

BEFORE THE INDEPENDENT COMMISSIONER

IN THE MATTER of the Resource Management Act
1991 (the Act)

AND

IN THE MATTER of an application by DLC
Properties Limited for a
subdivision of land at 60 Otatara
Road and 190 Dunns Road,
Otatara, Invercargill

RMA/2020/82

EVIDENCE OF JON ROBERT STYLES – ACOUSTICS

21 April 2022

Qualifications and experience

- 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. I have approximately 21 years' experience in the industry, the first four as the Auckland City Council's Environmental Health Specialist – Noise, and the latter 17 as the Director and Principal of Styles Group.
- 2 I am a Council member, professional member and the immediate Past-President of the Acoustical Society of New Zealand (ASNZ). I completed two full terms as President of the ASNZ between 2016-2021 and four terms on the Council prior to that. I have recently been appointed as an Executive Member of the Australasian Association of Acoustical Consultants. My role is responsible for developing guidelines for acoustic assessments in New Zealand and Australasia.
- 3 I have extensive experience advising on the management of noise and vibration effects from a diverse range of land use activities, including the construction, maintenance and operational noise effects of major and strategic transport infrastructure (including port, road, air and rail) and the protection of strategic industry and transport infrastructure by achieving reasonable noise levels in the community.
- 4 I have been involved a significant number of resource consent applications, Notice of Requirements and plan reviews across New Zealand. I have provided advice on a large number of Notice of Requirements, resource consent and plan review processes relating to airport noise effects on or adjacent to airports including Wellington International Airport, Auckland International Airport, Ardmore Airport, Whenuapai Airport, Whangarei Airport, Kerikeri Airport and Nelson Airport.
- 5 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Involvement

- 6 Styles Group was engaged by DLC Properties in 2021 to assess the exposure of the 77.9ha development site at 60 Otatara Road and 190 Dunns Road (the **Site**) to aircraft noise effects from Invercargill Airport Limited (**IAL**).

- 7 I prepared the acoustic assessment (the Original Assessment) that forms Appendix D to the applicant's Section 92 response. I adopt the Original Assessment as part of my evidence.

Scope of evidence

- 8 I have been asked to prepare evidence in relation to the aircraft noise effects across the Site. This evidence provides a summary of my Assessment including:
- (i) The Invercargill City District Plan's (ICDP) objectives, policies and rules for managing noise effects on Noise Sensitive Activities (NSA) on land exposed to aircraft noise from IAL
 - (ii) The proposal to introduce NSA on the Site, and mitigation measures
 - (iii) Comments on IAL's submission
 - (iv) Comments on the Section 42A Report and proposed conditions

Terms used in this evidence

- 9 This evidence adopts the following terminology in accordance with the definitions provided in the ICDP:

Air-noise Boundary (ANB)

Means a boundary, the location of which represents the 65dB Ldn contour based on the average night-weighted sound exposure (from aircraft noise) over a 24 hour period. The location of the boundary is shown on District Planning Maps 5 and 8.

Outer Control Boundary (OCB)

Means a boundary, the location of which represents the 55dB Ldn contour based on the average night-weighted sound exposure (from aircraft noise) over a 24 hour period. The location of the boundary is shown on District Planning Maps 5, 8, 9, 10 and 15.

Single Event Sound Exposure Boundary (SESEB)

Means a boundary, the location of which represents the 95 SEL contour, which is the limit which defines the onset of significant sleep disturbance. The location of the boundary is shown on District Planning Maps 5, 8, 9, and 15.

Noise Sensitive Activity (NSA)

Means buildings or parts of buildings used for, or able to be used for the following purposes:

1. Residential Activity

2. Visitor Accommodation
3. Residential Care Activity
4. Educational Activity, except training related to Airport and aircraft operations
5. Hospital Activity
6. Healthcare Activity
7. Early Childhood Education and Care Centre
8. Marae Activity
9. Caretaker Accommodation.

