

NOISE

Introduction

The generation of noise is often a necessary part of many activities undertaken within the District. While it is important that such activities are able to operate, noise can result in potential adverse effects on people’s health and wellbeing, and their enjoyment of the environment. Adverse effects associated with noise can vary depending on a number of factors, including scale, frequency, timing, duration and characteristics of the noise, the distance between the source and receiver, and any reduction measures. The background sound level can influence the acceptability or annoyance of noise, and this can also vary throughout the District.

Where noise sensitive activities are established near existing noise-generating activities, or areas where higher noise levels are to be expected, reverse sensitivity effects can arise, potentially resulting in the existing noise-generating activities being constrained, in terms of their ongoing operation or expansion. This is a particular concern for regionally significant infrastructure and community facilities, including the Richard Pearse (Timaru) Airport, Levels Raceway, State Highway, railway line and the Port of Timaru, which could be constrained if reverse sensitivity effects arise.

This chapter controls the nature and timing of noise-generating activities, and manages new noise sensitive activities where these are located close to established noise-generating activities or zones which have or are expected to have elevated noise levels. However, there are a number of noise-generating activities that this chapter does not manage including noise associated with residential activities, agricultural, emergency services, traffic, trains and aircraft. In addition to the provisions in this chapter, Section 16 of the RMA also imposes a requirement to ensure that noise levels are kept at a reasonable level by adopting the best practicable option. Part 12 of the RMA contains enforcement provisions including excessive noise directions, which are often used to manage excessive residential noise.

In addition to the provisions in this chapter, the planning maps include a Rail Vibration Alert Layer. The purpose of this Layer is to identify properties which may experience rail vibration effects and to alert property owners to the potential vibration effects. The Layer is for information purposes only and there are no specific provisions applying to activities within the Layer.¹

The provisions in this chapter apply to all other chapters within this District Plan, unless otherwise specified.

Objectives

NOISE-O1	Activities that generate noise
Noise effects generated by activities are compatible with the purpose, character and qualities of each receiving ² zone and do not compromise the health and well-being of people and communities.	
NOISE-O2	Reverse sensitivity
The <u>Richard Pearse (Timaru) Airport</u> , <u>Levels Raceway</u> , <u>State Highway</u> , railway lines, and the <u>Port of Timaru</u> , and <u>PRECX8 - Clandeboye Dairy Manufacturing Precinct</u> ³ and existing and anticipated activities located ⁴ within commercial, and mixed use zones and <u>General Industrial Zones</u> are not constrained by reverse sensitivity effects arising from noise sensitive activities.	

¹ KiwiRail [187.80] – Evidence of Catherine Heppelthwaite, paras 7.6 -7.8
² Silver Fern Farms [172.102] and Alliance Group [173.104]
³ Fonterra [165.5, 165.107] – Evidence of Susannah Tait, paras 12.2 – 12.17
⁴ Synlait [163.6]

Policies**NOISE-P1 Maintenance of zone character and qualities**

Enable the generation of noise when it is of a type, character and level that is appropriate, having regard to:

1. the purpose, character and qualities of the underlying zone ~~that the activity is located in~~; and
2. the nature, scale, frequency and duration of the noise-generating activity; and
3. methods of mitigation; and
4. the sensitivity of the surrounding environment.

NOISE-P2 Noise from ~~T~~emporary ~~M~~military ~~T~~training ~~A~~activities

Ensure that any noise effects from temporary military training activities (TMTA) are appropriately mitigated by managing their proximity to noise sensitive activities.

NOISE-P3 Noise from temporary events

Limit the frequency, character, scale and duration of noise generated by temporary events so that any noise effects are:

1. compatible with the level of amenity anticipated by the surrounding environment; or
2. within a range that can be tolerated within the surrounding environment given the temporary nature of the activity.

NOISE-P4 Aircraft operations and engine testing

Require the noise generated by aircraft operations and engine testing at ~~Timaru~~ Richard Pearse (Timaru) Airport to be limited so that any adverse amenity effects on noise sensitive activities and health and safety of occupants (including sleep disturbance) are minimised as far as practicable.

NOISE-P5 Reverse sensitivity

Require noise sensitive activities located in higher noise environments to be located and designed so as to minimise adverse effects on the amenity values and health and safety of occupants and minimise sleep disturbance from noise to avoid or minimise the risk of reverse sensitivity effects on other activities in higher noise environments⁵; while taking into account:

1. ~~the type of noise generating activity; and~~
2. ~~other noise sources in the area; and~~
3. ~~the nature and occupancy of the noise sensitive activity; and~~
4. ~~mitigation measures, including acoustic insulation, screening and topography.~~⁶

For the purpose of this Policy, higher noise environments include:

1. Commercial and ~~M~~mixed ~~U~~use ~~Z~~zones; and
2. Residential zones in close proximity to any General ~~I~~ndustrial ~~Z~~one and areas within the Port Noise Outer Control Boundary and within that part of the Medium Density Residential Zone and City Centre Zone located within the Port Noise Inner Control Boundary; and
3. ~~L~~ocations in close proximity to a ~~S~~tate ~~H~~ighway or the railway line; and
4. ~~L~~and within 300m of an existing or consented ~~frost fan~~⁷; and
5. ~~L~~and within the Clandeboye Noise Control Boundary⁸.

NOISE-P6 Noise and vibration from blasting

⁵ Panel Decision Report Part 7, Section 5.7

⁶ KiwiRail [187.76] – Evidence of Catherine Heppelthwaite, para 7.3

⁷ HortNZ [245.98], NZ Fans [255.8]

⁸ Fonterra [165.5, 165.109] – Evidence of Susannah Tait, paras 12.2 – 12.17

Only allow blasting where adverse noise and vibration effects can be avoided or mitigated, as far as practicable, taking into account:

1. the type, character, scale and level of adverse noise effects; and
2. the character and sensitivity of the receiving environment; and
3. any recommendations made by a suitably qualified professional.

NOISE-P7 Noise sensitive activities within noise control boundaries

Within the Airport Noise Control Boundary Overlay, Port Noise Inner Control Boundary Overlay (excluding areas within the City Centre Zone and Medium Density Residential Zone) and the Raceway Noise Control Boundary Overlay, avoid:

1. subdivision, unless it will not facilitate the establishment of additional noise sensitive activities; and
2. noise sensitive activities, unless noise mitigation measures are implemented that avoid sleep disturbance and minimise other adverse effects on the amenity values of occupants.

Rules

Note: ~~Activities not listed in the rules of this chapter are classified as a permitted under this chapter.~~ For certain activities, consent may be required by rules in more than one chapter in the District Plan. Unless expressly stated otherwise by a rule, consent is required under each of those rules. The steps plan users should take to determine what rules apply to any activity, and the status of that activity, are provided in Part 1, HPW — How the Plan Works - General Approach.

