

**BEFORE A PANEL OF INDEPENDENT HEARING COMMISSIONERS
AT RANGIORA / WAIMAKARIRI**

**I MUA NGĀ KAIKŌMIHANA WHAKAWĀ MOTUHAKE
KI RANGIORA / WAIMAKARIRI**

**IN THE MATTER
AND
IN THE MATTER**

of the Resource Management Act 1991

**of the hearing of submissions and further
submissions on the Proposed Waimakariri
City District Plan**

HEARING TOPIC:

Stream 5 – Te orooro - Noise

**STATEMENT OF PRIMARY EVIDENCE OF MATTHEW ARMIN
LINDENBERG ON BEHALF OF KĀINGA ORA – HOMES AND
COMMUNITIES**

PLANNING

07 AUGUST 2023

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1. EXECUTIVE SUMMARY

- 1.1 My full name is Matthew Armin Lindenberg, and I hold the position of Principal Planner at Beca Ltd. I have been engaged by Kāinga Ora - Homes and Communities (**Kāinga Ora**) to provide evidence in support of its primary and further submissions on the noise chapter in the Proposed Waimakariri District Plan (**PDP**).
- 1.2 The key points of my evidence are the need for further amendments to the provisions proposed by the Council in relation to:
- (a) the objectives and policies of the Noise chapter provisions, in particular to align the wording of these provisions with the National Policy Statement on Urban Development (**NPS-UD**);
 - (b) the rule framework, in particular the 'default distance' approach, which applies to the development / location of noise sensitive activities adjoining road and rail corridors. I recommend an approach whereby the basis for any such package of provisions / rules within the PDP is based upon a modelled spatial extent of the likely noise effects which would be generated – rather than an approach which relies upon 'default' distance measurements; and
 - (c) the proposed rule (NOISE-R17) making Christchurch International Airport (**CIA**) an affected party for all resource consent applications within the 50 dBA Ldn Noise Contour Overlay. I consider that the RMA notification tests are appropriate and provide the ability for the Council to recommend notification for those applications which may infringe relevant rules / standards.
- 1.3 A copy of my proposed amendments and changes sought to the provisions under consideration in Hearing Stream 5 is included in **Attachment B** of this statement of evidence. I confirm that the version of relief in my evidence represents the full "updated" set of relief requested by Kāinga Ora in relation to this topic.

1.4 In my opinion, the changes sought in the Kāinga Ora submission and discussed within my evidence, will provide greater alignment between the PDP, the NPS-UD and the purpose, principles and provisions of the RMA as amended by the Amendment Act.

2. INTRODUCTION

2.1 My name is Matthew Armin Lindenberg and I hold the position of Principal Planner at Beca Ltd. I have the qualifications and experience set out in my 'Statement of Experience', included as **Attachment A** to this statement.

2.2 I am familiar with the national, regional and district planning documents relevant to the PDP.

2.3 I am providing evidence on behalf of Kāinga Ora in respect of submissions made on the PDP specific to Hearing Stream 5, specifically in relation to the provisions within the Noise Chapter of the PDP. I was not involved with the preparation of the primary and further submissions, however I confirm that I have read the submissions made by Kāinga Ora in relation to this Hearing Stream.

2.4 I am familiar with the Kāinga Ora corporate intent in respect of the provision of housing within the Canterbury Region, as set out in the statement of evidence (Corporate) of Mr Liggett on behalf of Kāinga Ora.

2.5 In preparing this evidence I have read the Section 32 and Section 42A reports together with the associated appendices prepared by Council staff, and the evidence prepared by Stuart Camp (dated 17 July 2023) on behalf of Waimakariri District Council in relation to Noise.

Code of Conduct

2.6 Although this is a Council hearing, I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and agree to comply with it while giving evidence.

2.7 Except where I state that I am relying on the evidence of another person, this written evidence is 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 in this evidence.

Scope of Evidence

2.8 My evidence covers submissions and further submissions on the Proposed Plan Change in relation to Hearing Stream 5 of the PDP. Specifically, my evidence will address the noise provisions contained within Part 2 – District-wide Matters / General District-wide Matters / Te orooro – Noise of the PDP.

2.9 Except to the extent I explain below, I generally support the amended PDP provisions as contained within the Section 42A report. I consider further amendments are required to better align the PDP with the NPS-UD and the purpose and principles of the RMA, as amended by the Housing Supply Act.

2.10 My evidence will address the following matters:

- (a) Objectives and Policies;
- (b) Rule NOISE-R14;
- (c) Rule NOISE-R16;
- (d) Rule NOISE-R17;
- (e) Rule NOISE-R18; and
- (f) Matters of Control / Discretion.

2.11 Where appropriate and relevant, my evidence will reference and rely on the evidence of Mr Styles (Acoustic) and Mr Jimmieson (Ventilation), prepared on behalf of Kāinga Ora.

2.12 The evidence has also been prepared to give consideration to, and provide assessment where relevant, the Section 32A / 32AA requirements set out in the RMA. I provide commentary later in this

evidence as to why I consider that the relief sought throughout this statement:

- (a) Is efficient, effective and the most appropriate means to achieve the objectives that the PDP is seeking to achieve, as well as the overarching objectives and strategic direction set out in higher-order documents such as the NPS-UD and the Canterbury Regional Policy Statement; and
- (b) That the benefits of relief sought will outweigh the costs, in relation to the potential environmental, economic, social and cultural effects which could be anticipated from the implementation of the relief sought.

3. OVERVIEW OF KĀINGAI ORA'S SUBMISSION

3.1 For context, I summarise my understanding of the key matters / issues addressed in the Kāinga Ora submission points relating to Hearing Stream 5 – Te orooro - Noise.

3.2 In summary, the Kāinga Ora submission¹ sought:

- (a) the removal of the Noise Overlay and Airport Noise contour maps; and
- (b) the amendment of the Noise Chapter provisions to clarify the focus / nature of adverse effects to be addressed by the Noise Chapter provisions, as well as altering the balance struck by the framework of rules relating to noise sensitive activities between the enablement of growth over time, management of any relevant adverse effects relating to amenity and health outcomes, and the potential creation of land use incompatibilities.

4. OBJECTIVES AND POLICIES

Objective NOISE-O2

¹ Sub No. 325.148 and 325.149.

- 4.1 I recognise the intent of objective NOISE-O2 is to establish a policy 'hook' for reverse sensitivity in the context of managing the potential effects arising between existing noise generating activities and the establishment of new noise sensitive activities in close proximity. I support retaining such a framework to help guide an equitable and balanced approach to this issue. Therefore, I support the overall intent of objective NOISE-O2 and consider it should be retained.
- 4.2 However, I consider that the phrase "reverse sensitivity effects from" should be deleted and replaced with the phrase "the incompatible use or development of". I consider that re-framing the objective to focus on 'land use compatibility' enables clarity of the issue / effect which can be assessed when a noise sensitive activity / use is being proposed. In my opinion, this is a clearer and more certain framing of the objective, as issues relating to reverse sensitivity effectively require an activity / use to be established first – at which point any nuisance may then need to be experienced (e.g., by a noise sensitive activity), followed by the potential for that nuisance to give rise to a noise sensitive activity then making a compliant with regard to the noise generating activity.
- 4.3 In addition, I also consider that my recommended approach also aligns with the terminology within the Canterbury Regional Policy Statement (**RPS**), which contains numerous references to "land use compatibility / incompatibility" within the objectives and policies relating to 'Land Use and Infrastructure' (Chapter 5), including Objective 5.2.1.2(f) and Policy 5.3.8.2.

