11.0 NOISE AND VIBRATION

11.1 Structure of this Chapter

Noise and vibration occurs throughout the Gisborne district. For the purposes of clarity, the provisions controlling these effects will be divided into the following categories:

- noise and vibration provisions for all zones throughout the Gisborne district;
- noise provisions for transportation (land and air).

This chapter includes rules for noise and vibration and details regarding assessment of these effects. Rules for zone specific activities which generate noise are not included in this chapter. They are instead addressed in the respective zone chapters to which the activity relates, for example, rules regarding noisy agricultural activities are stipulated in Chapter 21-Rural. Under the Act, noise includes vibration (Section 2).

11.2 Introduction

Refer to the Regional Coastal Environment Plan for noise controls in the coastal marine area.

Noise may be defined as unwanted sound. Sound may be described in terms of frequency, magnitude and duration but noise has connotations of annoyance and disturbance which are subjective factors. Community reaction to noise is determined not only by the sound level, but also by the characteristics of the noise itself and the previous exposure of the community to noise. Complaints and other overt forms of community reaction to noise provide indicators of the existence of a noise problem but the number of complaints often correlate poorly with the complainants' noise exposure. Adverse health effects of noise include: Physiological and chronic health effects; Annoyance; Interference with speech communications; Interference with the learning process and education; Interference with mental activity; Interference with rest and sleep. The desirable upper limit for nighttime noise exposure is determined by criteria to protect from disturbance, the onset of sleep and awakening thresholds for the average person.

Noise (including vibration) generated from any activity occurring within the Gisborne District, regardless of the location in which it is performed, has the potential to adversely impact upon any neighbouring, adjacent or distant environment which environment, that may be affected. These effects can be addressed under the Act where adverse effects occur. Section 16 of the Act states the duty of every occupier of land and every person carrying out an activity in, on, or under a water body or the coastal marine area to adopt the best practicable option to ensure the emission does not exceed a reasonable level. Excessive noise provisions are also stipulated in the Act (Section 326 - 328).

Noise and vibration are effects that have the ability to move beyond the boundary of the site of emission and impact on other areas, sometimes adversely. Noise or the type or level of noise is an important component of the character an area and the level of noise occurring in the proximity of a particular site may significantly alter the amenity of the site or impact upon human health. Most people have the ability to perceive the quality of the acoustic environment and it is important that the noise levels are compatible with the character of the zone in which the effect is felt. In most circumstances, particular sites within a zone have comparable characteristics with other sites within that zone. In residential areas, for example, the types of amenity consideration are similar from house to house. It is generally appropriate, therefore, to establish consistent rules for noise within each zone.

However, establishing rules for reserves requires a more diverse approach. Reserves are generally isolated from one another and established in a variety of situations, often bounded by different zones. This results in reserves having a range of amenity values often differing from site to site. For example, amenity reserves include esplanade strips adjacent to various zoning areas. Establishing rules for noise for these areas will therefore require an approach, which reflects the diversity of these areas and the locality in which they are placed.

11.3 Issues

11.3.1 The community's health, safety and well-being may be adversely affected by noise and vibration.

11.3.2 Inappropriate noise and vibration emissions may adversely impact on the amenity and character of the zone that is being affected.

11.4 Objectives (Noise including Vibration)

1. To enable noise and vibration at levels which do not have an adverse effect on human health.
2. An acoustic environment within each zone that is compatible with the character of the area.

Principal reason (1): Noise has the potential to adversely impact upon the community if it is not adequately controlled. Maintaining an environment in which noise does not adversely impact on people's health and safety is therefore necessary.

Principal reason (2): Zoning has been used throughout the district to identify areas where varying levels and types of effects are expected to occur. Zoning assists in ensuring that adverse effects do not affect the environment inappropriately. There are expectations for each zoning as to the level and types of effects with respect to noise. Some zones, such as industrial, are less sensitive to the adverse effects of noise than others, for example residential. Acceptable noise levels within each of these zones will vary to reflect their differing sensitivity to adverse effects.

11.5 Policies (Noise including Vibration)

1. To ensure that noise emissions are contained at levels or in locations in a manner which provides for the health and safety of individuals and the community.
2. To maintain noise at limits that reflect the amenity values and character associated with the locality in which the noise is having an effect.
3. To maintain the character and amenity values of the rural zones with respect to noise, without unduly restricting farming activities. Noise limits for noise received by occupants of rural dwellings will be set to avoid restrictions on farming activities, where such farming activities adopt the best practicable option.
4. In assessing applications for resource consents in respect of noise, requirements for designations or modification to designations to exceed noise standards, consideration shall be given to the following factors:
    - the impact the noise will have on individuals and communities health and safety, in particular the effects of night time sleep interference such as through awakening by startle effect, difficulty getting to sleep or disturbed sleep patterns

