

PART 18 ARDMORE AERODROME LAND USE COMPATIBILITY PLANNING
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18.1 ARDMORE AERODROME LAND USE COMPATIBILITY PLANNING – URBAN PAKAKURA

18.1.1 INTRODUCTION

Ardmore Aerodrome Zone makes provision for aviation activities and the site is designated as “Aerodrome” in the District Plan by the Airport Authority which controls the Aerodrome. Subsequent to consultation with the community and the Airport Authority the Council has implemented a noise contour around the Aerodrome. This noise contour extends into areas of the district which are or will become urban.

The application of the principles for airport planning contained in NZS 6805-1992 “Airport Noise Management and Land Use Planning”, mean that rules with additional land use restrictions on activities which are sensitive to aircraft noise (ASAN) within the areas defined by the Air Noise Boundary, Inner Control Boundary and Outer Control Boundary will apply (refer also to Section Two–Ardmore Aerodrome, and Section Three - Part 6 Ardmore Aerodrome Zone).

18.2 OVERVIEW

This part of the Plan addresses the resource management issues, strategy, objectives, policies and methods relating to the effects of Ardmore Aerodrome on urban areas of the District, and the potential effects of activities sensitive to aircraft noise in urban areas on the Aerodrome.

Resource management of the resources of the Ardmore Aerodrome are addressed in Part 6.14 Ardmore Aerodrome Zone of Section Three and also in Section Two – Rural Papakura.

18.3 RESOURCE MANAGEMENT ISSUES

The significant resource management issues relating to Ardmore Aerodrome and the urban areas of Papakura are:

- The need to protect noise sensitive activities within the vicinity of the Ardmore Aerodrome so as to avoid, remedy or mitigate adverse effects associated with Aerodrome noise
- The need to avoid, remedy or mitigate potential adverse effects of activities sensitive to aircraft noise establishing or expanding in the areas of high and moderate aircraft noise

18.4 RESOURCE MANAGEMENT STRATEGY

The resource management strategy for managing the effects of Ardmore Aerodrome on other parts of urban Papakura and for managing the potential effects of activities within other parts of urban Papakura on the Aerodrome is:

- To establish a framework of controls which secure the ongoing operation and growth of the Aerodrome for aviation and aviation-related activities

- To establish general environmental and noise controls to secure appropriate amenity in areas surrounding the Aerodrome.
- To ensure new noise sensitive activities do not establish in the areas of highest aircraft noise.
- To ensure that new noise sensitive activities in areas of moderate aircraft noise are established with appropriate measures to ensure that potential adverse effects are avoided, remedied or mitigated.

18.5 OUTCOMES

In order to protect potential occupiers of urban land situated within the vicinity of the Aerodrome from levels of noise that may be incompatible with normal standards of urban amenity, Council has introduced controls to avoid or mitigate the adverse effects of operational aircraft noise on noise sensitive activities in the urban areas of the District.

These controls also have the effect of protecting the operation of the Aerodrome from noise sensitive activities and issues of 'reverse sensitivity' leading to the demand for constraints on the operation of the Aerodrome.

Similar controls to those that apply to urban Papakura, also apply to activities in the rural areas (refer Section Two, Part 8.31 Ardmore Aerodrome Land Use Compatibility Planning – Rural Papakura).

To ensure that responsibility for mitigation of operational aircraft noise is not borne solely by affected rural property owners, Council has also introduced specific noise mitigation measures to control operational activities within the Aerodrome Zone (refer to Section Three – Urban Papakura, Part 6, Rule 6.14.9 Ardmore Aerodrome Zone Sound Emissions).

18.6 OBJECTIVES AND POLICIES

18.6.1 Objective

To enable the ongoing operation of Ardmore Aerodrome as regionally significant infrastructure and the avoidance of potential adverse effects on its operations through the management of the use and development of land within the Air Noise Boundary, Inner Control Boundary and Outer Control Boundary to achieve land uses and development compatible with the Aerodrome's operations.

