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

**SUMMARY STATEMENT OF MIKE THORLEY ON BEHALF OF OTAGO REGIONAL
COUNCIL**

11 September 2026

1. INTRODUCTION

- 1.1 My full name is Michael James Thorley.
- 1.2 I am employed by Beca Limited as Principal – Hydrogeology, based in Christchurch.
- 1.3 I hold a Master of Science in Geology, a Postgraduate Diploma in Environmental Science, and a Bachelor of Science in Geology from the University of Auckland.
- 1.4 I have practised hydrogeology and groundwater science since 2004, with most of my experience based in the South Island of New Zealand. I have worked at Beca since 2012. Before joining Beca, I worked in the mining sector in Western Australia from 2011 to 2012, as a groundwater scientist at Canterbury Regional Council from 2006 to 2011, and as a graduate hydrogeologist at Pattle Delamore Partners Limited from 2004 to 2006.
- 1.5 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and have complied with it in preparing this statement. The matters addressed are within my expertise. I have not omitted any material fact known to me that might alter or qualify the opinions I express.

2. SCOPE OF STATEMENT

- 2.1 In February 2026, Otago Regional Council (ORC) engaged me to review the groundwater and hydrogeological aspects of Southern Link Property Limited's application for the Southern Link Inland Port under the Fast-track Approvals Act 2024. This statement responds to Mark Scaife's Summary Statement on Groundwater dated 10 September 2026. I focus on whether the latest proposed conditions adequately manage the remaining groundwater risks associated with construction, operational stormwater discharges to land, and the container washbay trade-waste system. Dr Benjamin Waterhouse addresses the contaminated-land aspects of the stormwater discharges. I refer to those matters only where they affect groundwater pathways or the suitability of land for infiltration.
- 2.2 In preparing this evidence I have reviewed the following documents:
 - Stantec New Zealand Limited. Southern Link Inland Port Groundwater Assessment, dated 16 February 2026.
 - Stantec New Zealand Limited. Southern Link Inland Port Stormwater Assessment, dated 15 April 2026.
 - Stantec New Zealand Limited. Southern Link Inland Port Wastewater Assessment, dated 16 April 2026.
 - Beca Limited. Hydrogeology Review – RM25.034: Southern Link Inland Port FTAA, dated 31 July 2026.
 - Mark Scaife – for Southern Link Property Limited. Statement of Evidence on

Groundwater, dated 19 August 2026.

Mark Scaife – for Southern Link Property Limited. Summary Statement on Groundwater, dated 10 September 2026.

Dr Benjamin Waterhouse. Summary Statement on Contaminated Land on behalf of Otago Regional Council, dated 11 September 2026.

Kah Mun (Raymond) Chang and Emily Lion-Cachet. Summary Statement on Water Quality and Ecology on behalf of Otago Regional Council, dated 11 September 2026.

Updated proposed Otago Regional Council consent conditions supplied as Attachment 23, including the general conditions and Resource Consents A, B and D.

3. SPECIALIST ASSESSMENT

- 3.1 I agree with Mr Scaife that the Groundwater Assessment provides a reasonable conceptual model and that significant groundwater effects are unlikely. The assessment indicates groundwater is typically about 7.5–9 m below ground level, with a downward vertical gradient, generally westward flow, hydraulic connection with Silver Stream, and some seepage where the attenuation pond remains unlined. My concern is not with that conceptual model. It is whether the assumptions relied on in the assessment are carried through into detailed design, operation and enforceable consent conditions.
- 3.2 Mr Scaife considers that the only surface contaminant pathway to groundwater is infiltration through the attenuation pond, that stormwater entering the pond will be treated to a quality suitable for discharge to Silver Stream, and that washbay overflow will occur only in events exceeding the 10% annual exceedance probability design storm. The latest conditions require washbay runoff up to and including that event to enter the Dunedin City Council trade-waste network. In my view, that materially reduces the washbay risk, provided the final design and operation maintain that separation.
- 3.3 In my earlier review, I understood that the stormwater strategy included an intended recharge or infiltration function. The applicant's later evidence and technical discussions clarified that infiltration is incidental, rather than a design requirement, and that the attenuation pond and swales are not intended to achieve a specified recharge outcome. I therefore do not recommend a target recharge rate or routine infiltration testing for the current design. However, Resource Consent B authorises discharge to permeable land throughout the site. If the Consent Holder later adopts a purpose-designed soakage device, the conditions should require confirmation of the ground and groundwater conditions, field infiltration testing, and suitably conservative factored design rates.

4. COMMENTS ON PROPOSED CONDITIONS

- 4.1 **General Conditions 28–32.** I support the groundwater-level monitoring requirements. Condition 31(2), which requires the detailed-design documents under Conditions B.8, B.18 and D.4 to show how the monitoring report has been considered, largely addresses my earlier recommendation. I suggest one further clarification: the monitoring report and design response should identify any groundwater-related design constraints, including the available unsaturated thickness beneath proposed discharge-to-land areas (if any), and explain any material departure from the groundwater levels, gradients or interaction with Silver Stream assumed in the Groundwater Assessment.
- 4.2 **Resource Consent A.** Conditions A.3–A.16 provide a reasonably comprehensive framework for investigation, remediation, validation and unexpected contamination. These controls reduce the likelihood of stormwater infiltrating through contaminated soil. The remaining hydrogeological issue is the interface with Resource Consent B. The final discharge-to-land areas should be shown against the investigation, remediation and validation results. Consistent with Dr Waterhouse's evidence, baseline soil conditions should be established within the footprint of any swales, basins or purpose-designed soakage devices before commissioning, using suitable criteria to confirm that the land is

appropriate for infiltration. The stormwater monitoring framework should also provide for review of contaminant accumulation in those soils over time. Infiltration through residual contamination should occur only where a site-specific assessment indicates that it will not increase contaminant migration to groundwater or Silver Stream. Dr Waterhouse addresses the contaminated-land controls, testing methods and criteria in more detail.