- the character and amenity of the areas which will be affected by noise emissions, and the appropriateness of the noise for that area;
- in the case of reserves, any Reserve Management Plan which is developed for the reserve;
- the extent that the characteristics of noise emitted contribute to the adverse effects of emission such as:
  - the level of noise,
  - the duration, number and timing of events throughout the 24 hour day or over a year when the noise limit is exceeded,
  - the characteristics of the location in which noise will impact including the background noise levels in this area (L_{95}) and stipulated standards for noise in the Plan,
  - noise characteristics including but not limited to the frequency, tone, impulse and spectrum of noise,
  - the cumulative effect that the noise has on background (L_{95}) of the area.

5. To manage noise on reserves in a manner which reflects both the amenity of the reserve and the character of the surrounding landscape in recognition of the diversity of situations in which reserves are located.

6. When assessing applications for resource consents, requirements for designations or modification to designations where:
   - internal noise standards for residential dwellings are contravened; *or*
   - visitor accommodation, camp grounds and motor camps, hospitals, health and medical centres, residential care housing, education institutions and structures for the purposes of, or activities involving public assembly (excluding structures required for airport activities are described in the conditions of the designation) occur in the Noise Impact Overlay;
     - consideration shall include but not be limited to the following factors,
     - the characteristics of the noise experienced (on the site to which the activity relates) and the extent that noise adversely impacts upon the activity for which consent is sought,
     - exacerbates the background noise levels,
     - whether, and the extent to which, the activity for which consent is sought,
     - whether the potential adverse effects of noise will be confined to the site for which the activity relates.

Explanation and Principal reason (1): Noise emitting activities must be undertaken in a sustainable manner. Peoples' health and safety is an important aspect that must be provided for when undertaking a range of activities.

Explanation and Principal reasons (2): Zoning provides a useful tool to contain noise in areas where adverse effects may be avoided, remedied or mitigated to the extent required. Zones have been identified according to their sensitivity to effects. Any noise emitted should occur in a manner which maintains the values of the zones.

Explanation and Principal reasons (3): The bulk of rural land is not affected by noise limits so farming activities should be largely unrestricted. Noise controls apply only in proximity to rural dwellings or at residential zone boundaries. Noise from farming activities of a limited duration, such as harvesting, which are operated no louder than necessary are exempt from the noise limits.

Explanation and Principal reasons (4): This policy contains criteria to be considered during the assessment of resource consent applications and designations. It allows site-specific consideration for each application. This policy will guide decisions on applications in addition to the guidance given in the Act and other statutory Plans and Statements.

Explanation and Principal reason (5): Although neighbourhood reserves are always located within residential zones, amenity and recreation reserves are situated across the district throughout a range of zones. Rules for noise for these areas therefore need to accommodate the varying sensitivity of these areas to the effects of noise.

Explanation and Principal reason (6): Noise sensitive activities may be located within a noisy environment. This policy gives guidance for assessment of consent applications in these circumstances. Perception of the extent to which adverse effects of noise are considered to be occurring should be included as an aspect of the consent application assessment.

11.6 TRANSPORT NOISE

11.7 Introduction

The transportation network is an important physical resource which provides for peoples social, economic and cultural wellbeing. However, land and air transportation may cause adverse effects on public health and safety or alter the character or amenity of an area in which noise is being emitted. The generation of land based transportation noise is generally associated with the roading network. The traffic characteristics, the proximity to residential areas and the zones through which the roads traverse will determine the level of adverse effects which occur. Heavy trucks operating in a residential area, for example, will potentially have a greater adverse effect than trucks travelling through an industrial area.

Air transport noise is concentrated around arrival and departure sites (airports, airfields and helipads) and along flight paths. The effects of noise generated from these areas on the surrounding environment varies due to the difference in scale of the operations and the location in which the activity is situated. It is necessary that the operations of the airport are undertaken in a manner which provides for the safe operation of the airport, field or helipad and addresses the adverse effects of noise on the area, including impacts upon human health and amenity.

New activities, which are sensitive to the effects of noise may wish to locate in the vicinity of transport centres. Historically, the scarcity or absence of people in the vicinity of the noise centre, may have avoided any noise problems. The transport centre's location may have been selected specifically for this reason. The location of the new activity near the source of the noise would then create an adverse effect because the new activity is now exposed to the transport centre's noise. This is often referred to as "reverse sensitivity". This occurrence may result in demands on the transport operators to change or curtail their existing activities.

Excessive noise provisions under the Act (Section 326) do not include sound emitted from a vehicle being driven on a road nor on noise generated by aircraft being operated during or immediately before or after flight. Excessive noise provisions may, however, be applied to aircraft activities outside of these times. There is provision for the adverse effect of traffic noise to be addressed as a matter in a District Plan under Second Schedule, Part II, 1(c).