Policy NOISE-P1

- 4.4 I generally support the overall intent of policy NOISE-P1 and consider it should be retained. However, I consider the following amendments are appropriate to ensure alignment with direction of the NPS-UD:
- (a) Insert the word "anticipated" before "amenity values of each zone" in clause 1 of the policy; and
 - (b) Insert the phrase "maintain the" before "amenity values of sensitive environments" in clause 2 of the policy.

4.5 I consider that these amendments will better align the policy with the direction and language of Objective 4 and Policy 6(b) of the NPS-UD – that is, recognising that amenity values may change over time and that change is not necessarily an adverse effect. Moreover, while I consider that these amendments are desirable independently of the amendment I propose for NOISE-O2, my recommended amendments to NOISE-P1 are more consistent and aligned with that objective.

Policy NOISE-P2

4.6 Regarding policy NOISE-P2, while I support the general intent of the policy, I consider that the word “anticipated” should be inserted before the phrase “amenity values of the receiving environment” in clause 2 of the policy. The rationale underpinning this recommended amendment is the same as that expressed in relation to policy NOISE-P1 – aligning the policy with the direction and language of the NPS-UD. Therefore, I consider my amendment sought to policy NOISE-P2 as consequential to those sought to policy NOISE-P1.

Policy NOISE-P3

4.7 I understand the intent of policy NOISE-P3 is to establish the policy framework for the acoustic mitigation standards for noise sensitive activities in proximity to road and rail corridors. I recognise that there is a need to acknowledge the potential for adverse effects arising at the interface between State Highways and rail corridors and noise sensitive activities. However, while I support retaining this policy, I consider that the following amendments are required to the objective to ensure a more equitable approach to managing these potential issues:

- (a) the word “protect” is deleted and replaced with the term “provide for”.
- (b) The word “ongoing” is inserted before the phrase “operation of rail and road infrastructure...”, primarily for clarity.
- (c) I consider that the focus of the policy (and thus any rule framework which would follow), should be focussed to state

highway and rail corridors – but not the wider arterial (local) road network.

4.8 As discussed in Section 6.0 of this evidence, I consider a tailored suite of district plan provisions can be created to better focus any management of noise sensitive activities within locations where the adverse effect is known to be present. I consider that retaining the word “protect” sets a threshold out of step with the proposed framework which seeks to ‘manage’ noise sensitive activities in proximity to State Highway and rail corridors. In my opinion, the phrase “provide for” is commensurate with the proposed acoustic mitigation measures and ensures clarity for plan users regarding the ability to develop noise sensitive activities in proximity to State Highways and rail corridors if the prescribed acoustic standards can be met.

4.9 The rule which is proposed to implement this policy direction (rule NOISE-R16) contains acoustic insulation and ventilation requirements – focussed upon managing the amenity and health effects for the occupants of noise sensitive activities. Compliance with such standards, in order to provide a comfortable and healthy indoor environment, would assist to ensure that the amenity and health of these occupants is not compromised.

Policy NOISE-P4

4.10 The Kāinga Ora submission sought to delete the proposed Noise Contour overlay that seeks to limit the density of any residential or minor residential unit.

4.11 Having reviewed the s42A report and the recommended provisions, I seek the deletion of clause 1 from policy NOISE-P4 in its entirety – noting I could not see any clear connection of this policy wording to an associated rule in the wider Noise chapter provisions, but also because this aspect of the policy (given its detail and specificity) would effectively amount to a ‘rule’ within a policy.

4.12 In addition to the deletion of clause 1 of policy NOISE-P4, I also seek the following amendments to the policy:

- (a) Remove the word “protect” and replace with the phrase “provide for the ongoing operation of” – for the reasons expressed in relation to, and to align with, my amendments sought to policy NOISE-P3.
- (b) Delete the phrase “from reverse sensitivity effects” – for the reasons expressed in relation to, and to align with, my amendments to objective NOISE-P2.

5. RULE NOISE-R14

- 5.1 Regarding rule NOISE-R14, I have proposed to amend the activity status for non-compliance with the rule from Discretionary to Restricted Discretionary. I note that the issues of noise with respect to acoustic insulation of buildings in which noise sensitive activities are located are discrete and well understood. Therefore, it is appropriate to deal with such issues through a Restricted Discretionary Activity framework where the matters of discretion can be clearly identified and tailored to appropriately focus on the key issues / effects to be assessed – noting this aligns with the approach to non-compliance with rules NOISE-R16, NOISE-R17 and NOISE-R18.
- 5.2 If the proposed Discretionary Activity status is set to ‘discourage’ new buildings, or any additions to an existing building within the 55 dBA Ldn Noise Contour for CIA, then I consider this an inappropriate planning approach to manage the potential adverse effects arising from the activity.
- 5.3 Furthermore, as a consequential amendment to the change in activity status I have recommended, I have proposed reference to both matters of discretion NOISE-MD2 and NOISE-MD3. I consider both these matters are the appropriate matters to assess in the context of non-compliance with rule NOISE-R14 (which also aligns with the approach proposed by the Council in relation to NOISE-R17).
- 5.4 In addition, the proposed amendments set out in **Attachment B** to this statement also include the addition of a reference within the rule (as a newly proposed clause 2) to the newly proposed ventilation standard

which is recommended by (and discussed in detail in the evidence of) Mr Jimmieson on behalf of Kāinga Ora. I consider it is appropriate to incorporate an additional requirement within the rule – relating to achieving minimum ventilation standards to achieve a comfortable and healthy internal living environment for occupants of noise sensitive activities – given the existing clause 1 within the rule (relating to acoustic insulation) requires windows and doors to be closed.

6. RULE NOISE-R16

6.1 Kāinga Ora has two further submission points² relevant to NOISE-R16. In summary, these further submission points opposed the amendments sought by both Waka Kotahi and KiwiRail, as follows:

- (a) opposed the submissions by Waka Kotahi³ and KiwiRail⁴ to increase the 80m setback to 100m; and
- (b) opposed the submission by KiwiRail⁴ seeking various amendments to NOISE-R16 to expand the mitigation of noise and vibration effects to all noise sensitive activities and to provide greater clarity around noise, ventilation, and vibration.

6.2 The issue of noise sensitive activities adjoining State highway and rail corridors is a particular matter I have had extensive involvement in over a number of years, through a variety of plan change or plan review processes across the country.

6.3 My experience from these processes has demonstrated that a more specifically tailored suite of district plan provisions can be created to better focus any management of noise sensitive activities within locations where the adverse effect is known to be present (as opposed to the current 'default distance' approach, which assumes there may be an adverse effect to be managed). In my experience, the best method for achieving this 'tailoring' of the provisions package is to model the spatial extent of potential / likely noise levels generated from the

² Sub No. FS88

³ Sub No. 275.55

⁴ Sub No. 373.70 – 373.77 and 373.101

transport corridors, and provide mapped extents of these areas (e.g., as 'modelled noise effects areas') within the PDP.

