecological Assessment

The Southern Link Inland Port (SLIP) is a proposed 40 ha development that includes bulk storage and a logistics hub requiring large areas of hardstand. Construction is proposed to be undertaken in three separate stages over the course of 10 years.

In summary, the FEcIA has determined the ecological value of the Silver Stream to be High and has identified two activities that have the potential to impact freshwater values; earthworks during construction and ongoing stormwater discharges to Silver Stream. The FEcIA prescribes Low to High magnitudes of effect on

freshwater values and has provided an overall Low level of effect with the implementation of proposed mitigation measures.

A site visit was attended by Emily Lion-Cachet on 14 August 2025 to gain a better understanding of the existing environment and context for the proposed development.

Pre-lodgment discussions and formal feedback have been provided on several occasions prior to the lodgment of the applicant's substantive application to the FTAA panel, which shared ORC's views on gaps and potential concerns regarding the adequacy of the FEcIA and supporting technical documents (CLM and SMP).

The following documents have been reviewed, and the correspondence record leading up to the submission of the substantive application can be found in Appendix A (Attachments 1 – 4) of this letter.:

- Southern Link Inland Port Freshwater Ecological Impact Assessment. Prepared by e3 Scientific, dated 16 April 2026. *Referred to as the FEcIA.*
- Southern Link Inland Port – Stormwater Monitoring Plan. Prepared by e3 Scientific, dated 5 June 2026. *Referred to as the SMP*.
- Southern Link Inland Port – Stormwater Contaminant Load Model Assessment. Prepared by Stantec, dated 17 April 2026. *Referred to as the CLM.*
- Standard Operating Procedures – Water Quality Sampling at Southern Link's Inland Port. Prepared by e3 Scientific, dated 16 July 2026. *Referred to as the WQ SOP*.

High-level review findings

Matters of contention

Uncertainty remains regarding the magnitude of operational stormwater effects on Silver Stream.

The principal concern is not the identification of effects pathways or ecological values, but rather the absence of a robust and transparent assessment demonstrating how the conclusion of a Low level of effect has been derived. In the absence of such evidence, the application relies heavily on adaptive management to address uncertainties that would typically be resolved through the effects assessment process. The review of application material has identified the following:

Information gaps

- A clear linkage between identified impacts and ecological consequences.
- Transparent methodology for assigning the overall level of effect.
- A quantitative assessment supporting the Low effect conclusion.
- Insufficient baseline data to support trigger calibration.

Technical disagreements

- Appropriateness of trigger values.
- Adequacy of adaptive management framework.
- Whether monitoring is sufficient to manage residual uncertainty.

Adequacy of Effects Assessment

The FEcIA provides a generally appropriate description of the site and the Silver Stream receiving environment, and the survey effort undertaken is considered to be sufficient to characterise the existing ecological values. The assessment identifies Silver Stream as having High ecological value, including freshwater fauna, driven primarily by the rarity and distinctiveness of its freshwater fish assemblage.

We note that a strict application of the EIANZ framework (Roper-Lindsay et al.,2018; Table 5) would support a Very High value for freshwater fish, given the confirmed presence of Threatened species, including lamprey and īnanga.

We do not consider it necessary to resolve whether the value is High or Very High to make the substantive point. Given the existing uncertainty around baseline conditions and potential effects, a conservative approach would ordinarily be expected, and in practice this would likely drive a stronger mitigation response than currently proposed. It is not possible to be more definitive in the absence of more baseline information, and the sufficiency of the proposed mitigation is therefore also difficult to determine.

The FEcIA identifies two primary risks to freshwater features associated with the proposal; unmanaged sediment mobilization during earthworks and ongoing stormwater discharges to the Silver Stream. The report correctly identifies potential impacts including contamination, sedimentation, increased water temperatures and alteration of flows. However, the relationship between identified impacts and their ecological consequences is not well developed.

Based on the impacts identified in the FEcIA, the key effects on freshwater ecological values that require assessment and discussion include:

- Degradation of instream habitat quality and availability;
- Loss of spawning habitat;
- Disruption of fish migration and ecological connectivity;
- Impairment of biological processes, including feeding, reproduction, recruitment, and population persistence, resulting in reduced fecundity and overall fitness of freshwater fauna.

In place of a substantive assessment of the effects on freshwater values, the FEcIA describes the proposed stormwater treatment train and the implementation of best-practice erosion and sediment control measures. The assessment attributes a High unmitigated level of effect to earthworks and a Low unmitigated level of effect to stormwater discharges and subsequently concludes an overall Low level of effect. This assessment relies largely on professional opinion rather than a transparent evaluation of ecological effects.