The operation of vehicles to control the levels of noise emitted is addressed in other legislation such as the Transportation Act 1962, and the Traffic Regulations 1976. Unreasonable noise provisions (Section 16) also applies to land based activities by requiring that the best practicable option is used to ensure that noise emitted does not exceed an unreasonable level.

11.8 Issues

11.8.1 Public health and safety may be compromised as a result of noise generated by land and air transportation activities. Location of noise sensitive activities (such as residential) in close proximity to traffic networks or airports may also result in adverse effects. In particular sleep interference (awaken by startle effect, disturbed sleep patterns or difficulty in getting to sleep) may result.

11.8.2. Noise generated from the road network has the potential to impact upon the amenity values of the zones through which roads are established.

11.8.3 Aircraft operations are characteristically noisy and activities may adversely affect a wide area, in particular sites in close proximity to arrival and departure points.

11.9 Objectives (Transport Noise)

1. Mitigation of the adverse effects on residential sites of traffic noise generated by vehicles using the roading network.
2. The safe and efficient operation of the airports, airfields, heliports and helipads in a manner in which any adverse effects of noise on the environment is avoided, remedied or mitigated.

Principal reason (1): For properties already located adjacent to busy roading networks, the avoidance or remediation of the effects of traffic noise is not possible. Mitigation of the adverse effects of noise is therefore required. Avoidance of generation of traffic noise is not generally possible, although options exist for reducing the levels of noise generated through the use of alternative roading design options.

Principal reason (2): Maintaining continuing operational capability of existing air and heli operations in a manner which addresses adverse effects of noise is required. The establishment of new operations must also be performed in an appropriate manner so that the viability of the operations and the adverse effects of noise are addressed.

11.10 Policies (Transport Noise)

1. To require new residential development on front sites adjacent to arterial roads or within the Airport Noise Impact Overlay be constructed in a manner which mitigates the adverse effects of noise from the roading network or the airport operation.
2. To address the adverse effects of traffic noise, when making alteration to the roading network (such as development of new roads or alteration to the roading hierarchy) consideration of the following criteria may be used:
   - adopting measures which assist in the reduction of creation of noise such as through design of roads, and use of alternative roading materials and surfaces during construction which lessen noise generation,
   - evaluation of alternative routes,
   - adopting measures to mitigate the adverse effects of noise such as through the use of screening, evaluation or other noise barriers

3. Noise sensitive activities may only be established in the Noise Impact Overlay area if they are insulated to ensure that the potential adverse effects of noise, from airport operations, would not adversely affect the health of occupants.
4. When considering applications for resource consents, designations or modifications to designations to construct or modify an airport, airfield, heliport or helipad, regard shall be had to the following factors:
    - the impact the noise will have on people and communities' health and safety, in particular, regard should be had for the adverse effects of night time sleep interference;
    - the character and amenity of the areas which will be affected by noise emissions, including the background noise (L_{95}) of the location in which the aircraft will be arriving or departing;
    - provisions of the appropriate New Zealand Standards developed by Standards Association of New Zealand for the purposes of management of noise;
    - the adverse effect of the characteristics of noise emitted such as:
        - *the level of noise to be emitted;
        - the noise characteristics including but not limited to the frequency, tone, impulse and spectrum of noise and type of craft used,
        - the frequency and timing of flights, and the duration of aircraft activities,
        - flight paths, including the height and direction of any manoeuvres and ground and air space required for emergency procedures

Explanation and Principal reason (1): For established areas, the avoidance and remediation of adverse effects of noise is not a possibility. Adverse effects of traffic noise on new houses will therefore need to be mitigated through acoustic insulation.

Explanation and Principal reason (2): During construction of new roads or modification to existing roads, consideration should be given to the manner in which these developments occur with respect to the effect of the level of noise generated by traffic. This may prove to be a more efficient and effective method of addressing noise levels compared to acoustic insulation. Roading design also complements other measures adopted to address noise effects.

Explanation and Principal Reason (3): Consideration must be given to the airport with regard to the potential effect (reverse sensitivity) caused by poor location of noise sensitive activities.

Explanation and Principal Reason (4): These criteria are established to give guidance for assessment of applications and designations. Criteria include consideration of aspects and characteristics of noise which contribute to the adverse effects of noise. New Zealand Standards for noise are generally based around volume control. This policy allows wider consideration of characteristics of noise.

