
**APPLICATION BY SOUTHERN LINK PROPERTY LIMITED FOR THE SOUTHERN LINK
INLAND PORT**

**SUMMARY STATEMENT OF RAYMOND CHANG AND EMILY LION-CACHET ON BEHALF
OF OTAGO REGIONAL COUNCIL**

11 September 2026

1. INTRODUCTION

- 1.1 Our names are Kah Mun (Raymond) Chang and Emily Lion-Cachet.
- 1.2 We are employed by Beca Limited. Raymond as a Technical Director – Environmental Science, based in Auckland; Emily as an Ecologist, based in Hamilton. A summary of our relevant experience is found in Attachment 1.
- 1.3 We have read the Code of Conduct for Expert Witnesses giving evidence to the Environment Court. We agree to comply with that code when giving evidence to the Hearing Panel in this matter. All our evidence is within our expertise, and we have considered and stated all material facts known to me which might alter or qualify the opinions we express.

2. SCOPE OF STATEMENT

- 2.1 In June 2025, Beca was engaged by Otago Regional Council (ORC) to undertake a technical review of freshwater ecology and water quality aspects of the submitted application documents provided by Southern Link Inland Port (SLIP).
- 2.2 Emily visited the site on 14 August 2025. We are familiar with the site layout, and surrounding environment.
- 2.3 In preparing this evidence we have reviewed the following documents:
 - (a) Statement of Evidence (SOE) relating to freshwater ecology, water quality and stormwater;
 - (b) Summary Statements relating to freshwater ecology, water quality and stormwater;
 - (c) Minute 9 (26 August 2026); and
 - (d) Proposed Conditions for the Otago Regional Council Resource Consents.
- 2.4 We have adhered to the Hearing Panel's request to limit this summary to 4 pages. We note that the applicant has provided numerous expert witnesses and evidence to provide further information and to support their ecology and water quality case. Our ability to canvas the breadth and depth of these statements is hence very limited, and we are happy to expand on our views at the hearing.

3. SPECIALIST ASSESSMENT

- 3.1 Following review of the applicant's revised evidence and discussions during an informal expert conference held on 9 September 2026 between the applicant, Otago Regional Council and Fish & Game, we consider that the majority of matters identified in the Freshwater Ecology Review Letter dated 31 July 2026 have been addressed or substantially addressed in principle. The revised Stormwater Monitoring Plan, wider monitoring framework, trigger values and adaptive management provisions now provide a generally appropriate basis for monitoring and managing freshwater ecological and water quality effects.
- 3.2 The focus of our review to date has been on the technical positions, with further analysis to be undertaken with respect to the proposed consent conditions to be undertaken in parallel, noting the timeframes associated. Nevertheless, high-level commentary is provided after a preliminary review of the applicant's updated proposed condition suite.
- 3.3 Our remaining position is that:
- (a) Baseline monitoring should be completed prior to commencement of bulk earthworks.
 - (b) ORC should be notified following the first trigger exceedance of a water quality parameter, and not after a second confirmatory sample is taken.
 - (c) Ongoing emphasis should remain on source control, treatment train performance and adaptive management.
 - (d) Ongoing monitoring of the site's discharge should be committed to in principle, for the lifetime of the discharge, to provide certainty of ongoing treatment device performance and that changes in the Port's operating / catchment characteristics are able to be captured as they change over time.
- 3.4 Subject to these matters being appropriately addressed and provided for, we are satisfied that the proposed monitoring and management framework can appropriately identify and respond to project-related effects.
- 3.5 The following sections summarise the eleven recommendations we previously raised and our current position on each matter following consideration of the updated technical information and evidence filed by the applicant.
- 3.6 The revised SMP and the Statement of Evidence of Mr. Bloomberg establish a robust framework. However, we consider that baseline sampling should be completed before bulk earthworks commence (rather than prior to operational discharges), as construction activities may influence the baseline findings.
- 3.7 The discharge monitoring approach is considered acceptable. Concerns regarding the suitability of the analyte suite and use of the attenuation pond for sample collection

were discussed at the conference, during which we understood Dr Conwell to confirm that she had reviewed the analytical suite proposed for monitoring, and that they were an appropriate representation of the likely indicator contaminants from the contributing catchment – we sought that this be clarified in her summary evidence.