It is typical that in determining the magnitude of effects on freshwater values that an assessment adopts a clear and systematic approach to quantifying the level of effect, including consideration of the extent, duration, frequency, and reversibility of effects on identified ecological values. In the absence of quantitative evidence or a defensible effects-based assessment, there is insufficient information to justify the assigned overall level of effect. FEcIA does not provide a clear rationale linking the identified impacts to their potential ecological consequences, nor does it demonstrate how the overall magnitude and level of effect on freshwater values have been determined.

While effects associated with unmanaged sediment mobilisation during earthworks can be appropriately managed through the proposed erosion and sediment controls, consent conditions, and implementation of a management plan, the assessment of operational stormwater effects lacks a transparent and evidence-based justification for the conclusion that residual effects on freshwater values will be Low.

The absence of a transparent, effects-based assessment is compounded by the status of a quantitative tool that was provided to inform such an assessment.

We originally sought clarification on the assessment of effects and the methodology used to determine the level of effect in early 2026, including through questions set out in our letter dated 20 February 2026. In response, Stantec prepared a memorandum applying Auckland Council's Contaminant Load Model (CLM), which was understood to provide the basis for assessing the performance of the proposed stormwater treatment system and informing the magnitude of ecological effects on Silver Stream.

Our review identified a number of methodological limitations and data gaps within the CLM assessment, including the compounding of load reduction factors, reliance on annualised concentration estimates,

incomplete representation of contaminants, simplified dilution assumptions, and limited justification for the adopted level of ecological protection. Collectively, these issues introduce a high degree of uncertainty and are likely to overestimate treatment performance. Concerns relating to the CLM assessment were communicated through a formal feedback letter and were discussed directly with the applicant's technical specialists (Attachment 4).

Despite these concerns, the CLM assessment was not revised and does not appear to have been relied upon in subsequent technical assessments. Given that the CLM was the only assessment tool provided that attempted to quantitatively evaluate stormwater-related effects, and given the identified limitations of that assessment, it is not apparent how the updated FEcIA has arrived at a Low level of effect. As the CLM no longer appears to form part of the evidential basis for the effects assessment, further detailed discussion of its methodological limitations is redundant, but the lack of reliance on this tool (which we consider is a reasonable approach in principle, subject to the concerns we raised about the actual modelling undertaken) highlights our wider concern about a lack of transparency of lines of evidence supporting the assertions about the baseline and the level of assessed effect.

Adaptive Management

As indicated by our earlier feedback to the applicant, our preferred approach would have been to have a stronger evidential basis already collected to establish a baseline and assessment of the level of effect from. Principally, it is our view that an adaptive management regime should serve to confirm and refine a conclusion and not set the framework for commencing baselining as part of an adaptive management regime.

However, this is the regime that the applicant has proposed.

The regime includes the collection of baseline water quality data to establish appropriate response triggers and management actions within the proposed monitoring programme. While adaptive management is a legitimate tool for managing residual uncertainty, considering our prior comments, in this case it is compensating for unresolved uncertainties in the assessment itself.

The proposed framework relies on future monitoring to establish baseline conditions, calibrate triggers, and confirm the significance of effects, resulting in limited confidence that the conclusion of a Low level of effect is adequately supported or that adverse effects on the High-value receiving environment can be effectively managed.

a. Baseline Water Quality Sampling

The baseline water quality monitoring programme outlined in the WQ SOP is generally supported. However, only one storm flow sampling event has been undertaken since monitoring commenced in April 2026. Consequently, there is insufficient information to characterise baseline variability or evaluate whether the proposed trigger values and management responses are appropriate. This creates uncertainty regarding the effectiveness of the proposed adaptive management framework and its ability to detect and respond to adverse effects on freshwater values.

b. Characterisation of the stormwater discharge

A related concern is the methodology used to characterise the quality of stormwater discharges themselves. As we have raised previously, including in discussions with the applicant’s technical specialists, grab sampling is poorly suited to quantifying the actual effects of an intermittent stormwater discharge. Contaminant concentrations during a discharge event can vary considerably over the course of an event, and a small number of discrete grab samples is unlikely to represent the event as a whole, reliably capture first-flush periods, or have the various confounding variables that may influence concentrations at any one specific point from which a grab sample might be taken, to give adequate comparability across discharge events. This difficulty was one of the reasons we sought a more robust quantification of the discharge quality

earlier in the process, and is an important aspect to consider the potential reliability of the proposed monitoring framework.