NOISE-R1	Activities generating noise not otherwise <u>listed</u> specified in <u>this</u> chapter <u>Rules section</u>	
All zones	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 NOISE-S1 is complied with; and</p> <p>PER-2 NOISE-S2 is complied with.</p> <p>This rule does not apply to noise generated by:</p> <ol style="list-style-type: none"> 1. activities of a limited duration required for normal seasonal agricultural, horticultural and forestry activities, such as harvesting; and 2. normal residential activities, excluding ‘fixed plant’ such as heat pumps; and 3. light passenger vehicle movements, as defined by the Ministry of Transport vehicle type category dated 25.07.2018, on a site associated with residential use; and 4. vehicles operating on public roads, or trains operating on <u>railway</u> lines (including at railway yards, railway 	<p>Activity status when compliance not achieved with PER-2: Restricted Discretionary</p> <p>Where:</p> <p>RDIS-1 The noise limit in Table 24 — Noise Performance Standards is not exceeded by more than 10dB.</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the matters of discretion of any infringed standard <p>Activity status when compliance not achieved with PER-1 or RDIS-1: Non-complying</p>

	<p>sidings or stations and level crossing warning devices); and</p> <ol style="list-style-type: none"> 5. aircraft using airstrips and helicopter landing sites for activities in the <u>General Rural Zone rural zone</u> that complies with GRUZ-R4415 and GRUZ-R16⁹; and 6. activities taking place within the Coastal Marine Area when assessing compliance with NOISE- R89 Noise from activities within the Port Zone; and 7. any warning device used by emergency services for emergency purposes; and 8. fixed plant that is solely used for emergency or training purposes, including standby generator sets used to supply electricity only at times of electrical supply failure, and plant used during life threatening situations such as smoke fans or sprinkler pumps; and 9. testing of fixed plant that is solely used for emergency purposes providing such testing occurs only for periods not exceeding 2 hours within any 30 day period, and only during the hours of 7.00am to 7.00pm; and 10. <u>aircraft used for park management activities, using airstrips and helicopter landing sites in the Natural Open Space ZoneNOSZ</u>¹⁰. 	
NOISE-R2	Noise from temporary events	
<p>All zones</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 NOISE-S1 is complied with; and</p> <p>PER-2 Where the duration of the temporary event does not exceed six hours and the noise level generated does not exceed 75dB</p>	<p>Activity status when compliance not achieved with PER-3: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the matters of discretion of any infringed standard.

⁹ **Technical correction, Minute 55**

¹⁰ Helicopters Sth Cant. [53.18], NZAAA [132.22]

	<p>L_{Aeq} (15min) and 85 L_{AFmax} within any residential zone between the hours of 10.00am and 10.00pm in any one calendar day, excluding noise from fireworks displays; and</p> <p>PER-3 Where the duration of the temporary event exceeds six hours, or when the noise occurs between the hours of 10.00pm and 10.00am in any one calendar day, NOISE-S2 is complied with; and</p> <p>PER-4 A <u>Noise</u> Management Plan must be submitted to the Council no less than 30 days prior to the <u>temporary</u> event <u>occurring</u> setting out the methods that will be used to achieve compliance with PER-2 and PER-3; and</p> <p>PER-5 Firework displays associated with temporary events must:</p> <ol style="list-style-type: none"> 1. not exceed one hour in duration; and 2. occur between the hours of 10.00am and 10.00pm, except for New Year’s Eve when they may take place up until 1.00am on New Year’s Day. 	<p>Activity status when compliance not achieved with PER-2, PER-4 or PER-5: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the level, duration and character of the noise being generated; and 2. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 3. the existing noise environment; and 4. effects on amenity values and anticipated character of the receiving environment; and 5. effects on health and well-being of people; and 6. any noise reduction measures; and 7. the practicality of mitigating noise or utilising alternative sites.
NOISE-R3	Noise from temporary military training activities	
All zones	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 NOISE-S1 is complied with <u>excluding the requirement to assess noise from weapons firing and/or the use of explosives using NZS 6802:2008 Acoustics – Environmental noise</u>¹¹; and</p> <p>PER-2</p>	<p>Activity status when compliance not achieved with PER-2: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the matters of discretion of any infringed standard. <p>Activity status when compliance not achieved with</p>

¹¹ NZDF [151.13]

	<p>For fixed noise sources, NOISE-S2 is complied with; and</p> <p>PER-3 Any mobile noise sources must comply with the noise limits set out in Tables 2 and 3 of NZS6803:1999 Acoustics — Construction Noise, with reference to ‘construction noise’ taken to refer to a mobile noise source; and</p> <p>PER-4 Weapons firing and/or the use of explosives must:</p> <ol style="list-style-type: none"> 1. occur between 7.00am and 7.00pm, and achieve either a 500m minimum separation distance to, or a peak sound pressure level of 95 dBC when measured within the notional boundary of, any building containing a noise sensitive activity; and 2. occur between 7.00pm and 7.00am, and achieve either a 1250m minimum separation distance to, or a peak sound pressure level of 85 dBC when measured within the notional boundary of, any building containing a noise sensitive activity; and 3. be notified to the Council, including details of the nature, duration and scale of activity, and any consultation that has been undertaken, at least <u>five</u> 5 working days prior to the activity occurring; and <p>PER-5 Helicopter landing areas must comply with NZS6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas.</p>	<p>PER-3, PER-4 or PER-5: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the level, duration and nature of the noise being generated; and 2. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 3. the existing noise environment; and 4. effects on amenity values and anticipated character of the receiving environment; and 5. effects on health and well-being of people; and 6. any noise reduction measures; and 7. the practicality of mitigating noise or utilising alternative sites. <p>Activity status when compliance not achieved with PER-1: Non-complying</p>
<p>NOISE-R4</p>	<p>Construction noise</p>	
<p>All zones</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 The noise from construction activities undertaken on a site must be measured, assessed, managed and controlled to comply with the requirements of New</p>	<p>Activity status when compliance not achieved: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the level, hours of operation, duration and characteristics of the noise; and

