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# Section 11: Noise

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# Section 11: Noise

# 11.1 Issues

The adverse effects of noise are an issue in both urban and rural areas where noise may impact on the health of people and communities and their enjoyment of the District, as well as have an effect on natural values.

While there is always background noise, some noise can give rise to nuisance and even health problems through its character, duration, or time of occurrence. Some activities, including certain industrial processes and motor sports, are inherently noisy, while other activities can give rise to noise effects from the people and traffic attracted to them, e.g. public halls, licensed premises and all night service stations. In natural areas, including on the surface of water, noise can detract from the intrinsic values of such areas.

Noise rules are designed to provide a framework within which all parties have some certainty of the outcome. District Plan noise rules must recognise that development of any sort individually produces some noise, and seek to provide a balance between the noise producer and the noise receiver. It must also be recognised that within the District there will be existing activities that exceed the noise standards permitted by this Plan, and cannot be required to comply with the new noise standards as they have existing use rights.

If there is to be development in an area, noise rules must ensure an appropriate level of amenity for the developed area, rather than try to maintain a noise level consistent with an undeveloped area. District Plan noise rules must therefore mesh closely with planning requirements. Areas zoned for residential development require rules which are consistent with the types of daily activities which occur in an urban backyard and the need for uninterrupted sleep at night. Similarly, commercial and industrial zones require noise rules which allow intended activities to take place, whilst ensuring that noise levels at more sensitive surrounding zones are appropriate.

Residential amenity is particularly sensitive to noise. These effects can impact upon people's health and create animosity between neighbours. The policies and methods have been established to protect residents from such adverse effects.

Motorised transport has obvious advantages to the community in terms of convenience and mobility. However, there are numerous environmental effects of the operation and maintenance of transportation systems throughout the District, including noise emissions. To some extent this type of impact can be restricted to known locations by developing and encouraging the use of a road hierarchy which directs the majority of through traffic away from residential areas, and in some cases could also divert heavy and/or through traffic away from commercial areas. Road traffic noise on all roads and noise created by trains travelling within the rail corridor are not controlled by the provisions of this District Plan.

Noise and vibration from trains within the rail corridor in particular may have significant effects on adjacent activities which cannot be internalised. The establishment of noise sensitive activities



adjacent to the rail corridor may compromise the continued unrestricted operation of the rail network, particularly should rail movements increase in the future.

Noise is likely to provoke complaints where, by virtue of its level or other distinguishable characteristics, it intrudes upon existing background noise levels. The rural areas contain a wide range of activities which result in levels of noise effects which may be contrary to the expectations of people more used to the amenity of urban areas. Traditional rural activities, such as late night and early morning use of machinery creating some noise are normally acceptable to people used to a rural environment, particularly where their livelihood is dependent on the land. Others, perhaps those who are more used to the amenities of an urban area, may find such noises to be a nuisance. Residential activities dispersed throughout the rural areas can make these areas less able to be used for the productive activities which are, and are likely to remain, essential to the District's economy and community. Further, there may be established businesses within the rural environment that operate outside the noise standards, for example seed cleaning operations or meat processing factories. As such, these established activities will continue to operate with higher noise levels, and any future adjoining activity should be aware of this and develop their site accordingly i.e. by having a buffer between the existing activity and the proposed activity. At the same time, such activities must not create unacceptably unpleasant living or working conditions for the District's residents or visitors, or significantly reduce environmental quality. Because of the range of activities that necessarily occur in a rural area, there are levels of noise that are an integral part of rural amenity values. Provided that these effects do not constitute a genuine nuisance or a health risk, they must be accepted as anticipated components of rural amenity values.

All areas can be disturbed by noise from recreational and other commercial or industrial activities. These can include motorised recreation activities, such as motorbikes, helicopters, power boats and traffic associated with recreational, commercial and residential activities in rural areas. Aircraft flying over cannot, however, be controlled through the District Plan, except for the location of landing sites. Industrial and commercial activities can generate unacceptable noise levels from machinery or traffic, for example, if located in quiet rural areas. The natural quiet of high country areas and locations with high natural values can create a greater contrast when noise is experienced.