We consider that a monitoring method that is capable of providing a representative event mean concentration (EMC) should be adopted. This may not require a full automated flow-proportional sampling methodology to be implemented in this case, but there may be practicable alternatives that still provide a more reliable measure of EMC given the proposed design, such as sampling from a certain stage of an attenuation pond immediately prior to discharge, or integration of a separate buffering device that is capable of capturing first flush / size / timing that provides a stronger and more replicable basis for assessing discharge quality, and hence the magnitude of effect on Silver Stream. This expectation does not appear to have carried through into the current consent condition drafting, and we consider it should be reflected in both the SMP and the associated conditions.

c. Monitoring Triggers

Water quality

There is insufficient baseline data available to determine whether the proposed 10% trigger value exceeds the natural variability of the receiving environment for the relevant analytes. In highly variable natural systems, fluctuations greater than 10% may occur under normal conditions, creating uncertainty as to whether the trigger would identify genuine project-related effects – or conversely, this system may also be relatively stable, and a 10% allowance for variability may also hide some project-related effects.

The applicant proposes the use of a baseline modification factor to account for natural variability. While this approach is generally appropriate, the basis for deriving the modification factor has not yet been established due to the limited baseline dataset currently available. The proposed methodology provides little detail regarding the statistical approach that will be applied to derive modification factors, determine trigger thresholds, or define meaningful change for different analytes. This reinforces our prior commentary around the uncertainty around the reliance on a grab-sampling approach, and the benefits associated with an EMC characterisation as an alternative. As a result, there is currently limited confidence that the proposed trigger framework will be appropriately calibrated to distinguish project-related effects from normal environmental variation.

We also note that the framework appears to require both the site-specific trigger - a percentage change from baseline - and the relevant ANZG guideline value (the applicant has proposed 99th percentile for all analytes apart from Chromium and Mercury, for which 95th percentile ANZG values are proposed) to be exceeded before a management response is initiated. Where existing baseline concentrations sit well below the ANZG guideline, as is the case for several analytes in Silver Stream, a substantial proportional increase attributable to the discharge could occur without triggering a response, because the absolute guideline value has not been exceeded. This materially reduces the early-warning function of the trigger. In our view the site-specific trigger should operate independently as an investigation and early-warning trigger, with the ANZG guideline retained separately as an absolute upper limit, rather than the two operating as a combined test.

Accordingly, the appropriateness of the proposed 10% trigger should be reviewed once a sufficient baseline dataset has been collected. This review should consider the variability of individual analytes and apply an appropriate statistical approach to make sure that trigger values represent a detectable and meaningful change from baseline conditions, rather than normal environmental variation.

Aquatic Ecology

Based on the MCI survey data presented in Table 6 of the FEcIA, application of the proposed 20% MCI trigger would permit a decline in ecological values from Attribute Band C to Attribute Band D, below the National Objectives Framework (NOF) bottom line (NPS-FM 2020, amended 2025). This represents a measurable degradation in ecological condition and we do not consider it reasonable to characterise this potential change as a Low level of effect. Accordingly, the proposed trigger is not considered appropriate as

a response threshold, as it would allow a significant decline in ecological health before management intervention is initiated.

The trigger value should detect ecological degradation before a significant adverse effect has occurred therefore should be set at a level that requires a response before the ecological condition as indicated by the MCI score would result in a decline to a lower NOF attribute band (which in this case would be below the national bottom line) at a minimum. This should be derived from further monitoring and set, once adequate baseline data are available – and agreed / certified as the appropriate threshold by ORC.

Exceedances of the trigger thresholds / values then require a response to be provided (as identified in the SMP) that sets a pathway to maintain or improve ecological values to ORC with 90 days of monitoring results. Where annual aquatic ecology monitoring identifies a persistent decline in ecological values that can reasonably be attributed to activities associated with the SLIP, consideration should be given to the implementation of further controls on the discharge, or additional appropriate biodiversity offsetting or compensation measures to achieve no net loss of aquatic biodiversity.

The SMP should clearly articulate this adaptive management framework, including trigger thresholds, response actions, implementation timeframes, and escalation measures, with these requirements given effect through the proposed response plan and associated consent conditions.

d. Monitoring programme

The proposed SMP is not consistently linked to the effects assessment. For example, lamprey/ kanakana monitoring is proposed within the SMP, but the FEcIA does not clearly assess effects on these values or explain how monitoring results would inform management response. In a recent meeting with the applicant, it was explained verbally that the lamprey monitoring was proposed to address concerns and feedback received from mana whenua about the potential presence of this taonga species. However, this was not discussed in the FEcIA and ideally, any monitoring undertaken to determine impacts on this species (if present) should be justified and explicitly linked to sediment and habitat effects with defined decline thresholds and response actions.

The SMP contains considerable duplication between the construction and operational monitoring frameworks and repeats the rationale for monitoring and adaptive management in several sections. This repetition makes it difficult to follow the relationship between identified effects, monitoring requirements, trigger values and management responses. It also risks overstating confidence in the proposed management approach by presenting repeated elements of the same monitoring framework as though they represent multiple independent lines of evidence.

The SMP should be revised to address the matters outlined above following completion of baseline monitoring, and the updated SMP should be submitted to ORC for certification, prior to construction commencing.