	<p>Zealand Standards NZS 6803:1999 Acoustics — Construction Noise.</p>	<ol style="list-style-type: none"> 2. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 3. the existing noise environment; and 4. effects on amenity values and anticipated character of the receiving environment; and 5. effects on health and well-being of people; and 6. any noise reduction measures; and 7. the practicality of mitigating noise.
NOISE-R5	Noise from bird scaring devices	
<p>All zones</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 NOISE-S1 is complied with <u>excluding the requirement to assess impulsive noise from bird scaring devices using NZS 6802:2008 Acoustics – Environmental noise</u>¹²; and</p> <p>PER-2 Noise from any bird scaring device either: <ol style="list-style-type: none"> 1. must not exceed an 70dBC peak or un-weighted level <u>A-weighted SEL 55dB</u>¹³ measured within the notional boundary of any noise sensitive activity on any adjoining site under different ownership, and the <u>bird scaring</u> device must not be used at a frequency of more than 12 times per hour; or 2. must not exceed an 85dBC peak or un-weighted level <u>an A-weighted SEL 65dB</u>¹⁴ within the notional boundary of any adjoining noise sensitive activity on any site under different ownership, and the <u>bird scaring</u> device must not be used at a </p>	<p>Activity status when compliance not achieved with PER-2, PER-3 or PER-4: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the level, hours of operation, duration and character of the noise; and 2. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 3. the existing noise environment; and 4. effects on amenity values and anticipated character of the receiving environment; and 5. effects on health and well-being of people; and 6. any noise reduction measures; and 7. the practicality of mitigating noise.

¹² Clause 10(2)(b) relating to NZDF [151.16]

¹³ Hort NZ [245.93]

¹⁴ Hort NZ [245.93]

	<p>frequency of more than 6 <u>six</u> times per hour; <u>and</u></p> <p>PER-3 Unless-Where located at least within 500m from of any building housing a noise sensitive activity on an adjoining site under different ownership, gas gun type b<u>Bird</u>¹⁵ scaring devices must <u>either:</u></p> <ol style="list-style-type: none"> 1. <u>be oriented with the direction of fire facing away from any noise sensitive activity on any adjoining site under different ownership; or</u> 2. <u>line-of-sight between the <u>bird scaring device sound outlet and any noise sensitive activity on any adjoining site under different ownership is intercepted by an acoustic barrier with a minimum surface mass of not less than 7kg/m² measuring not less than 2m x 2m placed within 2m of the bird scaring device, or a landform;</u>¹⁶ and</u> <p>PER-4 Bird scaring devices must only be used between <u>half an hour before sunrise 7am</u>¹⁷ and <u>8pm half an hour after</u>¹⁸ <u>sunset</u> on any calendar day.</p>	<p>Activity status when compliance not achieved with PER-1: Non-complying</p>
<p><u>NOISE-RX6</u></p>	<p><u>Installation and operation of frost fans</u>¹⁹</p>	
<p><u>General Rural Zone</u></p>	<p><u>Activity status: Permitted</u></p> <p><u>Where:</u></p> <p><u>PER-1</u> Noise from the frost fan must not exceed <u>55dB L_{Aeq} (15mins)</u> when measured at a <u>distance of 300m, or within the notional boundary of any existing a building used for a noise sensitive activity on a site in different ownership, or at any zone boundary; and</u></p> <p><u>PER-2</u> Frost fans are only used for:</p>	<p><u>Activity status when compliance not achieved: Restricted Discretionary</u></p> <p><u>Matters of discretion are restricted to:</u></p> <ol style="list-style-type: none"> 1. <u>the level, duration, frequency and character of the noise; and</u> 2. <u>the proximity and nature of nearby noise sensitive activities and the adverse effects they may experience from the noise; and</u>

¹⁵ Hort NZ [245.93]

¹⁶ HortNZ [245.93]

¹⁷ HortNZ [245.93] - Evidence of Vance Hodgson – paras 29-43.

¹⁸ Hort NZ [245.93]

¹⁹ HortNZ [245.98], NZ Fans [255.9]

	<p>1. <u>the protection of crops from frost from bud break to harvest; or</u></p> <p>2. <u>maintenance purposes, undertaken only between 8.00am and 6.00pm Monday to Friday; and</u></p> <p>PER-3 <u>Frost fans are only operated when the air at canopy height is 2°C or less; and²⁰</u></p> <p>PER-43 <u>Evidence of installation of a frost fan meeting this standard shall be provided to Council including certification from an appropriately qualified and experienced acoustic engineer that the noise limits in 1 (above) are met and providing the location of the frost fan; and</u></p> <p>PER-54 <u>Records shall be kept stating the date, temperature, times and length of use of each frost fan and made available to Council on request. Records may include telemetry records.</u></p>	<p>3. <u>the existing noise environment; and</u></p> <p>4. <u>effects on amenity values and anticipated character of the receiving environment; and</u></p> <p>5. <u>effects on health and well-being of people; and</u></p> <p>6. <u>any noise reduction measures; and</u></p> <p>7. <u>operational requirements of frost fans; and</u></p> <p>8. <u>monitoring and reporting.</u></p>
<p>NOISE-R67</p>	<p>Noise from aircraft engine testing at Timaru Richard Pearse (Timaru) Airport</p>	
<p>Richard Pearse (Timaru) Airport Designation TDC-52</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 NOISE-S1 is complied with; and</p> <p>PER-2 NOISE-S5 is complied with.</p>	<p>Activity status when compliance not achieved with PER-2: Discretionary</p> <p>Activity status when compliance not achieved with PER-1: Non-complying</p>
<p>NOISE-R78</p>	<p>Noise from aircraft operations at Timaru Richard Pearse (Timaru) Airport, other than aircraft engine test listed in NOISE-R6</p>	
<p>Richard Pearse (Timaru) Airport Designation TDC-52</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 Noise from aircraft operations must be measured and assessed in accordance with NZS6805:1992 Airport Noise Management and Land Use Planning; and</p>	<p>Activity status when compliance not achieved with PER-2: Discretionary</p> <p>Activity status when compliance not achieved with PER-1: Non-complying</p>

²⁰ Panel Decision Report Part 7, Section 5.2.

