

**UNDER** the Resource Management Act  
1991 (“**RMA**”)

**IN THE MATTER** of the Proposed Porirua District  
Plan

**HEARING TOPIC** Hearing Stream 4 - Noise

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**STATEMENT OF REBUTTAL EVIDENCE OF JON ROBERT STYLES ON  
BEHALF OF KĀINGA ORA-HOMES AND COMMUNITIES**

**NOISE AND VIBRATION**

**28 January 2022**

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## **1. INTRODUCTION**

- 1.1 My full name is Jon Robert Styles. My experience, qualifications and involvement in the Porirua District Plan review process is set out in my evidence in chief (EiC).
- 1.2 I have prepared this statement of rebuttal evidence to briefly respond to the relevant matters raised in the evidence of Dr Chiles for Waka Kotahi and KiwiRail, and Mr Lloyd for the Council. I have read all of the statements of evidence from Mr Lloyd, Dr Chiles and Ms Heppelthwaite.
- 1.3 In preparing this rebuttal I have attempted to identify matters which warrant additional comment. To avoid repeating myself I have not addressed matters raised in the evidence for Waka Kotahi and KiwiRail where my position is as set out in my evidence in chief.
- 1.4 At the time of writing this statement, Dr Chiles, Mr Lloyd and myself have organised to meet and conference on the issues between us, with an aim to produce a joint witness statement (**JWS**). Due to the time constraints of Mr Lloyd and Dr Chiles, our meeting and the JWS will be produced after this rebuttal evidence has been filed.

## **2. OVERVIEW**

- 2.1 My reading of the evidence of Dr Chiles and Mr Lloyd is that they are largely focused on the detail of the controls, with comparatively light attention to the larger issue of addressing the noise and vibration effects within the road or rail corridors first, and little or no commentary on the ways that the existing adverse effects on noise sensitive activities can be mitigated in the existing receiving environment.
- 2.2 My reading of the evidence of Dr Chiles and Mr Lloyd is we agree in general terms that provisions that manage the establishment of new or altered noise sensitive activities are required to manage the potential adverse health and amenity effects arising on the occupants of them.
- 2.3 However, it appears that neither Dr Chiles or Mr Lloyd have comprehensively attended to the issue of addressing the effects as far as practicable inside the road and rail corridors. While Dr Chiles and Mr Lloyd may make some brief comments on this issue, I consider that there is no attention paid to what

provisions might be appropriate to deliver the outcome and there is a lack of relevant and robust evidence from KiwiRail or Waka Kotahi to demonstrate what measures are being taken to minimise noise and vibration at the source.

- 2.4 There appears to be some considerable disagreement between Dr Chiles, Mr Lloyd and myself on the nature and extent of the provisions, and whether they are necessary at all in respect of vibration.

### **3. MECHANICAL VENTILATION AND OUTDOOR NOISE**

- 3.1 My EiC does not provide detailed commentary on the proposed PDP provisions for the reasons set out in the evidence of Ms Williams.

- 3.2 However, there are two matters of detail raised in the evidence of Dr Chiles and Mr Lloyd that I will comment on here in the event that some noise and vibration provisions are included in the Plan.

#### **Mechanical ventilation**

- 3.3 The evidence of Mr Lloyd states that clause G4 of the Building Code is sufficient to achieve adequate fresh air and thermal comfort for the occupants of noise sensitive activities that have to keep their windows and doors closed to reduce the noise level from state highways or rail to a reasonable level<sup>1</sup>.

- 3.4 The evidence of Dr Chiles is that additional controls on mechanical ventilation and fresh air supply are necessary (over and above clause G4 of the Building Code)<sup>2</sup>.

- 3.5 I agree in principle with Dr Chiles. While clause G4 of the Building Code addresses air quality, my understanding is that it does not address air temperature and is not designed to address the external noise issues of concern in this case. Thus, compliance with clause G4 of the Building Code does not ensure mitigation of these external noise effects if and when occupants open their windows to increase ventilation (e.g.: in warm weather).

- 3.6 I note that numerous District Plans contain controls on mechanical cooling and fresh air supply that are separate and in addition to the requirements of clause

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<sup>1</sup> Paragraph 31, Mr Lloyd EiC

<sup>2</sup> Paragraph 7.16, Dr Chiles EiC

G4 of the Building Code. These include the Auckland Unitary Plan, the Whangarei District Plan and numerous others. These District Plan provisions are specifically designed to deal with a resource management issue.

- 3.7 While I generally support the ventilation controls suggested by Waka Kotahi, I consider that some minor amendments are necessary to ensure they are practical to comply with. I expect that these will be addressed in the JWS.