<u>Fine deposited sediment</u>

The FEcIA has identified the potential for ongoing stormwater discharges to deposit fine sediment within the Silver Stream and noted that this has the potential to infill interstitial habitat which is important habitat for macroinvertebrate and fish communities. Fine sediment is proposed as a trigger for sediment monitoring and management in the SMP. However, baseline sediment cover surveys have not been undertaken as part of the baseline aquatic ecology investigations, therefore, no baseline sediment condition has been established for Silver Stream. Additionally, no survey methods have been detailed within the monitoring programme. As a result, it is unclear how future changes in sediment condition will be quantified, attributed to site activities, or assessed against the proposed trigger and response framework.

Given that fine sediment is one of the contaminants most likely to enter the receiving environment via stormwater discharges, a monitoring methodology should be included to assess changes in sediment

deposition over time. In particular, sediment assessment methods described by Clapcott et al. (2011), should be considered and undertaken as part of the annual aquatic ecology monitoring programme. This information is considered necessary to implement the sediment assessment and response framework outlined in Section 4.2 of the SMP, including the identification of trigger exceedances and any resulting management actions. The requirement for fine sediment cover surveys should therefore be incorporated into the SMP and captured in the Aquatic Habitat and Macroinvertebrate Monitoring condition suite.

The SMP proposes first-flush sampling but does not specify the method by which the first flush will be captured. As noted above, the first-flush contaminant peak is typically of short duration and is sensitive to the antecedent dry period and the leading edge of the runoff hydrograph. Reliance on manually collected grab samples is unlikely to reliably capture this peak and may therefore understate the contaminant concentrations of greatest ecological relevance. The methodology should specify a defensible first-flush sampling approach, together with defined antecedent dry-period and rainfall-depth or similar thresholds for initiating sampling. This is closely related to the discharge characterisation concern discussed above, and both point to the need for a sampling regime capable of representing an event rather than a single point in time.

Response and escalation pathway

The proposed framework provides limited detail and certainty on the timing and escalation of management responses following a trigger exceedance. In particular, it does not appear to provide for immediate notification of ORC in the event of an exceedance (for example, a result substantially above the relevant guideline value), nor for an increase in monitoring frequency once a trigger has been activated.

As the authority that would administer and enforce any consent granted, ORC has a clear interest in understanding that the response regime is capable of acting on a significant exceedance promptly, rather than only at the next scheduled monitoring round. We recommend that the framework includes a defined immediate-notification pathway for exceedances, sitting outside the routine tiered process, together with a stepped increase in monitoring frequency following any trigger activation.

Recommendations

A summary of our recommended actions to improve the proposed adaptive management framework is provided below:

- Complete the baseline monitoring programme and use the full dataset to recalibrate trigger values and baseline modification factors before any revised framework is implemented.
- Adopt a discharge characterisation and sampling method capable of providing a representative event mean concentration (for example, stage-based sampling from the attenuation pond or forebay), in place of reliance on discrete grab samples, and reflect this in both the SMP and the consent conditions.
- Specify a first-flush sampling methodology, including defined antecedent dry-period and rainfall-depth (or equivalent) thresholds for initiating sampling, so that the contaminant concentrations of greatest ecological relevance are reliably captured.
- Revise the water quality trigger framework so that the site-specific trigger operates independently as an investigation and early-warning trigger, with the relevant ANZG guideline retained separately as an absolute upper limit, rather than the two operating as a combined test.
- Revise the ecological trigger framework, including reconsideration of the 20% MCI trigger, so that a management response is required before ecological condition declines to a lower NOF attribute band (and in no case below the national bottom line), with the threshold derived from adequate baseline data and certified by ORC.

- Properly evaluate the effects on lamprey / kanakana monitoring and explicitly link it to the sediment and habitat effects that the monitoring programme proposes to address, with defined decline thresholds and corresponding response actions.
- Include a robust fine sediment monitoring programme, supported by baseline surveys and recognised monitoring methodologies, to enable implementation of the proposed sediment trigger and response framework.
- Revise the SMP to remove duplication and clearly articulate the relationship between effects, monitoring, triggers and responses, and submit the updated SMP to ORC for certification prior to construction commencing.
- Submit revised trigger values, modification factors and supporting methodology to ORC for certification prior to commencement of construction-related and operational discharges.
- Provide for a defined response and escalation pathway, including immediate notification of ORC in the event of a significant exceedance (sitting outside the routine tiered process) and a stepped increase in monitoring frequency following any trigger activation.
- Include review provisions and, where monitoring identifies a persistent project-related decline in freshwater ecological values, provide for consideration of further controls on the discharge and/or biodiversity offsetting or compensation measures to achieve no net loss of aquatic biodiversity.