11.11 METHODS OF IMPLEMENTATION

11.11.1 Advocacy

1. Council will develop guidelines or codes or practice and provide information to the public advising how rules for noise may be met. The manner in which noise emissions with special audible characteristics, such as tonality or impulsiveness, which cause adverse effects, may be managed will also be addressed.
2. To provide information and advice to encourage and support the development of a Gisborne Field Airport Management Plan. This Plan should assist the Airport Authority in managing the use of the Airport in a manner consistent with the provisions of this Plan and the requirements of the Act.
3. Encourage compliance with the appropriate industry protocols, voluntary guidelines and codes of practice for farming operations.

Principal reason (1): It is possible that new or evolving activities may result in new noise issues emerging. In these instances, Council may choose to provide information to the public regarding how adverse effects may be avoided, remedied or mitigated.

Principal reason (2): The development of a Management Plan for the Airport would assist in the avoidance or mitigation of adverse effects of airport operations on people in the vicinity of the airport who are affected by noise. Development of a Plan would also provide guidance for future decisions regarding airport operations and how these may be performed in a manner consistent with the provisions of this Plan.

Principal reason (3): Adherence to industrial protocols and guidelines will help to achieve sustainable management. However such documents are best referred to outside the District Plan document, as they are not necessarily required to go through the same public scrutiny as the Plan.

11.11.2 Information Provision

1. To develop and make available to interested members of the public information regarding measures which may be used to mitigate the adverse effects of traffic and airport noise on residential amenity and internal noise levels.

Principal reason (1): Mitigating the effects of noise through the use of acoustic insulation may be achieved by utilising specific building materials and techniques. Council will provide this information to people on request to assist in compliance with rules regarding insulation of new residential homes.

11.11.3 Regulation

1. An air noise boundary and outer control boundary will be established around the Gisborne Airport in accordance with NZS 6805:1992 "Airport Noise Management and Land Use Planning" and district rules controlling residential development and land use within these areas will be developed. These boundaries will act as an overlay with the existing zoning provisions retained and overlay specific rules developed as appropriate.

Refer to Appendix 19 - Airport Noise Boundary, Appendix 11 - Airport Designation Noise Condition and Rules 8.11.2.4, 8.11.4.3 and 11.17.

2. Rules

    a) District rules will be developed to manage the effects of noise and vibration for each of the generic zones identified.

    b) District rules will be developed to address the adverse effects of the arterial roading network and airport noise on new residential dwellings.

3. Zones will be used as a tool for the setting of noise and vibration rules. The following groupings will be used when establishing rules:

Generic Zone Referred to	Zones Included in this Grouping
Residential	General Residential, Inner Residential, Residential Protection
Industrial	General Industrial, Rural Industrial A and Rural Industrial B
Port	Port Management A, B, C & Cook "Cone of Vision"
Commercial	Inner Commercial, Amenity Commercial, Fringe Commercial, Outer Commercial, Rural Commercial, Aviation Commercial.
Suburban Commercial	Suburban Commercial
Rural	Rural Residential, Rural Production, Rural General, Rural Lifestyle
Amenity	Amenity Reserves
Heritage	Heritage Reserves
Neighbourhood	Neighbourhood Reserves
Recreation	Recreation Reserves

Table 1: Generic Zone Categories

Principal reason (1): Rules and the establishment of air noise and outer control boundaries are required to provide clarity and certainty regarding the mitigation of adverse effects of transportation noise on the health and safety of people.

Principal reason (2): Rules are required to give guidance and certainty as to the level of noise expected for each zone and to establish requirements for residential dwellings affected by transportation noise. Reliance on Section 16 of the Act exclusively to control noise, does not give certainty or clarity regarding what is an acceptable noise level.

Principal reason (3): Zoning provides a useful tool to contain noise in areas where adverse effects may be avoided, remedied or mitigated to the extent required. Categorising zones throughout the district into 10 generic groupings is undertaken because the adverse effects of noise on these areas are comparable and should therefore be managed in a consistent manner.

11.11.4 Road Hierarchy

1. The roading hierarchy will be utilised as a method to identify areas where residential amenity may be adversely affected by traffic noise emitted from the road network.

Refer to Appendix 12 - Roading Hierarchy maps.

Principal reason (1): The adverse effects of traffic noise on residential dwellings are based upon road utilisation. The roading hierarchy is a method to identify which roads require noise mitigation rules.

11.11.5 Multi-disciplinary Approach

1. Establishment of a consultative committee in Council including members able to offer expertise in engineering, environmental health and planning will be undertaken. The purpose of this committee is to annually review and report on the roading hierarchy measures to mitigate adverse effects of noise based on criteria such as traffic characteristics, including total flows and proportions of heavy traffic, traffic growth projections, proposed network changes, noise levels and state highway planning.

Principal reason (1): Many factors contribute to the levels of noise emitted from a particular road. Traffic flow and roading use is dynamic and changes to the roading hierarchy may be required. These changes should be done in a manner in which consideration is given to a range of traffic, environmental health and planning considerations on a regular basis.

