

Before an Independent Hearings Panel

The Proposed Waikato District Plan (Stage 1)

IN THE MATTER OF the Resource Management Act 1991 (**RMA**)

IN THE MATTER OF hearing submissions and further submissions on the Proposed
Waikato District Plan (Stage 1) Hearing 7:
Topic 7 – Industrial

**PRIMARY EVIDENCE OF JON ROBERT STYLES
ON BEHALF OF HAVELOCK VILLAGE LIMITED**

NOISE AND VIBRATION

10 December 2019

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1. INTRODUCTION

- 1.1 My full name is Jon Robert Styles. I am an acoustic consultant and director and principal of Styles Group Acoustics and Vibration Consultants. I lead a team of 7 consultants specialising in the measurement, prediction and assessment of environmental and underwater noise, building acoustics and vibration.
- 1.2 I hold a Bachelor of Applied Science majoring in Environmental Health and I have completed the Ministry for the Environments' Making Good Decisions programme.
- 1.3 I have approximately 18 years' experience in environmental acoustics. In that time, I have been involved in the development and administration of numerous District Plan rules, plan changes, general policy development and I have assisted a large number of Council's to process a significant number of resource consents subject to these rules. I have also been involved a large number of enforcement cases on behalf of various Council's where they have enforced the Permitted Activity standards where there has been no resource consent or other regularisation of the activity.
- 1.4 I have been involved in a large number of District Plan reviews and plan changes. Most recently in 2019, I have advised Napier City Council through their District Plan review process, the Whangarei District Council through a major plan change process, the Auckland Council through several public and private plan changes, and several private clients through plan change and review processes in Queenstown, Cromwell, Auckland and Palmerston North.
- 1.5 I have read the Environment Court's Code of Conduct for Expert Witnesses, and I agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.
- 1.6 I have been engaged by Havelock Village Limited (**HVL**) to provide a noise assessment of existing surrounding land uses in South Pokeno to inform the design and master planning process for the proposed residential rezoning.

2. SCOPE OF EVIDENCE

- 2.1 My evidence provides assessment and commentary on:
- i. The Operative and Proposed District Plan noise limits for noise generated and received within the industrial zones;

- ii. The Operative and Proposed District Plan interface noise controls for industrial noise received in zones containing noise sensitive activities (i.e. Residential, Village, Rural-Residential and Rural zones).

2.2 I discuss the appropriate noise limits for the industrial zones with reference to the zoning pattern over the South Pokeno industrial land and surrounding area, and I discuss the fundamental importance of noise limits at zone interfaces to protect the amenity of zones containing noise sensitive activities, and to avoid incompatibility.

3. PROPOSED INDUSTRIAL NOISE LIMITS AND ZONE INTERFACE PROVISIONS

3.1 The Proposed District Plan (**PDP**) prescribes the following noise limits within the industrial zones and at the interface between industrial and residential:

- (i) 75 dB L_{Aeq} (at any time) for noise received within any other site in the Heavy Industrial Zone.
- (ii) 75 dB L_{Aeq} (7am to 10pm) and 55 dB L_{Aeq} and 85 dB L_{AFmax} (10pm to 7am) for noise received in the Industrial Zone.
- (iii) Noise measured within a site in any zone (other than the Heavy Industrial Zone) must meet the permitted noise levels for that zone.

3.2 The noise limits described in (iii) above apply to scenarios where the noise generated by any activity on a site in one zone, is received at a site in a different zone. These “interface” noise limits require the noise generator to comply with the noise limits applying at the receiver. This approach ensures that activities are designed and operated to be compatible with the activities within the same zone, and the surrounding zones. Interface noise limits applying between industrial and residential/ rural zones are standard practice across District Plans throughout New Zealand. They ensure an appropriate level of amenity is provided to zones containing noise sensitive activities. Such noise limits only apply if the more sensitive zones are nearby.

3.3 The Operative District Plan (Franklin section) (**the ODP**) prescribes the following noise limits:

- i. A noise limit of 70 dB L_{Aeq} (at all times) applies to noise generated and received at sites in the Industrial 2 Zone.
- ii. A noise limit of 65 dB L_{Aeq} (at all times) applies to noise generated and received in the Light Industrial Zone.

- iii. Where the noise is received in another site located in the Residential, Residential 2, Rural-Residential or Village contains a notional boundary in a Rural Zone, the activity must comply with the lower noise limits specified for these zones.

3.4 With reference to (iii) the ODP includes interface noise limits to control the level of industrial noise that may be received in proximate zones containing noise sensitive activities, (e.g. residential).

