

QUEENSTOWN AIRPORT - PLAN CHANGE 35
EXPERT WITNESS CONFERRING - PLANNING AND NOISE
27 and 28 June 2011

JOINT STATEMENT IN RELATION TO APPEAL FROM QUEENSTOWN AIRPORT
CORPORATION LIMITED AGAINST THE DECISION OF THE QUEENSTOWN
LAKES DISTRICT COUNCIL ON SUBMISSIONS TO PLAN CHANGE 35 (ENV-2011-
WLG-000003)

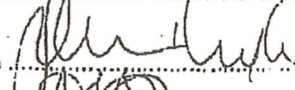
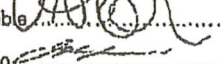


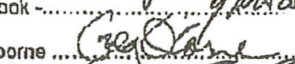
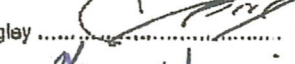

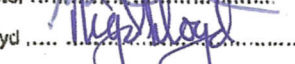

Expert Witnesses Present: John Kyle – RM Planner (QAC), Alison Noble – RM
Planner(QAC), Iain Munro – Airport Planner(QAC), Dave Park – Airport Operations
(QAC), Chris Day – Noise(QAC), James Hook – RM Planner (WRAAN), Greg Osborne
– RM Planner(QLDC), Nevil Hegley – Noise(QLDC), Vern Warren – RM Planner
(Ministry of Education), Mike Foster – RM Planner (Remarkables Park Limited and
Shotover Park Limited), Nigel Lloyd – Noise (WRAAN and Ministry of Education).

Facilitated by Alex Sutherland – Environment Court Commissioner

JOINT STATEMENT

The abovementioned expert witnesses discussed the contents of the Notice of Appeal
from Queenstown Airport Corporation Limited against the Decision of the Queenstown
Lakes District Council on submissions to Plan Change 35 (Env-2011-WLG-000003)
and agree that the attached draft consent order records their agreed position on the
relief sought in that Notice of Appeal.

The undersigned expert witnesses confirm that in producing this statement, they have
complied with the Code of Conduct for Expert Witnesses (27 Feb 2011).

John Kyle 
Alison Noble 
Iain Munro 
Dave Park 
Chris Day 
James Hook 
Greg Osborne 
Nevil Hegley 
Vern Warren *Vern Warren subject to footnote 1.*
Mike Foster 
Nigel Lloyd *Nigel Lloyd subject to footnote 2.*

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1. Vern Warren does not agree that the definition of ASANs should include the following:
"including all outdoor spaces associated with any educational facility"
and considers that prohibited activity status should not be applied to outdoor areas of
educational facilities within the OCB.
2. Nigel Lloyd seeks to include the words "outdoor sports fields of educational facilities" in the
list of activities excluded under the definition of Activity Sensitive to Aircraft Noise (ASAN),
because he considers that it is unnecessary to apply the prohibited activity status to school
sports fields in the OCB.

**Before the Environment Court
At Queenstown**

Decision No:

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an appeal under section 120 of the Act

BETWEEN **QUEENSTOWN AIRPORT CORPORATION LIMITED**
ENV-2011-WLG-003

Appellant

AND **QUEENSTOWN LAKES DISTRICT COUNCIL**

Respondent

AND **AIR NEW ZEALAND LIMITED**

MINISTER OF EDUCATION

QUEENSTOWN CENTRAL LIMITED

QUEENSTOWN GATEWAY LIMITED

REMARKABLES PARK LIMITED

WAKATIPU RESIDENTS AGAINST AIRPORT NOISE INCORPORATED

Section 274 Parties

Environment Judge xx sitting alone pursuant to section 279 of the Act

In Chambers at xx

DRAFT CONSENT ORDER

Introduction

1. The Court has read and considered the appeal and memorandum of the parties dated xx July 2011.
2. The parties listed have given notice of an intention to become party to each appeal under section 274 of the Resource Management Act (**Act**).
3. The Court is making this order under section 279(1)(b) of the Act, such order being by consent, rather than representing a decision or determination on the merits pursuant to section 297. The Court understands for the present purposes that:
 - (a) All parties to the proceedings have executed the memorandum requesting this order;
 - (b) All parties are satisfied that all matters proposed for the Court's endorsement fall within the Court's jurisdiction, and conform to relevant requirements and objectives of the RMA, including in particular Part 2.

Order

4. Therefore the Court orders, by consent, that the appeals are allowed to the extent that the Respondent is directed to amend the Queenstown Lakes District Council District Plan as set out in Appendix "A" attached to and forming part of this consent order.

5. The appeal is otherwise dismissed.

DATED at this day of July 2011

Environment Judge

Issued:

Appendix A.

Recommendations to the QLDC on changes to the District Plan.

Underlined text indicates insertions and text that has ~~struckthrough~~ indicates deletions.

Agreed changes in relation to the QAC appeal are tracked in colour.

4. DISTRICT WIDE ISSUES

4.9.3 Objectives and Policies

Objective 7 – Queenstown Airport - Noise Management

Maintain and promote the efficient operation of Queenstown Airport and set appropriate noise limits in order to protect airport operations and to manage the **adverse** effects of aircraft noise **on activity sensitive to aircraft noise**.

Policies

7.1 To ensure appropriate noise boundaries are established and maintained to enable operations at Queenstown Airport to continue and to expand over time.

7.2 To manage the adverse effects of noise from aircraft on any activity sensitive to aircraft noise within the airport noise boundaries whilst at the same time providing for the efficient operation of Queenstown Airport.

Implementation Methods

i District Plan

The identification of airport noise boundaries within the District Plan Maps

The inclusion of rules to manage activity sensitive to aircraft noise around the airport.