Executive summary

- 10 The ICDP controls the establishment of NSA on land affected by IAL aircraft noise effects through a combination of density controls, acoustic insulation requirements, and the requirement to register a restrictive no-complaints covenant on future titles. These measures seek to manage the potential for reverse sensitivity effects arising on IAL.
- 11 The proposal adopts all of the ICDP's performance standards for the subdivision and development of land exposed to moderate levels of aircraft noise from IAL.
- 12 The land covered by the proposal may in the future be exposed to outdoor noise levels from 55dB L_{DN} to approximately 60dB L_{DN}.
- 13 The proposal confirms all dwellings within the OCB and/ or SESEB will comply with the acoustic insulation requirements of APP15.
- 14 The application confirms a covenant in favour of IAL is proposed to be registered on each of the proposed allotments to restrict future occupants of the Site from making noise complaints on IAL activities.
- 15 It is my experience that if the noise levels are reasonable for the receivers, there will be no reverse sensitivity effects arising on the generator of the noise.
- 16 It is my experience that most District Plans that address aircraft noise have an airport noise management framework that permits new residential activity in areas exposed to noise levels between 55dB L_{DN} and 65dB L_{DN}, the same as the ICDP does. The ICPD provisions are consistent with the controls applied to land surrounding most other airports around New Zealand.

- 17 The 2018 WHO Guidelines¹ presents what is widely accepted as the most contemporary and authoritative reference on the adverse effects and acceptability of transportation noise for communities. These guidelines advocate for a more-or-less 'no effects' threshold of approximately 42-43dB L_{DN}.
- 18 The night time noise effects expected on the Site are above the Lowest Observable Adverse Effect used as the threshold for guidance in the NNG. However, the overall effect arising at the noise level expected on the Otatara site is generally very low.
- 19 The occupants of the new dwellings will be sleeping inside their dwellings. The proposal requires the dwellings to be insulated to ensure that the internal noise levels do not exceed 40dB L_{DN} in all cases and 65dB SEL for dwellings inside the SESEB.
- 20 Compliance with these internal design noise levels will ensure that the potential sleep disturbance effects are adequately mitigated.
- 21 There are no physical noise mitigation measures that can mitigate the outdoor noise levels. The future occupants of the development will be exposed to noise from aircraft overflights from time to time during the day when they are outside.
- 22 The overflight events are typically short in duration but the noise level can be high enough to disrupt conversation outdoors, especially if the participants are more than around three metres apart.
- 23 Outdoor noise levels above 55dB L_{DN} are typically considered as where the amenity is compromised. The noise level generated by an aircraft that just complies with the 95dB SEL limit at the SESEB would be perceived as very loud and disruptive. However, the constraints of the average L_{DN} noise limits mean that such instances would be very infrequent.
- 24 In my experience, it is very common for communities to be exposed to outdoor noise levels above 55dB L_{DN}. I consider that it would be ideal to ensure that communities are not exposed to noise levels over 55dB L_{DN}. However, this would require large separation distances between the major roads, airports and ports and houses. I understand that this is undesirable for a number of reasons.

¹ [Environmental Noise Guidelines for the European Region](#)

- 25 By contrast, most District Plans in New Zealand include provisions which are designed to provide for a compromise where noise sensitive activities can locate in proximity to major noise sources such as roads, ports and airports provided that a range of controls are complied with. The controls typically comprise acoustic insulation requirements and in some cases limits on density. I consider that this is the case with the ICDP provisions that apply to this proposal.
- 26 Overall I consider that the adverse noise effects will be low in terms of indoor amenity and sleep disturbance effects, but the outdoor amenity will be compromised by relatively infrequent but potentially noisy overflights. The overall noise levels and the degree of effect will be consistent with or lower than what is required by planning controls on land surrounding other major airports in New Zealand.