	PER-2 NOISE-S6 is complied with.	
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NOISE-R89	Noise from activities within the Port Zone	
<p>1. Port Zone within <u>PREC-12 - Precinct 7 Port Operation Area Precinct</u></p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 The maximum noise generated from activities is measured <u>and assessed</u>²¹ in accordance with NZS 6809:1999 Acoustics Port Noise Management and Land Use Planning; and</p> <p>PER-2 When measured at any point at or on any <u>site not located within the Port Zone and</u>²² landward of the Port Noise Inner e<u>Control</u></p>	<p>Activity status when compliance not achieved: Discretionary</p>

²¹ PrimePort [175.66], TDHL [186.38]

²² PrimePort [175.66], TDHL [186.38]

	<p>Boundary shown on the planning maps, the following noise limits apply:</p> <ol style="list-style-type: none"> 1. the <u>five</u> 5-day Ldn noise limit must not exceed 65 dB Ldn; 2. LAeq 'night' (for the purpose of this standard, defined as 10.00pm to 7.00am) must not exceed 60 dB LAeq (9hours) provided that no single 15 minute measurement will exceed 65 dB LAeq and 85dBA LAmax; <u>and</u> <p>PER-3 When measured at any point at or on any site not located within the Port Zone and²³ landward of the Port Noise Outer Control <u>Boundary</u> shown on the planning maps, the following noise limit applies:</p> <ol style="list-style-type: none"> 1. on any day between 10.00pm to 7.00am the following day, noise generated must not exceed 52 dB LAeq (9hours) provided that no <u>any</u>²⁴ single 15 minute sound measurement level must not exceed 57 dB LAeq and 77 dB LAmax; and <p>Note: For the purpose of Port Noise, daytime is defined as 7.00am to 10.00pm on any day, and night time is defined as 10.00pm to 7.00am the following day.</p>	
<p>2. Port Zone outside PREC712 – Port Operational Area Precinct 7²⁵</p>	<p>Activity Status: Permitted</p> <p>Where:</p> <p>PER-1 <u>NOISE-S1 is complied with; and</u></p>	<p>Activity status when compliance not achieved with PER-2 or PER-3: Discretionary</p>

²³ PrimePort [175.66], TDHL [186.38]

²⁴ Schedule 1, cl16

²⁵ Property Income [56.1] and Fonterra [165.112], PrimePort [175.66], TDHL [186.38]

	<p><u>PER-2</u> On any day between 10.00pm and 7.00am the following day, noise generated must not exceed 45 dB LAeq (9 hours) when measured at or within any residentially zoned site, provided that any single 15 minute sound measurement level must not exceed 50 dB LAeq and 75 dB LAmax; and</p> <p><u>PER-3</u> On any day between 7.00am and 10.00pm, noise generated must not exceed 55 dB LAeq (15 mins) when measured at or within any residentially zoned site.²⁶</p> <p><i>Note: For the purpose of Port Noise, daytime is defined as 7am to 10pm on any day, and night time is defined as 10pm to 7am the following day.</i>²⁷</p>	<p><u>Activity status when compliance not achieved with PER-1: Non-complying</u></p>
<p><u>NOISE-RXX10²⁸</u> Noise from the Clandeboye Dairy Manufacturing Precinct</p>		
<p><u>PRECX8 - Clandeboye Dairy Manufacturing Precinct</u></p>	<p><u>Activity status: Permitted</u></p> <p><u>Where:</u></p> <p><u>PER-1</u> The maximum noise from operations, including all ancillary equipment, maintenance activities, and operation of all motor vehicles on site (including those entering and exiting the site), shall not exceed the following limits when measured at or beyond the Noise Control Boundary:</p> <ol style="list-style-type: none"> 1. 7.00am – 10.00pm: 55dB LAeq (15 min) 2. 10.00pm – 7.00am: 45dB LAeq (15 min) and 75 LAFmax. 	<p><u>Activity status when compliance not achieved with: Restricted Discretionary</u></p> <p><u>Matters of discretion are restricted to:</u></p> <ol style="list-style-type: none"> 1. the operational requirements of the Clandeboye Dairy Manufacturing Plant; and 2. the extent of non-compliance; and 3. the level, hours of operation, duration and character of the noise; and 4. the proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 5. the existing noise environment; and 6. effects on amenity values and anticipated character of the receiving environment; and

²⁶ Property Income [56.1], Fonterra [165.112], PrimePort [175.66], TDHL [186.38] – Evidence of Gary Walton, paras 7.1 – 7.4; Evidence of Rob Hay, paras 49-54.

²⁷ Clause 16(2)

²⁸ Fonterra [165.5, 165.111] – Evidence of Susannah Tait, paras 12.2 – 12.17

		<p>7. <u>effects on health and well-being of people; and</u></p> <p>8. <u>any noise reduction measures; and</u></p> <p>9. <u>the practicality of mitigating noise.</u></p>
<p>NOISE-R911</p>	<p>Any new building for use by a noise sensitive activity and alterations to existing buildings for use by a noise sensitive activity (not listed in NOISE-R4214)</p>	
<p>Any site w²⁹ Within 40m of a State Highway with a posted speed limit of 50 km/hr or less</p> <p>Any site w³⁰ Within 80m of a State Highway with a posted speed limit greater than 50 km/hr</p> <p>Any site w³¹ <u>40m/100m</u>³² of the railway line</p> <p>Neighbourhood Centre Zone</p> <p>Local Centre Zone</p> <p>Large Format Retail Zone</p> <p>Mixed Use Zone</p> <p>Town Centre Zone</p> <p>City Centre Zone</p> <p>General Residential zZone within 20m of the boundary with a an <u>General Industrial zZone</u></p> <p>Medium Residential zZone within 20m of the boundary with a an <u>General Industrial zZone</u></p> <p>Outer Control hBoundary of the Port Noise Control Overlay</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 The building is acoustically insulated and ventilated in accordance with:</p> <ol style="list-style-type: none"> 1. NOISE-S3 and NOISE-S4; and 2. the acoustic insulation must be assessed in accordance with ISO 717-1:2020 Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation; or <p>PER-2 An acoustic design certificate signed by a suitably qualified acoustic engineer demonstrates either:</p> <ol style="list-style-type: none"> a. the level of noise incident on the most exposed part of the exterior of any habitable room can be shown under a reasonable maximum use scenario to not exceed the following noise limits at all points 1.5m above ground level, and any part of the floor levels above ground; 	<p>Activity status when compliance not achieved with PER-1.1 or PER-2: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. the matters of discretion of any infringed standard. 2. for activities in breach of³⁷ PER-2, the matters of discretion of of <u>in</u>³⁸ NOISE-S3. <p>Activity status when compliance not achieved with PER-1.2: Non-complying</p>

²⁹ Clause 16(2)

³⁰ Clause 16(2)

³¹ Clause 16(2)

³² Panel Decision Report Part 7, Section 5.13

³⁷ Clause 16(2)

³⁸ Clause 16(2)