- 6.4 I consider this 'modelled' approach can provide greater certainty to plan users as to the likely spatial extent of noise effects along these strategic transport corridors, and better ensures that the need for noise sensitive activities to undertake any mitigation measures (e.g. through compliance with resulting acoustic insulation standards) applies to locations where noise levels require such mitigation – while at the same time ensuring noise sensitive activities do not need to take on a mitigation requirement where the modelled spatial extent of actual / likely noise levels would not apply.
- 6.5 Moreover, I consider that adopting this 'default-distance' approach, based on the information presented to date, would not appropriately satisfy the requirements of Section 77 of the Amendment Act – specifically, the need to assess and demonstrate (under s77J(4)(b)) how modifications to the MDRS are “limited to only those modifications necessary to accommodate qualifying matters”. In my opinion, a more refined, 'modelled' approach would better ensure that any resulting limits on development density (below the levels of enablement provided for by the MDRS) would specifically target such limits to locations where a detailed evidence base and assessment method (e.g. modelling the spatial extent of anticipated noise levels generated from state highway and rail corridors) is able to demonstrate and justify the need for such restrictions.
- 6.6 In addition, the s32 assessments and s42a report prepared by the Council provides very little discussion - nor any robust assessment of effectiveness, efficiency, costs or benefits – to demonstrate the impacts and costs to property owners of requiring sensitive receiver mitigation requirements for noise effects which are generated from the Council's (e.g. arterial) roading network.
- 6.7 For these reasons, I have recommended the deletion in full of rule NOISE-R16, as I consider the proposed approach could lead to the need for landowners to potentially incur a mitigation cost to address adverse effects which are not of their creation (being the noise levels

emitted from the transport corridors), and may not in fact be at a level which requires any mitigation at all (particularly for properties beyond the 'first row' of properties which adjoin these corridors).

7. RULE NOISE-R17

7.1 Turning to rule NOISE-R17, while I support the general approach proposed by the Council in relation to the rule, I have proposed to delete the requirement within the rule for CIA to be considered an affected party for any resource consent application within the 50dBA Ldn Noise Contour Overlay. I do not consider it would be appropriate for CIA to be identified as an affected party (requiring applications to secure an affected party approval) where a proposal fully complies with the relevant standards referenced in Table NOISE 1. I also consider that the standard RMA notification tests provide the Council with the ability to identify CIA as an affected party for any resource consent application within the 50dBA Ldn Noise Contour Overlay which does not comply with the relevant noise standards.

7.2 In addition, the prospect for any resource consent application to be limited notified has the potential to create resource consent processing inefficiencies (for applicants, the Council, as well as CIA), without any clear identification of the benefits provided by such a requirement and would also likely create uncertainty for applicants who are able to comply with the required standards – but could be left in a position whereby landowner approval from CIA could be denied.

8. RULE NOISE-R18

8.1 The evidence of Mr Jimmieson, on behalf of Kāinga Ora, discusses in detail issues associated with ventilation, and the need to be able to achieve a comfortable and healthy indoor environment for occupants of noise sensitive activities – where rules relating to acoustic insulation will require doors and windows to be closed.

8.2 The evidence of Mr Styles, on behalf of Kāinga Ora also addresses rule NOISE-R18, in particular with regard to Mr Styles' recommended

amendment to clause 1 of the rule in relation to the external to internal noise reduction level to be achieved.

8.3 In light of Mr Jimmieson's and Mr Styles' recommendations, the amendments set out in **Attachment B** to my evidence proposes the addition of a new clause 2 within rule NOISE-R18 (similar to that referred to above regarding rule NOISE-R14) to reference the new ventilation rule (NOISE-RXX) which is recommended by Mr Jimmieson, as well as the reduced external to internal noise level as recommended by Mr Styles.

8.4 I support the expert evidence of Mr Jimmieson and Mr Styles in relation to the need to provide a comfortable and healthy indoor environment for occupants of noise sensitive activities and, therefore, support the need to amend rule NOISE R-18 within the Noise chapter provisions as a means to achieve this outcome.

9. MATTERS OF CONTROL / DISCRETION

9.1 Regarding the Matters of Control / Discretion, I recommend minor amendments to NOISE-MD3 (as consequential amendments) considering my amendments to both objective NOISE-O2 and policy NOISE-P4, as well as in relation to the proposed new rule NOISE-RXX with regard to ventilation. Specifically, I consider the deletion of the term "reverse sensitivity" is appropriate to be replaced by the phrase "land use incompatibility".

10. SECTION 32 / 32AA CONSIDERATIONS

10.1 In respect of a Section 32 / 32AA evaluation of the issues raised above, along the proposed amendments to provisions which I have recommended (as set out in **Attachment B**), I provide the following assessment and commentary:

(a) I consider that the amendments I have recommended are the most appropriate means to achieve:

- (i) The creation of effective and efficient, well-functioning urban environments, which will provide for ongoing development and change over time;
 - (ii) The provision of sufficient development capacity to meet the needs of people and communities, as well as future generations;
 - (iii) Active enablement of development of noise sensitive activities in appropriate locations, where it can be demonstrated that adequate acoustic / ventilation standards can be met. I consider my recommended amendments to provisions strike an appropriate balance to build in to the PDP a framework of provisions which balances the need to enable and provide for future urban growth opportunities, whilst also ensuring that potential adverse effects (relating to amenity, health, well-being as well as issues of land use compatibility) can be appropriately identified and assessed;
- (b) I consider that the potential benefits associated with my recommended amendments include:
- (i) The creation of a package of PDP provisions which enable and provide for future development opportunities to accommodate noise sensitive activities, whilst also enabling existing noise generating activities and regionally significant infrastructure can continue to provide for the needs of the region without their operations being unduly constrained or compromised;
 - (ii) Providing benefits to the social and environmental wellbeing of the community by ensuring any potential costs to be incurred by noise sensitive activities, associated with the need to undertake mitigation such as acoustic insulation / ventilation, are specifically

targeted to locations where there is certainty as to the potential for adverse noise effects to be present. I consider that the currently proposed 'default distance' approach creates (at worst) the potential to place an additional cost burden on some landowners to undertake potentially unnecessary mitigation, or (at best) incur costs associated with the need for applicants to have to employ specific expertise as a means to provide proof that an actual noise effect (which is assumed by the currently proposed provisions) may not be present at their given location.

11. CONCLUSION

- 11.1 A summary of the changes that are sought through my evidence are included at **Attachment B**. the changes are shown in green as a markup.
- 11.2 It is my opinion that the underlying principles that have informed the proposed changes sought by Kāinga Ora will better align the PDP with the NPS-UD and the purpose and principles of the RMA, as amended by the Housing Supply Act.



Matthew Lindenberg
07 August 2023

**ATTACHMENT A:
STATEMENT OF EXPERIENCE – MATHEW LINDENBERG**

Matthew Lindenberg:

I am a Planner and hold the position of Principal at Beca Limited. I hold a Master of Science in Geography (Second Class Honours) and a Bachelor of Science, both from the university of Auckland. I am an Associate member of the New Zealand Planning Institute

I have over 16 years' planning and resource management experience, providing technical direction on a number of key projects, particularly focussing on strategic and policy planning. I have been involved in a number of plan review and plan change processes, including the recent Independent Hearings Panel ("IHP") hearings on the proposed Auckland Unitary Plan (PAUP). In particular, I have been a member of planning teams for policy planning projects including:

- (a) The Whangarei District Plan Urban and Services Plan Changes submission, hearing and appeal processes;
- (b) The Waikato District Council Stage One District Plan Review submission, hearing and appeal processes;
- (c) Submission and hearings processes in relation to numerous plan changes to the Auckland Unitary Plan (including PC3, PC4, PCs 14-17, PC23, PC26 and PC34);
- (d) The submission, hearing and appeals process in relation to Tauranga City Council's Plan Change 27 (Flooding from intense rainfall);
- (e) The Kaipara District Plan review and development of objectives and policies (for the 'Land Use and Development Strategy' and 'Residential' chapters) for the notification of that Plan;
- (f) The Plan Variation for the site known as 'The Landing' at Hobsonville Point (undertaken through the Housing Accords and Special Housing Areas legislative process) on behalf of Hobsonville Land Company;
- (g) The Kerikeri-Waipapa Structure Plan (2007) on behalf of the Far North District Council; and
- (h) The preparation of the Local Development Framework and Core Strategy (the 'Spatial Plan') during my time working at the London Borough of Bexley in the United Kingdom, including leading the 'Affordable Housing' and 'Sustainability / Climate Change' workstreams as part of the plan development process

**ATTACHMENT B:
RELIEF SOUGHT**

Recommended Amendments to Noise Chapter, planning maps and definitions

Council Reporting Officer s42a amendments: shown in black text ~~striketrough~~ and underline.

