**BEFORE AN INDEPENDENT HEARINGS PANEL**

**THE PROPOSED WAIKATO DISTRICT PLAN**

**UNDER** the Resource Management Act 1991 (the Act)
**IN THE MATTER OF** Hearing 27C Flooding and Defended Areas

# STATEMENT OF REBUTTAL EVIDENCE OF RICK LIEFTING FOR THE WAIKATO DISTRICT COUNCIL (FLOOD HAZARDS AND MAPPING)

**DATED 03 MAY 2021**

# 1. Introduction

1.1. My name is Rick Liefting, I am Team Leader of Regional Resilience in the Integrated Catchment Management (ICM) Directorate of Waikato Regional Council (WRC). I have a Master of Science degree from Waikato University (1998) and have been working in the natural hazards field for over 20 years.

1.2. I outlined my qualifications and experience in my evidence in relation to Hearing Topic 27C, dated 24 March.

1.3. I confirm that I am familiar with the Code of Conduct for Expert Witnesses as set out in the Environment Court Practice Note 2014. I have read and agree to comply with the Code. Except where I state that I am relying upon the specified evidence or advice of another person, my evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

# 2. Scope of Evidence

2.1. This statement of evidence is to address evidence provided by Mercury in respect to mapping of the Flood Plain Management area around Lake Waikare. I provided advice to WDC Reporting Officer, Janice Carter on this matter for her Section 42A report, specifically the submissions of Mercury NZ Limited (Mercury) on submission point 2053.44 and the Department of Conservation (DoC) on submission point 2108.16.

2.2. This statement supports paragraphs 468 to 474 of WDC Section 42A report, provides background to the 7.37m and 8m RL levels suggested by Mercury as a basis for a mapped 1% AEP flood level, and provides further information on flood modelling work being completed in this location.

# 3. Mapping of Flood hazards areas

3.1. Both DoC and Mercury have requested additional mapping to identify High Flood Risk Areas (HFRA) and Flood Plain Management Areas (FPMA).

3.2. Mercury[1] has specifically identified the area around Lake Waikare requires mapping of a 1% AEP flood level of 7.37 m RL up to 8.0 m RL. These levels are derived from a 1% AEP level assessed in 1983 and the Design Crest Level of the WRC stopbank (Northern Foreshore Stopbank) along the northern section of Lake Waikare. The Design Crest Level is based on the 1% AEP with 600 mm of freeboard. Mercury is correct with the values used in their determination of a 1% AEP level (7.37 m RL) and Design Crest Level (8.0 m RL).

3.3. As stated by Mercury, the 1% AEP flood level for Lake Waikare was last assessed in 1983. I agree with Mercury that the current 1% AEP flood level, once fully assessed is likely to change. I consider a 1% AEP flood level that is some 38 years old is not suitable to be referenced within a regulatory document such as a District Plan.

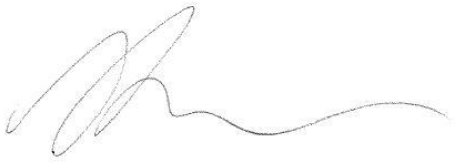
3.4. Therefore, my preference is to not have a mapped flood area that refers to or is derived from the 1983 1% AEP flood level around Lake Waikare. Further assessment should be undertaken to provide current and future 1% AEP levels that could be mapped as a HFRA or FPMA.

[1] STATEMENT OF EVIDENCE OF DR MURRAY GRANT WEBBY IN RESPECT OF FLOODING AND FLOODPLAIN MANAGEMENT

3.5. The 8.0m RL is derived from the Northern Foreshore Stopbank crest level and does not represent a specific flood frequency defined in either the Proposed Waikato District Plan or the Waikato Regional Policy Statement.

3.6. Therefore, my preference is to have a mapped flood level that refers to a specific flood level as defined in the Proposed Waikato District Plan or the Waikato Regional Policy Statement.

3.7. I can confirm that a performance assessment of the WRC managed flood protection assets within the Lake Waikare system is planned for the 2021/22 Financial year. The performance assessment will assess the current and future (with allowance for Climate Change) 1 % AEP level around Lake Waikare. The output of the performance assessment can be used to determine both the HFRA and FPMA in a consistent manner as the other mapped HFRA's and FPMA's.



**Rick Liefting**
**03 May 2021**