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## **14.0 NOISE**

### **14.1 Introduction**

Noise is a major factor in determining amenity value. As urban and other development proceeds, noise will increase as an environmental issue. One of Council's functions under the Resource Management Act 1991 is to control the emission of noise and provide methods of mitigation against the effects of noise within the District. The controls in the District Plan reflect the need for some flexibility while providing noise control standards that are achievable for the community, yet ensure protection from excessive or unreasonable noise. The basis for these controls come from social and acoustical research undertaken locally, nationally, and internationally.

Performance standards are provided to keep noise effects to reasonable levels. Maximum noise levels are prescribed for each zone which are relative to the level of existing surrounding noise and the types of activities permitted in each zone. They are also provided to reduce the noise effects of traffic without restricting the movement of vehicles through the District.

The Plan does not preclude action under other legislation and persons are advised to consider their rights and responsibilities under the Health Act 1956.

### **14.2 Objectives**

14.2.1 An environment where noise levels and types of noise do not exceed a reasonable level.

### **14.3 Policies**

14.3.1 To control noise in order to avoid, remedy and mitigate the adverse effects of noise on the health and wellbeing of people, and fauna of the District.

14.3.2 To protect the amenity values of the District from the adverse effects of noise.

14.3.3 To regularly monitor ambient noise levels in the District and review performance standards.

14.3.4 To liaise with other agencies to harmonise Performance Standards relating to the control, measurement and assessment of noise.

14.3.5 To control development to minimise conflict between 'noisy' and 'quiet' activities.



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## 14.4 Methods to Achieve Objectives and Methods

The following identifies the methods that are to be used to achieve the objectives and policies contained in this section of the District Plan:

### 14.4.1 General

- (i) In each zone, performance standards will be set for noise emissions which reflect the expectations of the community about noise levels at different times of the day (daytime, and night time). Performance standards will also reflect particular sensitivity to noise in some areas, for example recreation areas and scenic reserves.

*Refer to Policies 14.3.1 and 14.3.2.*

- (ii) Where an activity requires a resource consent(s), Council may require that the Best Practicable Option defined in the Resource Management Act 1991 be adopted to mitigate the adverse effects of noise.

*Refer to Policies 14.3.1 and 14.3.2.*

- (iii) A programme of regular measurements of ambient noise levels will assist Council to monitor the state of the environment and help to ensure compliance with noise performance standards.

*Refer to Policy 14.3.3.*

- (iv) Council will work with other agencies including the Health Department, Environment Waikato and Transit New Zealand to address noise issues in the District.

*Refer to Policy 14.3.4.*

- (v) Methods other than performance standards are or will be used to address noise issues. In some cases, a combined approach will be adopted in the Plan to minimise the potential adverse effects of noise on the environment. Making available up to date information is part of this approach. For example, Council has information on potential noise nuisance associated with properties adjacent to major roads in the district, particularly the State Highways. This information is contained in a Hazards Register which can be made available to landowners as a reference guide when carrying out land use activities.

*Refer to Policy 14.3.5.*



- (vi) Council will investigate noise complaints promptly. Where required, an abatement notice, or an excessive noise direction, or an enforcement order will be issued to ensure compliance with the relevant performance standard.

*Refer to Policies 14.3.1 and 14.3.2.*

- (vii) The following New Zealand Standards for the measurement and assessment of noise have been adopted by Council for application throughout the District:

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|----|-------------------------|--|
| a. | NZS 6801 : 1991         | <i>The Measurement of Sound</i>  |
| b. | NZS 6802 : 1991         | <i>Assessment of Environmental Sound</i>   |
| c. | NZS 6803P : 1984        | <i>The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work</i>  |
| d. | NZS 6805 : 1992         | <i>Airport Noise Management and Land Use Planning</i>  |
| e. | NZS 6806 : 1993 (Draft) | <i>Road Traffic Sound</i>  |
| f. | NZS 6807 : 1993         | <i>Noise Management and Land Use for Helicopter Landing Areas</i>                                  |
| g. | NZS 4403 : 1974         | Section 10.5.5 of NZS 4403 relating to the control of vibration, (e.g. from explosions or blasts). |

*Refer to Policy 14.3.3.*

#### 14.4.2 Specific Rules

- Rule A** For the purposes of this section of the District Plan, the following definitions shall apply:

**"Air noise Boundary"** is the survey precise boundary of an area in which, and only in which, the daily average night-weighted sound exposure from aircraft, over any three month period, is permitted to exceed 100 pasques (about 65 Ldn). Within this area, strict land use controls are required, and all noise operations must be so controlled that the daily average sound exposure at or anywhere outside the airnoise boundary, does not exceed 100 pasques.