Kāinga Ora evidence proposed amendments: shown in red text ~~striketrough~~ and underline.

Planning maps

Rename the 'Noise Contour for: Timber Processing' to 'HIZ Processing Noise Contour'.

Definitions

Amend the definition of 'construction work' to add:

"...

for the avoidance of doubt, installation of a building includes the relocation and resiting of a building."

I recommend that the definition of noise sensitive activity clause (b) be amended to read:

a. residential activities ~~other than those in conjunction with rural activities that comply with the rules in the relevant district plan as at 23 August 2008;~~

"b. Educational Facilities ~~activities including pre-school places or premises excluding training, trade training or other industry related training facilities;~~"

NOISE - Te orooro - Noise

Introduction

Noise effects require management because they can affect the health of people, natural values, and amenity values. The character, level and duration of sound, and the time at which it occurs are all factors affecting the perception of noise and how tolerable it is. This chapter contains objectives, policies and rules to manage the effects of noise for different receiving environments and activities.

This chapter does not control noise from aircraft in flight, however aircraft noise contours are used to control land uses where they may be subject to noise from aircraft using Christchurch International Airport and Rangiora Airfield. Noise from ~~main transport routes~~ state highway and rail corridors can adversely affect residential amenity for people living nearby. Acoustic design for residential development near identified ~~main roads~~ state highways and rail corridors is required to ensure noise levels within residential units do not adversely affect the health and wellbeing of occupants.

Residential Zones anticipate quiet night time conditions, as noise can disturb relaxation and sleep. Commercial and Mixed Use Zones and Industrial Zones normally have a greater tolerance for noise that reflects the working environment. The working nature of the rural environment may result in seasonal, short term or intermittent noise effects but the rural environment generally comprises low levels of noise.⁴⁶

Noise limits for the Open Space and Recreation Zones recognise the use of these areas for relaxation, and enjoyment of nature, as well as activities, such as sports, that can generate noise.

The provisions in this chapter are consistent with the matters in Part 2 - District Wide Matters - Strategic Directions and give effect to matters in Part 2 - District Wide Matters - Urban Form and Development.

Other potentially relevant District Plan provisions

As well as the provisions in this chapter, other District Plan chapters that contain provisions that may also be relevant to noise include:

- Temporary Activities: this chapter contains provisions for activities that may generate noise on a short term basis.
- Special Purpose Zone (Kāinga Nohoanga): how the Noise provisions apply in the Special Purpose Zone (Kāinga Nohoanga) is set out in SPZ(KN)-APP1 to SPZ(KN)-APP5 of that chapter.
- Any other District wide matter that may affect or relate to the site.
- Zones: the zone chapters contain provisions about what activities are anticipated to occur in the zones.

Objectives	
NOISE-O1	Adverse noise effects Noise does not adversely affect human health, communities, natural values and the anticipated amenity values of the receiving environment.
NOISE-O2	Reverse sensitivity The operation of regionally significant infrastructure and strategic infrastructure, activities within Commercial and Mixed Use Zones and Industrial Zones and identified existing <u>noise generating activities identified through the Noise Chapter rules</u> ⁴⁷ are not adversely affected by reverse sensitivity effects from the incompatible use or development of noise sensitive activities.

NOISE-O3	Rangiora Airfield The avoidance of noise sensitive activities within the 65dBA and 55dBA Ldn Noise Contours for Rangiora Airfield.
Policies	
NOISE-P1	Minimising adverse noise effects Minimise adverse noise effects by: 1. limiting the noise level, location, duration, time, intensity and any special characteristics of noise generating activities, to reflect the function, character and <u>anticipated</u> amenity values of each zone;
	2. requiring lower noise levels during night hours compared to day time noise levels to protect human health, natural values and <u>maintain the</u> amenity values of sensitive environments; and 3. requiring sound insulation, or limiting the location of noise sensitive activities where they may be exposed to noise from existing activities.
NOISE-P2	Limited duration noise generating activities Enable specific noise generating activities of limited duration that are: 1. required for anticipated activities within zones or the District, including construction noise, audible bird scaring devices, frost control fans, temporary activities, <u>temporary military training activities</u> , ⁴⁸ and emergency services, and 2. where noise levels and characteristics are consistent with the character and <u>anticipated</u> amenity values of the receiving environment.
NOISE-P3	Rail and <u>roads state highway corridors</u> Protect <u>Provide for</u> the <u>ongoing</u> operation of rail and <u>roadstate highway</u> infrastructure by identifying locations where acoustic mitigation measures for any new noise sensitive activities are required.
NOISE-P4	Airport Noise Contour Protect <u>Provide for the ongoing operation of</u> Christchurch International Airport from reverse sensitivity effects by: 1. avoiding noise sensitive activities within the 50 dBA Ldn Noise Contour by limiting the density of any residential unit or minor residential unit to a maximum of 1 residential unit or minor residential unit per 4ha, except within existing Kaiapoi Residential Zones, greenfield priority areas identified in Chapter 6 – Map A of the RPS (gazetted 6 December 2013) or any residential Development Area; and 2. requiring noise insulation within the 50 dBA Ldn and 55 dBA Ldn Noise Contour for Christchurch International Airport.
NOISE-P5	Rangiora Airfield Avoid the development of noise sensitive activities in the Rural Lifestyle Zone within the 55dBA Ldn Noise Contour for Rangiora Airfield and prohibit noise sensitive activities within the 65 dBA Ldn Noise Contour for Rangiora Airfield.

⁴⁶ NZPork [169.29], HortNZ [295.109]⁴⁷ North Canterbury Clay Target Association [61.3], Daiken [145.24]

Activity Rules

How to interpret and apply the rules

1. Noise standards apply to the zone or zones where noise is received. Noise from the use of public roads or railways is exempt from the provisions of the Noise Chapter.
2. Unless otherwise specified:
 - a. sound levels shall be measured in accordance with NZS 6801:2008 Acoustics - Measurement of Environmental Sound and assessed in accordance with NZS 6802:2008 Acoustics - Environmental Noise where the source of noise is within the scope of these standards; and
 - b. for the purposes of compliance with these noise standards, public roads shall not be considered as a site receiving noise.