18.6.2 Policy.

The land surrounding the Aerodrome shall be used and/or developed in a manner compatible with the safe, efficient and economic operation of the Aerodrome.

Methods

The following methods have been adopted to achieve the policies:

- (a) Activity Rules
- (b) Acoustic insulation standard
- (c) Matters for control and discretion
- (d) Assessment Criteria

18.7 Reasons for Policy

Specific provisions for the management of resources on the Aerodrome site itself are contained in the urban section of the District Plan. The policies and rules in this part of the Plan relate to the off-site effects of the Aerodrome on the urban area of the District. The off-site effects of the Aerodrome on the rural area of the District are addressed in Part Two – Rural Papakura. In general terms, areas which are close to the Aerodrome may experience some restriction of activities due to noise or for safety reasons. Consistent with the principles for airport planning contained in NZS 6805-1992 “Airport Noise Management and Land Use Planning”, rules with additional land use restrictions on activities which are sensitive to aircraft noise (ASAN) within the areas defined by the Air Noise Boundary, Inner Control Boundary and Outer Control Boundary are contained in Section Two– Part 8 and Section Three - Part 18 Ardmore Aerodrome Land Use Compatibility Planning.

18.8 Anticipated Results

The Aerodrome will continue to be a significant land use in the District, and a contributor to the local economy, and regionally significant infrastructure. Controls on aircraft noise will ensure that the operation of the Aerodrome does not significantly adversely affect people living in the area. Controls on land uses and subdivision will ensure that activities sensitive to aircraft noise within the areas of highest noise levels in the vicinity of the Aerodrome will not adversely affect operations of the Aerodrome, including through reverse sensitivity effects.

The objectives and policies, as well as the methods to implement the policies, will ensure that development will be managed so that it does not constrain the efficient and safe operation of the regionally significant infrastructure and facilities of Ardmore Aerodrome. When any future applications for resource consent to restricted discretionary or discretionary activities for subdivision or land uses sensitive to aircraft noise within the Ldn 55, 60 and 65 dBA aircraft noise contours (represented by the Outer Control Boundary, Inner Control Boundary and the Air Noise Boundary of the Maps and on Figure 1.0 (which follows Section 3 Part 18.9.4.2) are considered by the Council it will have regard to the whether those activities, or the potential for future activities sensitive to aircraft noise, carried out in the vicinity of the Aerodrome will adversely affect the operations of the Aerodrome together with other assessment criteria set out in this Section and in Section Two – Part 6.8.3 Ardmore Aerodrome Land Use Compatibility Planning.

18.9 RULE: ACTIVITY STATUS

18.9.1 Rule - Restrictions on ASAN on land within the Air Noise Boundary Area (ANB).

Within the Air Noise Boundary Area (ANB) shown on the Maps and notwithstanding the provisions of any other Rule in this Plan the following Rules apply:

- 18.9.1.1. ASAN within the ANB shall be a Prohibited Activity with the exception of:
- i) Household units that were legally established under the Act and existing at 17 October 2007 on any lot, irrespective of the date the lot was created.
 - ii) Additions and alterations of habitable rooms and rooms for sleeping, convalescing and learning to an existing ASAN that was legally established under the Act and existing at 17 October 2007 provided that consent as a Discretionary Activity shall be required and Rule 18.9.5 shall apply (refer Rule 18.9.1.2).
 - iii) A single household unit on a site where the Certificate of Title for the site was issued prior to 17 October 2007 provided that consent as a Discretionary Activity shall be required and Rule 18.9.5 shall apply (refer Rule 18.9.1.3)
- 18.9.1.2 Additions and alterations of habitable rooms and rooms for sleeping, convalescing and learning to an existing ASAN that was legally established under the Act and existing at 17 October 2007 within the ANB that comply with Rule 18.9.5 shall be a Discretionary Activity.
- 18.9.1.3 A single household unit on a site within the ANB where the Certificate of Title for the site was issued prior to 17 October 2007 that comply with Rule 18.9.5 shall be a Discretionary Activity.
- 18.9.1.4 Additions and alterations of habitable rooms and rooms for sleeping, convalescing and learning to an existing ASAN within the ANB that was legally established and existing at 17 October 2007 and a single household unit on a site where the Certificate of Title for the site was issued prior to 17 October 2007 that do not comply with Rule 18.9.5 shall be a Prohibited Activity.
- 18.9.1.5 ASAN that are partially within the ANB and partially within the ICB shall be a Prohibited Activity, with the exception of:
- (i) Household units that were legally established under the Act and existing at 17 October 2007 on any lot, irrespective of the date the lot was created.
 - (ii) Additions and alterations of habitable rooms and rooms for sleeping, convalescing and learning to an existing ASAN that was legally established and existing at 17 October 2007 provided that the additions and alterations are within the ICB, consent as a Discretionary Activity shall be required, and Rule 18.9.2.1 shall apply.
 - (iii) A single household unit on a site where the Certificate of Title for the site was issued prior to 17 October 2007 provided that consent as a Discretionary Activity shall be required and Rule 18.9.5 shall apply (refer Rule 18.9.1.3)
- 18.9.1.6 Explanation of Rule
- The impacts of aircraft noise for Ardmore Aerodrome have been assessed using the methodology of the New Zealand Standard 6805:1992 - Airport Noise Management and Land Use Planning ("the Standard"). The Standard recommends land use planning for areas within an air noise boundary prohibit activities sensitive to aircraft noise The purpose of rule 18.9.1 is to give effect to the Standard.

Under the Resource Management Act 1991 no resource consent application may be made for any activity that is a prohibited activity in a Plan. An exception is made to exempt houses existing as at the date of the notification of the Variation that introduced these provisions, in order to avoid all doubt that these activities may remain if legally established under the Act.

The exceptions also provide for additions or alterations to ASAN existing at the date of the introduction of the Ardmore Aerodrome land use compatibility planning provisions, subject to a Discretionary Activity resource consent and meeting the noise attenuation rules. Additions or alteration to an existing ASAN that would add a habitable room (refer definitions) or a room for sleeping, convalescing or learning in the ANB and that would not meet the noise attenuation standards of Rule 6.8.3.5 are a prohibited activity, in order to ensure that the potential adverse effects of aircraft noise are not unmitigated, and in order to protect the Aerodrome from the potential adverse effects of reverse sensitivity. Additions and alterations to an existing ASAN in the ANB that are not for habitable rooms, or rooms for sleeping, convalescing and learning are not subject to these restrictions.

The aim of the land use compatibility planning is to minimise the number of people and the degree to which they are affected within what is considered to be a high noise area. An application for Discretionary Activity resource consent will be assessed under the assessment criteria of 18.9.8.

An exemption from the prohibited activity status for ASAN in the ANB is provided for lots that existed at the time of the introduction of the Ardmore Aerodrome land use compatibility provisions (17 October 2007) so that owners may apply to construct a single house on that lot. Such applications will be assessed under the assessment criteria of 18.9.8.

For the sake of clarity, the rule states that ASAN that would be partially within the Air Noise Boundary and partially within the Inner Control Boundary are subject to the rules for ASAN within the Air Noise Boundary Area.

18.9.2 Rule - Land Use Restrictions on land within the Inner Control Boundary Area

Within the Inner Control Boundary Area (ICB) shown on the Maps and notwithstanding the provisions of any other Rule in this Plan the following Rules apply:

- 18.9.2.1 ASAN within the ICB that comply with Rule 18.9.5 shall be a Discretionary Activity with the exception of:
- (i) ASAN that were legally established under the Act and existing at 17 October 2007 on any lot, irrespective of the date the lot was created.
 - (ii) Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning within the ICB, provided that Rules 18.9.2.2 and 18.9.2.3 shall apply.
- 18.9.2.2 Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning within the ICB that comply with Rule 18.9.5 shall be a Restricted Discretionary Activity and shall be subject to the matters for discretion of Rule 18.9.7.