4. NOISE LIMITS WITHIN THE INDUSTRIAL ZONES

4.1 On the basis that land zoned Industrial 2 under the ODP becomes Heavy Industrial under the PDP, and that land zoned Light Industry becomes Industrial in the PDP, then in summary the changes from the ODP to the PDP are:

- i. The noise limits in the PDP Heavy Industrial Zone are 5 dB higher than the noise limits in the ODP Industrial 2 Zone.
- ii. The day time noise limits in the PDP Industrial Zone are 10 dB higher than the noise limits in the ODP Light Industrial Zone.

4.2 However, at night, the PDP introduces lower night time noise limits for the Industrial Zone (55 dB L_{Aeq} and 85 dB L_{AFmax} from 10pm to 7am). This represents a 10 dB reduction from the ODP.

4.3 In my experience with other District Plan noise frameworks for industrial zones, I consider that the proposed noise limit of 75 dB L_{Aeq} for the Heavy Industrial and Industrial Zones authorises a very high level of noise. By way of comparison, the Auckland Unitary Plan (**AUP**) prescribes a noise limit of 70 dB L_{Aeq} (all times) between sites in the Heavy Industry Zone¹ and a noise limit of 65 dB L_{Aeq} (all times) between sites in the Light Industry Zone (with interface noise limits also applying to industrial noise received in Residential and Rural zones). The AUP also requires that noise generated in the Heavy Industry Zone must comply with the Light Industry Zone noise limits where the noise is received in the Light Industry Zone.

4.4 The subjective difference between a noise limit of 70 dB L_{Aeq} and 75 dB L_{Aeq} would be perceived as a clear and distinct increase in noise level.

4.5 With reference to the PDP's *Permitted Activities* for the Heavy Industrial and Industrial Zones, I understand both zones anticipate and provide for a range of land uses ranging

¹ Standard E25.6.5 of the Auckland Unitary Plan- Operative in Part.

from those defined as “Industrial Activity”² in addition to trade and industry training activities, office ancillary to an industrial activity³, food outlets⁴ and ancillary retail⁵.

- 4.6 I consider noise levels as high as 75 dB L_{Aeq} received at the boundary of one of these additional permitted land uses would be more likely to impede the ability for these activities to operate successfully, compared to a limit of 70dB L_{Aeq} . Any site subject to an external noise level of 75 dB L_{Aeq} and containing activities which rely on communication to operate effectively (i.e. office and training activities) would require a high degree of specific acoustic treatment to achieve sufficient protection from the noise of the adjacent activity.
- 4.7 Whilst acoustic treatment to insulate the sensitive activities would still be required with a noise limit of 70dB L_{Aeq} , the insulation burden and cost would be easier to achieve.
- 4.8 While it is commonly accepted that some activities within industrial zones are required to be acoustically insulated from the noise generating activities which surround them, the level of attenuation required for an external noise level of 75 dB L_{Aeq} is much more onerous than the level of attenuation typically required where noise limits of 65 - 70 dB L_{Aeq} apply.
- 4.9 I consider a noise limit of 70 dB L_{Aeq} applying at any time is appropriate for the Heavy Industrial Zones to adequately provide for the range of noise generating activities which occupy the zone. I recommend the PDP noise limits are reduced by 5 dB to control noise effects to a reasonable level within the zone. In my experience, it is uncommon for activities in the Heavy Industrial Zone in Auckland to have any issues complying with a noise limit of 70dB L_{Aeq} between sites in the same zone.
- 4.10 I also support lowering the noise limit for the Industrial Zone by 5dB, and consider the lower night time noise limits applying within the Industrial Zone to be inappropriate. I am not aware of any night time activities permitted in the Industrial Zone that would require night time noise amenity (noting that the interface noise limits protect the night time noise amenity in any adjacent zones containing noise sensitive activities to ensure adequate protection from sleep disturbance effects). I consider that the 55dB L_{Aeq} night time noise limits between sites in the Industrial Zone will introduce additional unnecessary compliance costs or resource consent requirements for no apparent good reason.

² The production, processing, bulk moving or storage in bulk of any materials, goods or products.

³ Less than 100m² or 30% of all buildings on the site.

⁴ Less than 200m² GFA.

⁵ Not exceeding 10% of all building on the site.

4.11 In summary, I consider that a noise limit of 70dB L_{Aeq} should apply at all times between sites in the Heavy Industrial Zone, and a noise limit of 65dB L_{Aeq} should apply at all times between sites in the Industrial Zone.

5. INTERFACE NOISE LIMITS TO CONTROL INDUSTRIAL NOISE RECEIVED IN NOISE SENSITIVE ZONES

5.1 P3 of the PDP sets an 'interface' noise limit that requires the noise generated from an activity in one zone to meet the noise limits of the receiving zone (a zone interface noise limit). To preface this section of my evidence, I consider that a zone interface noise limit is critical, especially between the industrial zones and the more sensitive zones where residential activity is permitted.