NOISE-R1	TimberHIZ processing and ancillary activities	
Heavy Industrial Zone located between Upper and Lower Sefton Roads	Activity status: PER Where: 1. noise generated within the TimberHIZ Processing Noise Contour, as shown on the planning map, shall <u>not exceed the following standards at or beyond the noise control boundary</u> : a. not exceed 45 dB LAeq outside the Timber Processing Noise Contour and shall otherwise comply with Table NOISE-2; and b. not exceed the following standards at or within the notional boundary of the residential unit located at 126 Beatties Road: i. a. 7:00am-7:00pm Monday to Saturday 55 dB LAeq. ii. b. 9:00am-7:00pm Sundays and Public Holidays 55 dB LAeq. iii. c. All other times 45 dB LAeq. iv. d. ⁴⁹10:00pm-7:00am on any day 75 dB LAF(max).	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise NOISE-MD2 - Management of noise effects NOISE-MD3 - Acoustic insulation

NOISE-R2	Temporary military training activity	
	<i>This rule does not apply to helicopter movements provided for under NOISE-R4.</i>	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> written notice shall be provided to the District Council's Manager, Planning and Regulation at least 10 working days prior to the commencement of the activity; firing of weapons and explosive events shall be undertaken no closer than 1500m to the notional boundary of any noise sensitive activity during the hours of 7:00am-7:00pm, nor within 4500m during the hours of 7:00pm-7:00am; firing of weapons and explosive events shall not exceed a noise level of 65 dB 	Activity status when compliance with NOISE-R2 (1) or (3) not achieved: CON Matters of control are restricted to: NOISE-MD1 - Noise Activity status when compliance with NOISE-R2 (2) not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise Activity status when compliance with NOISE-R2 (4) not achieved: (Refer to NOISE-R4) Activity status when compliance with NOISE-R2 (5) not achieved: (Refer to NOISE-R19)

⁴⁸ NZDF [166.17]

⁴⁹ Daiken [145.26]

	LAF(max) during the hours of 7:00am-7:00pm, nor a level of 50 dB LAF(max) during the hours of 7:00pm-7:00am; 4. helicopter movements shall comply with NOISE-R4; 5. noise from all other sources other than those specified in activity standards (3) to (5) shall comply with the noise limits in NOISE-R19.	
	Advisory Note <ul style="list-style-type: none"> See also TEMP-R5 Temporary military training activity.¹ 	
NOISE-R3	Construction work	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> noise from construction shall comply with the following maximum noise limits when assessed in accordance with NZS 6803:1999 Acoustics - Construction Noise: <ol style="list-style-type: none"> when received in any Residential Zones, or within the notional boundary of any Rural <u>zZ</u>ones: <ol style="list-style-type: none"> 7:30am - 6:00pm Monday to Saturday: 70 dB LAeq; all other times: 45 dB LAeq; when received in any Commercial and Mixed Use Zones and Industrial Zones: <ol style="list-style-type: none"> at all times: 70 dB LAeq; vibration from construction shall be assessed in accordance with DIN 4150-3:2016, Vibration in Buildings – Part 3: Effects on Structures, and shall comply with the relevant limits in Tables 1 and 4 of that standard. 	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise
NOISE-R4	Helicopter movements	
	<i>This rule does not apply to helicopter movements at Rangiora Airfield or for emergency purposes provided for under NOISE-R5.</i>	

¹ NZDF [166.17]

² Minor amendment

All Zones	Activity status: PER Where: <ol style="list-style-type: none"> 1. helicopter movements shall only occur between 8:00am and 6:00pm, unless further than 450m from any residential unit or minor residential unit; 2. within 25m of any residential unit or minor residential unit, no helicopter movement shall take place, unless that residential unit or minor residential unit is on the site on which the landing or takeoff occurs; 3. between 25m and 450m from a residential unit or minor residential unit not located on the same site as the activity, the number of helicopter movements on a site shall not exceed 24 in any 12 month period within which there may be a maximum of 10 in any month, or six in any week, unless that residential unit or minor residential unit is on the site on which the landing or takeoff occurs. 	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise NOISE-MD4 - Helicopter noise
NOISE-R5	Helicopter movements for emergency purposes	
All Zones	Activity status: PER	Activity status when compliance not achieved: N/A
NOISE-R6	Audible bird scaring devices	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> 1. audible bird scaring devices shall: <ol style="list-style-type: none"> a. only operate between 30 minutes before sunrise to 30 minutes after sunset; b. not exceed a maximum of six events per device per hour, where each event has a maximum of three clustered shots; c. not be used within 200m of a notional boundary of any residential unit or minor residential unit on any other site of different ownership; and d. not exceed 65 dB LAE from any one noise emissionevent, when assessed at any point within the notional boundary of any residential unit or minor residential unit on any site of different ownership; and e. <u>not exceed one device per 1ha of land in any single land holding.</u>³ 	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise
	Advisory Note <ul style="list-style-type: none"> • Audible bird scaring devices should have a legible notice securely fixed to the road frontage of the site in which the device is to operate stating the name, address and phone number of the person(s) responsible for the operation of the device and identify the site on which the device will operate.⁴ 	
NOISE-R7	Temporary, mobile or intermittent agriculture activities emitting noise for cultivation, application of fertiliser, planting, harvesting, use of agricultural vehicles or equipment, and movement, handling and transport of livestock	

³ Michael John Baynes [357.1]

⁴ HortNZ [295.114]

Rural Zones Special Purpose Zone (Kāinga Nohoanga) Special Purpose Zone (Pines Beach and Kairaki Regeneration)	Activity status: PER	Activity status when compliance not achieved: N/A
NOISE-R8	Operation of an emergency service facility warning device	
All Zones	Activity status: PER	Activity status when compliance not achieved: N/A
NOISE-R9	Temporary activities	
	<i>This rule does not apply to recreational jet boating activity.⁵</i>	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> between 10:00pm and 8:00am the noise limits in NOISE-R19 are met; sound amplified activities shall be restricted to a total duration not exceeding four hours per day on any site on which the temporary activity is located, including all sound checks; sound amplified activities shall have a maximum total amplified power of 500 Watts RMS; noise from any temporary activity shall not exceed 65 dB LAeq at the notional boundary of any residential unit or minor residential unit, except fireworks displays that are limited to the hours between: <ol style="list-style-type: none"> 9:00am to 10:00pm on any day; 9:00am to 11:00pm on Guy Fawkes Night or Matariki; or 9:00am to 01:00am on New Year's Eve/Day. 	Activity status when compliance with NOISE-R9 (1 to 3) not achieved: CON Matters of control are restricted to: NOISE-MD1 - Noise Activity status when compliance with NOISE-R9 (4) not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise
	Advisory Note <ul style="list-style-type: none"> It is recommended that residents adjacent to an event involving amplified sound or fireworks, are notified at least 48 hours before the temporary activity commences, including: <ul style="list-style-type: none"> the nature of the activity; proposed dates, start and finish time and the expected times of any sound testing or practice; any alternative dates in the event of postponement and; contact details of the event organiser. 	
NOISE-R10	Wind turbine operation	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> the turbine has a rated generation capacity of no greater than 15kW; the turbine is located no closer than 500m to the notional boundary of any residential unit or minor residential unit on any other site of different ownership; where there is more than one wind turbine, noise shall be assessed in accordance with NZS 6808:2010 Acoustics - Wind Farm Noise and comply with the limits given in that standard. 	Activity status when compliance not achieved: DIS
NOISE-R11	Use of generators for emergency purposes	
All Zones	Activity status: PER Where: <ol style="list-style-type: none"> routine testing is only undertaken between the hours of 9:00am and 5:00pm; noise from the generator does not exceed the NOISER19 daytime (7:00am-10:00pm) noise limit at any site receiving noise. 	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise
NOISE-R12	Speedway Activities - 39 Doubledays Road, Kaiapoi	

⁵ Jet Boating New Zealand [358.6]

