

Acoustics (Noise) Joint Witness Statement

BEFORE THE HEARING COMMISSIONERS

Notices of Requirement for Designations for Wellington Airport

**JOINT WITNESS STATEMENT
OF EXPERTS IN THE FIELD OF ACOUSTICS (NOISE)**

Dated: 10 / 5 / 2021

INTRODUCTION

1. Expert conferencing in relation to the Wellington International Airport Notices of Requirements (NoRs) for designations took place in person on Thursday 6th May 2021 at Wellington City Council (113 The Terrace).
2. The conference was attended by the following acoustics experts:
 - a. Matthew Borich (Wellington City Council, WCC);
 - b. Stephen Chiles (Acoustics Consultant for Regional Public Health); and
 - c. Laurel Smith (Acoustic Consultant for Wellington International Airport Ltd, WIAL)
3. Lindsay Hannah and Macky Rogers of WCC were in attendance to assist in taking notes for this Joint Statement.

CODE OF CONDUCT

4. We confirm that we have read the Environment Court's Code of Conduct 2014 and agree to comply with its principles. We confirm that the issues addressed in this Joint Statement are within our areas of expertise.

SCOPE OF STATEMENT

5. All parties have separately visited the airport site and surrounding airport area. Mr Borich and Ms Smith have both made site visits to Bunker Way, being the closest residents adjacent the ESA designation. Dr Chiles had not made a site visit to the area adjacent to the ESA prior to conferencing.
6. Prior to conferencing, we have each read the relevant parts of the Application, the s42A planner's report (including schedules of submission points), the evidence of Ms Smith and Mr Borich.
7. Prior to conferencing, Mr Borich had prepared the Noise Officer's Report (dated 27 April 2021). Ms Smith had prepared a Statement of Evidence (dated 5 May). Dr Chiles had not prepared a report or statement of evidence prior to conferencing.
8. In our conference we specifically discussed the set of questions (topics and themes) set out in Minute 2 of the Independent Hearing Panel dated 3rd May 2021. Our responses to those questions are set out in the following section of this Joint Statement.
9. Dr Chiles requested that the conferencing also address noise effects associated with the Main Site designation, and the relationship between noise controls in designation

conditions for the Main Site and East Side. No positions are recorded in this Joint Statement for these matters, in part due to time constraints.

MATTERS SET OUT IN MINUTE 2

10. **Question 1:** *Do the experts agree with the opinion expressed in the Council noise officer's report (Council expert evidence 28 April 2021, Appendix C, section 5) that the predominant sources of noise associated with the East Side Area (ESA) designation would be: a. Auxiliary power units (APUs) b. Single event aircraft taxiing (between the runway and the proposed new aprons) c. Construction noise. If not, which sources set out above do experts consider will predominate, and what if any additional sources do the experts consider will also predominate?*
11. We agree auxiliary power units (APUs), aircraft taxiing (between the runway and the proposed new aprons) and construction are the predominant sources. Dr Chiles noted that he had not included construction noise and vibration in his review of the NoRs.
12. **Question 2a.** *Do the experts agree with the opinion expressed in the Council noise officer's report (section 5.1) that the assessment of effects from APUs operating in the ESA is understated in the Marshall Day Acoustics (MDA) technical assessment report (included as Appendix G to the overall NoR document)?*
13. Dr Chiles and Mr Borich agree noise effects from APUs operating in the ESA are understated in the Marshall Day Acoustics technical assessment.
14. Ms Smith does not agree for the reasons set out in her Evidence.
15. We agree that if APUs from the Main Site are included in the NZS 6802:2008 assessment of future APU noise, then the 5 dB duration adjustment would not apply and the predicted rating levels in Table 3 of Ms Smith's evidence would exceed the land based activity noise limit of 55 dB $L_{Aeq}(15 \text{ min})$ at some ESA receivers.
16. **Question 2b.** *If they do agree that this is the case, then what do they consider to be the implications of that understatement in terms of the subsequent characterisation of adverse effects in both the Council noise officer's report and the MDA report? If they do not agree that the matter is understated, then why not?*
17. Dr Chiles and Mr Borich consider that short-term noise levels due to APUs exceed guideline criteria from NZS 6802 and could result in undue disturbance to residents. Ms Smith maintains the characterisation of adverse effects given in her technical report.
18. **Question 3:** *Do the experts agree that there is a sound technical basis for the opinion expressed in the Council noise officer's report (section 5.2) that, with respect to noise*

generated by single event aircraft taxiing, residents of sites in Raukawa Street and Bunker Street directly adjoining the boundary of the ESA should be offered a mitigation package (taking the form of both sound insulation and mechanical ventilation) at least 6 months prior to commencement of the operation of the ESA. If not, why not?

