

**IN THE ENVIRONMENT COURT
WELLINGTON REGISTRY**

**I TE KŌTI TAIAO O AOTEAROA
TE WHANGANUI-A-TARA ROHE**

ENV-2023-WLG-000005

UNDER the Resource Management Act 1991


IN THE MATTER the direct referral of applications for resource consents and notices of requirement under sections 87G and 198E of the Act for the Ōtaki to North of Levin Project

BY **WAKA KOTAHI NEW ZEALAND TRANSPORT AGENCY**
Applicant

**STATEMENT OF EVIDENCE OF STUART JAMES EDGAR FARRANT ON BEHALF OF THE
MANAWATŪ-WHANGANUI REGIONAL COUNCIL AND THE GREATER WELLINGTON
REGIONAL COUNCIL**

STORMWATER

Dated: 26 September 2023


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STATEMENT OF EVIDENCE OF STUART JAMES EDGAR FARRANT

A. INTRODUCTION

[1] My name is Stuart James Edgar Farrant. I am a Principal Ecological Engineer and Southern Regional Manager at Morphem Environmental Ltd and hold a Bachelor of Engineering Hons (Natural Resources) from University of Canterbury.

[2] I prepared a report on the application required by section 87F of the Resource Management Act 1991 on behalf of Manawatū-Whanganui Regional Council (**Horizons**) and Greater Wellington Regional Council (**GWRC**) (the **Regional Councils**), dated 28 April 2023 (**s87F Report**).

[3] In my s87F Report, I reviewed the application from Waka Kotahi for resource consent applications lodged with Horizons and the GWRC relating to the Ōtaki to North of Levin Highway Project (the **Ō2NL Project** or **Project**). My s87F Report provided recommendations to improve or further clarify aspects of the resource consent application addressing stormwater.

[4] I confirm I have the qualifications and experience set out at paragraphs 6-10 of my s87F Report.

[5] On 8 August 2023, I participated in expert conferencing on stormwater, resulting in a joint witness statement dated 8 August 2023 (the **Stormwater JWS**). I confirm the contents of the Stormwater JWS.

B. CODE OF CONDUCT

[6] I repeat the confirmation provided in my s87F Report that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This evidence has been prepared in accordance with that Code. Statements expressed in this evidence are within my area of expertise.

C. SCOPE OF EVIDENCE

[7] My report will cover the following:

- (a) The extent to which issues identified in my s87F Report have been resolved through Waka Kotahi evidence, expert conferencing and mediation;
- (b) A response to section 274 party evidence; and
- (c) Conditions.

[8] In preparing this evidence I have reviewed the following reports:

- (a) Volume II - Assessment of Environmental Effects (AEE), November 2022;
- (b) AEE Appendix Four Design and Construction Report, July 2022;
- (c) AEE Appendix 4.2 Stormwater Management Design;
- (d) Technical Assessment H – Water Quality;
- (e) The s87F report by Logan Brown on behalf of the Regional Councils, along with his Statement of Evidence, dated 26 September 2023;
- (f) Evidence of Mr Nick Keenan on behalf of Waka Kotahi dated 4 July 2023;
- (g) Joint Witness Statement of Planning Experts dated 10, 11, and 14 August 2023;
- (h) The conditions filed by Waka Kotahi on 4 September 2023 (the **Waka Kotahi conditions**);
- (i) The memorandum of s 274 party, Mr John Bent; and
- (j) The 'will say' statement and statement of evidence of Mr Phil Jaggard for Kainga Ora.

[9] It is noted that I have not specifically provided comment on matters relating to flooding, erosion and sediment control, instream water quality or ecosystem health which are addressed separately by other experts. These matters were however discussed as part of expert conferencing.

D. OUTSTANDING ISSUES

[10] On review of the issues in dispute arising from my s87F Report, the Stormwater JWS, and the Waka Kotahi conditions, I am of the view that the following issues remain outstanding for stormwater:

(a) **Stormwater Design** - Provision for review and certification of detailed design of proposed stormwater management devices prior to construction.

(b) **Operation and Maintenance Plan** – Preparation, and review and certification, of Operation and Maintenance Plans for proposed stormwater management devices prior to construction, including requirements for reporting to the Regional Councils.

[11] I address these issues in turn below.

Stormwater Design

[12] Through the design review which informed my s87F Report, including information requirements set out as part of the section 92 request from the Regional Councils, it was noted on multiple occasions that the proposed design of operational stormwater elements was very conceptual and lacked the level of detail to provide certainty of function and outcomes.

[13] Through this review process I concluded that the proposed approach to operational stormwater was appropriate in principle, however, further clarification would be required around feasibility as part of detailed design, including any resultant changes to design prior to construction.

[14] In particular, I am of the opinion that there are a range of design-related matters which, in my view, will require further consideration to ensure that the design functions as intended and is maintainable.