- 18.9.2.3 Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning within the ICB that do not comply with Rule 18.9.5 shall be a Discretionary Activity.
- 18.9.2.4 ASAN, within the ICB that do not comply with Rule 18.9.5 shall be a Discretionary Activity.
- 18.9.2.5 ASAN that are partially within the ICB and partially within the OCB shall be a Discretionary Activity and shall be subject to Rule 18.9.2.1 and 18.9.2.4.
- 18.9.2.6 Additions and alterations to habitable rooms and rooms for sleeping, convalescing and learning to existing ASAN that are partially within the ICB and partially within the OCB shall be subject to the matters for discretion of Rule 18.9.7 and shall be subject to Rule 18.9.2.2 and 18.9.2.3.

18.9.2.7 Explanation of Rule

The effects of aircraft noise within the area defined by the L_{dn} 60 dBA – L_{dn} 65 dBA contours, the Inner Control Boundary Area, are somewhat less than within the Air Noise Boundary Area, but are still so significant as to necessitate measures to manage how many people are affected and to ensure that where an ASAN is located within the ICB it is subject to appropriate attenuation of aircraft noise. The aim of the land use compatibility planning is to minimise the number of people and the degree to which they are affected within what is considered to be a moderately high noise area near an airport. An application for Discretionary Activity resource consent will be assessed to determine whether it would result in an increase in the number or the severity of the effects of airport noise on people. Additions that will add or alter any habitable room or rooms that will be used for sleeping, convalescing or learning will also need to meet the requirements of Rule 18.9.5. However, it is also recognised that there may be circumstances where it would be inappropriate or unreasonable to require the noise reduction measures of Rule 18.9.5 to be carried out for a minor addition or a minor alteration in a habitable room of an ASAN within the ICB. Examples where it may be unreasonable or impracticable to require compliance with Rule 18.9.5 may include where the ASAN being added to or altered was constructed or consented to prior to the introduction of the land use compatibility planning provisions of the Plan in October 2007 and the requirement for complying with Rule 18.9.5 for the addition or alteration only will not achieve any appreciable noise reduction for the ASAN or the habitable room or room for sleeping, convalescing or learning, due to the existing absence of noise reduction measures either throughout the ASAN or the rooms that are to be altered or added to.

18.9.3 Rule – Land Use Restrictions on land within the Outer Control Boundary Area

Within the Outer Control Boundary Area (OCB) shown on the Maps and notwithstanding the provisions of any other Rule in this plan the following Rules apply:

- 18.9.3.1 ASAN and additions to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning within the OCB that comply with Rule 18.9.5 shall be a Permitted Activity.
- 18.9.3.2 ASAN within the OCB that do not comply with Rule 18.9.5 shall be a Non Complying Activity.
- 18.9.3.3 Additions and alterations of habitable rooms and rooms for sleeping, convalescing and learning to existing ASAN within the OCB that do not comply with Rule 18.9.5 shall be a Discretionary Activity.