11.12 RULES FOR NOISE

General Rules

Note:

Because of the designation status of Gisborne Airport, and the special provisions stated in Appendix 11 relating to airport noise, airport activities undertaken on land identified in Appendix 10 as Dg4 (Gisborne Airport) are exempt from rules 11.12.1 to 11.12.6.

Refer to 8.9.1 for application of Chapter 11 to Network Utility Activities.

The following General Rules shall apply to all permitted activities with respect to noise (excluding vibration):

Refer to Zone Chapters for noise rules for temporary activities.

11.12.1 All Zones

11.12.1.1 At any boundary where the zones differ, the appropriate noise limit shall be the lowest average maximum noise level (L10) permitted by either zone

11.12.1.2 Outdoor activities associated with educational institutions conducted on the site of the institutions between 0700 - 2100 hours shall not exceed a maximum of the noise standard at the boundary of the zone in which it is being received, increased numerically by 10dBA.

11.12.1.3 Noise associated with emergency warning devices used by emergency services shall be exempt from all rules contained in Section 11.12

11.12.2 Residential and Neighbourhood Reserve Zones

11.12.2.1 The average maximum noise level (L_{10}) and maximum noise level (L_{max}) as measured at or within the boundary of any site zoned residential or at, or within the boundary of any site zoned Neighbourhood Reserve shall not exceed the following limits:

Residential Zones and Neighbourhood Reserves	Monday to Saturday				Sundays and Public Holidays			
	AVERAGE MAXIMUM NOISE LEVEL (L_{10}) dBA			(L_{max}) dBA	(L_{10}) dBA			(L_{max}) dBA
	day 0700-1800hrs	evening 1800-2200hrs	night 2200-0700hrs	night 2200-0700hrs	day 0700-1800hrs	evening 1800-2200hrs	night 2200-0700hrs	night 2200-0700hrs
Front sites adjacent to arterial, principal roads, front and rear sites adjacent to railway lines or commercial or industrial zones	55	50	45	70	50	45	45	70
All other sites	55	45	40	65	45	45	40	65

Table 2: Rules for Noise in the residential and Neighbourhood Reserve Zones

11.12.2.2 Awapuni Road

a) Any new residential dwelling erected or re-erected on sites specified in Appendix 18 shall comply with rules specified in Table 4 below.

11.12.3 Industrial, Port, Commercial, Inner Residential and Suburban Commercial Zones

11.12.3.1 The average maximum noise level (L_{10}) as measured at or within the boundary of any industrial, port, commercial or Suburban Commercial zone shall not exceed the following limits:

Refer to 8.9.1 for application to network utilities.

Generic Zone	AVERAGE MAXIMUM NOISE LEVEL (L_{10}) dBA at all times
Industrial and Port	75
Commercial	70
Suburban Commercial	65

Table 3: Rules for Noise in the industrial, port, commercial and Suburban Commercial zones

11.12.3.2 Where buildings for permanent residential and visitor accommodation are permitted in industrial, port, commercial, Inner Residential or Suburban Commercial zones, the developer shall design and construct the building so as to comply with the following internal noise limits (Maximum level of permitted noise for each zone shall be assumed to occur as specified in Table 3 above):

Permanent residential & visitor accommodation permitted in Industrial, Port, Commercial, Suburban Commercial Inner Residential	TIME	AVERAGE MAXIMUM INTERNAL NOISE LEVEL (L_{10}) dBA	MAXIMUM NOISE LEVEL INTERNAL (L_{max}) dBA
Industrial Port Commercial Suburban Commercial Inner Residential	DAY AND EVENING 0700-2200 hrs	65 60 55	-
Industrial Port Commercial Suburban Commercial Inner Residential	NIGHT 2200-0700 hrs	35	65

Table 4: Rules for permanent residential accommodation in Residential, Industrial, Port, Commercial, Inner Residential and Suburban Commercial Zones

11.12.4 Rural Zones

11.12.4.1 The average maximum noise level (L_{10}) and maximum noise levels (L_{max}) as measured at or within the boundary of any site zoned Rural Residential, Rural Lifestyle or the notional boundary of any dwelling zoned Rural Production, Rural General, and shall not exceed the following limits.

Refer to 8.9.1 for application to Network Utility Activities.

Refer to 21.1.1(6) for application to farming activities.

Refer to 21.9.1.7 for specific rules relating to bird scaring devices.

ZONE	AVERAGE MAXIMUM NOISE LEVEL (L_{10}) dBA		(L_{max}) dBA
	DAY 0600-2100 hrs	NIGHT 2100-0600 hrs	NIGHT 2100-0600 hrs
Rural	55	45	70

Table 5: Rules for Noise in the Rural Zone

11.12.4.2 Rule 11.12.4.1 shall exclude farming activities (not specifically provided for by a rule other than Rule 21.9.1.1), and provided that the best practicable option is adopted to ensure noise does not exceed a reasonable level.