The proposal

- 27 The proposal is to subdivide an existing vacant site of 29.3615 hectares at 60 Otatara Road, plus a 1.233 hectare vacant portion of the adjoining site at 190 Dunns Road into 30 allotments, with a balance lot (Lot 31) containing the golf course land. Lots 1-30 are residential allotments of approximately 1 Ha in area.
- 28 I understand the subdivision would authorise the establishment of one dwelling per allotment.
- 29 I understand the proposal is a discretionary activity under the ICDP.
- 30 In terms of exposure to aircraft noise effects:
- (i) All lots are inside the OCB of IAL
 - (ii) The SESEB partly affects approximately half of the total subdivided lots.
- 31 The proposal adopts all of the ICDP's performance standards for the subdivision and development of land exposed to moderate levels of aircraft noise from IAL.

The ICDP framework for management of noise effects from IAL

- 32 The ICDP controls the subdivision and development of land in the Otatara Zone (OTAZ) and affected by the OCB and/ or SESEB through a combination of measures that seek to manage the potential for reverse sensitivity effects arising on IAL. These measures include:

- (i) Density controls
- (ii) Acoustic insulation standards
- (iii) No complaints covenants.

Low density development

- 33 OTAZ-R8 provides for a maximum residential density not exceeding one residence per 10,000m² under contiguous ownership (non-reticulated). I understand the proposal meets the minimum density requirements for non-reticulated land in the OTAZ.

Acoustic insulation

- 34 The ICDP permits NSAs within the OCB, subject to the requirement to incorporate acoustic insulation. APP15 *Noise Sensitive Insulation Requirements* provides insulation standards for any NSA within the OCB or SESEB. The proposal confirms all dwellings within the OCB and/ or SESEB will be subject to the acoustic insulation requirements of APP15.

Setting expectations through a no complaints covenant:

- 35 SUB-R4(22) requires that discretionary subdivision applications under SUB-R3 address the requirement to address:
- a. The extent to which evidence has been provided of a legally binding commitment (acceptable to the relevant Airport Authority) on behalf of the applicant and any successors in title not to complain as to current or potential effects associated with the operation of the airport resource and/or to waiver all rights of action under the Resource Management Act 1991 or otherwise at law against the Airport. A legally binding commitment may take the form of a restrictive non-complaint covenant or memorandum of encumbrance entered against the title to the property.
- 36 The application confirms a covenant in favour of IAL is proposed to be registered on each of the proposed allotments to restrict future occupants of the Site from making noise complaints on IAL activities. A copy of the proposed covenant is included within Appendix E of the application.

The Original Assessment

- 37 The Original Assessment evaluated the proposal against the relevant requirements of the ICDP as set out above.

38 Section 1.2. of the Original Assessment sets out the two key mitigation measures proposed as part of the application. That section states:

“The application adopts two key measures to mitigate the noise exposure of future noise sensitive occupants across the Site, and to address potential reverse sensitivity effects arising on IAL. These are:

- i) Acoustic insulation: The application confirms that all future applications for new buildings on Lots 1 - 30 containing noise sensitive activities within the OCB or SESEB will be subject to the acoustic insulation requirements set out in Appendix 15- *Noise Sensitive Insulation Requirements* of the ICDP (**Appendix 15**). Appendix 15 provides acoustic insulation standards for any new buildings constructed within the OCB and/ or SESEB.
- ii) No complaints covenant: A covenant in favour of IAL is proposed to be registered on each of the proposed allotments to restrict future occupants of the Site from making noise complaints on IAL activities. Appendix E of the application includes a copy of the proposed covenant.”