[15] This clarification was to be provided via a formal design review process. In my s87F Report, I required detailed designs for all stormwater management systems to be reviewed prior to construction.¹ Specifically:

Detailed designs for all stormwater management systems will need to be reviewed prior to construction. This is necessary given the conceptual nature of the design presently. In my opinion, there are likely opportunities to reduce complexity (through simplified hydraulic design) and rationalise footprints based on a more accurate understanding of water balance. The Regional Councils will also require confidence that the design will deliver on the outcomes anticipated by the application.

[16] These requirements have not been reflected adequately in the Waka Kotahi conditions. In particular, there is insufficient detail provided around review of detailed design, and no certification oversight for the Regional Councils. In my view, it remains important for the Regional Councils to verify that the final designs align with the intent and assumptions of the application.

[17] I note the s87F report of Mr Brown, for the Regional Councils, sets out the water quality inputs and outputs for stormwater for the concept design. His report notes that the design is intended to:²

- (a) Provide stormwater runoff treatment over more than 90% of road surface area in the Ō2NL Project; and
- (b) Provide a treatment train approach that can capture and treat 75-90% of total suspended solids, oils, and soluble metals (copper and zinc) from road runoff for 90% of storms. The treatment train includes vegetated batter slopes, treatment swales and constructed wetlands before discharge into the receiving environment.

[18] In my opinion the suggested reliance on condition RGA1, which requires the Project to be in 'General accordance' with (F) Stormwater; Drainage Layout Plans, is not acceptable given the lack of detail in those plans presently.

¹ Section 87F Report, at paragraph [46].

² Section 87F Report, Logan Brown, dated 28 April 2023, at paragraph [110].

[19] Following expert conferencing and mediation, a condition, RSW1(g), has been included in the Waka Kotahi conditions which states:³

Prior to the construction or installation of stormwater management devices, drawings demonstrating that the design of stormwater management devices achieves the requirements of clauses (a) to (f) must be provided to the Regional Council for information.

[20] Clauses (a) to (f) of the proposed condition provide for a range of matters and should be read in conjunction with (g) for completeness.⁴

[21] The proposed condition does not ensure that the designs provided to the Regional Councils will deliver on the outcomes anticipated by the consent application. In my view, the matters set out in (a) to (f) do not address the matters which would enable this assessment to be made. Further, there is no certification process enabled by the condition.

[22] As is standard best practice, I would have expected the condition to provide greater specificity over what the detailed design should be expected to achieve. In my s87F report, I recommended that all devices would need to demonstrate that they are designed in agreement with the application plans and strictly in accordance with industry standard guidelines (i.e., Wellington Water – Water Sensitive Design Guidelines) and, as a minimum, achieve the stated treatment areas in the application.⁵ I went on to set out a range of matters at (i) through (vii) for detail design.

[23] Particular points of concern could include: final functional sizes/footprints of devices, hydraulic designs, wetland bathymetry and hydraulic design, plant selection, provision for safe operational maintenance, discharge to waterways, interface with flood areas and design for spill response.

[24] I am not confident that the proposed stormwater management approach will meet the intended operational stormwater outcomes without this

³ Page 71 of Waka Kotahi Conditions (Tracked Changes Version).

⁴ Page 71 of Waka Kotahi Conditions (Tracked Changes Version).

⁵ Section 87F Report, at paragraph [51].

further level of design detail and recommend that the proposed consent condition is amended to enable review and certification.

[25] I consider that approval or certification of designs is especially critical given the very conceptual level of the design and the risk of adverse environmental outcomes from poor detailed designs. I note that Mr Brown for the Regional Councils discusses the importance of design and monitoring requirements, with regard to water quality and ecology outcomes in his evidence.

[26] Mr St Clair has proposed a condition to address the matters I have raised above as part of this evidence. I support this proposed condition.

Operations and maintenance plans

[27] I also consider it necessary for there to be certainty over devices being operated in a manner which supports the long-term functionality.

[28] As part of the application and s87F reporting process, and through expert conferencing, issues have been raised around the merits of technical monitoring of devices in terms of contaminant removal effectiveness and hydraulic function. I have some concerns with the practicality of undertaking technically robust operational water quality monitoring due to the highly variable nature of stormwater and the need to capture fine grained data to have sufficient confidence to draw conclusions on operational performance.

[29] Equally, I acknowledge the opinion of Mr Brown,⁶ that the strong reliance on stormwater treatment to manage instream effects and for the Ō2NL Project to result in overall improvement in water quality within the catchments, warrants oversight and monitoring of the efficiency of contaminant removal.

[30] Given the importance of the stormwater treatment and related design and performance of stormwater devices, and the challenges with monitoring wetland performance, I recommend focusing on ensuring that the design is in accordance with 'best practice' (through robust design and review processes as discussed above) and that the devices are operated and maintained in a manner that ensures they are functioning as per design. This

⁶ Section 87F Report, Logan Brown, dated 28 April 2023, paragraphs [111]-[113].

requires a clear and certain operation and maintenance plan to be prepared, certified by the Regional Councils, and then followed by the consent holder.