Note:

Attention is drawn to the requirements of Section 16 of the Act.

11.12.4.3 New dwellings located within the Rural P or Rural G zones (where the dwelling site is adjacent to either an industrial or commercial zone), shall provide an acoustic design certificate to show that the dwelling can comply with the noise limits specified in Rule 11.12.4.1-Table 5 in all habitable rooms with the windows closed, using appropriate noise mitigation measures as necessary.

11.12.5 Heritage Reserve Zone

11.12.5.1 The average maximum noise level (L_{10}) and maximum noise level (L_{max}) arising from any zone as measured at or within the boundary of any site zoned Heritage Reserve shall not exceed the following limits:

Rule 11.12.5 is not operative has proposed status.

Submissions outstanding in relation to Cone of Vision site affect Rule 11.12.5

ZONE	AVERAGE MAXIMUM NOISE LEVEL (L_{10}) dBA		(L_{max}) dBA
	DAY 0700 - 2100hrs	NIGHT 2100 - 0700hrs	NIGHT 2100 - 0700hrs
Heritage Reserve	50	50	50

Table 6: Rules for Noise in the Heritage Reserve Zone

11.12.6 Amenity and Recreation Reserve Zones

11.12.6.1 The average maximum noise level (L_{10}) arising from any zone as measured at or within the boundary of any site zoned Amenity Reserve or Recreation Reserve shall not exceed the following limits: or

ZONE Amenity Reserve Recreation Reserve	AVERAGE MAXIMUM NOISE LEVEL (L_{10}) Dba At all times
Reserves adjacent to Suburban Commercial	65
Reserves adjacent to Commercial	70
Reserves adjacent to Industrial or Port	75
Reserves adjacent to Residential	Refer to Table 2
Reserves adjacent to Rural	Refer to Table 5

Refer to 11.19.4.

Table 7: Rules for Noise in the Amenity and Recreation Reserve Zones

11.12.6.2 The average maximum noise level (L_{10}) arising from any site zoned Amenity Reserve or Recreation Reserve, as measured at or within the boundary of any other zone shall comply with the following conditions:

a) noise levels are not exceeded by more than a maximum for 10dBA from 0700 - 2100;

b) noise incidents do not occur more than 6 times in any 12 month period;

c) noise incidents have a duration of not more than 3 hours on any single occasion.

11.12.7 Port Management Zones

11.12.7.1 General

a) The longer term average sound level (Ldn) from "essential port activities" within the Port Management zones shall not exceed 55dBA at any point outside the 55dBA noise contour nor 65dBA at any point outside the 65dBA noise contour.

b) Non-essential port activities conducted in the Port Management zones shall comply with noise limits specified in Section 11.12.1 - 11.12.6.

c) The short term average sound level (Leq) shall not exceed 60dBA between 10.00pm and 7.00am.

d) The nighttime maximum sound level (Lmax) shall not exceed 85dBA between the hours of 10.00pm and 7.00am at any point outside the 65dBA noise contour.

e) Persons carrying our essential port activities shall provide. on the third anniversary of the Plan becoming operative, and every three years thereafter, certification that noise produced complies with Rules 11.12.7.1(a), (c) and (d).

Refer to Chapter 24 - Definition of Essential Port Activities and Noise Sensitive Activity. Refer to Appendix 28 - Map of Noise Contours for Port management Zones.

11.12.7.2 No structure or additions to existing structures associated with a noise sensitive activity shall be erected on land located between the 55dBA Noise Contour Boundary and the 65dBA Noise Contour Boundary for the Port of Gisborne, except where the internal Ldn of 45dBA in all habitable rooms with doors and windows closed is achieved.

11.13 RULES FOR NOISE FOR CONSTRUCTION ACTIVITIES - ALL ZONES

11.13.1 Long Term Construction

a) Emissions of construction noise shall not exceed 168calendar days in any 12 month period.

b) The construction activity shall comply with the noise limits specified in Table 8.

11.13.2 Shorter Term Construction Noise Standards

a) Emission of construction noise shall not exceed 15 calendar days in any 12 month period.

b) Noise limits specified in Table 8 may be exceeded by 5 dBA except for residential zone between 1800 - 0700 hrs and rural zone dwellings between 1800 - 0600 hrs.