<p>General Rural Zone <u>within between 100m and³³ 300m of any frost fan (including any frost fan for which a resource or building consent has been issued)³⁴</u></p> <p><u>Within the Clandeboye Noise Control Boundary</u>³⁵</p>	<ul style="list-style-type: none"> i. less than 55 dB L_{Aeq}(1h) for rail noise; or ii. less less than 57 dB L_{Aeq}(1h) for road noise; or iii. less less than 57 dB L_{Aeq}(1 hr) for port noise; or <p>b. the building is at least 20<u>m</u> metres metres from all roads subject to the standard and/or the railway line and there is a solid building, fence, wall or landform that completely blocks the line-of-sight from all parts of all windows and doors to all parts of any road surface subject to the standard, or all points above 3.8<u>m</u> metres metres for railway tracks; or</p> <p>PER-3 The alterations are to a building existing at the date of notification of the proposed District Plan within the Clandeboye Noise Control Boundary.³⁶</p> <p><i>Note: This standard applies in addition to, and does not affect the requirements of, the Building Act 2004.</i></p>	
<p>NOISE-R40<u>12</u></p>	<p>Helicopter landing sites not addressed by GRUZ-R415 or GRUZ-R16³⁹</p>	
<p>All zones</p>	<p>Activity status: Permitted</p> <p>Where:</p> <p>PER-1 Flight movements must be for emergency purposes only such</p>	<p>Activity status when compliance not achieved with: Restricted Discretionary</p> <p>Matters of discretion are restricted to:</p>

³³ Panel Decision Report, Part 7, Section 5.2

³⁴ HortNZ [245.97], NZ Fans [255.10]

³⁵ Fonterra [165.5, 165.113] – Evidence of Susannah Tait, paras 12.2 – 12.17

³⁶ Panel Decision Report Part 7, Section 5.3

³⁹ Technical correction, Minute 55

	<p>as medical emergencies, search and rescue or firefighting; or</p> <p>PER-2 The helicopter landing site must not be located within any residential zone; and</p> <p>PER-3 Take offs from any site must not exceed 10 per month; and</p> <p>PER-4 Noise from flight movements measured in accordance with NZS 6801:2008 Acoustics — Measurement of environmental sound must not exceed 70 dB LAF_{Max} between 10.00pm and 7.00am or 90 dB LAF_{Max} between 7.00am and 10.00pm at any residential zone or within the notional boundary of a building containing a noise sensitive activity.</p>	<ol style="list-style-type: none"> 1. the extent of non-compliance with PER-3 and PER-4; and 2. the extent to which helicopter noise limits specified within Table 1 of NZS6807:1994 are complied with; and 3. the level, duration and character of the noise; and 4. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 5. the existing noise environment; and 6. effects on amenity values and anticipated character of the receiving environment; and 7. effects on health and well-being of people; and 8. noise mitigation measures; and 9. the practicality of utilising alternative sites.
<p>NOISE-R4413</p>	<p>Noise from blasting</p>	
<p>All zones</p>	<p>Activity status: Discretionary</p>	<p>Activity status where compliance not achieved: Not applicable</p>
<p>NOISE-R4214</p>	<p>New noise sensitive activities, alterations to existing buildings for use by a noise sensitive activity or subdivision to accommodate a noise sensitive activity</p>	
<p>1. Port Noise Inner Control Boundary Overlay</p>	<p>Activity status: Restricted Discretionary</p> <p>Where:</p> <p>RDIS-1 The activity is carried out within the Medium Density Residential Zone or City Centre Zone.</p> <p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. proximity and nature of noise generating activities in the Port Zone and the adverse effects they may 	<p>Activity status where compliance not achieved: Non-complying</p>

	<ul style="list-style-type: none"> experience from the noise; and 2. the existing noise environment; and 3. noise mitigation measures; and 4. the extent to which reverse sensitivity from noise can be mitigated; and 5. effects on amenity values and anticipated character of the receiving environment; and 6. effects on health and well-being of people. 	
<p>2. Airport Noise Control Boundary Overlay</p> <p>Raceway Noise Control Boundary Overlay</p>	<p>Activity status: Non-complying</p>	<p>Activity status where compliance not achieved: Not applicable</p>

Standards		
NOISE-S1	Noise measurement	
All zones	Noise must be measured in accordance with NZS 6801:2008 Acoustics — Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics — Environmental noise, unless otherwise specified by this District Plan.	Matters of discretion are restricted to: Not applicable
NOISE-S2	Noise limits	
All zones	Any activity must comply with the noise limits set out in Table 24 — Noise Performance Standards, at any site in separate ownership.	<p>Matters of discretion are restricted to:</p> <ul style="list-style-type: none"> 1. the level, duration and characteristics of the noise; and 2. proximity and nature of nearby activities and the adverse effects they may experience from the noise; and 3. the existing noise environment; and 4. effects on amenity values and anticipated character of

		<p>the receiving environment; and</p> <ol style="list-style-type: none"> 5. effects on health and well-being of people; and 6. any noise reduction measures; and 7. the practicality of mitigating noise or utilising alternative sites.
NOISE-S3	Acoustic insulation	
<p>1. Within 40m of a State Highway with a posted speed limit of 50 km/hr or less</p> <p>Within 80m of a State Highway with a posted speed limit greater than 50 km/hr</p> <p>Within 40m100m⁴⁰ of a railway line</p> <p>Large Format Retail Zone</p> <p>Town Centre Zone</p> <p>City Centre Zone</p> <p>General Rural Zone within <u>between 100m and</u>⁴¹ <u>300m of any frost fan (including any frost fan for which a resource or building consent has been issued)</u>⁴²</p>	<ol style="list-style-type: none"> 1. Any habitable room in a new building used for a noise sensitive activity, or an alteration to an existing building <u>or room</u> that changes its use to a noise sensitive activity, <u>or where the floor area of a habitable room within an existing building is increased by 20% or more.</u>⁴³ must be designed, constructed and maintained to achieve: <ol style="list-style-type: none"> a.⁴⁴ a minimum external to internal noise reduction for habitable rooms of not less than 35 dB $D_{tr,2m,nT,w} + C_{tr}$; . Or b. <u>where in relation to a State Highway or railway line</u>⁴⁵, <u>internal design sound levels of 35dB $L_{Aeq}(1hr)$</u>⁴⁶ 2. Compliance with this standard must be achieved by ensuring habitable rooms are designed and constructed in a manner that accords with: <ol style="list-style-type: none"> a. Table 25 — Minimum construction requirements for 	<p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. effects on the ability of existing or permitted activities to operate or establish without undue constraint; and 2. any legal instrument proposed; and 3. mitigation of noise achieved through other means; and 4. the amenity of present and future residents of the site.