### **Outdoor noise**

- 3.8 The evidence for Waka Kotahi and KiwiRail propose provisions to manage noise in the outdoor living environments of noise sensitive activities. These include a requirement to construct 3m high noise barriers on an ad-hoc basis as each property is developed or improved.
- 3.9 I consider that such barriers would be highly ineffective at reducing traffic or rail noise due to them being short (limited to the width of a single property in many cases) and from the need to have gaps for access on and off the property.
- 3.10 I note that the need to protect outdoor areas varies depending on the housing typology and type of noise sensitive activity. I consider that the importance of protecting outdoor amenity is low for apartments or townhouses where outdoor areas are small or are not an important part of the design and lifestyle.
- 3.11 By contrast, I consider it more important to manage outdoor amenity for designs such as single detached houses with a yard or courtyard, and very important for childcare centres or schools that rely heavily on outdoor areas.
- 3.12 For dwellings, I consider that achieving a reasonable noise level indoors to be the most important objective, as this is the primary way of avoiding the worst of the adverse health and amenity effects on people. I consider that managing outdoor amenity in the yards of dwellings to be important to avoid the worst of the long-term annoyance (and therefore health) effects, but it is not as critical as managing the indoor noise levels.
- 3.13 I consider that the provisions should recognise these differences and provide a simple pathway for assessing what is appropriate in each circumstance.
- 3.14 I consider that the objective of any provisions addressing outdoor noise should be to ensure that the best practicable option for minimising the noise is adopted.

- 3.15 In my view, the provisions would need to provide a pathway for situations where it is either not important or impracticable to manage outdoor amenity.

#### 4. ROAD NOISE MAPPING

- 4.1 I note that Attachment C to the evidence of Ms Heppelthwaite is a generic s32A assessment prepared by or for Waka Kotahi entitled, "Assessment of Plan Provisions to Provide for Human Health and Amenity in accordance with section 32 of the Resource Management Act October 2021 Version 8" (the **s32 Assessment**).

- 4.2 The s32A Assessment states that the standard effects areas (80m or 100m etc):

*"...provides a reasonable outcome but will 'capture' more sites than is necessary to be highly efficient."*

And:

*"It is a 'blanket' approach which does not reflect individual area conditions."*

- 4.3 Table 3 of the s32A Assessment states that the noise modelling and mapping approach:

*"...provides a comprehensive regulatory approach which recognises the spatial extent of road traffic noise based on environmental factors (eg traffic volume, topography, road surface, existing building locations). This will result in a more accurate reflection of the extent of likely effects than Options C or D."*

- 4.4 The executive summary of the s32 Assessment states (my emphasis underlined):

*"The assessment concludes that an integrated suite of district plan provisions is the most effective and efficient method to provide reasonable levels of amenity and health protection for sensitive activities. The recommended provisions are based on a (modelled) noise contour line being established with activities 'inside' the contour being subject to specific requirements to provide improved health and amenity outcomes.*

The recommended provisions relate to new or altered (increased) sensitive activities located within the modelled noise contour and the usual operation of the transport network, they do not:

a. apply retrospectively to existing buildings or sensitive activities;

b. require land owner to address effects resulting from transport network defects (eg potholes), which are the responsibility of the road controlling authority; or

c. manage amenity effects from transport noise from new or altered roads where these fall within the ambit of NZS 6806:2010 (Acoustics – Road traffic noise – New and altered roads).”

4.5 In my view, the s32A Assessment makes it clear that a noise mapping process is required and appropriate.

4.6 I consider that the same approach should be applied to noise from the rail network.

4.7 Paragraph 6.3 of Ms Heppelthwaite’s evidence states that despite the recommendations of the s32A Assessment, she has continued to work with the notified PDP provisions that adopt standard setback areas.

4.8 In my view, the noise mapping process is required to accurately inform the PDP provisions.

## **5. EVIDENCE TO SUPPORT THE CONTROLS GENERALLY**

5.1 My EiC makes it clear that in my opinion, robust and relevant evidence is required to:

- (a) Quantify and predict the actual noise emissions that extend beyond the boundaries of the road and rail corridors using computer modelling software. This is to produce mapped noise level contours to accurately define the extent of the state highway and rail noise overlays. This should be based on the physical attributes, road and rail traffic flows, noise barriers, topography, road and rail speed environment, road surfaces and all other relevant influences in the Porirua district.

- (b) Quantify the extent of rail vibration by robust and relevant vibration measurements.
  - (c) Quantify whether vibration from traffic on state highways is likely to extend beyond the road corridor to the extent that provisions controlling development in the receiving environment are necessary, following the adoption of the BPO to manage the effects at the source.
- 5.2 I have reviewed the evidence from Waka Kotahi and KiwiRail and in my view it does not provide any such evidence.
- 5.3 Accordingly, I consider that there remains insufficient evidence to justify the nature and extent of the noise and rail vibration controls being sought, and insufficient evidence to justify the need for road vibration provisions at all.
- 5.4 I expect that if my more substantive concerns about the lack of evidence to support the controls generally was to be satisfied, it may then be possible to draft more appropriate and refined plan provisions. I would seek to address any other detailed concerns I have with the provisions at that time.

**Jon Robert Styles**

**28 January 2022**