11.13.3 The background sound level (L_{95}), average maximum noise level (L_{10}) and maximum noise level (L_{max}) arising from any zone as measured at or within the boundary of any site zoned residential, commercial, Suburban Commercial, industrial, port or reserve or the notional boundary of any dwelling in a rural zone shall not exceed the following limits:

Construction & temporary activity noise measured within the	Time Period	AVERAGE MAXIMUM NOISE LEVEL (dBA)		
		L_{95}	L_{10}	L_{MAX}
Residential Zone	Mon – Sat 0700-1800hrs	60	75	90
	All other times	Refer to Table 2	Refer to Table 2	Refer to Table 2
Commercial and Suburban Commercial Zones	Mon – Sat at all times	60	75	90
	All other times	-	Refer to Table 3	-
Industrial and Port Zones	Mon – Sat at all times	-	90	-
	Sun & Public Holidays at all times	-	Refer to Table 3	-
Rural Zone	Mon – Sat 0600-1800 hrs	60	75	90
	All other times	Refer to Table 5	Refer to Table 5	Refer to Table 5
Reserves Zone	Mon – Sat At all times	60	75	90
	Sun & Public Holidays At all times	-	Refer to Table 2, 6 and 7	Refer to Table 2, 6 and 7

Table 8: Rules for Construction Noise in all zones

11.14 RULES FOR VIBRATION

General Rules

The following General Rules shall apply to all activities with respect to vibration:

11.14.1 Residential and Rural Zones

11.14.1.1 General

a) Vibration shall not be noticeably discernible at or within the boundary of any site zoned residential or Rural Lifestyle or the notional boundary of any dwelling zoned Rural Residential, Rural Production, Rural General, by a suitably experienced person using unaided senses; or

11.14.1.2 The maximum weighted vibration level (Wb or Wd) arising from any zone as measured at or within the boundary of any site zoned residential, or Rural Lifestyle or the notional boundary of any dwelling zoned Rural Production, Rural General, shall not exceed the following limits:

Zone	Time	Maximum Weighted Vibration Level (Wb or Wd)
Residential	0700-1800 hrs Monday to Saturday	45 mm/s^2
	At all other times	15 mm/s^2
Rural	0600-1800 hrs Monday to Saturday	45 mm/s^2
	At all other times	15 mm/s^2

Table 9: Rules for Vibration in the residential and rural zones

11.14.2 Industrial, Port, Commercial, Suburban Commercial, Reserves Zones

11.14.2.1 General

a) Vibration shall not be noticeably discernible at or within the boundary of any site zoned industrial, port, commercial, Suburban Commercial, or reserve by a suitably experienced person using unaided senses; or

b) Vibration shall not exceed the rules specified in Table 10, at or within the boundary of any site zoned industrial, port, commercial, Suburban Commercial or reserve

11.14.2.2 The maximum weighted vibration level (Wb or Wd) arising from any zone as measured at or within the boundary of any site zoned industrial, port, commercial, Suburban Commercial or reserve shall not exceed the following limits:

Zones	Time	Maximum Weighted Vibration Level (Wb or Wd)
Industrial Port Commercial Suburban Commercial Reserves	At all times	60 mm/s^2

Table 10: Rules for Vibration in industrial, port, commercial, Suburban Commercial and reserve zones

11.15 RULES FOR VIBRATION FOR CONSTRUCTION ACTIVITIES - ALL ZONES

11.15.1 Residential and Rural Zones

11.15.1.1 Short Term Construction

a) The period for which vibration is emitted shall not exceed 15 calendar days in any 12 month period; and

b) All activities shall comply with the rules specified in Table 11.

11.15.1.2 The maximum weighted vibration level (Wb or Wd) arising from any zone as measured at or within the boundary of any site zoned residential, or Rural Lifestyle or the notional boundary of any dwelling zoned Rural Production, Rural General, shall not exceed the following limits:

Zones	Time	Maximum Weighted Vibration Level (Wb or Wd)
Residential	0700 - 1800 hrs Monday to Saturday	60mm/s^2
	All other times	15mm/s^2
Rural	0600 - 1800 hrs Monday to Saturday	60mm/s^2
	At all other times	15mm/s^2

Table 11: Rules for Vibration Construction in residential and rural zones

11.15.2 Industrial, Port, Commercial, Suburban Commercial or Reserve Zones

11.15.2.1 Activities shall comply with rules specified in Table 10 for each respective zone.

11.15.2.2 There shall be no restriction on the duration of construction activities.

11.16 RULES FOR ARTERIAL ROADS

Refer to Appendix 12 - Roading Hierarchy maps and 8.8.3 for description of roading hierarchy classifications.

11.16.1 No new residential dwelling shall be erected adjacent to an arterial road, except where the following rules can be satisfied:

a) An external Leq (24 hour) level of 60 dBA measured at a point 1m from the facade of the building; or

b) An internal Leq (24 hour) level of 40 dBA in all habitable rooms with the windows closed.

11.17 RULES FOR AIRPORT NOISE

11.17.1 No building shall be used or erected, (or subject to additions or alterations), for a noise sensitive activity in the Noise Impact Overlay except where an internal L_{dn} of 45dBA with windows closed is achieved.