39 In respect of insulation, the Original Assessment stated that:

“In summary, the standards require that all buildings containing Noise Sensitive Activities are acoustically insulated and provided with mechanical ventilation to achieve reasonable noise levels inside the habitable rooms. The standards require that the following internal noise levels are not exceeded:

- 40dB L_{DN} for all habitable rooms inside the OCB
 L_{DN}
- 65dB L_{AE} and 40 dB L_{DN} for all habitable rooms inside the SESEB”

And,

“Designing and constructing the dwellings to meet the ICDP internal noise environment requirements will ensure that significant sleep disturbance effects do not occur, and that a reasonable level of indoor amenity will be provided. Managing sleep disturbance effects appropriately is an effective way of managing the overall potential adverse health effects.”

40 In respect of no-complaints covenants, the Original Assessment stated that:

“We understand that the applicant is proposing a ‘no complaints’ covenant for the titles that will be created. Such covenants are legal instruments that cover a range of matters not related to acoustics. However, it is our experience that covenants like that proposed can help to set the expectations of incoming residents. The covenants can help to make an incoming resident aware that the noise environment is, or has the potential to be, noisier than what could be expected in other parts of the city, and that aircraft noise could be a regular feature of the area. It is our experience that such covenants can have the effect of ‘filtering out’ the most noise-sensitive of the potential incoming residents.”

41 The Original Assessment addressed outdoor amenity. Section 1.5 of the Original Assessment states (abbreviated):

“The proposal to meet the acoustic insulation standards in Appendix 15 will not mitigate the noise effects on outdoor amenity of the residents.

...we estimate that the Site is subject to noise levels ranging from 55dB L_{DN} to no greater than approximately 60dB L_{DN} . For context, the land beyond the 55dB L_{DN} contour is not subject to any controls or restrictions in respect of noise from IAL. A noise level of 60dB L_{DN} would be perceived subjectively as being distinctly or clearly noticeably louder than a level of 55dB L_{DN} . At the Air-noise boundary, the noise level of aircraft movements at 65dB L_{DN} would be perceived as being twice as loud as at the OCB (55dB L_{DN} contour).

The noise effects would be experienced subjectively as a number of discrete, short duration and potentially noisy take-offs or landings. The number of events and typical noise level is difficult to calculate for any point in the future due to the potential changes in aircraft, flight timetables and demand.

In our opinion, it is commonly accepted that residential activity close to transport infrastructure can at times be subject to noise levels that are greater than normally desirable. This does not necessarily lead to incompatibility, especially in situations where the internal noise environment is insulated to ensure that noise levels are reasonable.”

42 The Original Assessment addressed the SESEB. Section 1.6 of the Original Assessment states (abbreviated):

“The SESEB controls the loudest single aircraft movement and the OCB controls the daily ‘average’ noise levels from all aircraft, including the loudest of them.

If a single noisy aircraft generated a noise level up to 95dB SEL at the SESEB at night, that would be the only aircraft movement permitted in that 24hr period. If any more movements were carried out, the noise limit at the OCB would be exceeded².

If a single noisy aircraft generated a noise level up to 95dB SEL at the SESEB during the day, the single event would comprise approximately 10% of the total allowable sound energy that could be generated that day before noise levels exceed the OCB limit.

Whilst the SESEB contour allows for noisy aircraft movements over the Site, the number of these events per day is heavily restricted by the limitations of the noise limit at the OCB.”

Background to the ICDP provisions

- 43 I understand the ICDP was recently made operative on 30 August 2019. I understand that IAL made a submission on and later appealed the decisions relating to subdivision and development within IAL’s airnoise boundaries.
- 44 I have reviewed the consent order³ that resolved IAL’s appeal to the Proposed District Plan (PDP). The appeal and final consent order resulted in amendments to the acoustic insulation standards in Appendix 15 (APP15) and prohibition of new or altered noise sensitive activities within the Residential and Otarara Zones where they do not comply with the standards in APP15.
- 45 I understand the acoustic insulation standards set out in APP15 of the ICDP were amended to address the relief sought in IAL’s appeal. I understand IAL’s changes to APP15 sought to ensure that the acoustic specifications in Appendix 15 are appropriate for the Invercargill context, efficient and effective.