5.2 When considering the potential application of the PDP industrial noise limits to an environment such as the South Pokeno industrial area, the ability of the industrial activities to operate at a level of 75 dB L_{Aeq} at all times at their industrial neighbours is inherently constrained by the proximity of the more sensitive zones (Residential, Village and Rural). This scenario (where industrial zones operate in relatively close proximity to a range of other more-sensitive zones and land uses) will be relatively common.

5.3 On plain reading of the PDP, industrial activities may choose to establish within the proposed Heavy Industrial or Industrial Zones due to the very high enabling noise limits between sites that they appear to offer. However, any noise generators who elect to locate, design and operate their operations in industrial zones adjacent to other zones, will need to undertake very careful due diligence to ensure they can conduct their activities in compliance with the more restrictive noise limits applying at any nearby Residential, Village, Rural- Residential and Rural zones. This requirement will be particularly important for activities which operate during the night time period, and particularly where the industrial zones are directly adjacent to the noise sensitive zones.

5.4 By way of example, Figure 1 depicts the operative zoning patterns applying to an area of the Pokeno South industrial area. This environment contains a relatively fine grained zoning pattern (i.e. containing a number of different zones within a relatively small area). The zones include several sites in the Light Industrial and Industrial 2 Zones and land zoned Residential 2, Village, Rural and Business.

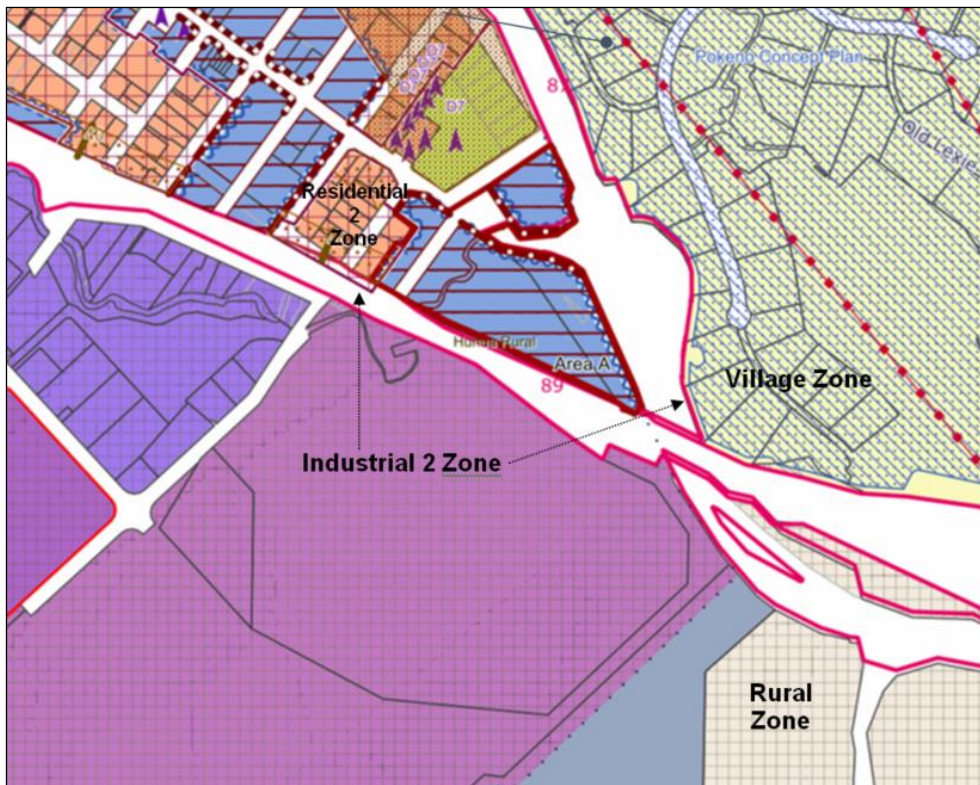


Figure 1: South Pokeno Industrial Area- Operative zoning map displaying proximity of the Industrial 2 Zone to noise sensitive zones (Residential 2, Village and Rural Zones)

