BEFORE THE HEARINGS PANEL
FOR THE PROPOSED TIMARU DISTRICT PLAN

UNDER	the Resource Management Act 1991 (RMA)
AND	
IN THE MATTER	of the Proposed Timaru District Plan
AND	
IN THE MATTER	of Hearing Stream G: Future Development Area Chapter

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STATEMENT OF EVIDENCE OF MICHAEL STANLEY MASSEY ON BEHALF OF THE CANTERBURY REGIONAL COUNCIL

PROPOSED TIMARU DISTRICT PLAN

26 JUNE 2025

INTRODUCTION

1 My full name is Michael Stanley Massey. I am Principal Science Advisor on the Contaminated Land and Waste Team at Canterbury Regional Council (**Regional Council**). I have been in this role since February 2020. In my time at the Regional Council, I have provided technical advice relating to the investigation and remediation of contaminated sites in Canterbury, in support of Consents Planning, Compliance, Monitoring, and Enforcement, and a variety of external customers and consultants.

2 I hold a Doctor of Philosophy degree in Environmental Earth System Science from Stanford University in Stanford, California, United States. I also hold a Master of Science degree in Soil Science from Colorado State University in Fort Collins, Colorado, United States. My areas of expertise include soil and water chemistry, groundwater chemistry, and contaminant biogeochemistry and transport. I am a Certified Environmental Practitioner (no. 1361) under the scheme managed by the Environment Institute of Australia and New Zealand. I have been a practicing environmental scientist since 2006, and as of this writing I have around 19 years of experience in environmental work, including research, teaching, and practice.

3 I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving any evidence during this hearing. Except where I state that I rely on the evidence of another person, my evidence is within my area of expertise. I have considered and included all material facts known to me that might alter, qualify, or detract from the opinions that I express.

4 Although I am employed by the Regional Council, I am conscious that in giving evidence in an expert capacity my overriding duty is to the Hearings Panel.

SCOPE OF EVIDENCE

5 I have prepared my evidence on behalf of the Regional Council.

6 My evidence relates to contaminated sites at the proposed Future Development Area 11 (**FDA11**), bordered by Bennett Road to the north, Templer Street to the east and south, and State Highway 79 to the west, in Geraldine (Fig 1).

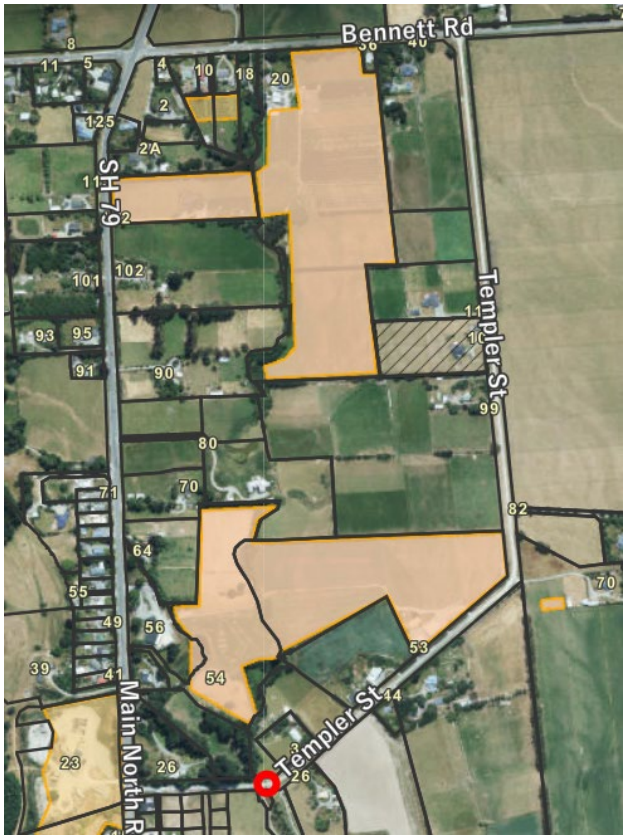

Figure 1. Listed Land Use Register (**LLUR**) image showing the most recent satellite imagery and listed sites (orange) and investigations (diagonal lines) for the subject site.

7 I have reviewed the following documents and evidence in preparing my evidence:

a. The Section 32 report prepared and notified by Timaru District Council (**TDC**);

b. The Section 42A report prepared by TDC; and

c. The evidence of Ms Deidre Francis on behalf of the Regional Council.