Conclusions

ORC considers that the current application does not provide sufficient evidence to support the conclusion that operational stormwater discharges will result in a Low level of effect on the High-value freshwater environment of Silver Stream. In our experience, an assessment presented with this level of supporting analysis would ordinarily attract a request for further information to substantiate the conclusions reached in the FEcIA. We note that, while the statutory framework differs under the FTAA, the underlying principle of information sufficiency remains directly relevant to the weight that can be placed on the assessment.

While adaptive management may provide an appropriate pathway for managing the significant residual uncertainty associated with the proposal, the framework requires substantial refinement before confidence can be placed on its effectiveness.

Subject to these amendments and associated consent conditions, the identified uncertainties may be capable of being managed through adaptive management; however, on the information currently available, significant uncertainty remains regarding the magnitude of effects on freshwater ecological values and whether no net loss of aquatic biodiversity can be achieved.

Yours sincerely

Emily Lion-Cachet

Environmental Scientist

on behalf of
Beca Limited

[redacted]

Raymond Chang

Technical Director – Environmental Science

on behalf of
Beca Limited

[redacted]

References

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Clapcott, J., Young, R., Harding, J., Matthaei, C., Quinn, J., & Death, R. (n.d.). *Sediment Assessment Methods • Section 1. Introduction Sediment Assessment Methods Protocols and guidelines for assessing the effects of deposited fine sediment on in-stream values*.

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Roper-Lindsay, J., Fuller, S. A., Hooson, S., Sanders, M. D., & Ussher, G. T. (2018). *Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition*. Environmental Institute of Australia and New Zealand.

Appendix A

ORC has maintained ongoing communication with the applicant and their specialist team since July 2025 regarding this application. This has involved review of technical assessments and supporting information, iterations of written feedback seeking clarification and acknowledging information gaps, and a series of technical discussions.

The following timeline summarises the key communication and review milestones:

- July 2025 – Initial communications commenced with the applicant and specialist team regarding the proposal and supporting technical information.
- 10 December 2025 – Draft Freshwater Ecological Impact Assessment (FEcIA) provided for Council review.
- 16 December 2025 – Review comments on the draft FEcIA provided to the applicant.
- 11 February 2026 – Stormwater (SW) memorandum prepared.
- 20 February 2026 – Formal feedback on the draft FEcIA provided to the applicant.
- 27 February 2026 – Updated FEcIA submitted by the applicant.
- 16 March 2026 – Formal feedback memorandum commenting on the updated FEcIA.
- 22 April 2026 – Substantive application formally lodged.
- 1 May 2026 – Catchment Load Model (CLM) provided for Council review.
- 15 May 2026 – Feedback on the CLM provided to the applicant and specialist team.
- 28 May 2026 – Technical discussions held with the applicant and specialist team regarding CLM methodology, assumptions, and outcomes.
- 16 June 2026 – Site Management Plan (SMP) provided for Council review.
- 16 July 2026 – Technical discussions held with the applicant and specialist team regarding outstanding information gaps and matters requiring clarification.

A copy of written feedback and review memoranda are attached below for reference.

Attachment 1 – Email feedback dated 16 December

Outlook

[redacted]

Attachment 2 – Review Memo on the Draft EcIA dated 20 February

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20 February 2026

Attention: Hannah Goslin

Dear Hannah

Draft Inland Port Freshwater Ecological Impact Assessment – Initial Review Feedback

Introduction

Otago Regional Council (ORC) has commissioned Beca Limited (Beca) to undertake an initial review of the Draft Inland Port Freshwater Ecological Impact Assessment prepared by e3 Scientific (dated 28 November 2025). The following draft technical reports and design drawings submitted as part of the application have also been reviewed to provide additional context for the project:

- Southern Link Inland Port Developed Design – Concept Design Set. Prepared by Stantec New Zealand, dated 19/12/2025.
- Southern Link Logistics Park – Draft Working Master Plan – Concept 9. Prepared by Williams Architects LTD, dated 21/10/2025.
- Southern Link Inland Port – Transportation, Geometrics, Grading and Earthworks. Prepared by Stantec New Zealand, dated 19/12/2025.
- Southern Link Inland Port - Stormwater Assessment. Prepared by Stantec New Zealand, dated 05/02/2026.

Southern Link Limited is proposing to develop a 40-hectare bulk storage and logistics hub. As part of this, e3 Scientific has prepared a draft assessment of the ecological values associated with the Silver Stream and an evaluation of the potential construction and operational effects, as they relate to discharges of stormwater, of the proposed inland port.

Comments on the draft EcIA recognise the preliminary, unfinalised status of the document and are summarised below.

Initial Review Feedback

- The E3 report sets out existing values reasonably, although in summary. There may be clarifications required that could be addressed through further dialogue and further information requests. A key

consideration is to review the threat classification of NZ freshwater fauna, which was recently updated.