⁴⁰ Panel Decision Report Part 7, Section 5.13

⁴¹ Panel Decision Report, Part 7, Section 5.2

⁴² HortNZ [245.97], NZ Fans [255.12]

⁴³ Rooney Holdings [174.72], Rooney, GJH [191.72], Rooney Group [249.72], Rooney Farms [250.72], Rooney Earthmoving [251.72], TDL [252.72]

⁴⁴ Technical correction, Minute 55

⁴⁵ Technical correction, Minute 55

⁴⁶ Panel Decision Report Part 7, Section 5.3

	<p>external building elements of habitable rooms to achieve an advanced level of acoustic insulation; or</p> <p>b. an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed will achieve compliance with this standard.</p> <p>Note: This standard applies in addition to, and does not affect the requirements of, the Building Act 2004.</p>	
<p>2. General Residential <u>z</u>Zone within 20m of the boundary with a <u>z</u> General Industrial <u>z</u>Zone</p> <p>Medium <u>Density</u> Residential Zone within 20m of the boundary with a <u>z</u> General Industrial <u>z</u>Zone</p> <p>Neighbourhood Centre Zone</p> <p>Local Centre Zone</p> <p>Mixed Use Zone</p> <p>All zones within the Outer Control boundary of the Port Noise Control Overlay</p> <p><u>Within the Clandeboye Noise Control Boundary</u>⁴⁷</p>	<p>1. Any habitable room in a new building used for a noise sensitive activity, or an alteration to an existing building that changes its use to a noise sensitive activity, <u>or where the floor area of a habitable room within an existing building is increased by 20% or more</u>.⁴⁸ must be designed, constructed and maintained to achieve a minimum external to internal noise reduction for habitable rooms of not less than 30 dB Dtr,2m,nT,w + Ctr.</p> <p>2. Compliance with this standard must be achieved by ensuring habitable rooms are designed and constructed in a manner that accords with:</p> <p>a. Table 26 — Minimum construction requirements for external building elements of habitable rooms to achieve a</p>	<p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. effects on the ability of existing or permitted activities to operate or establish without undue constraint; and 2. any legal instrument proposed; and 3. mitigation of noise achieved through other means; and 4. the amenity of present and future residents of the site.

⁴⁷ Fonterra [165.5, 165.113] – Evidence of Susannah Tait, paras 12.2 – 12.17

⁴⁸ Rooney Holdings [174.72], Rooney, GJH [191.72], Rooney Group [249.72], Rooney Farms [250.72], Rooney Earthmoving [251.72], TDL [252.72]

	<p>moderate level of acoustic insulation; or</p> <p>b. an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design proposed will achieve compliance with this standard.</p> <p><i>Note: This standard applies in addition to, and does not affect the requirements of, the Building Act 2004.</i></p>	
NOISE-S4	Ventilation requirements	
<p>All zones⁴⁹</p> <p><u>Within 40m of a State Highway with a posted speed limit of 50 km/hr or less</u></p> <p><u>Within 80m of a State Highway with a posted speed limit greater than 50 km/hr</u></p> <p><u>Within 40m⁵⁰ of the railway line</u></p> <p><u>Neighbourhood Centre Zone</u></p> <p><u>Local Centre Zone</u></p> <p><u>Large Format Retail Zone</u></p> <p><u>Mixed Use Zone</u></p> <p><u>Town Centre Zone</u></p> <p><u>City Centre Zone</u></p> <p><u>General Residential Zone within 20m of the boundary with a General Industrial Zone</u></p>	<p>1. The requirements of minimum external to internal noise reduction levels in⁵² NOISE-S3 must be achieved at the same time as the ventilation requirements of the New Zealand Building Code. An alternative means of ventilation must be provided within any study or bedroom part of a building used for sleeping or focused work or study, such as a bedroom, office or study⁵³ unless an acoustic design certificate signed by a suitably qualified acoustic engineer is provided that states the design of any bedroom or any study as proposed will comply with the NOISE-S3 acoustic insulation standards with windows open.</p> <p>2. Ventilation systems where installed must generate sound levels not exceeding:</p> <p>a. generate sound levels not exceeding⁵⁴ 35 dB</p>	<p>Matters of discretion are restricted to:</p> <ol style="list-style-type: none"> 1. effects on the ability of existing or permitted activities to operate or establish without undue constraint; and 2. the effects of the non-compliance; and 3. the ability to provide the appropriate levels of ventilation through other means; and 4. the amenity of present and future residents of the site.

⁴⁹ Clause 16(2)

⁵⁰ Panel Decision Report Part 7, Section 5.13

⁵² KiwiRail [187.79]

⁵³ Panel Decision Report, Part 7, Section 5.17

⁵⁴ KiwiRail [187.79]

<p><u>Medium Density Residential Zone within 20m of the boundary with a General Industrial Zone</u></p> <p><u>Outer Control Boundary of the Port Noise Control Overlay</u></p> <p><u>Within the Clandeboye Noise Control Boundary</u>⁵¹</p>	<p>LAeq(30s) when measured 1m <u>metre</u> away from any grille or diffuser; and</p> <p>b. provide an adjustable airflow rate of up to at least six <u>6</u> air changes per hour.</p> <p><i>Note: This standard applies in addition to, and does not affect the requirements of, the Building Act 2004.</i></p>	
<p>NOISE-S5 Noise from aircraft engine testing</p>		
<p><u>Richard Pearse (Timaru) Airport Designation TDC-52</u></p>	<ol style="list-style-type: none"> Noise generated by aircraft engine testing must not exceed 55dB LAeq (16 hours) between the hours of <u>7.00am</u> and <u>11.00pm</u> on any calendar day, when measured within the notional boundary of any noise sensitive activity in the General Rural Zone that is outside TDC-52 the Airport Designation <u>and</u> All aircraft engine testing, other than testing associated with essential unscheduled aircraft engine maintenance, must take place between <u>7.00am</u> and <u>11.00pm</u>; <u>and</u> Any aircraft engine testing associated with essential unscheduled aircraft maintenance that takes place between <u>11.00pm</u> and <u>7.00am</u> must not exceed 55dB LAeq (8 hours) and 80dB LAFmax within the notional boundary of any noise sensitive activity in the General Rural Zone <u>Zone</u> outside the TDC-52 the Airport Designation <u>and</u> is limited to no more than 20 occasions per year; <u>and</u> 	<p>Matters of discretion are restricted to: Not Applicable</p>

⁵¹ Fonterra [165.5, 165.113] – Evidence of Susannah Tait, paras 12.2 – 12.17

	<p>4. Where practical, all aircraft engine maintenance and testing associated with essential unscheduled aircraft must take place between the hours of 7.00am and midnight, and the total duration of engine testing must not exceed 4 <u>one</u> hour in any 11.00pm to 7.00am period. On each occasions the date, time, duration and reason for the engine testing must be recorded and made available to the Timaru District Council within 10 days upon request; <u>and</u> The Airport operator must maintain a register of any complaints received relating to noise from any activities within the Airport, that records the date, time, duration and cause of the complaint, together with the name and address of the complainant. A copy of this Register must be made available to the Timaru District Council within 10 days upon request.</p>	
<p>NOISE-S6</p>	<p>Noise from aircraft operations</p>	
<p><u>Richard Pearse (Timaru) Airport Designation TDC-52</u></p>	<p>1. The <u>Richard Pearse (Timaru) Airport</u> must be operated so that noise from aircraft operations (aircraft landing and taking off, aircraft taxiing and aircraft flying along any flight path within the Airport Noise eControl <u>bBoundary</u> eOverlay) do not exceed 65dB L_{dn} outside the eAirport <u>nNoise</u> eControl <u>bBoundary</u> eOverlay. Aircraft noise must be calculated as a <u>three</u> 3 month rolling logarithmic average in accordance with NZS 6805:1992 using</p>	<p>Matters of discretion are restricted to: Not Applicable</p>