² Before any averaging is applied. If averaging is applied and two noisy flights occurred in one night, the next night (or at least one more night in the averaging period) would have to be free of flights to maintain compliance. On average, only one noisy flight could occur at night, each night.

³ <https://icc.govt.nz/wp-content/uploads/2018/02/DP-Consent-Order-Environment-Court-Invercargill-Airport-Ltd-signed-8-February-2018.pdf>

- 46 The proposal confirms all dwellings within the OCB and/ or SESEB will be subject to the acoustic insulation requirements of APP15.

IAL's submission

- 47 IAL oppose the proposal and seek the decline of application for noise reasons. Their submission includes the following concerns:
- (i) That the proposal will “*potentially give rise to significant adverse effects*” and will “*inevitably lead to an increase in reverse sensitivity impacts*” on the airport
 - (ii) That the proposal will enable and encourage the development of noise sensitive activities within an environment where sleep disturbance effects are known to occur
 - (iii) Noise mitigation measures should be considered as a “last line of defence” as “*such mechanisms will not mitigate outdoor noise effects, nor will they fully avoid noise effects experienced within a dwelling*”.
- 48 I address IAL's submissions throughout this evidence, and specifically under the following headings:
- (i) Significant adverse effects
 - (ii) Reverse sensitivity effects
 - (iii) Sleep disturbance effects
 - (iv) Outdoor noise amenity

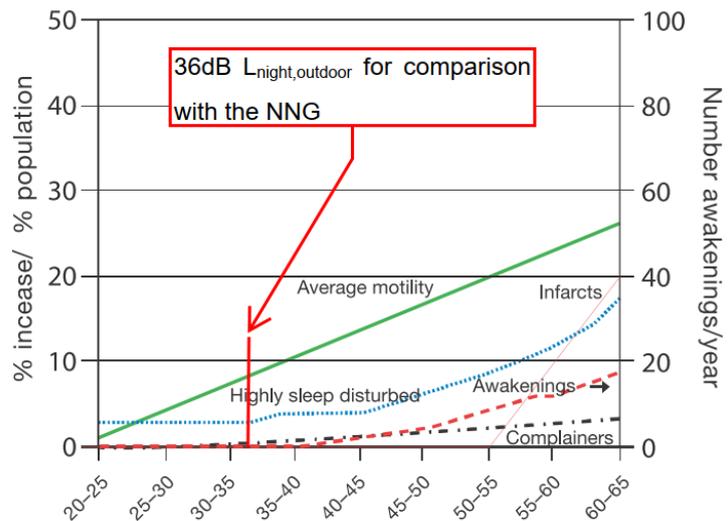
Significant adverse effects

- 49 The IAL submission does not set out how the adverse noise effects will be significant.
- 50 The 2018 WHO Guidelines⁴ presents what is widely accepted as the most contemporary and authoritative reference on the adverse effects and acceptability of transportation noise for communities. These guidelines advocate for a more-or-less ‘no effects’ threshold of approximately 42-43dB L_{DN}. The 2018 WHO Guideline values signal where the onset of adverse effects arise in the sensitive parts of the population.

⁴ [Environmental Noise Guidelines for the European Region](#)

- 51 The Night Noise Guidelines for Europe⁵ (NNG) compliment the 2018 WHO Guidelines with specific guidance on the effects of noise at night.
- 52 The NNG values require adjustment in this context as they are based on the average dwelling achieving a noise level reduction from outside to inside of only (approximately) 21dB for a dwelling that has not been specifically treated to reduce external noise levels. The dwellings that would be constructed on the Site would achieve a noise level reduction of at least 25dB to 30dB in order to achieve compliance with the ICPD provisions.
- 53 The equivalent night time outdoor noise level for this proposal for comparison with the NNG guidance is approximately 36dB $L_{night,outside}$ ⁶. I have put this level into context by marking up figure 5.2 from the NNG with the Otatara level denoted by the vertical red line and the red callout box.