Speedway Overlay	Activity status: PER Where: <ol style="list-style-type: none"> 1. a maximum of 25 events may be held in the period from 1 October to 30 April in any year; 2. a maximum of three practices may occur on the site each calendar year (that will not be assessed as an event under (1)); 3. events, except for Speedway New Zealand Allocated Championships, shall conclude by 10:30pm and have a maximum duration of 4.5 hours, not including event preparation and clean-up; 4. where a medical emergency or similar circumstance causes delay to an event, the hours of operation may be extended by up to one hour; 5. activities other than the use of the track by motor racing vehicles shall comply with NOISE-R19. 	Activity status when compliance with NOISE-R12 (1) to (4) not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise Activity status when compliance with NOISE-R12 (5) not achieved: as set out in NOISE-R19
NOISE-R13	Aircraft operations at Rangiora Airfield	
Rural Lifestyle Zone	Activity status: PER Where: <ol style="list-style-type: none"> 1. the aircraft operation is for one of the following purposes: <ol style="list-style-type: none"> a. emergency medical or for national/civil defence reasons, air shows, military operations; b. aircraft using the airfield as a necessary alternative to an airfield elsewhere; c. aircraft taxiing; d. engine run-ups for each 50 hour check-up⁶ 2. for all other aircraft operations: <ol style="list-style-type: none"> a. noise from the aircraft operations shall not exceed 65 dBA Ldn outside the 65 dBA Ldn Airport Noise Contour, shown on the planning map; b. measurement and assessment of noise from aircraft operations at Rangiora Airfield shall be carried out in accordance with NZS 6805:1992 Airport Noise Management and Land Use Planning; c. when recorded aircraft movements at Rangiora Airfield exceed 70,000 movements per year, compliance with (1) shall be determined by calculations of noise from airfield operations and shall be based on noise data from the Rangiora Airfield Noise Model. Records of actual aircraft 	Activity status when compliance not achieved: NC
	<ol style="list-style-type: none"> d. measurement of the noise levels at the site shall commence once aircraft operations at Rangiora Airfield reach 88,000 movements per year and shall be calculated over the busiest three-month period of the year. The measurements shall be undertaken annually while aircraft operations are at 88,000 movements or higher and the results shall be reported to the District Council's Manager, Planning and Regulation. 	
NOISE-R14	Buildings in the 55 dBA Ldn Noise Contour for Christchurch International Airport	

⁶ Minor amendment

55 dBA Ldn Noise Contour for Christchurch International Airport	<p>Activity status: PER Where:</p> <ol style="list-style-type: none"> 1. any new building or any addition to an existing building for an activity listed in Table NOISE-1 within the 55 dBA Ldn Noise Contour for Christchurch International Airport, shown on the planning map, shall be insulated from aircraft noise to ensure indoor sound levels stated in Table NOISE-1 are not exceeded, when windows and doors are closed, and: <ol style="list-style-type: none"> a. noise insulation calculations and verification shall be as follows: <ol style="list-style-type: none"> i. building consent applications shall be accompanied by a report detailing calculations that show how the required sound insulation and construction methods have been determined; b. for the purpose of sound insulation calculations, the external noise levels for a site shall be determined by application of the air noise contours Ldn and LAE. Where a site falls within the contours the calculations shall be determined by linear interpolation between the contours; c. if required by the District Council, in conjunction with the final building inspection the sound transmission of the façade shall be tested in accordance with ISO 16283-3:2016 to demonstrate that the required façade sound insulation performance has been achieved, and a test report is to be submitted to the District Council's Manager, Planning and Regulation. Should the façade fail to achieve the required standard then it shall be improved to the required standard and re-tested prior to occupation. 2. <u>Where the requirements in 1 above require the windows to remain closed, the ventilation shall comply with Noise-RXX Ventilation.</u> 	<p>Activity status when compliance not achieved: NCRDIS</p> <p>NOISE-MD2 - Management of noise effects NOISE-MD3 - Acoustic insulation</p>
NOISE-R15	Buildings in the 55 dBA Ldn Noise Contour for Rangiora Airfield	
<i>This rule applies to any new residential unit, or minor residential unit addition to an existing residential unit, minor residential unit or building, or part of a building, for a noise sensitive activity.</i>		
55 dBA Ldn Noise Contour for Rangiora Airfield	<p>Activity status: PER Where:</p> <ol style="list-style-type: none"> 1. the building shall be insulated from aircraft noise to achieve the indoor sound levels in Table NOISE-1. 	Activity status when compliance not achieved: NC

Table NOISE-1: Noise Contour Indoor Design Levels

Building Type and Activity	Indoor Design and ound Level	
	dB LAE	dB Ldn
Residential Units or Minor Residential units		
Bedrooms	65	40
Other habitable room	75	50
Visitor Accommodation		
Bedrooms, living rooms	65	40
Conference meeting rooms	65	40
Service activities	75	60
Education Facilities		
Libraries, study areas, teaching areas, assembly areas	65	40
Workshops, gymnasiums	85	60
Retail Activities, Retail Services and Offices		
Conference rooms	65	40
Private offices	70	45
Open plan offices, exhibition spaces	75	50
Data processing	80	55
Shops, supermarkets, showrooms	85	60

NOISE-R16	Residential units and minor residential units <u>Noise sensitive activities</u> within 80m of an arterial road, strategic road or rail designation	
All Zones	<p>Activity status: PER Where:</p> <ol style="list-style-type: none"> any new residential unit or minor residential unit building, intended for a noise sensitive activity⁷, within 80m measured from the boundary of a site adjoining the road or rail designation⁸, shall be designed and constructed to achieve a minimum external and internal noise reduction of 30 dB $D_{tr,2m,nT,w} + C_{tr}$ to any habitable room; or be designed and constructed to meet the following maximum indoor design sound levels: <ol style="list-style-type: none"> road traffic noise within any habitable room — 40 dB LAeq(24hr); rail noise inside bedrooms between 10:00pm and 7:00am — 35 dB LAeq(1h); and rail noise inside any habitable room excluding bedrooms — 40 dB LAeq(1h); the design for road traffic noise shall take into account future permitted use of the road, either by the addition of 2 dB to predicted sound levels or based on forecast traffic in 20 years' time; rail noise shall be deemed to be 70 dB LAeq(1h) at 12m from the edge of the track, and shall be deemed to reduce at a rate of 3 dB per doubling of distance up to 40m and 6 dB per doubling of distance beyond 40m; the indoor design sound level shall be achieved at the same time as the ventilation requirements of the New Zealand Building Code. If windows are required to be closed to achieve the indoor design sound levels then an alternative means of ventilation shall be required within bedrooms; the external to internal noise reduction shall be assessed in accordance with ISO 16283-3:2016 Acoustics — Field measurement of sound insulation in buildings and of building elements — Part 3: Façade sound insulation and ISO 717-1:2020 Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation. 	<p>Activity status when compliance not achieved: RDIS Matters of discretion are restricted to:</p> <p>NOISE-MD1 – Noise NOISE-MD2 – Management of noise effects NOISE-MD3 – Acoustic insulation</p>
	<p>Advisory Note</p> <ul style="list-style-type: none"> $D_{tr,2m,nT,w} + C_{tr}$ means the weighted standardised level difference of the external building envelope (including windows, walls, roof/ceilings and floors where relevant) and is a measure of the reduction in sound level from outside to inside a building. $D_{tr,2m,nT,w} + C_{tr}$ is also known as the external sound insulation level. 	
NOISE-R17	Noise sensitive activities	
50dBA Ldn Noise Contour for Christchurch International Airport Limited	<p>Activity status: PER Where:</p> <ol style="list-style-type: none"> the activity is located within Residential Zones; or any <u>new</u> activity meets the indoor sound levels stated in Table NOISE 1, when windows and doors are closed. 	<p>Activity status when compliance not achieved: RDIS Matters of discretion are restricted to:</p> <p>NOISE-MD2 - Management of noise effects NOISE-MD3 - Acoustic insulation</p> <p>Notification</p> <p>An application for a restricted discretionary activity under this rule where compliance is not achieved with NOISE-R17 (1), shall be limited notified only to Christchurch International Airport Limited.</p>
	<p>Advisory Note</p> <ul style="list-style-type: none"> Noise insulation calculations and verification shall be as follows: 	