- records of actual aircraft operations; and
2. Standard 1 above does not apply to:
 - a. aircraft landing or taking off in an emergency; and
 - b. aircraft using the Airport as a planned or essential alternative to landing at another scheduled airport; and
 - c. emergency flights required to rescue persons from life threatening situations or to transport patients, human organs or medical personnel in medical emergency situations; and
 - d. flights required to meet the needs of a national or civil defence emergency declared under the ~~Civil Defence Act 1983~~ Civil Defence Emergency Management Act 2002; and
 - e. flights certified by the Minister of Defence as necessary for reasons of National Security in accordance with Section 4 of the Act; and
 - f. aircraft undertaking firefighting duties; and
 - g. military aircraft movements; and
 - h. aircraft using the Airport in preparation for and participation in air shows; and
 3. A report detailing the calculated noise levels at the Airport Noise Control Boundary Overlay must be prepared by the airport operator and forwarded to the Council every five years

	<p>or on request. The first such report must be forwarded to the Council within six months of this standard becoming operative; <u>and</u></p> <p>4. In order to audit compliance with this standard, noise level monitoring must be carried out for a minimum of three months every five years with the resulting report forwarded to the Council within one month of that monitoring being completed.</p>	
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Table 24 — Noise performance standards

Receiving zone and assessment location	Time period	Noise limit
1. a. Within the notional boundary of a building used for a noise sensitive activity in the following zones: i. General Rural Zone ii. Rural Lifestyle Zone iii. Settlement Zone iv. Natural Open Space Zone v. Open Space Zone vi. Sport and Active Recreation Zone vii. Māori Purpose Zone; and b. Within any part of a site in the General Residential Zone	7.00am <u>to</u> — 7.00pm	50 dB L _{Aeq} (15 min)
	7.00pm <u>to</u> — 10.00pm	45 dB L _{Aeq} (15 min)
	10.00pm <u>to</u> — 7.00am	40 dB L _{Aeq} (15 min) 70 dB L _{AFmax}
2. Within any part of a site in the Medium Density Residential Zone, <u>except where otherwise specific in 4. below</u> ⁵⁵ <u>but, where noise is generated from within the Port Zone, excluding those sites located between the Terrace and the Main South Railway Line</u> ⁵⁶ .	7.00am <u>to</u> — 7.00pm	55 dB L _{Aeq} (15 min)
	7.00pm <u>to</u> — 10.00pm	50 dB L _{Aeq} (15 min)
	10.00pm <u>to</u> — 7.00am	45 dB L _{Aeq} (15 min) 75 dB L _{AFmax}

⁵⁵ Clause 10(2)(b) relating to Foodstuffs [193.9]

⁵⁶ Clause 16(2).

<p>3. Within any part of a site in the following zones: a. Large Format Retail Zone b. Town Centre Zone c. City Centre Zone d. General Industrial Zone,⁵⁷ excluding those sites located to the east of the Main South Railway Line and forming part of, or adjoining the Port of Timaru⁵⁸.</p>	7.00am <u>to</u> — 10.00pm	65 dB L _{Aeq} (15 min)
	10.00pm <u>to</u> — 7.00am	65 dB L _{Aeq} (15 min) 75 dB L _{AFmax}
<p>4. Within any part of a site in the following zones: a. Neighbourhood Centre Zone b. Local Centre Zone c. Mixed Use Zone d. Medium Density Residential Zone at 18A Hobbs Street within 30m of the boundary of the adjacent Local Centre Zone Hobbs Street Noise Specific Control Area.⁵⁹</p>	7.00am <u>to</u> — 10.00pm	60 dB L _{Aeq} (15 min)
	10.00pm <u>to</u> — 7.00am	60 dB L _{Aeq} (15 min) 75 dB L _{AFmax}
<p>5. <u>Within any part of a site a site in the General Industrial Zone, excluding any adjacent site in the General Industrial Zone held under common ownership.</u>⁶⁰</p>	<u>7.00am to — 10.00pm</u>	<u>75 dB L_{Aeq} (15 min)</u>
	<u>10.00pm to — 7.00am</u>	<u>75 dB L_{Aeq} (15 min)</u>

Table 25 — Minimum construction requirements for external building elements of habitable rooms to achieve an advanced level of acoustic insulation

Building Element	Minimum Construction Requirements
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⁵⁷ Southern Proteins [140.19], Barkers [179.23], Hilton Haulage [168.9], North Meadows [190.13], J R Livestock [241.31]

⁵⁸ PrimePort [175.69], TDHL [186.39]

⁵⁹ Foodstuffs [193.9]

⁶⁰ Southern Proteins [140.19], Barkers [179.23], Hilton Haulage [168.9], North Meadows [190.13], J R Livestock [241.31]

