

BEFORE THE HEARING PANEL APPOINTED BY KAIPARA DISTRICT COUNCIL

Under the Resource Management Act 1991

In the matter of the hearing of submissions on Proposed Private Plan
Change 84: Mangawhai Hills Limited

**REBUTTAL EVIDENCE OF CLINTON JAMES CANTRELL ON BEHALF OF KAIPARA DISTRICT
COUNCIL**

(Wastewater)

13 May 2024

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1. INTRODUCTION

1.1 My full name is Clinton James Cantrell.

1.2 I prepared a memorandum provided in support of the section 42A Report in this matter addressing wastewater infrastructure planning. My qualifications, experience, and background to my involvement in this matter are as set out in that memorandum.¹

2. CODE OF CONDUCT

2.1 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise and I have not omitted material facts known to me that might alter or detract from my evidence.

3. SCOPE OF EVIDENCE

3.1 This statement of rebuttal evidence on behalf of Kaipara District Council responds to the statement of evidence of Mr Rankin (Civil Engineering) on behalf of the applicant dated 29 April 2024.

4. EVIDENCE OF MR RANKIN

4.1 Mr Rankin has prepared a primary statement of evidence on behalf of the applicant dated 29 April 2024. Whilst Mr Rankin's evidence addresses a wide range of topics, my rebuttal is limited to responding to the parts of his evidence relating to wastewater servicing and whether a minimum lot size is required for sites that are not connected to a reticulated wastewater system.

¹ My qualifications and experience are outlined in Attachment I to my Memorandum.

Minimum lot size for sites not connected to a reticulated wastewater system

4.2 In my memorandum provided in support of the Section 42A Report I expressed the view that PPC84 can be adequately serviced for wastewater. In relation to this, I assessed three scenarios. Scenario 1 (identified as the applicant's preferred option) with 500 lots serviced by a private on-site wastewater treatment system and 100 lots serviced by the Mangawhai Community Wastewater Scheme (**MCWWS**). Scenario 2, with 600 lots serviced by the MCWWS. Scenario 3, no reticulated wastewater system and all lots serviced by on-lot septic tanks.²

4.3 In relation to Scenario 3, I noted that:

- (a) It was my technical opinion that this would result in a yield of less than 600 lots due to required minimum lot areas (of circa 2,000m² to 3,000m²) that are in my view necessary to provide sufficient space for onsite primary and secondary irrigation fields; and
- (b) That there may be ecological sensitivity in relation to this option, due to the close proximity of the site to the inner harbour at Mangawhai.³

4.4 Mr Cleese in his section 42A Report recommended that the provisions for PPC84 be amended to, consistent with the Operative Kaipara District Plan, include a minimum lot size of 3,000m² where wastewater reticulation is not provided.⁴

4.5 Mr Rankin in his evidence disagrees that a minimum lots size is required in the plan provisions. He notes that DEV1-S17 provides that where no Council or community system is available the onsite wastewater system shall be designed in accordance with "AS/NZS1547: 2008 "Onsite

² Paragraph 2.4 of my Memorandum.

³ Paragraph 3.15(c) of my Memorandum.

⁴ Section 42A Report, paragraph 108.

Wastewater Management Standards". Accordingly, he considers a minimum lot size is not needed. Mr Rankin notes the reference in the provisions should be updated to AS/NZ 1547:2012⁵

4.6 Having considered Mr Rankin's evidence, I remain of the view that PPC84 should include a minimum lot size of no less than 3000m² for unserviced lots, for the following reasons:

(a) In my view, septic tanks can provide an appropriate solution for rural lifestyle blocks, or small numbers of dwellings. However, for residential development of this scale (approximately 600 lots) it is preferable to have wastewater servicing provided through a centralised system. Centralised wastewater systems (whether privately owned or owned and operated by the Council) provide greater protection for the environment, and significant mitigation of any cumulative risks associated with the inadequate operation and maintenance of private onsite wastewater disposal systems.

(b) In terms of operations and maintenance risks, servicing of a large higher density development with on-site septic systems is not just a matter of designing the systems right for day 1 of the operations. Over time on-site septic systems require regular maintenance to ensure proper operation and performance – and in numerous case studies across New Zealand (and globally) on-site septic systems have gradually degraded in performance to the point of a public health notice being served which requires removal of them and replacement with a centralised public system to mitigate ongoing environmental and community health effects. A relevant example of this is Kawaka Bay, near Auckland. Kawakawa Bay, is a coastal community that was originally established as a holiday village. The popularity of the area grew, and by 2010

⁵ Evidence in chief of Mr Rankin, paragraph 49.

there was a resident population of about 600 people, with a summer population of up to 2000 people. Traditionally the wastewater at Kawakawa Bay was disposed of via septic tank systems on individual properties. The poor performance of these systems resulted in untreated wastewater being discharged to the beach and into local stormwater drains. In 2002, after years of poor water quality results, permanent signs were erected at Kawakawa Bay warning the public that the beach was too polluted for recreational swimming or shellfish gathering. In response to public health and environmental concerns Manukau City Council researched a number of alternative sewerage systems including gravity, low pressure pump systems and vacuum systems. This area is now serviced by a centralised public wastewater system that was installed and now operated by Watercare.

(c) Performance of on-site septic systems over the long-term is also influenced by weather conditions. The ability to irrigate and assimilate pollution from the septic tank effluent on private property is a function of soil moisture, groundwater levels and overall wetness of soils. As recently experienced in New Zealand (including Mangawhai) in late 2022 and 2023 we experienced unprecedented levels of rainfall over several months – resulting in substantial flooding and elevated groundwater levels. As climate change effects continue to increase, so will these associated effects. In terms of climate resiliency, on-site septic tanks rank fairly low against other more centralised collection and treatment options for wastewater servicing.

(d) Requiring a minimum lot size of 3000m² where there is no reticulated wastewater system available will:

- (i) Ensure there is sufficient room available for individual site disposal fields; and
- (ii) Reduces the potential for the issues I have identified (set out above) in relation to on-site septic tanks to become as acute, as the proposed minimum lot size reduces the number of residential lots in the plan change area that can be created using septic tanks, and therefore reduces the potential cumulative effects of large urban areas being serviced by individual systems.

4.7 Overall, I remain of the view that that PPC84 can be adequately serviced for wastewater. However, if wastewater servicing is to be provided by on-site septic tanks (rather than connection to a centralised system) then in my opinion a minimum lot size of 3000m² is appropriate.

Clinton Cantrell

13 May 2024