Regular monitoring of airport noise in accordance with the conditions attached to Designation 2 to ensure compliance with the airport noise boundaries.

Queenstown Airport Corporation funded retrofitting over time of sound insulation and mechanical ventilation **in** **of critical listening environments within existing**

buildings containing activity sensitive to aircraft noise in the ANB to achieve an internal design sound level of 40 dB Ldn. Calculations shall be based on the 2037 noise contours and retrofitting should occur before the 65 dB Ldn AANC reaches the property. Retrofitting shall be conducted in accordance with the conditions attached to Designation 2.

Queenstown Airport Corporation part funded retrofitting of mechanical ventilation of ~~C~~ritical ~~L~~istening ~~E~~nvironments within existing buildings containing an activity sensitive to aircraft noise located inside the 60 dB Ldn AANC. This ventilation is to enable windows and doors to remain closed to achieve a reduction in indoor design sound level if required. Calculations shall be based on the 2037 noise contours and retrofitting should occur before the 60 dB Ldn AANC reaches the property. Retrofitting shall be conducted in accordance with the conditions attached to Designation 2.

ii Other Methods

Consultation with residents and dissemination of information on the current levels of airport noise and future intentions.

Explanation and Principal Reasons for Adoption

Queenstown Airport is a significant asset to the region. It provides a transportation hub for residents, visitors and business travellers and offers both domestic and international scheduled flights. The Airport also facilitates and supports a number of local tourist and aviation related businesses.

The Airport has been established at its current location in Queenstown since 1936. Since then the Airport has faced pressure from urban development. It is essential that such development is managed in a way that protects the current and future ability of the Airport to operate efficiently. It is also reasonable that noise boundaries are established for aircraft operations at the Airport in order to appropriately mitigate adverse effects on activity sensitive to aircraft noise in the surrounding environment.

Being within the township of Frankton, Queenstown Airport has some existing residential neighbours. It is recognised that the anticipated growth in operations at Queenstown Airport will necessitate sound insulation and mechanical ventilation works to ~~critical listening environments~~ within some existing, new or altered buildings in order to mitigate the effects of ~~airport aircraft~~ noise.

Queenstown Airport Corporation will undertake regular monitoring to ensure that the owners or occupiers of existing buildings for an activity sensitive to aircraft noise within

the 65 and 60 dB Ldn AANCs are offered appropriate noise mitigation in accordance with a Noise Mitigation Plan.

The noise boundaries are also necessary to ensure new noise sensitive development does not occur in inappropriate locations, and new and altered buildings are designed to ~~result achieve in an appropriate level airport noise indoors~~ internal sound level from aircraft noise.

Objective 8 – Queenstown Airport – Urban Growth Management

Manage urban growth issues on land in proximity to Queenstown Airport to ensure that the operational capacity and integrity of the Airport is not significantly compromised now or in the future.

Policies

- 8.1 ~~To prohibit all new activity sensitive to aircraft noise within the Rural, Business and Industrial Zones and Frankton Flats Zone located within the Outer Control Boundary at Queenstown Airport, with the exception of short stay visitor accommodation in the Frankton Flats Zone.~~

To ensure that ~~critical listening environments of all new and altered buildings containing activity sensitive to aircraft noise located in the existing Residential zones, Frankton Flats and Remarkables Park Special Zones and buildings containing shorty stay visitor accommodation within the Frankton Flats Zone within the Queenstown Airport Outer Control Boundary are designed and built to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours.~~

- 8.2 ~~To incorporate airport noise mitigation controls for activity sensitive to aircraft noise enabled by any plan changes or land use proposals for land within the Outer Control Boundary at Queenstown Airport~~To ensure the establishment of activities sensitive to aircraft noise within the Queenstown Airport Outer Control Boundary ~~are~~ avoided where such activities have the potential to compromise the ongoing operational efficiency of the Airport.

Implementation Methods

i District Plan

The provision of rules to prohibit or otherwise control activity sensitive to aircraft noise in the Rural, Residential, Industrial, Frankton Flats (other than short stay visitor accommodation), Airport Mixed-Use and Remarkables Park zones.

Where appropriate the provisions of rules, standards and sound insulation and ventilation construction tables to ensure ~~that critical listening environments of new buildings for any activity sensitive to aircraft noise in the Outer Control Boundary~~

in the Residential Zone ~~and Frankton Flats~~ and Remarkables Park Special Zones and buildings containing shorty stay visitor accommodation within the Frankton Flats Zone are designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours.

ii Other Methods

Consultation with Queenstown Airport Corporation on any Plan Change or other land use proposal affecting land within the Outer Control Boundary.

Explanation and Principal Reasons for Adoption

Some types of activity on land adjacent to the Airport may give rise to issues of reverse sensitivity. It is essential for the current and future operation of Queenstown Airport that appropriate measures are taken in regard to noise sensitive activity in the vicinity of the Airport to ensure reverse sensitivity issues are avoided. The Airport is a key strategic asset for the district and makes a significant contribution to the district's economic, social and cultural well-being. Appropriate management of land use activities on land around the Airport in order to protect its ongoing function and operation is imperative. Such land use management will also manage the adverse effects on residential amenity, in particular indoor amenity, and community well-being by avoiding unnecessary exposure to higher than desirable levels of aircraft noise.

5. RURAL AREAS

Policies

3.7 To prohibit all new activity sensitive to aircraft noise on rural zoned land within the Outer Control Boundary at Queenstown Airport to avoid adverse effects arising from aircraft operations on future activity sensitive to aircraft noise.

3.8 To require sound insulation and mechanical ventilation of **critical listening environments** within buildings which are being altered, where the activity contained is sensitive to aircraft noise on land located within the Outer Control Boundary of Queenstown Airport to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours.