Fig. 5.2
Effects of aircraft noise at night*



Source: European Commission, 2002 a

* Average motility and infarcts are expressed in percent increase (compared to baseline number); the number of highly sleep disturbed people is expressed as percent of the population; complainers are expressed as a percent of the neighbourhood population; awakenings are expressed in number of additional awakenings per year.

- 54 In my view, this demonstrates that the night time noise effects are above the Lowest Observable Adverse Effect used as the threshold for guidance

⁵ <https://www.euro.who.int/en/health-topics/environment-and-health/noise/publications/2009/night-noise-guidelines-for-europe>

⁶ On the basis of the outdoor L_{DN} exposure being approximately 55-60dB, and assuming few night flights the $L_{night,outdoor}$ level will be approximately 40-45dB. Then subtract 25dB NR from 40dB $L_{night,outdoor}$ and 30dB NR from 45dB $L_{night,outdoor}$ to get an indoor level of 15dB $L_{night,indoor}$. Then add 21dB NR assumption from NNG to arrive at $L_{night,outdoor}$ level of 36dB for comparison with the NNG.

in the NNG. However, the overall effect arising at the noise level expected on the Otatara site is generally very low:

- (a) The number of additional awakenings per year will be practically 0 on the basis of 8 overflights per night.
- (b) Average motility is likely to be approximately 8% higher than the baseline motility.
- (c) No additional complainers would be expected.
- (d) No increase in infarcts is expected.
- (e) The percentage of people highly sleep disturbed does not increase compared to situations where the noise level at night is very low.

55 In my view the 2018 WHO Guidelines and the NNG are useful in setting the context for the assessment of adverse effects. The noise levels indoors will not exceed 40dB L_{DN}. This level is low enough to avoid significant adverse effects on sleep disturbance. This level has been deemed to be reasonable and adopted in a significant number of other District Plans around New Zealand.

56 As I have already set out, the land covered by the proposal may in the future be exposed to outdoor noise levels from 55dB L_{DN} to approximately 60dB L_{DN}.

57 In my experience it is very common to have aircraft noise at approximately these levels in residential areas around New Zealand. It is my experience that most District Plans that address aircraft noise have an airport noise management framework that permits new residential activity in areas exposed to noise levels between 55dB L_{DN} and 65dB L_{DN}, the same as the ICDP does. In many cases the density controls allow significantly more than one dwelling per hectare (as the ICDP does).

58 These other District Plans acknowledge that outdoor noise levels cannot be physically mitigated, and that exposure to such levels of outdoor noise is reasonable.

59 I do not agree with the IAL submission that there may be significant adverse effects arising on the occupants of the proposed development.

60 The IAL submission also states that the noise mitigation measures will not “*fully avoid noise effects experienced within a dwelling*”. I am not aware of any requirement to fully avoid adverse effects.

Reverse sensitivity effects

- 61 It is my experience that if the noise levels are reasonable for the receivers, there will be no reverse sensitivity effects arising on the generator of the noise.

Sleep disturbance effects

- 62 The occupants of the new dwellings will be sleeping inside their dwellings. The proposal requires the dwellings to be insulated to ensure that the internal noise levels do not exceed 40dB L_{DN} in all cases and 65dB SEL for dwellings inside the SESEB.
- 63 Compliance with these internal design noise levels will ensure that the potential sleep disturbance effects are adequately mitigated.