Noise from industrial activities is commonly of concern when those activities are in close proximity to residential areas or other noise sensitive activities. Noise therefore needs to be strictly controlled at the residential interface. A higher level of noise is normally acceptable within the business area.

The construction, operation and/or maintenance of utilities can adversely affect the amenities of areas of the District, as a result of noise. Likewise, noise from the operation of community facilities can also adversely affect the amenities of their surrounding environment. This is a particular concern where a facility is located within a residential environment and activities are undertaken at night-time.

Under Section 38 of the Act the Council may authorise persons to carry out the functions and powers of an enforcement officer. Such officers may serve abatement notices against persons who are breaching the Act, a rule in the District Plan or resource consent, or operating in a manner which is having an adverse effect on the environment. In relation to noise contravening Section 16 of the Act, an abatement notice may require the adoption of the best practicable option of ensuring that



the emission of noise from land or water does not exceed a reasonable level. If abatement notices are not acted on, the Environment Court may issue an enforcement order requiring compliance. Additionally, Section 326 of the Act also provides for control of noise sources that could be excessive and unreasonably interfere with the peace, comfort and convenience of any person and such a control can be used independently to any control available through standards in this District Plan. Even if the noise level complies with the standards in the Plan it could still be considered excessive or causing a nuisance and can be controlled under Sections 326-328 of the Act.

# **11.2 Objective and Policies**

#### **Objective 11.1: Effects of Noise**

Minimise the potential for conflict between noise emissions from land use activities and other more sensitive land uses.

#### Policy 11.1A

To provide rules setting noise limits adequate for the protection of community health and welfare while enabling reasonable noise emissions from activities to occur.

#### Policy 11.1B

To avoid or mitigate effects of noise on residential uses, by ensuring all activities meet standards in respect of noise measured on or near the property boundary, which will not compromise the qualities of the residential environments, and by discouraging residential uses from locating close to land zoned or used for noisy activities.

#### Policy 11.1C

To ensure noise levels within business areas enable the functioning of anticipated activities, whilst remaining pleasant to visit and work within, and at the interface between business and residential areas, to protect residential environments from unacceptable noise by:

- Imposing the residential zone standard for noise on activities in zones adjoining residential areas, to ensure that adjoining activities generate no more noise on residential zone areas than would be generated by permitted residential activities.
- Requiring the development of an outline development plan(s) incorporating landscape treatment, noise mitigation and control of the location of activities prior to subdivision and the establishment of activities in the Business E Zone at Ashburton Business Estate.

#### Policy 11.1D

To maintain, as far as possible, the low ambient noise levels of the High Country.

#### Policy 11.1E

To ensure that noise from activities on public recreational areas is appropriate to the level of amenity anticipated in the surrounding environment.



#### Policy 11.1F

To ensure that the reverse sensitivity effects of development adjacent to the rail corridor are managed to safeguard the continued unrestricted operation of the rail network, by ensuring that adjacent development is appropriately located and insulated from noise and vibration.

#### **Explanation and Reasons**

The simplest and most effective way to minimise conflicts between noise generating activities and noise sensitive areas is to achieve separation of the land uses wherever possible. Industrial, commercial and recreational activities which produce high levels of noise should not be located in or immediately adjacent to residential areas or where there are high amenity values that may be diminished due to noise nuisance. Industrial and commercial activities are best located within or adjacent to existing industrial and commercial areas where noise has a lesser effect. Recreational activities which generate noise, such as motor sports, are best located in those rural areas where there are relatively few residential units. Where noisy activities in rural areas are not clustered together, and the frequency of use is limited, the adverse effects are lessened. Protection of activities adjacent to the rail corridor from noise and vibration ensures that the amenity of users is protected, and therefore ensures the continued unrestricted operation of the rail corridor is safeguarded.

## **11.3** Anticipated Environmental Results

- The health of people in communities is adequately protected from noise emissions.
- A variable acoustic environment in different areas of the District with a high degree of separation of incompatible land uses.

## **11.4 Methods of Implementation**

#### Through the District Plan

- The use of rules to put in place performance standards for noise.
- The use of zoning to separate activities which generate adverse effects from noise sensitive areas. Zoning therefore reflects location (proximity to residential areas); the quality of amenity sought and function of activities provided for.
- Acoustic insulation and setback requirements to protect the continued operation of the rail network from the establishment of sensitive activities adjacent to the rail corridor.