- The main effect arising from the proposed activity on Silver Stream is expected to be stormwater runoff. The E3 report sets out a very high-level summary of the stormwater treatment devices that may be proposed, with no detail on the likely treatment standards that will be put in place. These should be described. The draft Stormwater Assessment which has been reviewed also does not include this detail. HAIL activities (historical or existing) are identified, but there is no further discussion of whether these may impact water quality discharge and therefore affect the receiving environment.
- There is inadequate assessment of the nature of the discharge from the site. We would expect that there is a description of the nature of the contaminants that may arise, including:
    - Key indicator parameters
    - Approach to quantification of loads or concentrations from the site of these parameters
    - Discussion of the concentration/mass of these parameters that may enter the receiving environment, across indicator storm discharge events.
- Section 5.2 sets out a summary of stormwater effects assessment during construction, and during operation.
    - For construction effects, there is no description or assessment of what contaminants of concern are present, nor whether they are materially an issue in terms of potential discharges.
        - Conformance with management protocols with Auckland Council's GD05 guideline is proposed as the key management measure, but these guidelines particularly target sediment runoff. If there are other contaminants of concern, no assessment has been provided to describe how these will also be managed by this process, at the same time.
        - Planting of riparian margins is proposed, but these would unlikely be particularly effective during construction, as it will be early in the project with limited time available for plant establishment. This mitigation (as an offset) could be more relevant for operational stormwater discharge effects.
    - For operational effects, there appears to be an over-simplification of stormwater volumes as an annual basis over the course of a year as the basis of assessment.
        - Effects of stormwater discharges will occur intermittently (with rainfall), leading to first-flush and discharge concentrations at limited periods of time over the year. There may also be consideration of long-term accumulation and settling of contaminants over time, through an operational duration of the site. These matters need to be considered more specifically and assessed appropriately.
        - We acknowledge that there may be some applicability if an averaging approach is used for mass load analysis, but this is not explained nor described further.
        - There appears to be some discussion about flow attenuation in the assessment ("the proposed large stormwater retention pond will delay stormwater flow peaks during Stage 2 and Stage 3") but these are not correlated to treatment performance expectations. The assessment suggests that GPTs, filter 'scrubber' systems and oil/water separators will be installed, but does not assess how these may impact discharge quality, and the impact on the receiving Silver Stream.

- Effects of the key parameters of the discharge are not linked to potential impacts on MCI, fish, and others. The impacts should be assessed.
- The applicant proposes a monitoring regime that seeks to achieve performance parameters related to temperature and DO. However, these do not appear to be related to actual discharge parameters that may arise in stormwater from the operation of the site. It is not clear why these parameters have been chosen to monitor as opposed to those that may be more relevant to the discharges from the developed site.

- This monitoring programme also appears to be the basis of a regime that seeks to inform whether further stormwater treatment devices will be installed to manage future stage stormwater discharges. The monitoring programme would be ineffective based on the current design, to inform this. Further justification of how these parameters are relevant to inform future stormwater treatment design and implementation is required.

Yours sincerely

Raymond Chang

Technical Director - Environmental Scientist

on behalf of

Beca Limited

[redacted]

Emily Lion-Cachet

Environmental Scientist

on behalf of

Beca Limited

[redacted]

Attachment 3 – Review Memo dated 16 March

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16 March 2026

Attention: Hannah Goslin

Dear Hannah

Draft Inland Port Freshwater Ecological Impact Assessment – Initial Review Feedback

Introduction

Otago Regional Council (ORC) has commissioned Beca Limited (Beca) to undertake a review of the updated Inland Port Freshwater Ecological Impact Assessment prepared by e3 Scientific (dated 27 February 2026).

The following draft technical reports and design drawings submitted as part of the application have also been reviewed to provide additional context for the project:

- Southern Link Inland Port Developed Design – Concept Design Set. Prepared by Stantec New Zealand, dated 19/12/2025.
- Southern Link Logistics Park – Draft Working Master Plan – Concept 9. Prepared by Williams Architects LTD, dated 21/10/2025.
- Southern Link Inland Port – Transportation, Geometrics, Grading and Earthworks. Prepared by Stantec New Zealand, dated 19/12/2025.
- Southern Link Inland Port - Stormwater Assessment. Prepared by Stantec New Zealand, dated 20/02/2026.

The updated FEcIA appears to be in a final state, and we acknowledge that the threat classification of New Zealand freshwater fauna has been appropriately updated in accordance with Dunn et al. (2025). However, substantive issues raised in the Initial Feedback Review Memorandum prepared by Beca ecologists (20 February 2026) have not been addressed. As such, there are remaining concerns regarding the lack of sufficient evidence and detail required to inform a robust effects assessment which could be supported.