**"Acoustical Mitigation"** for residential purposes means achieving a sound level within the dwelling that is not going to affect a reasonable person from being able to sleep or from routine daytime activities.

**"Corrected Exceedence Level"**

- (a) Where a sound has distinctive audible characteristics the plan limit shall be reduced by 5 dBA.
- (b) Where the plan exceedence level is measured and due to traffic exceeds the plan limit by more than 10 dBA, the plan limit shall be the measured exceedence level less 10 dBA.

**"Day/night Level"** (L<sub>dn</sub>) is defined as the time-average sound levels in decibels (i.e 20 micropascals) over a 24 hour period (from midnight to midnight) with the addition of 10dB to night-time levels during the period from midnight to 0700 hours and from 2200 hours to midnight, to take account of the increased annoyance caused by noise at night.

**"Exceedence Level"** L<sub>10</sub> in decibels is that sound level which is equalled or exceeded for ten percent of the measurement time.

**"Excessive Noise"** is defined in Section 2 of the Act.

**"Notional Boundary"** is defined as a line 20 metres from the facade of any rural dwelling or the legal boundary where this is closer to the dwelling.

**"Outer Control Boundary"** means the survey precise boundary of an area in which, and only in which, the daily average nightweighted sound exposure from aircraft is expected to exceed 10 pasques (about 55 L<sub>dn</sub>). Within this area no incompatible land use is permitted.

**"Excessive Traffic Noise"** is where the predicted noise level for traffic from 6:00am - midnight exceeds 63 dBA L<sub>10</sub> 18 hours for 10 percent of the measurement period or measured levels exceed 70dBA L<sub>10</sub> daytime and 60 dBA L<sub>10</sub> night time. The Traffic Noise zone boundary is 80 metres from the centre line on either side of the route.

**"Vibration"** is low frequency movement that is not able to be heard but can be felt. Vibration is defined in NZS 4403:1976 section 10.5.5.1. Specialist equipment is needed to measure vibration.



For the purposes of this section of the District Plan the words "noise" and "sound" have the same meaning.

**Rule B** The following Performance Standards for noise shall be complied with throughout the District as detailed in this rule unless otherwise provided for in Rule C.

Noise levels to be achieved will be measured at the affected boundaries of the properties receiving the noise of the activity or the notional boundary of a rural dwelling.

The notional boundary will apply in the event that the nearest dwelling in the Rural Zone is more than 20 metres away from the boundary of the property on which the noise is sourced.

The notional boundary may shift in the event that a new dwelling is erected on a lot created in the Rural Zone prior to 21 July 1994 (the date on which the Proposed District Plan was publicly notified).

Zone	Maximum Noise (dBA) L10 at the Boundary of the Receiving Property		
	Day L <sub>10</sub>	Night L <sub>10</sub>	Lmax Night
Rural	50	40	75
Residential	50	40	75
Neighbourhood Retail	55	45	80
Commercial Core	55	45	80
Commercial Fringe	55	45	80
General Industrial	60	60	80
Heavy Industrial	70	70	85
Reserve	50	40	75
Airport Protection	6805 contour		
Hydro-Electric Power Generation	50	40	75
Dairy Industrial	50	40	75



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### Sound Effects from Tokoroa Airport as Defined by NZS 6805 Contour

Table: Noise Control Criteria for Land Use Planning Inside the Air Noise Boundary