#### **Outside the District Plan**

- Section 38 enforcement proceedings and Section 16 abatement notices for unreasonable noise.
- Promotion of Council's voluntary "Audible Bird Scarers Code of Practice, March 2004".



# **11.5** Reasons for Rules

#### **11.5.1** Noise Standards

Reaction to noise is determined by not only the sound level of the noise and its characteristics, duration, and timing but also by the expectations people have for the environment in which they live, work or visit. The Plan standards recognise this and vary in accordance with the environmental results anticipated for the different zones.

Noise from residential activities can vary greatly. Although residential activities do not often produce significant noise levels, on occasion higher levels are generated, such as from raised voices, children's play and garden equipment. These noise levels are an anticipated and accepted part of the residential environment. Any particular problems with residential noise such as from parties can be dealt with through the excessive noise provisions of the Act. Residential sites adjoining existing industrial zones are in some instances currently subject to increased noise levels. However, the standards for activities within the Business Zones require those activities to meet acceptable residential noise limits at the boundary of any property zoned residential.

Similarly, noise from some farming activities (animals, tractors, etc) occurs from time to time and is an accepted feature of the rural areas. Noise from these farming activities is not controlled through the Plan standards, except where it originates from stationary motors or equipment, which can be an ongoing source of nuisance or concern.

Noise emissions from temporary military training activities and emergency services during emergency services call outs are also exempt from compliance with the noise standards. Although noise effects may be loud, the temporary nature of activities and the infrequent and short duration of any noise effects mean it is not appropriate to enforce compliance with the general noise standards.

Noise and vibration from trains within the rail corridor in particular may have significant effects on adjacent activities which cannot be internalised. The establishment of noise sensitive activities adjacent to the rail corridor may compromise the continued unrestricted operation of the rail network, particularly should rail movements increase in the future. Accordingly development adjacent to the rail corridor is controlled by requiring acoustic insulation and setbacks to protect the amenity of users, and safeguard the continued unrestricted operation of the rail network.

There is specific provision for a different measurement point where there are buildings close to or on a site boundary. This is intended to overcome issues which arise in areas such as town centres where it is not physically possible to assess compliance at the boundary of a neighbouring site because there is a building erected up to the boundary.

The daytime noise limits are intended to provide amenity for outdoor activities. Night-time noise limits are intended to allow for sleep amenity.

The "notional boundary" concept was developed many years ago to deal with noise in rural areas. The notional boundary concept only applies on adjoining properties not to residential units within an application site. Notional boundary rules aim to provide appropriate residential amenity around the



residential unit, rather than the farmland as a whole. To avoid problems with smaller rural/residential lots and situations where a neighbour could produce high levels of noise on large areas of farmland, notional boundary noise rules are only applied to large rural blocks, not small scale rural/residential areas. In addition, two separate noise limits apply in rural areas; a reasonably moderate one at the zone boundary, and one consistent with residential rules at the notional boundary of any residential unit. This will ensure a reasonable degree of protection for undeveloped rural sites adjoining noise producing areas.

A specific exemption from complying with the notional boundary rule applies in respect of future residential units located within 150 metres of part of the ANZCO meat processing site situated within the Business F Zone alongside Seafield Road. This exemption recognises the characteristics of the current processing activities of the site and seeks to minimise potential constraint on future development within this part of the site as a consequence of noise generated by the activities occurring within it, while also recognising the limited likelihood of new rural residential units seeking to locate on neighbouring rural land in close proximity to the north of the site.

# 11.6 Rules – Noise

#### **11.6.1 Permitted Activities**

All activities shall be Permitted Activities, unless specified below, provided that they comply with all of the relevant General and Noise Standards below and all the relevant Zone and District Wide rules.

#### **11.6.2** Restricted Discretionary Activities

- a) Any activities not meeting either General or Noise Standards shall be Restricted Discretionary Activities with respect to noise, with the exercise of the Council's discretion being restricted to the matter(s) specified in the assessment matters in 11.9.
- b) Shooting ranges, including but not restricted to rifles, shotguns and handguns, with the exercise of Council's discretion being restricted to any applicable assessment matters in 11.9.