The following matters are considered unresolved:

Review Feedback

- The main effect arising from the proposed activity on Silver Stream is expected to be stormwater runoff. The E3 report sets out a very high-level summary of the stormwater treatment devices that may be proposed, with no detail on the likely treatment standards that will be put in place. These should be described. The draft Stormwater Assessment which has been reviewed also does not include this detail. HAIL activities (historical or existing) are identified, but there is no further

discussion of whether these may impact water quality discharge and therefore affect the receiving environment.

- There is inadequate assessment of the nature of the discharge from the site. We would expect that there is a description of the nature of the contaminants that may arise, including:
    - Key indicator parameters
    - Approach to quantification of loads or concentrations from the site of these parameters
    - Discussion of the concentration/mass of these parameters that may enter the receiving environment, across indicator storm discharge events.
- Section 5.2 sets out a summary of stormwater effects assessment during construction, and during operation.
    - For construction effects, there is no description or assessment of what contaminants of concern are present, nor whether they are materially an issue in terms of potential discharges.
        - Conformance with management protocols with Auckland Council's GD05 guideline is proposed as the key management measure, but these guidelines particularly target sediment runoff. If there are other contaminants of concern, no assessment has been provided to describe how these will also be managed by this process, at the same time.
        - Planting of riparian margins is proposed, but these would unlikely be particularly effective during construction, as it will be early in the project with limited time available for plant establishment. This mitigation (as an offset) could be more relevant for operational stormwater discharge effects.
    - For operational effects, there appears to be an over-simplification of stormwater volumes as an annual basis over the course of a year as the basis of assessment.
        - Effects of stormwater discharges will occur intermittently (with rainfall), leading to first-flush and discharge concentrations at limited periods of time over the year. There may also be consideration of long-term accumulation and settling of contaminants over time, through an operational duration of the site. These matters need to be considered more specifically and assessed appropriately.
        - We acknowledge that there may be some applicability if an averaging approach is used for mass load analysis, but this is not explained nor described further.
        - There appears to be some discussion about flow attenuation in the assessment ("the proposed large stormwater retention pond will delay stormwater flow peaks during Stage 2 and Stage 3") but these are not correlated to treatment performance expectations. The assessment suggests that GPTs, filter 'scrubber' systems and oil/water separators will be installed, but does not assess how these may impact discharge quality, and the impact on the receiving Silver Stream.
        - Effects of the key parameters of the discharge are not linked to potential impacts on MCI, fish, and others. The impacts should be assessed.
        - The applicant proposes a monitoring regime that seeks to achieve performance parameters related to temperature and DO. However, these do not appear to be related to actual discharge parameters that may arise in stormwater from the operation of the site. It is not clear why these parameters have been chosen to

monitor as opposed to those that may be more relevant to the discharges from the developed site.

- This monitoring programme also appears to be the basis of a regime that seeks to inform whether further stormwater treatment devices will be installed to manage future stage stormwater discharges. The monitoring programme would be ineffective based on the current design, to inform this. Further justification of how these parameters are relevant to inform future stormwater treatment design and implementation is required.

Yours sincerely

Raymond Chang

Technical Director - Environmental Scientist

on behalf of

Beca Limited

[redacted]

Emily Lion-Cachet

Environmental Scientist

on behalf of

Beca Limited

[redacted]

Attachment 4 – Email review of CLM dated 15 May

Outlook

Re: Southern Link Inland Port

From Emily Lion Cachet [redacted]
Date Fri 5/15/2026 1:58 PM
To Hannah Goslin [redacted]
Cc mat.bell [redacted]; Amanda Ling [redacted] James Taylor [redacted]; Raymond Chang [redacted]

Hi Hannah,

Sorry for the delay in responding. We have been at the Stormwater Conference this week and it's been a bit difficult to come together for our internal discussion.

On the stormwater memorandum, and noting that Amanda may have some other or additional thoughts, we provide some high level comments in response to the Stantec memo, below as preliminary feedback, noting we are yet to see an updated E3 freshwater ecology assessment:

1. Application of Load Reduction Factors

The memo applies UPT (HyndsFilter) reduction factors to source loads, then applies CLM Table C1 "wet pond" reduction factors to the already-reduced loads. The CLM User Manual (TR2010/003, Section 4) explicitly notes that model accuracy is affected by sequencing in a treatment train, and the CLM model structure is designed to apply a single load removal factor per management option train, not to compound multiple LRFs in series.

The concern is that after UPT treatment, the residual contaminant load result has one where the larger particulate is already removed, and hence the discharge after the UPT (and before the "wet pond") is actually relatively higher in fine particulates and dissolved-phase metals, this is the fraction least likely to be meaningfully able to have further removal by sedimentation in a wet pond. Sequential multiplication of independent LRFs is therefore likely to overstate the overall treatment efficiency reported in the memo.