- 5.5 While the Industrial 2 sites currently enjoy a high noise limit of 70 dB L_{Aeq} at their boundary with other sites in the same zone, (under the ODP) they must also comply with the much lower zone interface noise limits applying at the Residential 2 and Village Zones on the northern side of William McRobbie Road. At these zones, the industrial activities are required to meet a noise limit of 50dB $L_{Aeq(15min)}$ between the hours of 7:00am and 10:00pm, and 40dB $L_{Aeq(15min)}$ / 70dB L_{Amax} between 10:00pm- 7:00pm.
- 5.6 In this situation, the interface noise limits are critical to ensure an appropriate level of amenity is provided for the occupants of the more sensitive zones. Without any such controls, the ability for the occupants to enjoy a reasonable level of night time and day time noise amenity would be severely compromised to the extent that the land uses become incompatible.
- 5.7 To demonstrate the potential noise levels that would be received in the Residential 2 Zone if no interface noise limits controlled noise from the Industrial 2 zone, I have prepared brief calculations of the noise emissions of an industrial activity located roughly in the centre of the Industrial 2 Zone (i.e. just south of the word 'Industrial' in Figure 1). An activity generating 70 dB L_{Aeq} at all times at near the centre of the

Industrial 2 Zone would result in noise levels between approximately 60 dB and 65 dB L_{Aeq} at the boundary of the Residential 2 Zone.

- 5.8 If such noise levels were received in the Residential 2 Zone during the day and night time period, the noise would be unreasonable, to the extent that the noise levels would be incompatible with the minimum level of amenity required to support residential activity. By way of context, noise levels of 55dB L_{Aeq} during the day and 45dB L_{Aeq} at night are the highest noise limits for residential receivers before the receiving dwellings would need acoustic insulation and have a seriously compromised outdoor living environment.
- 5.9 The land uses and zoning pattern depicted in Figure 1 are well established. I have reviewed a number of the resource consent conditions applying to activities in the Industrial 2 Zone and Light Industry Zone of South Pokeno, and note the resource consent conditions require the noise makers to meet the lower noise limits applying at the more sensitive zones they are in proximity to.
- 5.10 The PDP interface noise control P3 proposes to maintain this duty. To maintain the amenity and viability of noise sensitive zones which are adjacent to industrial zones, I consider it to be essential that the PDP maintains the interface noise limits.
- 5.11 Notwithstanding my support, I consider that the wording of P3 is not as clear as it could be, and I do not consider that the Heavy Industrial Zone requires any special treatment. P3 is currently worded:

Noise measured within any site in any zone, other than the Heavy Industrial Zone, must meet the permitted noise limits for that zone.

- 5.12 I consider that the application of P3 would be easier if it read:

Where noise generated by any activity on a site in one zone is received by any activity on a site in a different zone, the activity generating the noise must comply with the noise limits and standards of the zone at the receiving site.

6. CONCLUSION

- 6.1 I have reviewed the PDP noise limits for the Heavy Industrial and Industrial Zones. The PDP limits for the proposed Heavy Industrial Zone are 5 dB higher than the ODP noise limits applying to the Industrial 2 Zone. The PDP Industrial Zone day time noise limits are 10 dB higher than the ODP Light Industrial Zone noise limits.

- 6.2 With reference to the zoning scenario depicted in Figure 1, I have demonstrated the inherent difficulties in prescribing such a high enabling noise limit of 75 dB L_{Aeq} (at all times), where the noise generating potential of industrial activities are inherently constrained by the noise limits applying at other proximate and more sensitive zones.
- 6.3 The ODP currently prescribes a noise limit of 70 dB L_{Aeq} (at all times) for noise generated and received at sites in the Industrial 2 Zone, and a noise limit of 65 dB L_{Aeq} (at all times) applies to noise generated and received in the Light Industrial Zone. The ODP includes noise limits to control industrial noise received in zones containing noise sensitive activities.
- 6.4 The PDP noise limits of 75 dB L_{Aeq} (at any time) for noise received within any other site in the Heavy Industrial Zone and 75 dB L_{Aeq} (7am to 10pm) for noise received in the Industrial Zone authorise a very high level of noise. I consider that the current noise limits of between 65 dB L_{Aeq} to 70 dB L_{Aeq} (at any time) between sites in the industrial zones are appropriate to adequately provide for and protect the range of noise generating activities anticipated and provided for within industrial zones.
- 6.5 I support removing the lower night time noise controls for the Industrial Zone in the PDP. These are redundant as the zone does not anticipate or provide for noise sensitive activities that require night time protection from sleep disturbance. The day time noise limit should simply apply at all times.
- 6.6 Where industrial noise is received in zones containing noise sensitive activities, the PDP interface noise control P3 proposes to maintain the requirement for industrial activities to operate in compliance with the lower noise limits of the more sensitive zones. To maintain the amenity and viability of noise sensitive zones which are adjacent to industrial zones, I consider it to be essential that the PDP maintains the interface noise limits. I have suggested a change to the wording of P3 to make it easier to apply and understand.

Jon Styles

10 December 2019