<p>External walls</p>	<ol style="list-style-type: none"> 1. Wall cavity infill of fibrous insulation, batts or similar, with a minimum density of 9kg/m^3; and 2. <u>e</u>Cladding and internal wall lining complying with either Option A, B or C below: <table border="1" data-bbox="874 454 1490 1238"> <tr> <td data-bbox="874 454 986 779">Option A</td> <td data-bbox="986 454 1262 779">Light cladding: timber weatherboard or sheet materials with surface mass between 8kg/m^2 and 30kg/m^2 of wall cladding</td> <td data-bbox="1262 454 1490 779">Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard, on resilient/isolating mountings</td> </tr> <tr> <td data-bbox="874 779 986 1043">Option B</td> <td data-bbox="986 779 1262 1043">Medium cladding: surface mass between 30 kg/m^2 and 80kg/m^2 of wall cladding</td> <td data-bbox="1262 779 1490 1043">Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard</td> </tr> <tr> <td data-bbox="874 1043 986 1238">Option C</td> <td data-bbox="986 1043 1262 1238">Heavy cladding: surface mass greater than 80kg/m^2 of wall cladding</td> <td data-bbox="1262 1043 1490 1238">No additional requirements</td> </tr> </table> 	Option A	Light cladding: timber weatherboard or sheet materials with surface mass between 8kg/m^2 and 30kg/m^2 of wall cladding	Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard, on resilient/isolating mountings	Option B	Medium cladding: surface mass between 30 kg/m^2 and 80kg/m^2 of wall cladding	Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard	Option C	Heavy cladding: surface mass greater than 80kg/m^2 of wall cladding	No additional requirements
Option A	Light cladding: timber weatherboard or sheet materials with surface mass between 8kg/m^2 and 30kg/m^2 of wall cladding	Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard, on resilient/isolating mountings								
Option B	Medium cladding: surface mass between 30 kg/m^2 and 80kg/m^2 of wall cladding	Internal lining of minimum 17kg/n plasterboard, su as two layers of 10mm thick high density plasterboard								
Option C	Heavy cladding: surface mass greater than 80kg/m^2 of wall cladding	No additional requirements								
<p>Roof/ceiling</p>	<ol style="list-style-type: none"> 1. Ceiling cavity infill of fibrous insulation, batts or similar, with a minimum density of 7kg/m^3; and 2. <u>C</u>eiling penetrations, such as for recessed lighting or ventilation, must not allow additional noise break-in; and 3. <u>R</u>oof type and internal ceiling lining complying with either Option A, B or C below: <table border="1" data-bbox="874 1570 1490 1989"> <tr> <td data-bbox="874 1570 986 1834">Option A</td> <td data-bbox="986 1570 1262 1834">Skillion roof with light cladding: surface mass up to 20kg/m^2 of roof cladding</td> <td data-bbox="1262 1570 1490 1834">Internal lining of minimum 25kg/n plasterboard, su as two layers of 13mm thick high density plasterboard</td> </tr> <tr> <td data-bbox="874 1834 986 1989">Option B</td> <td data-bbox="986 1834 1262 1989">Pitched roof with light cladding: surface mass up to</td> <td data-bbox="1262 1834 1490 1989">Internal lining of minimum 17kg/n plasterboard, su as two layers of</td> </tr> </table> 	Option A	Skillion roof with light cladding: surface mass up to 20kg/m^2 of roof cladding	Internal lining of minimum 25kg/n plasterboard, su as two layers of 13mm thick high density plasterboard	Option B	Pitched roof with light cladding: surface mass up to	Internal lining of minimum 17kg/n plasterboard, su as two layers of			
Option A	Skillion roof with light cladding: surface mass up to 20kg/m^2 of roof cladding	Internal lining of minimum 25kg/n plasterboard, su as two layers of 13mm thick high density plasterboard								
Option B	Pitched roof with light cladding: surface mass up to	Internal lining of minimum 17kg/n plasterboard, su as two layers of								

		20kg/m ² of roof cladding	10mm thick high density plasterboard
	Option C	Heavy roof cladding: surface mass greater than 20kg/m ² of roof cladding	No additional requirements
Glazed areas	<ol style="list-style-type: none"> 1. Timber or aluminium frames with full compression seals on opening panes (excludes glazed sliding doors or windows) 2. <u>G</u>lazed areas shall be less than 35% of each room floor area 3. <u>D</u>ouble-glazing with: <ol style="list-style-type: none"> a. a laminated pane of glass at least 6mm thick; and b. a cavity between the two panes of glass at least 12mm deep; and c. a second pane of glass at least 4mm thick; or d. any other glazing with a minimum performance of Rw 33dB. 		
Exterior doors to any habitable room	Solid core exterior door, minimum surface mass 20kg/m ² , with compression seals; or other door sets with minimum performance of Rw 30dB		

Table 26 — Minimum construction requirements for external building elements of habitable rooms to achieve a moderate level of acoustic insulation

Building Element	Minimum Construction Requirements	
External Walls of Habitable Rooms	Stud Walls	
	Exterior cladding	20mm timber or 9mm compressed fibre cement sheet over timber frame (100mm x 50mm).
	Cavity infill	Fibrous acoustic blanket (batts or similar of a minimum mass of 9kg/m ³) required in cavity for all exterior walls. Minimum 90mm wall cavity.
	Interior lining	One layer of 12mm gypsum plasterboard; or Where exterior walls have continuous cladding with a mass of greater than 25kg/m ² (e.g.

		brick veneer or minimum 25mm stucco plaster), internal wall linings need to be no thicker than 10mm gypsum plasterboard.
	Combined superficial density	Minimum not less than 25kg/m ² being the combined mass of external and internal linings excluding structural elements (e.g. window frames or wall studs) with no less than 10kg/m ² on each side of structural elements.
	Mass Walls	
	Wall construction & lining	190mm concrete block, strapped and lined internally with 10mm gypsum plaster board, or 150mm concrete wall.
Glazed Areas of Habitable Rooms	Glazed areas	
	Glazed areas up to 10% of floor area	6mm glazing single float.
	Glazed areas between 10% and 35% of floor area	6mm laminated glazing.
	Glazed areas greater than 35% of floor area	Require a specialist acoustic report to show conformance with the insulation rule.
	Frames of glazed areas	
	Frames:	Frames shall be aluminum window frames with compression seals.
Roof over Habitable Rooms	Skillion Roof	
	Cladding	0.5mm profiled steel or 6mm corrugated fibre cement, or membrane over 15mm thick ply, or concrete or clay tiles.
	Sarking	17mm plywood (no gaps).
	Frame	Minimum 100mm gap with fibrous acoustic blanket (batts or similar of a mass of 9kg/m ³).
	Ceiling	Two layers of 10mm gypsum plaster board (no through ceiling lighting penetrations unless correctly acoustically rated). Fibrous acoustic blanket (batts or

		similar of a minimum mass of 9kg/m ³).
	Combined superficial density	Combined mass of cladding and lining of not less than 25kg/m ² with no less than 10kg/m ² on each side of structural elements.
	Pitched Roof (all roofs other than skillion roofs)	
	Cladding	0.5mm profiled steel or tiles, or membrane over 15mm thick ply.
	Frame	Timber truss with 100mm fibrous acoustic blanket (batts or similar of a minimum mass of 9kg/m ³) required for all ceilings.
	Ceiling	12mm gypsum plaster board.
	Combined superficial density	Combined mass with cladding and lining of not less than 25kg/m ² .
Floor of habitable room	Floor areas open to outside	
	Cladding	Under-floor areas of non-concrete slab type floors exposed to external sound will require a cladding layer lining the underside of floor joists of not less than 12mm ply.
	Combined superficial density	Floors to attain a combined mass not less than 25 kg/m ² for the floor layer and any external cladding (excluding floor joists or bearers).
Doors of Habitable Rooms	External Door to Habitable Rooms	
	Superficial density & perimeter seals	Solid core door (min 25 kg/m ²) with compression seals (where the door is exposed to exterior noise).