[31] The Stormwater JWS stated that:

All agree that an Operations and Maintenance Plan condition is required in the Discharge Consent to provide certainty that the devices will continue to operate and perform as designed.

[32] A requirement for an Operation and Maintenance plan has not been included in the Waka Kotahi conditions. The only reference is in RSW1, which refers to requirements for operation and maintenance as per Waka Kotahi NZ Transport Agency '*P46 Stormwater Specification*' dated 2016 (P46).⁷ This condition requires operational stormwater run-off from the Project to be treated in dedicated stormwater management devices before discharging to the receiving environment in general accordance with, among others, P46.

[33] I am familiar with P46. Section 11.1 of P46 includes requirements to demonstrate appropriate provision for maintenance, while section 11.2 includes requirements for an Operation and Maintenance Plan.

[34] These are considered appropriate in many respects; however, the condition does not explicitly require an Operation and Maintenance Plan designed to address the Project in a specific manner. I am also concerned regarding ongoing monitoring and oversight by the Regional Councils. In particular:

(a) The Operation and Maintenance documentation is required to include '*Monitoring and reporting requirements of consent conditions*'. This would typically include required frequency of inspections and triggers for proactive and reactive maintenance activities. Without a condition requiring this monitoring and reporting, the Waka Kotahi conditions do not provide for the Regional Councils to be able to monitor compliance.

(b) More generally, the Regional Councils do not have input into the contents of the management plan, and the ability to review and

⁷ Page 71 of Waka Kotahi Conditions (Tracked Changes Version).

certify it, having regard to those requirements, prior to construction. This is despite the Waka Kotahi conditions providing for an extensive management plan framework for many other effects contemplated under the resource consents.

[35] As I have noted, and as set out in the s87F report and evidence of Mr Brown, the nature of stormwater effects, and the importance of the stormwater devices for treatment, warrants robust oversight of design and performance. I do not consider this to be provided for sufficiently through proposed RSW1.

[36] I recommend that condition RSW1 is amended in the manner provided for in the evidence of Mr St Clair.

E. RESPONSE TO SECTION 274 PARTY EVIDENCE

[37] I have reviewed the section 274 party memorandum of John Bent, dated 12 September 2023, and the evidence of Mr Jaggard for Kāinga Ora.

[38] Mr Bent is concerned about the conveyance of litter through the stormwater management system and being subsequently discharged into the receiving environment.

[39] I agree with Mr Bent's concerns and in particular, the point that litter can adversely impact downstream environments should they discharge and contribute to ongoing impacts from micro plastics.

[40] I am of the view that the combination of vegetated swales, forebays and constructed vegetated wetlands will provide a reasonable level of litter capture and suggest minor amendment to RWS1(d) as set out in the condition set appended to the statement of evidence of Mark St Clair.

[41] I note that Mr Jaggard has raised the need for further scrutiny of the stormwater management devices at the design stage, to ensure that a potential adverse effect, being groundwater related flooding, is not exacerbated by the works.⁸ This need arises out of the absence of site-specific data to inform the design of the stormwater management devices.

⁸ Statement of Evidence, Mr Phil Jaggard, dated 12 September 2023, at paragraph [7.5].

These matters are also addressed in the s87F report and evidence of Mr Williamson for the Regional Councils. In my view, the points raised by Mr Jaggard underscore the need for review and certification of the design.

F. CONDITIONS

[42] I have reviewed the Waka Kotahi conditions. I am largely supportive of the conditions subject to the amendments necessary to address the issues I have raised in this evidence. In this respect, I have reviewed and support the conditions filed with the statement of evidence of Mr St Clair.

G. CONCLUSION

[43] I am of the opinion that the proposed operational stormwater measures are capable of being able to appropriately mitigate the potential for adverse freshwater outcomes from the proposed Ō2NL Project.

[44] I do, however, have ongoing concerns with the ability for Regional Councils to be confident that the design of the stormwater management system/devices will be delivered and operated in accordance with the outcomes anticipated by the consent application (and assessment of effects). This is due to the conceptual nature of the current design to support the application and residual uncertainties about some of the biophysical constraints which may necessitate amendments to the currently proposed concept.

[45] I recommend that the Waka Kotahi conditions are amended to require:

- (a) The submission of all detailed designs for certification by Regional Councils prior to construction. This will ensure that the final design delivers the outcomes anticipated (and relied on) by the consent application, and is in accordance with industry standards.
- (b) Preparation of an Operation and Maintenance Plan, with its purpose and requirements provided in a schedule of the consent conditions, which is to be submitted for certification by the Regional Councils prior to construction. The Operation and Maintenance Plan should

include clear documentation of the frequency/triggers for activities and a process to provide reporting of activities undertaken.

26 September 2023

Stuart James Edgar Farrant