11.17.2 An acoustic design certificate is to be provided to show how these levels can be met using appropriate noise mitigation measures.

Refer to Chapter 8.11.2.4 and 8.11.4.3 for land use controls inside the Outer Control boundary. Refer also to Appendix 19 - Airport Noise Boundary and Appendix 11 - Airport Designation Noise Conditions.

11.18 RULES FOR LOT 1 DP 2888 and KAITI 65ML 802 (17 and 19 Hirini Street)

11.18.1 No new residential dwelling shall be erected except where an internal Ldn of 45dBA in all habitable rooms with windows closed is achieved.

11.18.2 An acoustic design certificate is to be provided to show how these levels can be met using appropriate noise mitigation measures.

11.19 METHOD OF ASSESSMENT OF NOISE

11.19.1 All measurements shall be taken in accordance with:

a) NZS6801 : 1991 "Measurement of Sound";

b) NZS 6802 : 1991 "Assessment of Environmental Sound"; NZS 6802: 1999 "Acoustics _ Assessment of environmental sound", NZS 6802 : 1999 "Acoustics – Assessment of environmental sound" and

c) NZS 6803P : 1984 "The measurement and Assessment of Noise from Construction, Maintenance and Demolition Work", NZS 6803 : 1999 – "Acoustics – Construction Work", NZS 6803 : 1999 "Acoustics – Construction Work" and

d) Draft New Zealand Standard DZ 6808:1997, Acoustics -The assessment and measurement of sound from wind turbine generators.

e) NZS 6809 : 1999 " Acoustics - Port Noise Management and Land Use Planning"

11.19.2 Where it is not practicable to assess and/or measure noise outside:

a) internal noise will be measured in accordance with New Zealand Standards; and

b) the rules for internal noise for each respective zone will be the relevant noise rules for that zone numerically reduced by 10dBA.

11.19.3 Where noise is of a type which is intermittent and/or varying over long time intervals, then the relevant noise performance standards are considered to be exceeded when:

Zone	Time	Assessment Provisions
Rural	DAY Mon – Sat 0600-1900 hrs	The logarithmic average of 3 measurement periods (22 minutes duration) exceeds the specified limit
	EVENING Mon – Sat 1900-2200 hrs Sun & Public Holidays 1800-2200 hrs	The logarithmic average of 2 measurement periods (12 minutes duration) exceeds the specified limit
	NIGHT At all other times	1 measurement period (10 minutes duration) exceeds the specified limit
All other zones	DAY Mon – Sat 0700-1800 hrs	The logarithmic average of 3 measurement periods (22 minutes duration) exceeds the specified limit
	EVENING 1900-2200 hrs Sun & Public Holidays 1800-2200 hrs	The logarithmic average of 2 measurement periods (12 minutes duration) exceeds the specified limit
	NIGHT All other times	1 measurement period (10 minutes duration) exceeds the specified limit

Table 12: Assessment for intermittent / varying noise over long time intervals

11.19.4 Method for Assessment of Noise - Reserves

11.19.4.1 Where more than one type of zone is bounding the reserve, rules shall be set in accordance with the more lenient of the noise rules applicable.

11.19.4.2 Where Amenity and Recreation Reserves share a common boundary with another reserve, noise rules will be established on a case-by-case basis as the need arises using the Act.

11.19.4.3 The noise performance standards for Recreation Reserves do not apply to spectator or player noise generated from outdoor shorting activities between 0700 - 2100 hrs.

11.19.5 Method for Assessment of Vibration

11.19.5.1 Assessment of vibration will initially involve assessment by a suitably experienced person using unaided senses.

11.19.5.2 If during initial unaided senses assessment vibration is detected and further clarification of the level of vibration emitted is required, a secondary assessment of weighted vibration levels (Wb and Wd) shall be measured according to BS6841:1987. The average vibration shall be measured over a time period not less than 60 seconds and not longer than 30 minutes. The vibration shall be measured at any point where it is likely to affect the comfort or amenity of persons occupying an adjacent site.

11.19.6 Methods for Assessment of Transport Noise

11.19.6.1 All measurements will be taken in accordance with:

a) NZS 6805:1992 “Airport Noise Management and Land Use Planning”; and

b) NZS 6807: 1994: “Noise Management and Landuse Planning for Helicopter Landing Sites”.

11.19.7 Methods for Assessment of Industrial Noise

11.19.7.1 Noise from motor vehicles within the boundaries of an industrial, port or commercial site shall be included in the calculation of noise emission from that site.

11.20 ANTICIPATED ENVIRONMENTAL RESULTS

a) Activities undertaken in a manner and location which ensures amenity values and human health are not adversely affected.