Sound Exposure Pa <sup>2</sup> s <sup>(1)</sup>	Recommended Control Measures	Day/Night Level Ldn <sup>(2)</sup>
> 100	New residential, schools, hospitals or other noise sensitive uses are prohibited. Steps shall be taken to provide existing residential properties with appropriate acoustic insulation to ensure a satisfactory internal noise environment. Alterations or additions to existing residences or other noise sensitive uses shall be permitted only if fitted with appropriate acoustic insulation.	> 65

Table: Noise Control Criteria for land Use Planning Inside the Outer Control Boundary but Outside the Air Noise Boundary

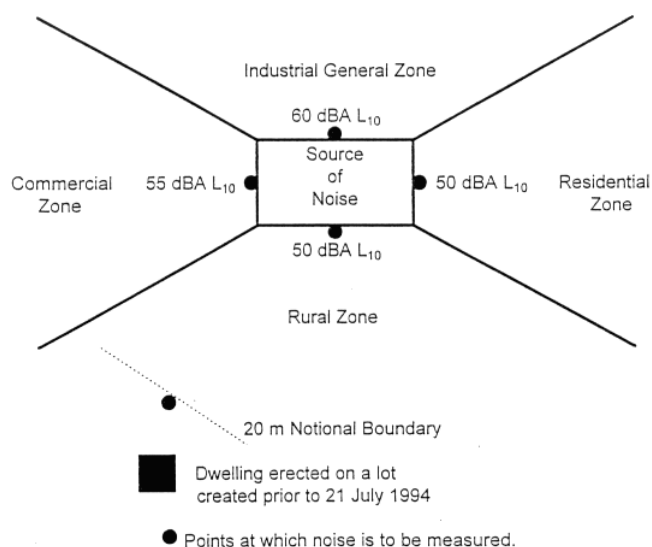
Sound Exposure Pa <sup>2</sup> s <sup>(1)</sup>	Recommended Control Measures	Day/Night Level Ldn <sup>(2)</sup>
> 10	New residential, schools, hospitals or other noise sensitive uses should be prohibited unless a District Plan permits such uses, subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment.  Alterations or additions to existing residences or other noise sensitive uses should be fitted with appropriate acoustic insulation and encouragement should be given to ensure a satisfactory internal noise environment.	> 55



- NOTE:**
- (1) Night-weighted sound exposure in pascal-squared seconds or “pasques”
  - (2) Day/night level (Ldn) values given are approximate for comparison purposes only and do not form the base for the table.

The plotted contours are given on the planning maps.

The following diagram may assist with the interpretation of these rules.



*Refer to Policies 14.3.1 and 14.3.2.*

**Rule C Performance Standards for Noise**

The following Performance Standards for noise apply to the specified activities:

(i) **Traffic Noise**

<b>Maximum Noise (dBA)</b>			
<b>Day L<sub>10</sub></b>	<b>Night L<sub>10</sub></b>	<b>L<sub>max</sub> Night</b>	<b>L<sub>10</sub> 18 hour</b>
70	60	85	63



(ii) **Construction Noise**

Construction noise emanating from a site where construction is ancillary to the principal activity shall meet the limits recommended in and be measured and assessed in accordance with New Zealand Standard NZS 6803P : 1984, The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work.

(iii) **Vibration**

No activity shall generate or cause any vibration that contravenes the standards specified in NZS 4403.

*Refer to Policies 14.3.1 and 14.3.2.*

(iv) **Temporary Military Training**

Temporary military training activities are permitted activities throughout all zones in the district subject to compliance with the relevant performance standards.

There is the ability for the Minister of Defence to certify that any work or activity of the Crown is necessary for reasons of national security, pursuant to Section 4 of the RMA, in which case the RMA does not apply.

## 14.5 **Principle Reasons**

The control of the emission of noise and the mitigation of the effects of noise is one of Council's functions specified in the Resource Management Act 1991. While the Act imposes a duty on all persons to avoid unreasonable noise the District Plan has included maximum allowable noise levels for each zone.

## 14.6 **Anticipated Environmental Results**

The intended outcome in relation to noise is that the District will have maximum permissible noise levels whilst still allowing for the more noisy activities in suitable locations. The adverse effects of noise on the environment will be avoided, remedied or mitigated.