Implementation Methods

- (ii) The provision of rules to prohibit new activity sensitive to aircraft noise within the Outer Control Boundary of Queenstown Airport.
- (iii) The provision of rules including sound insulation and mechanical ventilation construction tables to ensure appropriate sound insulation and ventilation is designed into any alterations to **the critical listening environments of** a building containing an activity sensitive to aircraft noise within the Outer Control Boundary of Queenstown Airport to achieve an indoor design sound level of 40 dB Ldn, based on the 2037 noise contours.
- (iv) The New Zealand Standard NZS 6805:1992 – “Airport Noise Management and Land Use Planning” will be used as the basis for establishing noise boundaries and associated rules in the District Plan in relation to controlling noise from airports in the District while also protecting those airports from the reverse sensitivity effects associated with activities which are sensitive to aircraft noise.

Explanation and Principal Reasons for Adoption

The rural environment has particular amenity and environmental values, which are important to rural people. These include privacy, rural outlook, spaciousness, ease of access, clean air, and at times, quietness. However, a wide range of activities occur in the rural areas, including traditional livestock farming and the growing of supplementary crops, as well as more intensive new pastoral and horticultural enterprises. These result in levels of noise, dust, traffic generation and smell that are an integral part of rural amenity values, and which will be noticeable to residents in rural areas. Queenstown Airport is also located such that the effects of aircraft operations are experienced within some parts of the rural environment. Provided that these effects do not constitute a general nuisance or health risk, the Council considers they should be accepted as anticipated components of rural amenity values; however the potential for conflicts between such amenity values and the expectations of rural residents should be avoided, as far as possible.

Objective 7

Retention of a greenfields area or at Queenstown Airport an area for Airport related activities or where appropriate an area for activities not sensitive to aircraft noise, within an airport's Outer Control Boundary to act as a buffer between airports and other land use activities.

Policies

7.2 To prohibit the location of any new activity sensitive to aircraft noise on land within the Outer Control Boundary for Queenstown Airport.

7.3 To ensure the establishment of activities sensitive to aircraft noise within the Queenstown Airport Outer Control Boundary is avoided where such activities have the potential to compromise the ongoing operational efficiency of the Airport.

7.4 To require acoustic insulation and mechanical ventilation of alterations or additions to critical listening environments of existing buildings located in the Outer Control Boundary for Queenstown Airport that contain any new activity sensitive to aircraft noise to achieve an indoor sound level of 40dB Ldn. Calculations shall be based on the 2037 noise contours.

To incorporate airport noise mitigation controls for activity sensitive to aircraft noise enabled by any plan changes or land use proposals for land within the Outer Control Boundary at Queenstown Airport.

Implementation Methods

Objective 7 and associated policies will be implemented through a number of methods including:

i District Plan

- (b) Provision of zone rules ~~restricting~~ prohibiting any activity sensitive to aircraft noise within the Outer Control Boundary in the Rural Zone of Queenstown Airport.
- (e) Identification of an Air Noise Boundary on the District Plan Maps for Queenstown Airport.

5.3 Rural Areas and Ski Area Sub-Zone – Rules

5.3.1.1 Rural General Zone

The purpose of the Rural General Zone is to manage activities so they can be carried out in a way that:

- protects and enhances nature conservation and landscape values;
- sustains the life supporting capacity of the soil and vegetation;
- maintains acceptable living and working conditions and amenity for residents of and visitors to the Zone;
- protects the on-going operations of Queenstown Airport

5.3.3.2 Controlled Activities

~~5.3.3.2vi Additions and Alterations to Buildings within the Outer Control~~

Boundary – Queenstown Airport

~~Any alteration or addition to a building or part of a building to be used for residential activities, visitor accommodation or community activities on any site located within the Outer Control Boundary as indicated on the District Plan Maps, in respect of the design, construction, orientation and location of the building to achieve adequate indoor sound insulation from aircraft noise.~~

5.3.3.5 Prohibited Activities

5.3.3.5 iii Activities within the Outer Control Boundary – Queenstown Airport

~~On any site located within the Outer Control Boundary, which includes the Air Noise Boundary, as indicated on the District Plan Maps, any new residential activities, visitor accommodation or community activity sensitive to aircraft noise shall be a Prohibited Activity.~~

5.3.5.2 Zone Standards

5.3.5.2vii Airport Noise – Alteration or Addition to Existing Buildings (excluding any non-critical listening environment) within the Outer Control Boundary– Queenstown Airport Noise Boundaries

~~(a) On any site located within the Outer Control Boundary as indicated on the District Plan Maps any alteration or addition to a building or part of a building to be used for residential activities, visitor accommodation or community activities shall be designed and constructed from aircraft noise so as to meet and indoor design sound level of 40dBA Ldn based on an external noise level determined by the District Plan Maps, except for non-critical listening environments where no special sound insulation is required.~~

~~(b) This control shall be met in either of the following two ways:~~

~~EITHER~~

~~(i) By providing a certificate from a recognized acoustic engineer stating that the proposed construction will achieve the internal design noise level.~~

~~OR~~

~~(ii) The buildings shall be constructed and finished in accordance with the provisions of Table 1 in part 5.3.5.2.~~

(a) **Within the Air Noise Boundary (ANB) - Alterations and additions to existing buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13. Compliance can either shall be demonstrated by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 and by either by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by adoption of the constructions in Table 1 of Appendix 13 and**

installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.