Note: These activities may have greater restriction under specific zone provisions.

#### **11.6.3** Notes

• In addition to compliance with the noise rules set out in this section, all activities should also refer to the other rules contained in the other sections of this District Plan.

## **11.7 General Standards**

#### **11.7.1** Noise measurement

a) Noise levels shall be measured and assessed in accordance with NZS6801:2008 Acoustics-Measurement of Environmental Sound, and NZS6802:2008 Acoustics-Environmental Noise.



# **11.8** Noise Standards

#### **11.8.1** Noise standards for zones

a) The noise level from activities within any other site shall not exceed the limits set out in Table 11-1 below:

|  | Daytime<br>(0700-2200<br>inclusive) |                     | Night-time<br>(All other times) |                     |
|--|-------------------------------------|---------------------|---------------------------------|---------------------|
|  | L <sub>Aeq(1hr)</sub>               | L <sub>AF,max</sub> | L <sub>Aeq(1hr)</sub>           | L <sub>AF,max</sub> |
| When measured at or within the boundary    |                                     |                     |                                 |                     |
| of any site zoned:                         |                                     |                     |                                 |                     |
| Business A                                 | 55 dB                               | 80 dB               | 45 dB                           | 70 dB               |
| Business B, and C                          | 60 dB                               | 85 dB               | 50 dB                           | 75 dB               |
| Business D, E, and F                       | 65 dB                               | 90 dB               | 55 dB                           | 80 dB               |
| Open Space A and B, and at the boundary of |                                     |                     |                                 |                     |
| the buffer zone as defined in the Outline  | 55 dB                               | 80 dB               | 45 dB                           | 70 dB               |
| Development Plan for the Business E Zone   | 55 UB                               | 80 UB               | 45 UB                           | 70 UB               |
| (see Section 5)                            |                                     |                     |                                 |                     |
| Residential A, B, C and D                  | 50 dB                               | 75 dB               | 40 dB                           | 65 dB               |
| Rural A and B                              | 65 dB                               | 85 dB               | 45 dB                           | 70 dB               |
| Rural C                                    | 40 dB                               | 65 dB               | 30 dB                           | 55 dB               |
| When measured at the notional boundary of  |                                     |                     |                                 |                     |
| any residential unit on an adjoining site  |                                     |                     |                                 |                     |
| zoned:                                     |                                     |                     |                                 |                     |
| Rural A and B                              | 50 dB                               | 75 dB               | 40 dB                           | 65 dB               |

#### Table 11-1: Noise Limits

Notes:

- a) Where there are buildings close to or on a site boundary, compliance with the noise limits shall be assessed 1 metre from any accessible façade of those buildings.
- b) Where a fence or other noise control structure is erected on a site boundary, compliance assessment shall consider the effect of such a structure.
- c) When applying the notional boundary provision, the notional boundary is a line 20 metres from any residential unit on any neighbouring site, as defined in NZS6802:2008 Acoustics-Environmental Noise.
- d) The daytime noise limits are intended to provide amenity for outdoor activities. Night-time noise limits are intended to allow for sleep amenity.
- e) The noise rule that is applicable to a site is based on the zoning of the site receiving the noise and not the site that is generating the noise.



#### Exemptions:

The following activities are exempt from complying with the above noise levels:

- a) Any noise source specifically listed below as being assessed in accordance with another New Zealand standard, or having specific noise levels listed below, or covered by the following rules:
- b) Construction activities (see below).
- c) Temporary military training activities (see below).
- d) Sports events not involving the use of motor vehicles, powered machinery, amplified music, gunfire, or explosives; and non-commercial private social gatherings (see below).
- e) Within rural zones, any operational rural equipment which is mobile during its normal use and which is associated with primary production (e.g. tractors, harvesters, and farm vehicles). This includes items such as motorbikes and chainsaws used as part of primary production activity but does not include recreational motorbike tracks or long term sawmilling. This exemption does not include any fixed motors or equipment, frost fans or gas guns (see below).
- f) Aircraft movements, aircraft testing and aircraft maintenance or helicopter landing and takeoff (see below).
- g) Wind turbines (see below).
- h) Vehicles on public roads or trains on rail lines (including at railway yards, railway sidings or stations) and level crossing warning devices.
- i) Shooting Range/s (refer to Restricted Discretionary Activity provisions).
- j) Domestic animals.
- k) Spontaneous social activities and children's play (but not including pre-schools in Residential Zones).
- I) Any warning device used by emergency services for emergency purposes.
- m) The notional boundary noise limits identified in Table 11-1 shall not apply in respect of any residential unit located on land zoned Rural B that is within 150 metres of the boundary of the area identified as Area 1A within the Business F Zone as shown on the Outline Development Plan contained within Section 5: Business Zones, Appendix 5-1A.

Note: As a consequence new rural units within 150 metres of the boundary of Area 1A may be exposed to noise levels higher than otherwise anticipated under the noise rules.



#### 11.8.2 Aquatic Park Zone

a) Subject to the following, on any site within the Residential Areas of the Aquatic Park Zone, including Residential, Higher-density Residential and Rural-Residential, as specified on the Outline Development Plan (see Section 7-1), activities other than residential activities, shall be conducted such that the noise levels in Table 11-2 are not exceeded at or within the site boundary of any occupied residential unit within the Residential Areas of the Aquatic Park Zone or within the notional boundary of any rural residential unit existing at the time the Aquatic Park Zone was made operative.

|                           | 0700 to 0900          | 0900 to 2100          | All other times       |
|---------------------------|-----------------------|-----------------------|-----------------------|
|                           | L <sub>Aeq(1hr)</sub> | L <sub>Aeq(1hr)</sub> | L <sub>Aeq(1hr)</sub> |
| Monday to Friday          | 55 dB                 | 55 dB                 | 45 dB                 |
| Saturday                  | 45 dB                 | 55 dB                 | 45 dB                 |
| Sundays & Public Holidays | 45 dB                 | 45 dB                 | 45 dB                 |

b) On any site within the balance of the Aquatic Park Zone, activities shall be conducted such that the noise levels in Table 11-3 are not exceeded at or within the site boundary of any occupied residential unit within the Residential Areas of the Aquatic Park Zone or within the notional boundary of any rural residential unit existing at the time the extended Aquatic Park Zone was made operative:

|                           | 0730 to 2100          | All other times       |
|---------------------------|-----------------------|-----------------------|
|                           | L <sub>Aeq(1hr)</sub> | L <sub>Aeq(1hr)</sub> |
| Monday to Friday          | 55 dB                 | 45 dB                 |
| Saturday                  | 55 dB                 | 45 dB                 |
| Sundays & Public Holidays | 55 dB                 | 45 dB                 |

#### Table 11-3: Aquatic Park Zone Noise Limits (Other Areas)

- c) Provided that the standards set out in (b) above may be exceeded on days of special events within the Aquatic Park Zone subject to the following conditions:
  - the number of such special events shall not exceed twenty in any calendar year;
  - to account for a range of special events, the permitted noise level (L<sub>Aeq(1hr)</sub>) shall not exceed:
    - 65dB for 10 events between 0730 and 2100;
    - 75dB for 5 events between 0730 and 2300; and
    - 85dB for 5 events between 0730 and 2300
  - such special events shall be notified to the Ashburton District Council at least seven working days prior to the dates of those events.



- d) Provided further that the standards set out in (b) above may be exceeded not more than 20 times per year for events relating to the use of the Commercial Area and the Riversdale Homestead Heritage Area, including wedding and function events. The permitted noise level for such events shall not exceed 75 dB (L<sub>Aeq(1hr)</sub>) at the boundary of the Commercial Area and at or within the notional boundary of any residential unit within the Riversdale Homestead Heritage Area. Such events shall be notified to the Ashburton District Council at least seven working days prior to the dates of those events.
- e) Provided further that for farming activities the standards shall only apply to noise from stationary motors or equipment.
- f) Provided further that the standards shall not apply to noise associated with activities on Lake Hood. Such activities on the lake and the associated canals are controlled by the Zone Activity rules (See Section 7).