⁷ KiwiRail [373.74]

⁸ Waka Kotahi [275.55], KiwiRail [373.74]

	<p>o Building consent applications shall be accompanied with a report detailing the calculations showing how the required sound insulation and construction methods have been determined. o For the purpose of sound insulation calculations, the external noise levels for a site shall be determined by application of the air noise contours Ldn and LAE. Where a site falls within the contours the calculations shall be determined by linear interpolation between the contours.</p> <p>§ If required by the District Council, in conjunction with the final building inspection the sound transmission of the façade shall be tested in accordance with ISO 16283-3:2016 to demonstrate that the required façade sound insulation performance has been achieved, and a test report is to be submitted to the District Council’s Manager, Planning and Regulation. Should the façade fail to achieve the required standard then it shall be improved to the required standard and re-tested prior to occupation.</p>	
NOISE-R18	Bedrooms in Town Centre Zone, Local Centre Zone, Neighbourhood Centre Zone or Mixed Use Zone	
Town Centre Zone Local Centre Zone Neighbourhood Centre Zone Mixed Use Zone	Activity status: PER Where: 1. any bedroom that forms part of residential activity or visitor accommodation must achieve an external to internal noise reduction of not less than 32 35 dB D _{tr,2m,nT,w+Ctr} ; 2. the external to internal noise reduction shall be assessed in accordance with ISO 16283-3:2016 Acoustics — Field measurement of sound insulation in buildings and of building elements — Part 3: Façade sound insulation and ISO 717-1:2020 Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation; 3. the indoor design sound level should be achieved at the same time as the ventilation requirements of the New Zealand Building Code. If windows are required to be closed to achieve the indoor design sound levels then an alternative means of ventilation shall be required within bedrooms that meets the ventilation requirements of the New Zealand Building Code. Where the requirements in 1 above require the windows to remain closed, the ventilation shall comply with Noise-RXX Ventilation.	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise NOISE-MD2 - Management of noise effects NOISE-MD3 - Acoustic insulation Notification An application for a restricted discretionary activity under this rule where compliance is not achieved with NOISE-R18 (1) to NOISE-R18 (3) is precluded from being publicly or limited notified.
	Advisory Note • D _{tr,2m,nT,w+Ctr} means the Weighted Standardised Level Difference of the external building envelope (including windows, walls, roof/ceilings and floors where relevant) and is a measure of the reduction in sound level from outside to inside a building. D _{tr,2m,nT,w+Ctr} is also known as the external sound insulation level.	
NOISE-R19	Activities emitting noise not otherwise covered in NOISE-R1 to NOISE-R13	
	<i>This rule does not apply to recreational jet boating activity.⁹</i>	
All Zones	Activity status: PER Where: 1. the noise limits in Table NOISE-2 are met.	Activity status when compliance not achieved (where the activity exceeds the noise standards given in Table NOISE-2: Noise limits by less than 10 dB LAeq): RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise Activity status when compliance not achieved (where the activity exceeds the noise standards given in Table NOISE-2: Noise limits by 10 dB LAeq or more): NC
NOISE-RXX	<u>Ventilation</u>	
All Zones	1. The minimum external to internal noise reduction levels in must be achieved at the same time as the ventilation requirements of the New Zealand Building Code. Minimum ventilation standards are set out below for habitable rooms classified into one of two possible categories as follows: a. Habitable rooms with openable windows sufficient in area to meet the ventilation requirements of the New Zealand Building Code; and b. All other habitable rooms required to be acoustically insulated. 2. Where habitable rooms are provided with windows	Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD3 – Acoustic insulation

⁹ Jet Boating New Zealand [358.6]

	<p><u>openable to the outside environment sufficient in area to meet the ventilation requirements of the New Zealand Building Code, and where these windows must remain closed to achieve compliance with acoustic insulation standards, each room shall meet the following minimum requirements:</u></p> <ol style="list-style-type: none"> a. <u>The room is to be provided with a mechanical ventilation system compliant with section 1.5 Mechanical Ventilation of NZBC G4/AS1; and</u> b. <u>The minimum ventilation rates are to fixed airflow, with provision of a relief air path for an equivalent volume of spill air.</u> c. <u>The room is provided with 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 the applicable location. An acceptable design weather set is NIWA 24 Hour 2.5% published weather data for the applicable region; and</u> d. <u>An HVAC system installed in compliance with (a) and (b) above must not generate noise at levels greater than 35 dB LAeq (30s) when measured 1.5 metres from any outlet/inlet, and</u> e. <u>Filtration shall be provided to all HVAC systems to comply with NZBC G4/AS1 (or equivalent), and</u> f. <u>Flexible duct shall be compliant with AS 4254.1:2012, and</u> g. <u>Rigid duct shall be compliant with AS 4254.2:2012</u> h. <u>All controls and ancillary items to affect the correct operation of the above systems are to be provided</u> <p>3. <u>Excluding habitable rooms qualifying under (2) above, i.e. where opening windows are not provided, minimum ventilation system requirements for habitable rooms to achieve compliance with acoustic insulation standards are set out as follows:</u></p> <ol style="list-style-type: none"> a. <u>HVAC systems shall be compliant with sections 2a-h above, and</u> b. <u>The mechanical ventilation system referred in 2a above shall be able to supply outside air at an adjustable rate up to 1-2ACH.</u> <p>4. <u>Alternatively, in lieu of sections 2 and 3 above, a design verified by a suitably qualified and experienced HVAC expert stating the design proposed will provide ventilation and internal space temperature controls to meet or exceed the outcomes described in parts 2 and 3.</u></p> <p><u>Note: This standard applies in addition to, and does not affect the requirements of, the Building Act 2004.</u></p>	
<p>NOISE-R20</p>	<p>Operation of frost control fans</p>	