- (b) **Within the Outer Control Boundary (OCB) — Alterations and additions to existing buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in providing ventilation with openable windows or where required with the mechanical ventilation specified in Table 2 of Appendix 13. Compliance can either be demonstrated by either by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level with windows open, or by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.**

5.4.2 Assessment Matters

5.4.2.3ix Controlled Activity - Addition or alteration to Buildings within the Outer Control Boundary – Queenstown Airport and Buildings within the Outer Control Boundary - Wanaka Airport

Conditions may be imposed to ensure the design, construction, orientation and location of buildings for residential activities, visitor accommodation or community activities within Wanaka Airport's Outer Control Boundary, ~~or the alteration or addition to an existing building or part of a building used for residential activities, visitor accommodation or community activities within Queenstown Airport's Outer Control Boundary~~ is such to ensure the indoor design sound levels specified in Zone Standards 5.3.5.2(viii) and (x) ~~is~~ are met.

6. QUEENSTOWN AIRPORT MIXED-USE ZONE – RULES

6.2.3.5 Prohibited Activities

The following shall be **prohibited**:

- ~~i~~ Forestry Activities
- ~~ii~~ Visitor Accommodation
- ~~iii~~ Residential Activities Activity Sensitive to Aircraft Noise
- ~~iiiv~~ Commercial Recreation Activity
- ~~v~~ Community Activities
- ~~ivi~~ Farming
- ~~vii~~ Factory Farming
- ~~viii~~ Mining Activities
- ~~ixvii~~ Any activity requiring an Offensive Trade Licence under the Health Act 1956

x — *Residential Flat*

7. RESIDENTIAL AREAS

Policies

3.11 To require ~~acoustic~~ sound insulation and mechanical ventilation for **critical listening environments** within any buildings containing activity sensitive to aircraft noise ~~of buildings~~ within the Queenstown Airport Outer Control Boundary and Air Noise Boundary, that contain ~~critical listening environments~~.

Implementation Methods

i District Plan

(g) Rules to require sound insulation and mechanical ventilation of **critical listening environments** within new and altered buildings that contain activity sensitive to aircraft noise on land within the Outer Control Boundary to achieve an indoor design sound level of 40 dB Ldn, based on the 2037 noise contours.

(h) Queenstown Airport Corporation funded retrofitting over time of sound insulation and mechanical ventilation of **critical listening environments** within ~~in~~ existing buildings containing activity sensitive to aircraft noise in the ANB to achieve an internal design sound level of 40 dB Ldn. Calculations shall be based on the 2037 noise contours and retrofitting should occur before the 65 dB Ldn AANC reaches the property. Retrofitting shall be conducted in accordance with the conditions attached to Designation 2.

(i) Queenstown Airport Corporation part funded retrofitting of mechanical ventilation of ~~Critical Listening E~~vironments within existing buildings containing an activity sensitive to aircraft noise located inside the 60 dB Ldn AANC. This ventilation is to enable windows and doors to remain closed to achieve the indoor design sound level if required. Calculations shall be based on the 2037 noise contours and retrofitting should occur before the 60 dB Ldn AANC reaches the property. Retrofitting shall be conducted in accordance with the conditions attached to Designation 2.

ii Other Methods

(c) Notification through Land Information Memoranda of the requirement to provide sound insulation and mechanical ventilation for new or altered buildings containing activity sensitive to aircraft noise within the Outer Control Boundary.

Explanation and Principal Reasons for Adoption

The residential areas are sensitive noise environments and this is a major factor which must be taken into account when considering the impact of other activities. Noise in a residential area is likely to result from non-residential activities and as such the plan

includes provisions setting noise standards for non-residential activities in the residential zones. Noise from normal residential living, including animals and social events will be controlled through the excessive noise provisions of the Act. Noise from Queenstown Airport will be managed in line with the Aerodrome Designation (Designation 2) to contain noise levels to the noise boundaries set out in the District Plan Maps. Sound insulation and mechanical ventilation requirements will assist to maintain the indoor amenity for any buildings used for an activity sensitive to aircraft noise in the Residential Zone.

7.2 Queenstown Residential and Visitor Accommodation Areas

7.2.2 Issues

- xi* Protection of airport operations ~~from noise sensitive activities~~ from any activity sensitive to aircraft noise within the Outer Control Boundary and Air Noise Boundary.

7.2.3 Objectives and Policies – Queenstown Residential and Visitor Accommodation Areas

Policies:

- 11. To require sound insulation and mechanical ventilation of **critical listening environments within** any buildings that contain activity sensitive to aircraft noise on land within the Outer Control Boundary to achieve an indoor design sound level of 40 dB Ldn, based on the 2037 noise contours.

Implementation Methods

The objectives and policies will be implemented through:

i District Plan

- (b) Rules to require sound insulation and mechanical ventilation of **critical listening environments within** new and altered buildings that contain activity sensitive to aircraft noise on land within the Outer Control Boundary to achieve an indoor design sound level of 40 dB Ldn, based on the 2037 noise contours.
- (c) A requirement within the Aerodrome Designation for Queenstown Airport Corporation to prepare and implement a noise mitigation plan in consultation with affected property owners for existing buildings within the 60 dB Ldn AANC.

Explanation and Principal Reasons for Adoption

The policies reinforce the District wide objectives for residential activity of consolidation and enhancement of residential amenity values. In addition the policies seek to maintain the general character of the majority of the existing residential environment which will provide a degree of certainty and security for residents by limiting changes to the scale, density and type of activity in the residential area. This policy recognises the importance of the living environment to the social well-being of the residents. The policy relating to sound insulation from the noise effects of aircraft using Queenstown Airport seeks to manage the adverse effects on the health and well-being of the residential community around the Airport as far as practicable.