#### **11.8.3** Construction Noise

a) Construction noise shall comply with NZS 6803:1999 Acoustics – Construction Noise.

#### **11.8.4** Temporary Military Training Activities

- a) Other than for the use of firearms or explosives, noise levels as a result of the activity are not to exceed the noise levels set out in the noise standards above (rule 11.8.1) for the surrounding zone(s).
- b) For the use of firearms or explosives, noise levels shall not exceed:

| • | Day time (0700-2200)         | 65 dB L <sub>AF,max</sub> |
|---|------------------------------|---------------------------|
| • | Night time (all other times) | 50 dB L <sub>AF,max</sub> |

#### **11.8.5** Temporary Activities/Events

- a) Noise from outdoor events in a public place is exempt from the above rules provided that:
  - it meets a noise limit of 70 dB (LAeq(1hr)) measured at the boundary of any site containing a residential unit; and
  - all activities creating a noise level greater than permitted for the zone in which the activity is located, cease by 2200; and
  - there are no more than 6 events (days) on the site in any one calendar year.

#### 11.8.6 Frost Fans

- a) Noise of frost control fans shall not exceed 55 dB (L<sub>Aeq (10min)</sub>) when assessed at the notional boundary of any residential unit on a separate lot under different ownership.
- b) This noise limit applies to the total noise from all frost control fans in the vicinity operating simultaneously.



c) The noise limit includes a correction for the special audible characteristics of frost control fans and no further penalty shall be applied to measured or calculated noise levels.

### **11.8.7** Audible Devices in Rural Zones

- a) The operation of audible devices (including gas guns, audible avian distress alarms and firearms) for the purpose of bird scaring shall be permitted within the hours of daylight but not earlier than 6.30am, provided that:
  - a noise limit of 65 dB (LAE) shall apply to any one event when measured at any point within the Residential Zone and at any point within the notional boundary of any rural residential unit other than on the property in which the device is located; and
  - no more than fifteen audible events shall occur per device in any 60 minute period; and
  - each audible event shall not exceed three sound emissions from any single device within a one-minute period and no such events are permitted during the period between sunset and sunrise the following day; and
  - the number of devices shall not exceed one device per four hectares of land in any single land holding, except that in the case of a single land holding less than four hectares in area, one device shall be permitted; and
  - provided no device shall be placed in such a manner that in any public place 90 dB (LAE) is received from any one noise event.

Notes:

- Gas guns typically require a setback distance of around 600 metres to comply with this rule. For installations closer than this to neighbouring residential units, growers should check noise levels carefully before installation.
- Although not forming part of the District Plan, attention is also drawn to the Councils voluntary "Audible Bird Scarers Code of Practice, March 2004".

#### **11.8.8** Noise from Helicopters

a) Noise from any helicopter landing pad shall comply with NZS6807:1994 *Noise Management and Land Use Planning for Helicopter Landing Pads*.

#### **11.8.9** Noise from Aircraft

a) Noise from Aircraft shall comply with NZS6805:1992 Airport Noise Management and Land Use Planning.

#### **11.8.10** Noise from Wind Turbines

a) Noise from wind turbines shall comply with NZS6808:2010 Acoustics – Wind Farm Noise.

#### 11.8.11 Residential C (Lochhead Development), Methven

 a) On any site in the lower density area of Residential C Zone as shown on the Lochhead Outline Development Plan fronting a State Highway, any new residential unit located within 20m of the State Highway shall have all external windows and doors (including those



installed in the roof) acoustically treated to achieve a sound transmission loss of at least 25 dB (LAeq(1hr)) with windows and doors closed.

#### **11.8.12 Methven Racecourse**

a) In Methven noise associated with horse racing or trotting activities at the Methven Racecourse; including races, trials, workouts, spectator noise and Public Address systems shall be exempt from the noise limits on a maximum of 25 occasions per year. Such events shall be notified to the Ashburton District Council at least seven working days prior to the dates of those events.