19. We agree that treating houses by the ESA is warranted, but there are differences between our reasons for reaching this conclusion. This results in us disagreeing on the appropriate timing for treatment as set out below.
20. We agree that treatment in this area should generally comprise provision of ventilation so windows can be kept closed. We agree that sound insulation works, such as upgrading windows, should not be required for the predicted noise exposures. However, Dr Chiles considers there should be a mechanism to consider any unusual sound insulation issues with specific houses on a case-by-case basis.
21. Dr Chiles and Mr Borich are of the view that treatment is warranted to reduce adverse effects from both overall aircraft operations noise and also single event noise. Therefore, they consider treatment should be initiated before the ESA becomes operational. Mr Borich quoted the recommendations of Table 2 of NZS 6805 to day/night levels greater than 55 where all new residential uses should be prohibited unless a district plan permits such uses and subject to a requirement to incorporate appropriate acoustic insulation to ensure satisfactory internal noise environment. Alterations or additions to existing residences should be fitted with appropriate acoustic insulation. He considered, in this instance increasing noise levels to the ESA receivers by moving the airport operations closer was in effect a similar situation.
22. Ms Smith considers, as stated in her evidence, the treatment should be offered when noise levels reach 60 dB L_{dn} at ESA receivers.
23. **Question 4:** *What opinions do the experts have on the significance of the potential loss of external amenity at various times of the day for residents potentially affected by the operation of the ESA (as covered in section 6 of the Council's noise officer's report)? In the event that experts consider that the loss of amenity would be significant, are they of the opinion that the recommended conditions adequately address the issue? If not, why not, and what alternatives or additions to the conditions would they propose?*
24. We agree that ESA Receivers' current external noise environment is already compromised and impacted by airport activity. We agree daytime outdoor amenity would be further compromised with the operation of the ESA. The extent of this effect will vary depending on the specific layout and use of each outdoor area. We

are not aware of practicable mitigation measures to address outdoor amenity beyond the operational controls set out in the NoR.

25. **Question 4:** *What if any changes to the ESA conditions recommended in the attachment to the Council noise officer's report (Appendix A: WC Recommended Draft Conditions –[East Side Area Designations]) do the experts agree with, with respect to: a. Earthworks and construction management b. Operational noise. For each of the changes over which there is disagreement, what are the matters of difference, reasons for the differing opinions, and what alternatives or additions to the conditions they would recommend?*
26. Our consideration of conditions was restricted by time constraints in conferencing and by Mr Borich and Dr Chiles not having an opportunity to adequately review the updated conditions attached to the evidence of John Kyle dated 5 May 2021. We discussed points of principle relating to noise controls in conditions and agree the following matters.
27. Mr Borich and Ms Smith agree the construction noise and vibration conditions set out in the evidence of Mr Borich (and copied into the conditions attached to the evidence of Mr Kyle) are appropriate. Dr Chiles has not reviewed these conditions.
28. We agree that APU noise should be included in overall aircraft operations noise limits for the ESA. Mr Borich and Dr Chiles consider this should include APU noise from both designations. Ms Smith does not oppose this in principle but notes that APUs in the Main Site are permitted under the existing District Plan provisions, and that the ESA designation can only take account of noise from the Main Site but cannot control it. We agree the compliance line may require minor adjustment to include APU noise. The Compliance Line presented in Ms Smith's evidence does not include Main Site APU noise.
29. We agree the proposed area for a permanent noise monitor indicated in the figure in the conditions attached to the evidence of Mr Kyle is appropriate. We agree the noise criterion at this monitoring location should be set to correlate to a level of 65 dB L_{dn} at the compliance line. We agree the actual criterion at the monitor should be confirmed once the monitor is installed, and then recorded in the Noise Management Plan.
30. We agree that noise limits for activity other than aircraft operations and APUs in condition 20 (evidence of Mr Borich) are appropriate. Mr Borich and Dr Chiles consider this must apply to combined activity in both designations. Ms Smith agrees in principle. She understands the ESA designation can only take into account noise from the Main Site but cannot control it and as such considers the condition should be drafted accordingly.

31. We agree that airport noise information should be made publicly available.

Signed by:



Matthew Borich



Stephen Chiles



Laurel Smith