- 3.8 The applicant has suggested grab sampling from the attenuation basin to capture first-flush events in a manner that will account for storm profile variability. We acknowledge that a specific methodology that considers timing and ability to compare between storm events will be refined following detailed design and baseline monitoring, and accept this approach in principle given the proposed size of the attenuation basin.
- 3.9 The applicant has removed the previously proposed fixed 10% trigger concept and instead introduced a framework incorporating adopted guideline values, Site-Specific Trigger Limits (SSTLs), and Baseline Modification Factors (BMF). We are satisfied that the updated methodology will detect site related contamination while accounting for natural variability.
- 3.10 Condition B.36 appears to enable monitoring to cease five years post-construction. However, we consider that Condition B.34(4) should require ORC approval before any monitoring parameters are discontinued, with an overarching perspective that it is not appropriate to completely discontinue monitoring of the discharge, with at least some monitoring necessary for the duration of the consent to track treatment performance.
- 3.11 The applicant has revised the ecological trigger framework by reducing the trigger threshold to a 10% change in ecology metrics with a management response required where any two metrics decline by more than 10% unless a similar decline is recorded at the upstream reference site. We consider the recommendation addressed and are satisfied in principle with the amendments made to the SMP.
- 3.12 Dr Allibone's evidence provides the necessary context and establishes a clearer connection between lamprey monitoring, habitat availability, fine sediment assessment, and potential ecological effects. We consider the recommendation addressed, with these requirements appropriately incorporated into proposed Condition B.33.
- 3.13 A suitable baseline and recognised methodology have been incorporated, providing an appropriate framework for assessing sediment-related effects and trigger exceedances. We consider the recommendation addressed, since the baseline survey and SAM-2 methodology are secured through the SMP and proposed Condition B.32.
- 3.14 We consider the relationship between effects, monitoring, triggers and responses addressed and satisfied in principle with the amendments made to the SMP.
- 3.15 The applicant proposes that final trigger values and BMF will be derived from a minimum of 24 baseline samples and that the BMF will be derived on a rolling basis

(new samples replace the oldest samples in the calculation). The SMP and wider monitoring framework will be subject to certification before implementation. We consider this recommendation addressed and is satisfied in principle with the amendments made to the SMP.

- 3.16 The applicant has incorporated investigation and corrective action requirements into the SMP and refined the adaptive management framework. We consider that ORC should be notified immediately following the first trigger exceedance.
- 3.17 The applicant proposes ongoing monitoring of water quality, fine sediment, ecological indicators, and lamprey populations, with management responses triggered where ecological decline is identified. While no offsetting or compensation measures are proposed, we consider this adequately addressed through the updated SMP.
- 3.18 Another matter raised during conferencing and discussed in Mr Keenan's evidence, was a commitment to a treatment standard for Total Suspended Solids (TSS). Given the applicant's reliance on these devices, we recommend this minimum standard be secured through a consent condition to provide a clear and enforceable treatment benchmark.
- 3.19 Similar provision for non-sediment / non-sediment-bound contaminants should also be considered and provided for through consent conditions, this was suggested in the conference as a potential separate 'BPO' condition, which we agree in principle could provide the certainty required to ORC.
- 3.20 We acknowledge the Panel's questions regarding the appropriateness of setting end-of-pipe discharge limits and associated compliance sampling requirements. In our view, the primary focus should be on implementation of source-control measures and the performance of the overall treatment train, rather than demonstrating compliance at a single fixed discharge point.

4. CONCLUSIONS

- 4.1 We understand that proposed conditions will be subject to further refinement during the next stage of the consenting process. On that basis, we have not undertaken a comprehensive review of all conditions to inform this summary statement as yet.
- 4.2 We consider that the applicant has substantially addressed the freshwater ecology and water quality concerns and the proposed adaptive management is appropriate to manage project related effects.