7.5.5.3 Zone Standards – Residential Activities and Visitor Accommodation

7.5.5.3vi Airport Noise – Queenstown Airport (excluding any non-critical listening environments)

- ~~(a) — On any site located within the Outer Control Boundary as indicated on the District Plan Maps, any building or part of a building used for residential activities or visitor accommodation shall be insulated from aircraft noise so as to meet an indoor design level of 40 dBA Ldn, except for non-critical listening environments where no special sound insulation is required.~~
- ~~(b) — This control shall be met in either of the following two ways:
EITHER:~~
- ~~(i) — By providing a certificate from a recognised acoustic engineer stating that the proposed construction will achieve the internal design noise level.
OR:~~
- ~~(ii) — The building shall be constructed and finished in accordance with the provisions of Table 7.4 in part 7.5.5.3.~~

Table 7.4 — Acoustic Insulation of Buildings Containing Noise Sensitive Activities (except non-critical listening areas)

BUILDING ELEMENT	REQUIRED CONSTRUCTION
<i>External Walls</i>	<i>Exterior: 20mm timber or 6mm fibre cement Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar two layers of 12.5mm gypsum plasterboard* (Or an equivalent combination of exterior and interior wall mass)</i>
<i>Windows</i>	<i>Up to 40% of wall area: Minimum thickness 6mm glazing** Up to 60% of wall area: Minimum thickness 8mm glazing** Up to 80% of wall area: Minimum thickness 8mm laminated glass or minimum 10mm double glazing** Aluminium framing with compression seals (or equivalent)</i>
<i>Pitched Roof</i>	<i>Cladding: 0.5mm profiled steel or tiles or 6mm corrugated fibre cement Frame: Timber truss with 100mm acoustic blanket (R2.2 Batts or similar) Ceiling: 12.5 gypsum plaster board*</i>
<i>Skillion Roof</i>	<i>Cladding: 0.5mm profiled steel or 6mm fibre cement Sarking: 20mm particle board or plywood Frame: 100mm gap containing 100mm acoustic blanket</i>

	(R2.2 Batts or similar)
	Coiling: 2 layers of 9.55mm gypsum plasterboard*
External Door	Solid core door (min 24kg/m ²) with weather seals

* ~~Where exterior walls are of brick veneer or stucco plaster the internal linings need to be no thicker than 9.5mm gypsum plasterboard~~

** ~~Typical acoustic glazing usually involves thick single panes or laminated glass. Where two or more layers of glass are employed with an air gap between, total thickness of window glass may be calculated as the total of all glass layers (excluding air gap) provided that at least one glass layer shall be of a different thickness to the other layer(s)~~

(a) **Within the Air Noise Boundary (ANB)** – ~~New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13. Compliance can either shall be demonstrated by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 and by either submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by adoption of the constructions in Table 1 of Appendix 13 and installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~

(b) **Within the Outer Control Boundary (OCB)** - ~~New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13 providing ventilation with operable windows or where required with the mechanical ventilation specified on Table 2 of Appendix 13. Compliance can either shall be demonstrated by either by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 or submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level with the windows open.; or by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~

7.5.6.3 Zone Standards – Non-Residential Activities (other than Visitor Accommodation in the High Density Residential Zone)

7.5.6.3viii Airport Noise – Queenstown Airport (excluding any non-critical listening environments)

(a) ~~On any site located within the Outer Control Boundary as indicated on the District Plan Maps, any building or part of a building used for residential activities or visitor accommodation shall be insulated from aircraft noise so as to meet an indoor design level of 40 dBA Ldn, except for non-critical listening environments where no special sound insulation is required.~~

- (b) ~~This control shall be met in either of the following two ways:
EITHER:
(i) By providing a certificate from a recognised acoustic engineer stating that the proposed construction will achieve the internal design noise level.
OR:
(ii) The building shall be constructed and finished in accordance with the provisions of Table 7.8 in part 7.5.6.3.~~

Table 7.8 — Acoustic Insulation of Buildings Containing Noise Sensitive Activities (except non-critical listening areas)

BUILDING ELEMENT	REQUIRED CONSTRUCTION
<i>External Walls</i>	<i>Exterior: 20mm timber or 6mm fibre cement Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar two layers of 12.5mm gypsum plasterboard* (Or an equivalent combination of exterior and interior wall mass)</i>
<i>Windows</i>	<i>Up to 40% of wall area: Minimum thickness 6mm glazing** Up to 60% of wall area: Minimum thickness 8mm glazing** Up to 80% of wall area: Minimum thickness 8mm laminated glass or minimum 10mm double glazing** Aluminium framing with compression seals (or equivalent)</i>
<i>Pitched Roof</i>	<i>Cladding: 0.5mm profiled steel or tiles or 6mm corrugated fibre cement Frame: Timber truss with 100mm acoustic blanket (R2.2 Batts or similar) Ceiling: 12.5 gypsum plaster board*</i>
<i>Skillion Roof</i>	<i>Cladding: 0.5mm profiled steel or 6mm fibre cement Sarking: 20mm particle board or plywood Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar) Ceiling: 2 layers of 9.55mm gypsum plasterboard*</i>
<i>External Door</i>	<i>Solid core door (min 24kg/m²) with weather seals</i>

* ~~Where exterior walls are of brick veneer or stucco plaster the internal linings need to be no thicker than 9.5mm gypsum plasterboard~~

** ~~Typical acoustic glazing usually involves thick single panes or laminated glass. Where two or more layers of glass are employed with an air gap between, total thickness of window glass may be calculated as the total of all glass layers (excluding air gap) provided that at least one glass layer shall be of a different thickness to the other layer(s)~~

- (a) **Within the Air Noise Boundary (ANB)** – New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13. Compliance ~~can either~~ shall be demonstrated by installation of mechanical

ventilation to achieve the requirements in Table 2 of Appendix 13 and by either submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by adoption of the constructions in Table 1 of Appendix 13. ~~and installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~