FDA11 TEMPLER ROAD, GERALDINE

8 There are a number of sites within this Future Development Area (**FDA**) that are identified on the Listed Land Use Register (**LLUR**). I have been asked to comment on these sites and the implications of their presence for the FDA.

9 The image of FDA11 in Figure 1, above, is sourced from the internal Listed Land Use Register layer on Canterbury Maps. It shows four sites that are recorded on the LLUR, identified as site numbers 209624, 209650, 209770, and site number 209772. The northernmost site (209772) has been categorised as "verified non-HAIL," and the others are categorised as "not investigated." The uninvestigated sites are for Hazardous Activities and Industries List (**HAIL**) activity A10, which denotes potential persistent pesticide use (from previous or current market gardening, orcharding, vineyard use, etc). The sites were added to the LLUR in 2018, and the recorded information suggests that the activity dates back to the late 1960s or so.

10 There are also potentially HAIL sites within the FDA11 area that the Regional Council has no record of. I therefore recommend Preliminary Site Investigations prior to development, including site walkovers to identify potential HAIL sites that have not yet been documented.

11 Furthermore, I recommend Detailed Site Investigations as appropriate, in accordance with the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, 2011 (**NESCS**). In particular, I consider that the known HAIL sites, and any subsequently discovered potential HAIL sites, should be the subject of a Detailed Site Investigation (**DSI**) that includes soil sampling as directed by a Suitably Qualified and Experienced Practitioner (**SQEP**) in contaminated land. Contaminants of concern include trace elements (also referred to as "heavy metals") and pesticides including organochlorine pesticides, and others as appropriate. Typically, for a consent application, I would recommend that a DSI be completed prior to subdivision, and certainly prior to development.

12 As it says in the title, the NESCS deals with human health, and regulation of the NESCS currently falls mostly to district councils under the RMA, whereas a regional council's role vis-à-vis the NESCS is to maintain the HAIL register (s30 and s31).

13 I note that there are watercourses, including the Raukapuka Stream, running through the FDA11 area delineated in Figure 1. Any investigations will also need to address those, and will need to assess the potential impacts of contaminated soil on environmental receivers such as the surface water bodies (probably the most important in this case) and groundwater. Environmental discharges are primarily a Regional Council concern. In accordance with the New Zealand Contaminated Land Management Guidelines (**CLMG**) no 1 and 5 (2022), a fit-for-purpose site investigation must account for both environmental/ecological receptors, as well as human health.

14 I recommend the regulatory background levels (Trace Elements Level 2 GIS layer on Canterbury Maps) and the Soil Contaminant Standards (**SCS**) for rural residential land use, set out in the NESCS (2011), be considered in any DSI for land in FDA11 (Figure 1). The rural residential SCS is usually applied as the relevant standard for the protection of human health for rural residential land use.

15 For protection of the watercourses, I recommend in the first instance the application of the ANZG Toxicant Default Guideline Values (DGV) for Sediment Quality, set out in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. I recommend **against** using the High Guideline Values (GV-high) without further assessment by experts in freshwater ecology, which is not within my area of expertise.

16 I generally consider HAIL A10 primarily a surface contamination issue, though in some cases underlying groundwater quality might be impacted. If a DSI identifies high concentrations of contaminants in surface soil, I would expect an assessment of potential impacts of contamination on underlying groundwater. Otherwise, I do not anticipate negative impacts from HAIL A10 on water supplies. However, other activities which are currently not recorded on the LLUR, such as farm pits and offal pits, can significantly impact groundwater quality.

17 Depending on the results of any DSIs, the contaminated land SQEP will be able to recommend fit-for-purpose management or remediation, as appropriate. Normally under the NESCS, it is recommended that management or remediation occur prior to subdivision, or as a condition of subdivision; these actions would fall under the authority of the District Council. If contamination does not exceed the applicable standards no special management or remediation would be necessary.

18 Site investigations (PSI, DSI), contamination discoveries, and other reports such as remediation action plans and site validation reports should be submitted to both District Council and Regional Council contaminated land officers, as applicable; for the Regional Council, these can be sent to Contaminated.Land@ecan.govt.nz.

19 I consider that in combination, the rural residential SCS and the ANZG DGV, along with suitable management or remediation of contamination if necessary, are likely to be reasonably protective of human health, groundwater, and freshwater resources. Any contamination will also need to be addressed for stormwater management.

20 I recommend that any previously unknown contamination discovered during development works should be managed according to best practice. In a consenting process, contamination discovery would typically be managed with contamination discovery conditions, and the works would have a contamination discovery protocol in place.

Michael Stanley Massey

26 June 2025