RAYMOND CHANG AND EMILY LION-CACHET
11 September 2026

ATTACHMENT 1 – SUMMARY OF RELEVANT EXPERIENCE

KAH MUN (RAYMOND) CHANG

- 1.1 My full name is Kah Mun (Raymond) Chang. I am a Technical Director – Environmental Science at Beca Limited, based in Auckland.
- 1.2 I have 20 years' experience in the field of environmental science, with particular technical expertise in water quality and aquatic ecology.
- 1.3 I have obtained a Post Graduate Diploma in Science (Environmental Management), and a conjoint Bachelor of Arts/Bachelor of Science from the University of Auckland. I am a member of the New Zealand Freshwater Sciences Society and on the society's Executive Committee. Additionally, I am a member of the Environment Institute of Australia and New Zealand; and I am also a full member of the NZ Planning Institute. For clarity, I am not providing planning evidence for this Project.
- 1.4 I have recent and relevant experience working on resource management projects across New Zealand, Australia and the Pacific Islands, working on behalf of major infrastructure and industrial clients, including port companies, as well as working on behalf of regulatory authorities to provide inputs into the processing of resource consents. I have provided technical inputs to consenting processes on behalf of eight regional councils, and have given evidence and technical advice to hearing commissioners, expert consenting panels and the Environment Court, on behalf of both applicants and regulators.
- 1.5 I provide input and technical advice with respect to water quality and ecological outcomes, particularly in assessing the potential effects of discharges on freshwater receiving environments, and provide recommendations and advice on the management of those effects. This includes the characterisation of contaminant sources, the design of monitoring programmes and trigger frameworks, and the drafting and review of consent conditions to give effect to them. I have also assisted in the delivery and implementation of management obligations for activities that have been granted consent, making sure that management plans are executed to meet consent conditions.
- 1.6 Examples of projects I have been involved with include:
 - (a) Provision of stormwater technical advice to Northland Regional Council on applications by Northport Limited to expand their operational footprint in the coastal marine area. I was engaged to develop a summary of the key operational contaminant sources for the site, and attended expert conferencing, which resulted in clearer quantification of stormwater discharge

effects and the development of monitoring conditions.

- (b) Provision of advice to Port Taranaki on draft stormwater consent conditions and compliance for a complex range of coastal outfalls from the Port, including the development of a conceptual design for monitoring stormwater discharges to obtain the event mean concentration of a storm event, which was adopted by the Port for implementation.
- (c) Provision of resource management compliance and water quality monitoring advice to Ports of Auckland since 2016, including evaluating the in-service treatment efficiencies of stormwater treatment devices against their stated manufacturer's specifications for sediment, zinc and copper removal, amongst other advice to the Port on stormwater management and monitoring.
- (d) Leading the review for DCC of discharge consent compliance monitoring from the Dunedin City Council stormwater network, which discharges under consents administered by Otago Regional Council (RM11.313.01–.10) on an adaptive management basis, and the subsequent recommendations for ongoing monitoring and work programme for consents.
- (e) Provision of water quality and freshwater ecology advice to Auckland Council's regulatory team in considering effects arising from the Beachlands Wastewater Treatment Plant applications, and to Northland WWTP operators for discharge consents associated with wastewater treatment plants at Kerikeri, Portland and Tutukaka, including instream habitat and fauna surveys and the preparation of ecological and water quality impact assessments.

EMILY LION-CACHET

- 1.1 I hold a Bachelor of Science (BSc) in Environmental Science (2019) and a Master of Science Degree with Honours in Ecology and Biodiversity (2022) from the University of Waikato.
- 1.2 I have 4.5 years' experience in the fields of environmental science and ecology and have worked as an environmental consultant in New Zealand with Beca throughout that period.
- 1.3 I am a member of the Environmental Institute of Australia and New Zealand (EIANZ).
- 1.4 Of relevance to this hearing is my involvement and/or experience in:
 - (a) The preparation of freshwater ecology assessments, including Ecological Impact Assessments (EclAs) and ecological management plans, for a wide range of infrastructure, transport, stormwater, and land development projects across New Zealand. This has included freshwater habitat assessments, fish

and fauna surveys, ecological effects assessments, and the development of mitigation and monitoring measures to support resource consent applications.

- (b) The peer review of freshwater ecology assessments and ecological management plans for resource consenting processes. This includes undertaking ecological peer review of the proposed Te Awa Lakes Residential Development on behalf of Waikato Regional Council, which involved reviewing ecological effects assessments, management plans, and proposed consent conditions. I also completed the ecological review of the proposed Ruakiwi Road Reservoir Notice of Requirement on behalf of Hamilton City Council (HCC), including providing technical advice throughout the process and attending the hearing. In addition, I have undertaken ecological reviews for Auckland Council, including the review of ecology assessments and preparation of technical feedback.
- (c) Practical field experience in freshwater ecology and water quality monitoring, including freshwater habitat assessments, fish surveys, ecological monitoring, and stormwater sampling. This experience provides a strong understanding of freshwater ecosystem processes, ecological assessment methodologies, and the interpretation of field data for resource management and consenting purposes.