- (b) **Within the Outer Control Boundary (OCB)** - New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, ~~at the same time as meeting the ventilation requirements in Table 2 of Appendix 13 providing openable windows or where required with the mechanical ventilation specified in Table 2 of Appendix 13.~~ Compliance ~~can either~~ shall be demonstrated by either installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, ~~or by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~

11. BUSINESS AND INDUSTRIAL AREAS

11.3.3.2 Controlled Activities

~~11.3.3.2iii Alterations to Buildings within the Outer Control Boundary – Queenstown Airport~~

~~Any alteration or addition to a building or part of the building to be used for residential activities, visitor accommodation or community activities on any site located within the Outer Control Boundary as indicated on the District Plan Maps, in respect of the design, construction, orientation and location of the building to achieve an indoor sound level of 40 dB Ldn.~~

11.3.3.5 Prohibited Activities

11.3.3.5i Activities within the Outer Control Boundary – Queenstown Airport

On any site located within the Outer Control Boundary as indicated on the District Plan Maps, any new ~~Residential Activities, Visitor Accommodation or Community Activities~~ activity sensitive to aircraft noise shall be a Prohibited Activity.

11.3.5.2 Zone Standards

11.3.5.2 iii Queenstown Airport (excluding any non-critical listening environment)

~~Airport Noise – Alteration or Addition to Existing Buildings within the Outer Control Boundary~~

~~On any site located within the Outer Control Boundary as indicated on the District Plan Maps, any alteration or addition to a building or part of a building to be used for residential activities, visitor accommodation or community activities shall be insulated from aircraft noise so as to meet an indoor design sound level of 40dBA Ldn, except for non-critical listening environments where no special sound insulation is required.~~

- (a) **Within the Air Noise Boundary (ANB)** - Alterations to existing buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, ~~at the same time as meeting the ventilation requirements in Table 2 of Appendix 13.~~ Compliance ~~can either~~ shall be demonstrated by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 and by either submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by adoption of the constructions in Table 1 of Appendix 13. and installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.
- (b) **Within the Outer Control Boundary (OCB)** - Alterations to existing buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, ~~at the same time as meeting the ventilation requirements providing ventilation with openable windows or where required with the mechanical ventilation specified in Table 2 of Appendix 13.~~ Compliance ~~can either shall~~ be demonstrated by either by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level with windows open., or by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.

11.4.2 Assessment Matters

~~11.4.2x Controlled Activity – Addition or Alteration to Buildings within the Outer Control Boundary – Queenstown Airport~~

~~Conditions may be imposed to ensure the design, construction, orientation and location of all alterations to an existing building or part of a building used for residential activities, visitor accommodation or community activities within Queenstown Airport's Outer~~

~~Control Boundary is such to ensure the indoor design sound levels specified in Zone Standard 11.3.5.2(iii) are met.~~

12. REMARKABLES PARK ZONE

12.10.3 Objectives and Policies

Objective 1

Implementation Methods

i. District Plan

~~(c) Notification through Land Information Memorandum of the restrictions on properties between the 58 and 60dBA Ldn contours.~~

~~(d) Inclusion of noise control and noise attenuation standards.~~

~~(d) Noise boundaries identified in the District Plan Maps~~

ii. Other Methods

(a) Notification through Land Information Memorandum of the restrictions on properties between the 58 and 60 dB Ldn noise contours.

12.11.3.6 Table 1

Activity	Activity Area									
	1	2a	2b	2c	3	4 *	5 *	6 *	7	8 *
Buildings except Residential Units in Activity Area 1	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON
Residential Activities		N-C	N-C	N-C			CON			N-C
Commercial Activities	N-C	DIS	DIS	DIS	CON	DIS		DIS	DIS	N-C
Commercial Recreational Activities	DIS	CON	CON	CON	CON	CON	CON	CON	CON	CON
Educational Facilities	N-C	N-C	N-C	N-C	DIS	CON	CON	CON	DIS	N-C
Retirement Villages	DIS	N-C	N-C	N-C	DIS	DIS	DIS	CON	DIS	PRO
Hospitals	DIS	N-C	N-C	N-C	DIS	DIS	DIS	CON	DIS	N-C
Health/Day Care Facilities	DIS	N-C	N-C	N-C	DIS	DIS	DIS	CON	DIS	N-C
Visitor Accommodation	DIS	N-C	N-C	N-C	CON	CON	CON	CON	CON	N-C
Premises licensed for the sale of liquor	N-C	N-C	N-C	N-C	CON	DIS	CON	DIS	DIS	DIS
Factory Farming	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C
Forestry Activities	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C
Mining	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C
Take-off or landing of aircraft other than for emergency landings and rescues or fire-fighting	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C	N-C
*Buildings within the blue-hatched area indicated on Figure 2 – Airport Measures and labelled “NO BUILDINGS AREA”										PRO
*Residential, Visitor Accommodation and Community Activities Activities sensitive to aircraft noise within the blue semi-hatched area indicated on Figure 2 – Airport Measures and labelled “NO RESIDENTIAL, VISITOR ACCOMMODATION OR COMMUNITY ACTIVITIES AREA” “NO ACTIVITIES SENSITIVE TO AIRCRAFT NOISE”.							PRO			PRO
*Residential Activities, Visitor Accommodation and Community Activities Activities sensitive to aircraft noise where accommodation for any individual or group exceeds 90 continuous days per annum within the grey hatched area indicated on Figure 2 – Airport Measures and labelled “SHORT STAY WITH SOUND INSULATION”						PRO	PRO	PRO		PRO
Panelbeating, spray painting, motor vehicle repair or dismantling, fibreglassing, sheet metal work, bottle or scrap storage, motorbody building, fish or meat processing, or any activity requiring an offensive trade licence under the Health Act 1956.	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO
Industrial Activities	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO
Service Activities	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO	PRO

