

STATEMENT OF JON ROBERT STYLES ON BEHALF OF DUNEDIN CITY COUNCIL
(ACOUSTICS)

1 OCTOBER 2026

1. SCOPE AND INVOLVEMENT

- 1.1** My full name is Jon Robert Styles. I am the Director and Principal of Styles Group Acoustics and Vibration Consultants.
- 1.2** I have been engaged by Dunedin City Council to undertake an acoustic review of the substantive fast-track application for the Southern Link Inland Port (**SLIP**).
- 1.3** The scope of this evidence is to provide a response to questions [8](c)-(f) as set out in Minute 17 of the Expert Panel.

2. EXPERT WITNESS CODE OF CONDUCT

- 2.1** I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 that is referred to in the Fast-track Approvals Act 2024: Panel Convenors' Practice and Procedure Guidance. I have complied with the Code in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise and I have not omitted material facts known to me that might alter or detract from my evidence.

3. RESPONSE TO QUESTION 8(c)

"Is the Panel correct in our understanding that an increase in noise level's up to ~3dB is unlikely to be perceived by sensitive receivers, but a 5dB increase would be clearly noticeable and may cause significant adverse health effects?"

- 3.1** My opinions on the noise level changes are as follows:

≈ **3dB increase** – a noise level increase of approximately 3dB is likely to be just noticeable to most people. The increase is generally more noticeable if it happened very quickly (e.g. if the radio was turned up by 3dB over 1-2 seconds). The increase would also probably be noticeable if it happened overnight or over the course of a

few days. The increase would be less noticeable (and perhaps barely noticeable) if the increase happened gradually over a long period of time (weeks or months).

5dB increase – a noise level increase of 5dB would be clearly noticeable to a person regardless of the time that elapses. I expect that most people would clearly notice the increase, but they would be unlikely to consider the change to be significant. For context, most people would perceive a noise level increase of 10dB as being twice as loud. This would be a significant change.

A 5dB increase in noise level does not cause significant adverse health effects on its own. The degree of adverse health effects depends on the absolute level of noise, the nature of the noise source, its duration and the time of the day it affects people, rather than the change in level itself.

4. RESPONSE TO QUESTION 8(d)

“Based on your understanding of the applicant’s operational noise modelling is ~43dB $L_{Aeq(15min)}$ achievable at the notional boundaries East of the site at 345 Puddle Alley (owned by the applicant) or at 243 Puddle Alley?”

4.1 243 Puddle Alley – The applicant’s noise modelling includes the following predictions:

Stage		Daytime	Evening	Nighttime
1	Noise limit for permitted activities in 2GP	55 dB $L_{Aeq(15min)}$	50 dB $L_{Aeq(15min)}$	40 dB $L_{Aeq(15min)}$
	Predicted noise level	42 dB $L_{Aeq(15min)}$	42 dB $L_{Aeq(15min)}$	No night time activity in Stage 1
3	Noise limit for permitted activities in 2GP	55 dB $L_{Aeq(15min)}$	50 dB $L_{Aeq(15min)}$	40 dB $L_{Aeq(15min)}$
	Predicted noise level	42 dB $L_{Aeq(15min)}$	42 dB $L_{Aeq(15min)}$	40dB $L_{Aeq(15min)}$

- 4.2** These predictions are taken from Tables 8 and 9 of the MDA Report lodged with the application (the **MDA Report**).¹
- 4.3** These predictions are based on tonal reverse alarms being prohibited on the Site.
- 4.4** Based on these predictions I consider that the proposal can comply with a limit of 43dB $L_{Aeq(15min)}$ at the notional boundary of 243 Puddle Alley.
- 4.5** **345 Puddle Alley** – This address does not appear to exist. I am assuming that the question actually refers to 245 Puddle Alley. I understand that this is owned by the applicant.
- 4.6** The MDA Report does not include predictions for this property. Section 4.3 of the report states that, *“The dwelling at 245 Puddle Alley is owned by SLPL and therefore noise effects have not been assessed at this location.”*
- 4.7** However, the noise level contour diagrams at Appendix H of the MDA Report show that the predicted noise level for Stage 3 is approximately 43 dB $L_{Aeq(15min)}$ during the daytime and night time.
- 4.8** I consider that it is possible for the proposal to comply with a limit of 43dB $L_{Aeq(15min)}$ at the notional boundary of 245 Puddle Alley, but that the compliance margin is 0dB and I have interpolated the predicted level from a noise contour diagram. I consider that this is uncertain.
- 4.9** I consider that there are two ways to deal with this:
- (a) Request the predicted level at the notional boundary of 245 Puddle Alley from the applicant and condition that; or
 - (b) Allow a small margin for uncertainty in the interpolation between colours on the noise contour diagrams and apply a limit of 44 or 45 dB $L_{Aeq(15min)}$.
- 4.10** My understanding is that the applicant owns 245 Puddle Alley and has applied for the necessary consents to enable the noise from the proposal to exceed the noise

¹ https://www.fasttrack.govt.nz/_data/assets/pdf_file/0018/26307/Part-B.06-Marshall-Day-Acoustics-Limited-Noise-Assessment-April.pdf#page=20&zoom=100,90,654

standards for permitted activities in the 2GP at the properties it owns. Accordingly, I understand that a noise limit at this property is not required.

