

**BEFORE THE HEARING COMMISSIONER
FOR SELWYN DISTRICT COUNCIL**

UNDER

the Resource
Management Act 1991

IN THE MATTER

of Private Plan Change
69 (Lincoln) by
Rolleston Industrial
Developments Limited

**SUMMARY OF EVIDENCE OF PHILIPPA AITCHISON-EARL
(GROUNDWATER EVIDENCE)**

24 NOVEMBER 2021



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CHRISTCHURCH

INTRODUCTION

1. My name is Philippa Lauren Aitchison-Earl. I am a Senior Groundwater Scientist and have worked at Canterbury Regional Council (**CRC**) since 1997.
2. In my evidence I address certain groundwater science issues relative to Proposed Plan Change 69 (**PC69**), including the potential impacts of development, including excavation, construction, reduced recharge and increased stormwater discharge on the local groundwater and springs.
3. The key conclusions I reach in my evidence are that:
 - (a) Development on the subject site will potentially result in:
 - (i) reduced spring flow;
 - (ii) Impacts on recharge of groundwater, and potential for contaminants entering these sources (such as heavy metals and hydrocarbons);
 - (b) There is a high risk of groundwater contamination in the event of a leak from any reticulated network developed on the site. This raises concerns regarding unsafe drinking water should faecal contamination occur; and
 - (c) The high groundwater table at the PC69 site presents a challenge for the proposed residential zoning, even with a reticulated network, due to the likely direct contact with groundwater in some places.
4. I have reviewed the Applicant's expert evidence and am in agreement with many aspects of the groundwater evidence presented. I note, however, the following areas of difference:

Bas Veendrick

- (a) Mr Veendrick's hydrology evidence states, at paragraphs [11] and [19], that the capture zone for the springs is expected to be large, and that the subdivision land does not contribute to spring flow.
- (b) While I agree that the head springs will most likely receive recharge from the area outside of the PC69 site, to the north-

west, it is my opinion that the springs further east will still likely be impacted by development on the PC69 site as well as other springs outside of PC69 that contribute to the Ararira/LII; and

Mark Taylor

- (c) Mr Taylor states in his ecology evidence, at paragraph [22], that some of CRC's mapped spring locations are incorrect.
 - (d) I acknowledge that the combination of older technology at the time of the original mapping, and drainage and diversion that has occurred within the last 20 years, could mean that some of the springs are not clearly evident in aerial imagery. However, I do not consider this to impact materially on my conclusions, as any construction or infrastructure work would have the potential to open these drains and reactivate the springs.
5. I have not reviewed any other evidence that has altered the position expressed in my evidence, and do not support the proposed rezoning. I am happy to answer any questions regarding my evidence.

Dated this 24th day of November 2021

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Philippa Aitchison-Earl