12.11.5.2 Zone Standards

12.11.5.2iv Airport Measures – Queenstown Airport (excluding any non-critical listening environment)

- ~~(a) — On any site located within the grey hatched or the grey shaded area on Figure 2 — “Airport Measures”, any building or part of a building, or any alteration or addition to a building, to be used for residential activities, visitor accommodation or community activities shall be acoustically insulated from aircraft noise so as to achieve an indoor design sound level of 40 dBA Ldn, except for non-critical listening environments where no special sound insulation is required.~~
- ~~(b) — This control shall be met in either of the following two ways:
EITHER:~~
- ~~(i) — By providing a certificate from a recognised acoustic engineer stating that the proposed construction will achieve the internal design noise level.~~
- ~~OR:~~
- ~~(ii) — The building shall be constructed and finished in accordance with the provisions of Table 2 appended to this rule.~~

Table 2 — Acoustic Insulation of Buildings Containing Noise Sensitive Uses (except non-critical listening areas)

BUILDING ELEMENT	REQUIRED CONSTRUCTION
External Walls	Exterior: 20mm timber or 6mm fibre cement Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar two layers of 12.5mm gypsum plasterboard* (Or an equivalent combination of exterior and interior wall mass)
Windows	Up to 40% of wall area: Minimum thickness 6mm glazing** Up to 60% of wall area: Minimum thickness 8mm glazing** Up to 80% of wall area: Minimum thickness 8mm laminated glass or minimum 10mm double glazing** Aluminium framing with compression seals (or equivalent)
Pitched Roof	Cladding: 0.5mm profiled steel or tiles or 6mm corrugated fibre cement Frame: Timber truss with 100mm acoustic blanket (R2.2 Batts or similar) Ceiling: 12.5 gypsum plaster board*
Skillion Roof	Cladding: 0.5mm profiled steel or 6mm fibre cement Sarking: 20mm particle board or plywood Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar) Ceiling: 2 layers of 9.55mm gypsum plasterboard*
External Door	Solid core door (min 24kg/m²) with weather seals

~~* — Where exterior walls are of brick veneer or stucco plaster the internal linings need to be no thicker than 9.5mm gypsum plasterboard~~

~~** — Typical acoustic glazing usually involves thick single panes or laminated glass. Where two or more layers of glass are employed with an air gap between, total~~

~~thickness of window glass may be calculated as the total of all glass layers (excluding air gap) provided that at least one glass layer shall be of a different thickness to the other layer(s)~~

(a) ~~**Within the Air Noise Boundary (ANB)** - Alterations to buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13. Compliance ~~can either shall~~ be demonstrated by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 and by either submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by adoption of the constructions in Table 1 of Appendix 13 ~~and installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~~~

(b) ~~**Within the Outer Control Boundary (OCB)** - New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in providing openable windows or where required the mechanical ventilation specified in Table 2 of Appendix 13. Compliance ~~can either shall~~ be demonstrated by either installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13 or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, ~~or by with windows open. installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.~~~~

12. FRANKTON FLATS

12.18.3.5 Prohibited Activities

The following activities shall be prohibited activities:

i...

ii...

iii...

iv Any activity sensitive to aircraft noise within the Queenstown Airport Outer Control Boundary with the exception of short stay visitor accommodation being visitor accommodation limited to a maximum 2 week stay.

12.18.5.2 Zone Standards

12.18.5.2iii Airport Noise – Queenstown Airport

~~(a) On any site located within the Outer Control Boundary as indicated on the District Plan Maps any building or part of a building to be used for any activity~~

~~specified below shall be insulated from aircraft noise so as to meet the indoor design noise levels specified for the particular activity:~~

Activities	Design Noise Levels	
	Lmax dBA	Ldn dBA
Visitors Accommodation	55	40
Community Activity (indoor)	55	40
Offices	65	50
Commercial Activity (indoor)		
excluding offices	75	60
Service Activities	75	60
Recreational Activities	75	60
Educational Activities	55	40
Residential	55	40

~~(b) This control shall be met in either of the following two ways:~~

~~EITHER:~~

~~(i) By providing a certificate from a recognised acoustic engineer stating that the proposed construction will achieve the internal design noise level.~~

~~OR:~~

~~(ii) The building shall be constructed and finished in accordance with the provisions of Table 2 appended to this rule.~~

Table 2 — Acoustic Insulation of Buildings Containing Noise Sensitive Uses (except non-critical listening areas)

BUILDING ELEMENT	REQUIRED CONSTRUCTION
External Walls	Exterior: 20mm timber or 6mm fibre cement Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar two layers of 12.5mm gypsum plasterboard* (Or an equivalent combination of exterior and interior wall mass)
Windows	Up to 40% of wall area: Minimum thickness 6mm glazing** Up to 60% of wall area: Minimum thickness 8mm glazing** Up to 80% of wall area: Minimum thickness 8mm laminated glass or minimum 10mm double glazing** Aluminium framing with compression seals (or equivalent)
Pitched Roof	Gladding: 0.5mm profiled steel or tiles or 6mm corrugated fibre cement Frame: Timber truss with 100mm acoustic blanket (R2.2

	<i>Batts or similar)</i> <i>Ceiling: 12.5 gypsum plaster board*</i>
<i>Skillion Roof</i>	<i>Cladding: 0.5mm profiled steel or 6mm fibre cement</i> <i>Sarking: 20mm particle board or plywood</i> <i>Frame: 100mm gap containing 100mm acoustic blanket (R2.2 Batts or similar)</i> <i>Ceiling: 2 layers of 9.55mm gypsum plasterboard*</i>
<i>External Door</i>	<i>Solid core door (min 24kg/m2) with weather seals</i>