5. RESPONSE TO QUESTION 8(e)

“Are there any practical difficulties for noise monitoring and compliance with operational noise limits if the Panel were to provide for an increase in noise levels, either ~43dB $L_{Aeq(15min)}$ or 45dB $L_{Aeq(15min)}$ for the properties east of the SLIP (Puddle Alley) but retain 40dB $L_{Aeq(15mins)}$ elsewhere for properties that are more than 350m from the Industrial Zone”

5.1 I consider that there will be some practical difficulties with noise monitoring of the SLIP regardless of the noise limit that applies. These difficulties can be easily dealt with, are common for noise monitoring and are not unique to the SLIP proposal. They include the need to carefully measure the noise from only the SLIP and to identify and remove the noise from any other sources such as birds, passing traffic, aircraft or similar.

5.2 These challenges relate to the determination of the noise level of the SLIP and are not affected by the noise limit that applies.

5.3 I don't see that there would be any change in the practical difficulties for noise monitoring and compliance with operational noise limits if they were set at 40, 43 or 45 dB $L_{Aeq(15min)}$.

6. RESPONSE TO QUESTION 8(f)

“Is the noise mitigation for 273 Dukes Road North provided for in condition 71B, appropriate and reasonable regardless of whether the noise limit for Stage 3 at the notional boundary of 273 Dukes Road North is 40, 43 or 45dB $L_{Aeq(15min)}$ to address increased heavy vehicles road noise at Stage 1, 2 and 3, or just Stage 2 and 3, or just Stage 3?”

6.1 I consider that the need to offer noise mitigation for 273 Dukes Road North in condition 71B is appropriate and reasonable regardless of the nighttime noise limit for Stage 3. I consider that the detail of the acoustic treatment requirements need to be amended – I set out my suggestions below.

- 6.2** I consider that the need for acoustically treating the dwelling is primarily to mitigate the effect of truck noise on Dukes North Road, rather than nighttime activity at the SLIP.
- 6.3** Accordingly, the trigger and need for the condition should be linked only to the need to mitigate the noise from traffic on Dukes North Road.
- 6.4** The response to Q1.1 in the Noise JWS sets out that 55dB $L_{Aeq(24hr)}$ is typically an upper limit of acceptability for road traffic noise before the windows in a dwelling need to be closed (as a minimum) to reduce outdoor noise. The JWS records that Mr Shanks' predictions show that the existing road traffic noise levels are 54dB $L_{Aeq(24hr)}$.
- 6.5** I do not have traffic flow or traffic noise predictions for Stages 1 or 2, but I expect that only a minor increase in trucks (from the SLIP) will increase the road traffic noise levels to be more than 55dB $L_{Aeq(24hr)}$. This could happen in Stage 1 or Stage 2.
- 6.6** I therefore consider that the trigger for offering the acoustic treatment should be linked to the increase in truck numbers that will see overall road traffic noise levels exceed 55dB $L_{Aeq(24hr)}$. That number could be defined with some precision with information from Mr Shanks, or the trigger could be approximated by requiring the offer at the commencement of Stage 1 (to be most conservative) or the commencement of Stage 2 (which could see noise levels somewhat above 55dB $L_{Aeq(24hr)}$).
- 6.7** **Detailed requirements of the offer** – I consider that the acoustic treatment offer needs some objective performance requirements added. This will make the condition and offer more certain for the applicant, dwelling owner / occupier and the Council.
- 6.8** Firstly, I consider that the offer should be to reduce that total road traffic noise level to be no greater than 40dB $L_{Aeq(24hr)}$ in all habitable rooms. This is a common and reasonable indoor noise standard that has been widely adopted across New Zealand for managing noise effects inside houses near busy roads.

- 6.9** Achieving this indoor noise level will almost certainly require the windows of most or all habitable rooms to be closed.
- 6.10** My experience is that if windows and doors are closed, the rooms need to be ventilated and cooled sufficiently so that the fresh air requirements of Clause G4 of the NZ Building Code are met (for removing contaminants), and that there is some form of mechanical cooling (air conditioning) so that the occupants are not forced to open windows for cooling – especially in the warmer months.
- 6.11** In practical terms, this is normally achieved by one or more small extract fans that typically run continuously (for fresh air) and one or more typical domestic air conditioning units for adequate cooling. The number of units and their configuration depend on the size and layout of the dwelling.
- 6.12** It is my experience that achieving these basic outcomes is a very common feature of modern District Plan rules that manage acoustic treatment, resource consents and designation conditions for infrastructure.
- 6.13** Accordingly, I recommend that the acoustic treatment offer condition be amended to ensure that the following outcomes are achieved:
- (a) The acoustic treatment offer should include all mitigation measures necessary to ensure that road traffic noise does not exceed 40dB $L_{Aeq(24hr)}$ inside all habitable rooms of the dwelling. The offer shall be based on a road traffic noise level of 59dB $L_{Aeq(24hr)}$ assessed as the incident level on the façade of the dwelling closest to Dukes Road North; and
 - (b) Where windows and doors are required to be closed to achieve the indoor noise level set out in (a), the rooms shall be mechanically ventilated to achieve compliance with the requirements of clause G4 of the Building Code and that provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18°C and 25°C when assessed using a 2.5% design weather condition for Mosgiel. An acceptable design weather set would include IRHACE Yearbook 2009 NIWA weather data; and

- (c) Any system installed in compliance with (a) and (b) above, must not generate more than 35 dB $L_{Aeq(30s)}$ when measured 1 metre away from any grille or diffuser. The noise level must be measured after the system has cooled the rooms to the temperatures in (b), or after a period of 30 minutes from the commencement of cooling (whichever is the lesser).

6.14 These requirements could be added to the condition set as an Appendix.

Jon Robert Styles

1 October 2026