#### **11.8.13** Activities Near Railway Corridors

#### Noise

- a) Any new activity or additions or substantial alterations to a new or existing activity, located within:
  - 40 metres of a railway track; or
  - where there is no track in place, 35 metres from the nearest boundary of the railway designation;
  - shall be designed, sited, and constructed to ensure that the following internal noise levels are not exceeded;
  - residential units: 35dBA LAeq(1hr) inside bedrooms or 40dBA LAeq(1hr) inside other habitable spaces;
  - all other activities: the recommended maximum design guidelines given in AS/NZS 2107:2000 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors.
- b) For proposals within the distances specified in a) and b) above, an acoustic design report prepared by a suitably qualified acoustic engineer shall be provided, demonstrating compliance with these noise limits.

Compliance with these limits shall be demonstrated by either a desktop exercise based on a design train noise level of 70dB LAeq(1hr) at 12 metres from the closest track, or a detailed assessment based on actual train noise levels and recognised acoustic modelling.

Applicants shall demonstrate compliance with noise limits with all external windows and doors closed.

Note – for the purposes of a desktop exercise, the design noise level shall be deemed to vary at a rate of 3dB per doubling of distance up to 30 metres, and 6dB per doubling of distance beyond 30 metres.

Note – for the purposes of the detailed assessment, an allowance of 3dB shall be added to measurement results to allow for future growth in rail traffic.



#### Vibration

a) Any new residential unit or additions or substantial alterations to an existing residential unit, shall be setback a minimum of 15 metres from a railway track.

Note – The inhabitants of residential units located greater than 15 metres beyond a railway track may still experience lower levels of noticeable vibration as a result of train movements.

# **11.9** Assessment Matters

In considering resource consents for land use activities, in addition to the applicable provisions of the Act, the Council shall apply the relevant Assessment Matters set out below:

- a) The nature of any measures to reduce noise generation or mitigate excessive noise levels and the degree to which they are likely to be successful, including:
  - reduction of noise at source;
  - alternative techniques or machinery which may be available;
  - insulation of machinery or cladding used in the building;
  - mounding or screen fencing/walls;
  - hours of operation.
- a) The presence of planting as a means of visually screening the noise source, and reducing the "perception" of noise.
- b) The level, duration, timing, and frequency of noise to be generated and the degree to which this will contrast with the characteristics of the existing noise environment and the impact of any cumulative increase.
- c) The nature of the zone within which the noise generating activity is located and its compatibility with the expected environmental results for that zone.
- d) The nature of any adjoining zone (where applicable) and, the compatibility of the noisegenerating activity with the expected environmental results for that zone.
- e) The maximum level of noise likely to be generated, and the disturbance this may cause to people in the vicinity.
- f) The length of time for which specified noise levels will be exceeded, particularly at night, with regard to likely disturbance that may be caused.
- g) The location of any nearby residential units, and the degree to which the amenities of residents may be adversely affected.



- h) In relation to not meeting the site standard for activities near railway corridors:
  - i) the extent to which any non-compliance with the standard is likely to impact on persons living, working, or visiting the site and result in reverse sensitivity effects; and
  - ii) the adequacy of any proposed means to avoid, remedy, or mitigate the effects of railway noise and vibration.
- i) The degree to which any excessive noise or vibration generation will affect the enjoyment of any property or public place in the vicinity.
- j) The likely adverse impacts of noise generating activities both on and beyond sites, on visitors, users of business premises, or on public places in the vicinity.
- k) Whether the noise generated would be of such a level as to create a threat to the health or well-being of persons living or working in the vicinity.
- I) The extent to which the noise may detract from enjoyment of any recreation or conservation area.
- m) The degree of noise that may be generated from the starting, manoeuvring and mechanical repair of vehicles on site and the degree to which this will contrast with the existing noise environment.
- n) The frequency and timing of vehicle movements and the impact these may have on the surrounding environment in terms of noise.
- The value and nature of entertainment activities and their benefit to the wider community, having regard to the frequency of noise intrusion and the practicality of mitigating noise, or utilising alternative sites.
- p) The extent to which achieving the standard is practicable, given any existing activities which create noise, particularly on the interface with commercial, industrial or recreational activities.
- q) The extent to which achieving the standard is practicable where the existing noise environment is subject to significant noise intrusion from road, rail or air transport activities.