~~* Where exterior walls are of brick veneer or stucco plaster the internal linings need to be no thicker than 9.5mm gypsum plasterboard~~

~~** Typical acoustic glazing usually involves thick single panes or laminated glass. Where two or more layers of glass are employed with an air gap between, total thickness of window glass may be calculated as the total of all glass layers (excluding air gap) provided that at least one glass layer shall be of a different thickness to the other layer(s)~~

~~**Within the Outer Control Boundary (OCB) — Visitor accommodation**
~~**New and altered buildings containing an activity sensitive to aircraft noise shall be designed to achieve an internal design sound level of 40 dB Ldn, based on the 2037 noise contours, at the same time as meeting the ventilation requirements in Table 2 of Appendix 13. Compliance can shall either be demonstrated by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13. submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level, or by installation of mechanical ventilation to achieve the requirements in Table 2 of Appendix 13.**~~~~

DEFINITIONS

Air Noise Boundary Queenstown (ANB) – means a boundary as shown in District Plan Map 31A, the location of which is based on the predicted day/night sound level of 65 dB Ldn from airport operations in 2037.

Outer Control Boundary Queenstown (OCB) - means a boundary as shown in District Plan Map 31A, the location of which is based on the predicted day/night sound level of 55 dB Ldn from airport operations in 2037.

Annual Airport Noise Contours (AANC) Queenstown – means the Annual Airport Noise Contours calculated as specified by the Aerodrome Designation 2.

Activity Sensitive to Aircraft Noise (ASAN) – means any residential activity, visitor accommodation, ~~community activity and day care facility activity, and community activity~~ as defined in this District Plan ~~and day care facility activity,~~ including all outdoor spaces associated with any educational facility ~~or school~~ but excludes ~~activity in~~ police stations, fire stations, courthouses, probation and detention centres, government and local government offices.

Aircraft Operations – includes the operation of aircraft during landing, take-off and taxiing but excludes:

- aircraft operating in an emergency;
- aircraft using the Airport as an alternative to landing at a scheduled airport;
- military aircraft movements;
- engine testing.

Critical Listening Environment – means any space that is regularly used for high quality listening or communication, for example principal living areas, bedrooms and classrooms but excludes non-critical listening environments.

Design Sound Level – means 40 dB Ldn in all Critical Listening Environments.

2037 Noise Contours: means the predicted airport noise contours for Queenstown Airport for the year 2037 in 1dB increments from 70dB Ldn to 55dB Ldn inclusive. Note: These contours shall be available from the Council and in the Airport Noise Management Plan.

Appendix 13

The following table sets out the constructions required to achieve appropriate sound insulation within the airport Air Noise Boundary (ANB).

Table 1: Sound Insulation Requirements – Acceptable Constructions.

<u>Building Element</u>	<u>Minimum Construction</u>	
<u>External Walls</u>	<u>Exterior Lining:</u>	<i>Brick or concrete block or concrete, or 20mm timber or 6mm fibre cement</i>
	<u>Insulation:</u>	<i>Not required for acoustical purposes</i>
	<u>Frame:</u>	<i>One layer of 9mm gypsum or plasterboard (or an equivalent combination of exterior and interior wall mass)</i>
<u>Windows/Glazed Doors</u>	<i>4mm glazing with effective compression seals or for double glazing 6mm-6mm airgap-6mm</i>	
<u>Pitched Roof</u>	<u>Cladding:</u>	<i>0.5mm profiled steel or masonry tiles or 6mm corrugated fibre cement</i>
	<u>Insulation:</u>	<i>100mm thermal insulation blanket/batts</i>
	<u>Ceiling:</u>	<i>1 layer 9mm gypsum or plaster board</i>
<u>Skillion Roof</u>	<u>Cladding:</u>	<i>0.5mm profiled steel or 6mm fibre cement</i>
	<u>Sarking:</u>	<i>None Required</i>
	<u>Insulation:</u>	<i>100mm thermal insulation blanket/batts</i>
	<u>Ceiling:</u>	<i>1 layer 9mm gypsum or plasterboard</i>
<u>External Door</u>	<i>Solid core door (min 24kg/m²) with weather seals</i>	

Note: The specified constructions in this table are the minimum required to meet the acoustic standards. Alternatives with greater mass or larger thicknesses of insulation will be acceptable. Any additional construction requirements to meet other applicable standards not covered by this rule (eg fire, Building Code etc) would also need to be implemented.

The following table sets out the ventilation requirements within the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB).

Table 2: Ventilation Requirements

<u>Room Type</u>	<u>Outdoor Air Ventilation Rate (Air Changes per Hour, ac/hr)</u>	
	<u>Low Setting</u>	<u>High Setting</u>
<u>Bedrooms</u>	<u>1-2 ac/hr</u>	<u>Min. 5 ac/hr</u>
<u>Other Critical Listening Environments</u>	<u>1-2 ac/hr</u>	<u>Min. 15 ac/hr</u>
<u>Noise from ventilation systems shall not exceed 35 dB $L_{Aeq(1 min)}$ on High Setting and 30 dB $L_{Aeq(1 min)}$ on Low Setting. Noise levels shall be measured at a distance of 1 m to 2 m from any diffuser.</u>		
<u>Each system must be able to be individually switched on and off and when on, be controlled across the range of ventilation rates by the occupant with a minimum of 3 stages.</u>		
<u>Each system providing the low setting flow rates is to be provided with a heating system which, at any time required by the occupant, is able to provide the incoming air with an 18 °C heat rise when the airflow is set to the low setting. Each heating system is to have a minimum of 3 equal heating stages.</u>		
<u>If air conditioning is provided to any space then the high setting ventilation requirement for that space is not required.</u>		