Could the base CLM spreadsheet be provided for review, and could a sensitivity analysis be presented showing results with only the UPT reduction applied (i.e. treating the attenuation pond as providing unquantified additional benefit) - or further comment about why this approach to applying the load removal factor in this manner is appropriate in this case?

2. Conversion of Annual Loads to Concentrations

The conversion of annual loads to an annual average concentration by dividing by annual rainfall volume is acknowledged as mathematically sound — both numerator and denominator accumulate only during rainfall, producing a volume-weighted mean concentration across all events. This approach has precedent in the CLM Development Report (TR2010/004, Section 8.2.1) where it was used for model validation.

However, there are a number of limitations to this metric as a basis for comparison against ANZG DGVs:

- It uses rainfall volume rather than runoff volume (i.e. no runoff coefficient has been applied. In this case, it could be a minor but non-conservative difference of ~5–15%).
- The volume-weighted mean is dominated by large events with lower event mean concentrations, and understates concentrations during smaller, more frequent events. These would coincide with the lowest receiving environment flows and therefore represent the greatest risk in terms of ecological exposure.
- The ANZG DGVs are chronic guideline values intended for comparison against actual concentration regimes after reasonable mixing, not annual averages derived from a mass load model.

These limitations are partially acknowledged in the memo. Is further comment available on whether these limitations are accepted, and whether they change the degree of reliance that should be placed on the ANZG guideline comparison as a line of evidence? The URQIS benchmarking may provide a more robust supporting line of evidence as these are from monitoring events.

3. Contaminant Profile and Speciation

It is acknowledged that the CLM is limited to TSS, TZn, TCu, and TPH — these are the principal stormwater contaminants and are a reasonable starting point. However, two related matters arise:

Contaminant gaps: The memo itself notes that TPH yield factors are not available for paved (non-road) industrial surfaces, which represent the largest source area on site (60% of total area). TPH is therefore modelled from roads only. The memo also acknowledges that site-specific activities (e.g. container washing, vehicle maintenance, potential fertiliser/timber handling) or very intermittent events like 'overflow' from the washdown bay in certain events may generate contaminant profiles not captured by the CLM.

- What is proposed to address these gaps — whether by way of conditions, operational management, monitoring, or a conclusion that no further assessment is needed? A brief conceptual approach would be helpful.

- Metal speciation: The memo compares total metal concentrations against ANZG DGVs for dissolved metals and notes the mismatch. There is already NZ-specific data on dissolved:total partitioning in urban/industrial stormwater is available (e.g., Gadd et al. 2019, URQIS database), and dissolved zinc is commonly 50–80% of total zinc, with the dissolved fraction increasing after particulate-removal treatment.

Could further consideration be given to estimating the dissolved metal fraction, particularly given that TZn and TCu already exceed the DGVs as total metals and some of the proportioning literature suggests much of this may already be in the dissolved fraction?

4. Dilution in the Receiving Environment

The memo references the ~200-fold ratio of catchment area to site area as providing confidence that dilution will be sufficient. However, the catchment area ratio is not the same as a dilution ratio. When a runoff coefficient is applied to the predominantly *pervious* wider catchment (with the site primarily being an *impervious one*) the available dilution during small events is likely to be significantly less than suggested.

At small event rainfall depths, it may be that the wider pervious catchment contributes relatively low volumes of runoff above baseflow, and the site discharge might equal or exceed the receiving stream flow. The dilution required for contaminants would only therefore be achieved at larger event depths where catchment-wide runoff is mobilised.

It is acknowledged that the attenuation pond may retain small events without discharge, and the e3 assessment notes the pond is expected to be dry between events with a 12 to 24-hour discharge period for regular events. Might some of this volume provide some buffer to the discharge as well? Would further consideration of whether these low-dilution scenarios may or may not occur be useful, to identify the threshold of which a discharge may actually occur?

5. Level of Species Protection

The memo applies the 95th percentile (moderately disturbed) DGV and cites the e3 Scientific ecological assessment as the basis. However, the e3 assessment (Table 10) assigns Silver Stream an overall ecological value of "High" under the EIANZ framework, driven by the presence of two Nationally Vulnerable species (lamprey, īnanga), two At Risk — Declining species (longfin eel, giant kōkopu), and additional at-risk species.

A High ecological value does not appear to be consistent with the 95th percentile (moderately disturbed) level of protection.

If the 99th percentile ANZG values were applied, the required dilution to meet this threshold with the assessed concentrations of contaminants would increase substantially, which would make the dilution argument considerably more challenging.

Could further justification be provided for the selected level of protection, with specific reference to the ecological values documented in the e3 assessment?

There are a few more detailed matters that we can probably address with a Q/A or by report. These are the substantive matters we have identified so far.

On the dates of unavailability between June and September, Ray will be on leave between 16 and 31 July inclusive.

Thanks
Ray and Emily