Outdoor noise amenity

- 64 The IAL submission is correct that the physical noise mitigation measures cannot mitigate the outdoor noise levels. The future occupants of the development will be exposed to noise from aircraft overflights from time to time during the day and when they are outside.
- 65 The overflight events are typically short in duration but the noise level can be high enough to disrupt conversation outdoors, especially if the participants are more than around three metres apart.
- 66 Outdoor noise levels above 55dB L_{DN} are typically considered as where the amenity is compromised. The noise level generated by an aircraft that just complies with the 95dB SEL limit at the SESEB would be perceived as very loud and disruptive. However, the constraints of the average L_{DN} noise limits mean that such instances would be very infrequent.
- 67 In my experience, it is very common for communities to be exposed to outdoor noise levels above 55dB L_{DN}. I consider that it would be ideal to ensure that communities are not exposed to noise levels over 55dB L_{DN}. However, this would require large separation distances between the major roads, airports and ports and houses. I understand that this is undesirable for a number of reasons.
- 68 By contrast, most District Plans in New Zealand include provisions which are designed to provide for a compromise where noise sensitive activities can locate in proximity to major noise sources such as roads, ports and airports provided that a range of controls are complied with. The controls typically comprise acoustic insulation requirements and in some cases

limits on density. I consider that this is the case with the ICDP provisions that apply to this proposal.

Management of development inside the OCB of other airports

69 It is my experience that the development of land around the majority of airports around New Zealand is controlled by District Plans in the same way that the ICDP controls it. The principal requirements are:

- (a) The creation of the ANB (65dB L_{DN}), within which NSAs are prohibited;
- (b) The creation of an OCB (55dB L_{DN}) within which new NSAs are only provided for where they are acoustically insulated;
- (c) The prescription of acoustic insulation standards for NSAs between the OCB and the ANB. The most commonly adopted standard is 40dB L_{DN} .

70 It is my experience that most District Plan provisions dealing with aircraft noise management have drawn on the guidance of NZS6805 to varying degrees. Most District Plans will adopt the guidance from Table 2 of NZS6805 that states:

“New residential, schools, hospitals or other noise sensitive uses should be prohibited unless a district plan permits such uses, Subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment.”

71 The ICDP sets out detailed acoustic insulation standards for NSAs inside the OCB. The proposal is to meet those standards.

72 In my view, the ICDP and the proposal are consistent with the guidance given in NZS6805.

Comments on Section 42A Report

73 I have reviewed the s42A Report's conclusions relating to aircraft noise effects. The s42A Report concludes the noise effects, including potential reverse sensitivity effects, will be acceptable. The Report finds:

“As the underlying zoning is rural residential, dwellings are an anticipated part of the environment and dwellings are permitted, subject to standards. Other noise sensitive activities in Otatara Zone are also permitted. The way the District Plan manages reverse sensitivity effects in light of these permitted activities is by requiring a certain level of acoustic

insulation. As such, I consider it is anticipated by the District Plan that noise sensitive activities in the OCB and SESEB can occur and that a level of reverse sensitivity can be reasonably anticipated. In considering to what extent the subdivision avoids or addresses reverse sensitivity issues, I have turned my mind to whether alternative subdivision designs or a lower density would be reasonable to require. An alternative design could reduce the number of dwellings in the SESEB, being the more noise sensitive area, and increase dwellings in the OCB for example. However this would result in a density breach, which would be a non-complying activity, and also result in more dwellings requiring a lower level of noise insulation, noting acoustic insulation requirements for bedrooms in the OCB are lower than the SESEB. There is a specific density rule in the District Plan for subdivisions within the OCB and SESEB in the Otatara Zone. This is a minimum of one hectare per site. From inclusion of this rule that is specific to the OCB and SESEB, I consider the District Plan expects densities of up to one dwelling per hectare within the Otatara Zone OCB and SESEB areas, and that it would be unreasonable to require a developer to provide less density than one dwelling per hectare”

- 74 Insofar as acoustic issues are concerned, I agree with these comments.
- 75 The evidence of Brown records his view that the S42A comments are not accurate where they say that “...a level of reverse sensitivity can be reasonably anticipated.”
- 76 I consider that a degree of adverse noise effects will arise on the occupants of the development. Mr Brown considers that if the proposed conditions are complied with, this will not result in a “level of reverse sensitivity”.



Jon Robert Styles

21 April 2022