Rural Zones	<p>Activity status: CON Where:</p> <ol style="list-style-type: none"> 1. noise from frost control fans measured at or within the notional boundary of any residential unit or minor residential unit, on a site of different ownership, shall not exceed 55 dB LAeq (10min), where: <ol style="list-style-type: none"> a. the noise level applies both to individual and cumulative noise from all frost control fans within 1km of the residential unit, and b. noise compliance shall be demonstrated by an acoustic report from a suitably qualified and experienced acoustic consultant; 2. frost control fans shall not be located within: <ol style="list-style-type: none"> a. 300m of a residential unit or minor residential unit on a site of different ownership; or b. 1km of any Residential Zones; 	<p>Activity status when compliance not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise</p>
	<ol style="list-style-type: none"> 3. frost control fan use is limited to the period between bud burst and harvest; 4. frost control fans shall only be operated in wind speeds up to 8km/hr and when the local air temperature is 2°C or less; 5. operation for testing shall only take place between 7:30am and 6:00pm, MondayFriday. <p>Matters of control are restricted to: NOISE-MD1 - Noise</p>	
NOISE-RX	Noise sensitive activities near frost fans	
<p>General Rural Zone Rural Lifestyle Zone</p>	<p>Activity status: CON Where:</p> <ol style="list-style-type: none"> 1. Any new noise sensitive activity located on a separate site of different ownership within 1000m of any frost control fan must be designed and constructed to ensure that the noise level inside any bedroom of the dwelling will not exceed 30 dB LAeq with all fans operating at normal duty. 2. Compliance with this standard must be demonstrated by the production of a design certificate from an appropriately qualified and experienced acoustic engineer. The design certificate must be based either on actual noise measurements with all fans operating at normal duty, or on an assumed noise level from any one frost fan, corrected for the number of fans present at the time. <p>Matters of control are restricted to: NOISE-MD1 - Noise NOISE-MD3 - Acoustic insulation</p>	<p>Activity status when not achieved: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise NOISE-MD3 - Acoustic insulation¹⁰</p>
NOISE-R21	Noise sensitive activities	
<p>Timber HIZ ¹¹Processing Noise Contour</p>	<p>Activity status: RDIS Matters of discretion are restricted to: NOISE-MD1 - Noise NOISE-MD3 - Acoustic insulation</p>	<p>Activity status when compliance not achieved: N/A</p>
NOISE-R22	Residential unit or minor residential unit	
<p>Speedway Noise Contour</p>	<p>Activity status: NC Where: 1. the activity is located in the Speedway Noise Contour.</p>	<p>Activity status when compliance not achieved: N/A</p>

¹⁰ HortNZ [295.115]¹¹ Daiken [145.66]

NOISE-R23	Residential units, minor residential units or noise sensitive activities	
65 dBA Ldn Noise Contour for Rangiora Airfield	Activity status: PR Where: 1. the activity is located in the 65 dBA Ldn Noise Contour for Rangiora Airfield.	Activity status when compliance not achieved: N/A

Table NOISE-2 Noise limits

	Maximum noise level at or within the boundary ¹ of any site receiving noise from the activity, where the site receiving noise is zoned		
	Daytime 7:00am-10:00pm	Night-time 10:00pm-7:00am	
Residential Zones	50 dB LAeq	40 dB LAeq	70 dB LAF(max)
Special Purpose Zone (Hospital), Special Purpose Zone (Pines Beach and Kairaki Regeneration), Special Purpose Zone (Kāinga Nohoanga)	50 dB LAeq	40 dB LAeq	70 dB LAF(max)
Local Centre Zone, Neighbourhood Centre Zone	60 dB LAeq	40 dB LAeq	70 dB LAF(max)
Open Space Zone, Sport and Active Recreation Zone, Special Purpose Zone (Kaiapoi Regeneration), Special Purpose Zone (Pegasus Resort)	55 dB LAeq	45 dB LAeq	75 dB LAF(max)
Town Centre Zone, Mixed Use Zone	60 dB LAeq	50 dB LAeq	80 dB LAF(max)
Light Industrial Zone	65 dB LAeq	55 dB LAeq	
Large Format Retail Zone, General Industrial Zone	60 ⁵ dB LAeq	50 ⁵ dB LAeq	
Heavy Industrial Zone, <u>except as provided for in NOISE-R1⁶²</u>	65 dB LAeq	55 dB LAeq	
Special Purpose Zone (Museum and Conference Centre)	65 dB LAeq	55 dB LAeq	
Rural Zones, Natural Open Space Zone ¹ For sites in Rural Zones the boundary is the notional boundary	50 dB LAeq	40 dB LAeq	65 dB LAF(max)

Advice Notes

NOISE-AN1	<ol style="list-style-type: none"> Activities and structures may also be subject to controls outside the District Plan. Reference should also be made to any other applicable rules or constraints within other legislation or ownership requirements including excessive noise provisions of the RMA. National Environmental Standards operate in parallel to or in conjunction with the District Plan, including the NESPF. Section 98 of the NESPF regulates noise and vibration for forests greater than 1ha that has been planted specifically for commercial purposes and will be harvested.
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Matters of Control/Discretion

NOISE-MD1	<p>Noise</p> <ol style="list-style-type: none"> 1. Noise duration, timing, noise level and characteristics, and potential adverse effects in the receiving environment. 2. Any effects on the health or well-being of persons living or working in the receiving environment, including effects on sleep, and the use and enjoyment of outdoor living areas. 3. The location of the noise generating activity and the degree to which the amenity values of any residential activity may be adversely affected. 4. The extent to which noise effects are received at upper levels of multi-level buildings. 5. Any proposals to reduce or modify the characteristics of noise generation, including: <ol style="list-style-type: none"> a. reduction of noise at source; b. alternative techniques or machinery which may be available; c. insulation or enclosure of machinery; d. mounding, screen fencing/walls or landscape characteristics; and e. hours of operation. 6. The adequacy of measures to address the adverse effects of noise on the natural character values of the coastal environment. 7. Any adverse effects of noise on ecological values. 8. The characteristics of the existing noise environment, and the character the objectives and policies of the zone are seeking to achieve. 9. Any relevant standards, codes of practice or assessment methods based on recognised acoustic principles, including those which address the reasonableness of the noise in terms of community health and amenity values and/or sleep protection. 10. For temporary military training activities, the extent to which compliance with noise standards has been demonstrated by a report prepared by a suitably qualified and experienced acoustic consultant.⁶³
NOISE-MD2	<p>Management of noise effects</p> <ol style="list-style-type: none"> 1. The extent to which effects, as a result of the sensitivity of activities to current and future noise generation from aircraft, are proposed to be managed, including avoidance of any effect that may limit the operation, maintenance or upgrade of Christchurch International Airport. 2. The extent and effectiveness of any indoor noise insulation. 3. The extent to which a reduced level of acoustic insulation may be acceptable due to mitigation of adverse noise effects through other means, e.g. screening by other structures, or distance from noise sources. 4. The ability to meet acoustic insulation requirements through alternative technologies or materials. 5. The extent to which the provision of a report from an acoustic specialist provides evidence that the level of acoustic insulation ensures the amenity values, health and safety of present and future residents or occupiers. 6. The reasonableness and effectiveness of any legal instrument to be registered against the title that is binding on the owner and the owner's successors in title, containing a 'no complaint' clause relating to the noise of aircraft using Christchurch International Airport.
NOISE-MD3	<p>Acoustic insulation</p> <ol style="list-style-type: none"> 1. The extent to which a reduced level of acoustic insulation <u>and ventilation</u> may be acceptable due to mitigation of adverse noise effects through other means. 2. The ability to provide effective acoustic insulation <u>and ventilation</u> through alternative technologies or materials. 3. The extent to which the provision of a report from an acoustic <u>/ ventilation</u> specialist which⁶⁴ provides evidence that the level of acoustic insulation <u>/ ventilation</u> ensures the amenity values, health and safety of present and future occupants or residents of the site <u>are not compromised</u>. 4. Any potential reverse sensitivity <u>and use incompatibility</u> effects on other activities that may <u>exist or are provided for and</u> arise from residential accommodation or other noise sensitive activities that do not meet acoustic insulation <u>or ventilation</u> requirements necessary to mitigate any adverse effects of noise. 5. The location of any nearby business or infrastructure activities and the degree to which any sensitive activities may be adversely affected.
NOISE-MD4	Helicopter noise

⁶¹ Woolworths [282.142]

⁶² Daiken [145.27]

⁶³ NZDF [166.21]

⁶⁴ CIAL [254.64]

	<ol style="list-style-type: none"> 1. Assessment of noise in accordance with NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas and the findings of that assessment.
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