- (a) **Resource Consent B — authorisation and detailed design.** Condition B.12 authorises discharge to permeable land throughout the site, while Conditions B.8 and B.18 mainly identify the attenuation pond, eastern swale, western swale and associated hydraulic details. It is therefore unclear what other land-discharge features may be covered. The detailed design should identify all intended discharge-to-land areas and state whether infiltration is incidental or relied on for stormwater performance. If a purpose-designed soakage device is proposed, the design should characterise the receiving soils and groundwater setting, use field infiltration testing and appropriately factored design rates, demonstrate adequate capacity and separation from groundwater, and show how contaminated-land investigation and validation results have informed its location and design.
- (b) **Resource Consent B — operation, maintenance and response.** Conditions B.20 and B.22–B.37 provide a substantial framework for inspection, Silver Stream monitoring and adaptive management. This is a material improvement on the earlier condition set. I do not consider that a separate routine groundwater-quality monitoring programme is necessary for the current proposal. However, the inspection requirements should expressly cover any land-discharge or infiltration features adopted through detailed design. Inspections should consider clogging, scour, prolonged ponding, preferential flow and other signs that a feature is not operating as intended. Records should be retained, and any material deterioration should be investigated and remedied. I also support the water-quality evidence of Mr Chang and Ms Lion-Cachet that source control, treatment-train performance and ongoing monitoring remain important. Where a Silver Stream trigger investigation identifies a plausible groundwater pathway, the response should include hydrogeological review and targeted groundwater investigation if warranted.

- 4.3 **Resource Consent D.** Conditions D.2, D.3 and D.7 require washbay runoff up to and including the 10% AEP climate-change design storm to enter the reticulated trade-waste network. Only surcharge from larger events may reach the stormwater system and land. This addresses the main hydrogeological concern I previously identified, provided the network can accept the flows and contaminant loads assumed in the design. I understand that separate Dunedin City Council approval may be required. I have not assessed whether that approval has been obtained or the legal requirements applying to it. From a hydrogeological perspective, network acceptance of the assumed discharge should be confirmed before the washbay system is commissioned. Condition D.4 should require the detailed design to confirm the hydraulic basis for the 10% AEP threshold, separation of the trade-waste and stormwater systems, the overflow route and how the system will fail safely. Condition D.6 should require routine inspection and functional testing of the diversion, containment and overflow components; inspection after any surcharge or overflow event; event records; and timely corrective action where the system does not operate as intended. If a future design proposes soakage of trade waste or other untreated or poorer-quality water, the conditions should require site-specific ground and groundwater investigation, field infiltration testing, appropriately factored design rates, assessment of contaminated-land and contaminant-migration risks, and groundwater-quality monitoring proportionate to the discharge.
- 4.4 My earlier review proposed a broader three-year groundwater-level and groundwater-quality monitoring programme. Having considered the updated conditions, Mr Scaife's evidence and the clarified stormwater and washbay arrangements, I consider a more targeted approach is appropriate for the current proposal. Groundwater-quality monitoring should be required if untreated or poorer-quality water is intentionally discharged to ground. The scope should reflect the likely contaminants and relevant groundwater

receptors. The conditions should also provide for a hydrogeologist-led investigation if groundwater levels differ materially from those assessed, a land-discharge feature does not perform as intended, residual contamination is found beneath or beside a feature, the washbay overflow controls do not operate as designed, or Silver Stream monitoring indicates a plausible groundwater pathway. That investigation should determine whether targeted groundwater monitoring, mitigation or design changes are required.

5. CONCLUSIONS

- 5.1 I agree with Mr Scaife that significant groundwater effects are unlikely. The updated conditions provide a reasonable overall framework through groundwater-level monitoring, contaminated-land controls, Silver Stream monitoring and adaptive management, and improved stormwater and trade-waste controls.
- 5.2 Several matters raised in my earlier review have been addressed, particularly the linkage between groundwater monitoring and detailed design under Condition 31(2), the broader contaminated-land framework, and the requirement for washbay runoff up to the 10% AEP event to enter the trade-waste network.
- 5.3 The remaining gaps are narrower than those I identified in July. They relate to defining the authorised discharge-to-land areas, linking those areas to contaminated-land investigation, baseline soil testing and validation, documenting groundwater design constraints, inspecting land-discharge features, considering contaminant accumulation in receiving soils, and responding where site conditions, Silver Stream monitoring or system performance indicate a plausible groundwater pathway.
- 5.4 For the current proposal, I do not recommend a specified recharge outcome, routine pre-operation testing against a target infiltration rate, or a broad groundwater-quality monitoring programme. If the Consent Holder later relies on purpose-designed soakage, or proposes to discharge untreated or poorer-quality water to ground, the conditions should trigger appropriate investigation, testing, design and monitoring requirements.
- 5.5 These matters can be addressed through targeted amendments to the general groundwater conditions and Resource Consents A, B and D. The conditions should retain flexibility for final design, while ensuring that any future soakage-based approach is supported by adequate ground investigation, infiltration testing, conservative design rates, contaminated-land assessment and, where the water quality warrants it, groundwater-quality monitoring. Subject to those amendments, I consider the remaining hydrogeological effects can be appropriately managed.

Mike Thorley



11 September 2026