18.9.3.4 Explanation of Rule

The effects of aircraft noise within the L_{dn} 55 dBA – L_{dn} 60 dBA noise contours, the Outer Control Boundary Area, are somewhat less again than those experienced within the Inner Control Boundary Area or the Air Noise Boundary Area, but these moderate levels of aircraft noise are still so significant as to necessitate measures to minimise the effects on people and to ensure that where ASAN are located within the OCB they are subject to appropriate noise reduction measures. The aim of the airport land use compatibility planning applied to Ardmore Aerodrome is to minimise the number of people and the degree to which they are affected within what is considered to be a high or moderate noise area near an aerodrome. For that reason, ASAN that do not comply with the noise reduction measures specified in Rule 18.9.5, are a Discretionary activity. However, it is also recognised that there may be circumstances where it would be inappropriate or unreasonable to require the noise reduction measures of Rule 18.9.5 to be carried out for a minor addition or a minor alteration in a habitable room of an ASAN within the OCB. Examples where it may be unreasonable or impracticable to require compliance with Rule 18.9.5 may include where the ASAN being added to or altered was constructed or consented to prior to the introduction of the land use compatibility planning provisions of the Plan in October 2007 and the requirement for complying with Rule 18.9.5 for the addition or alteration only will not achieve any appreciable noise reduction for the ASAN or the habitable room or room for sleeping, convalescing or learning, due to the existing absence of noise reduction measures either throughout the ASAN or the rooms that are to be altered or added to.

18.9.4 Activities other than ASAN

- 18.9.4.1 Rule – Activities other than ASAN and additions of habitable rooms, and rooms for sleeping, convalescing and learning to ASAN within the ANB, ICB and OCB that are permitted activities, controlled activities, restricted discretionary and discretionary activities retain their current status.

18.9.4.2 Explanation of Rule

The intention of Rule 18.9.4 is to ensure that it is clear that the activity status of activities other than ASAN within the noise contours remain unchanged.

To assist in understanding the Ardmore Aerodrome land use compatibility rules, a summary table sets out in summary the effect of the rules above. The rule in full should be referred to in all instances.

Table 1.0 Ardmore Aerodrome Noise Contours – Summary of Activity Status for Explanatory Purposes Only⁽⁵⁾

Activity	Air Noise Boundary Area L _{dn} 65 dBA+	Inner Control Boundary Area L _{dn} 60-65 dBA	Outer Control Boundary Area L _{dn} 55-60dBA
Activities sensitive to aircraft noise which meet sound attenuation rules ⁽¹⁾	Prohibited	Discretionary Activity	Permitted Activity ⁽⁴⁾
Additions to existing activities sensitive to aircraft noise of habitable rooms ⁽²⁾ and rooms for sleeping, convalescing and learning which meet sound attenuation rules of 18.9.5	Discretionary Activity	Restricted Discretionary	Permitted Activity
Existing households lawfully established under the Act	Permitted Activity ⁽³⁾	Permitted Activity	Permitted Activity
A single household on a site where a title was issued prior to 17 October 2007 that complies with the sound attenuation rules of 18.9.5	Discretionary Activity	Discretionary Activity	Permitted Activity ⁽⁴⁾
Activities sensitive to aircraft noise that do not comply with the sound attenuation rules of 18.9.5	Prohibited	Non Complying	Non Complying
Additions and alterations to an existing activity sensitive to aircraft noise of habitable rooms ⁽²⁾ and rooms for sleeping or convalescing or learning that do not comply with the sound attenuation rules of 18.9.5	Prohibited	Discretionary	Discretionary

(1) Refer Definition of Activities Sensitive to Aircraft Noise

(2) Refer Definition of Habitable Room

(3) Refer Section Three, Rule 6.14.9.9 Affected Dwellings

(4) Subject to compliance with Rule 18.9.5 noise attenuation

(5) If any contradiction exists between this explanatory table and the Rules the Rules shall prevail

Figure 1.0 Ardmore Aerodrome Air–Noise Contours Air Noise, Inner and Outer Control Boundaries illustrates the Air Noise Boundary, Inner Control Boundary and Outer Control Boundary Areas. The Maps should be referred to for actual definition of the location of the Boundaries and Areas.

18.9.5 Rule – Noise Attenuation

- 18.9.5.1 ASAN and additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB, ICB and OCB shall provide sound attenuation and related ventilation and/or air-conditioning measures to ensure that:
- (i) the internal noise environment of habitable rooms and rooms for sleeping, convalescing and learning does not exceed a maximum of L_{dn} 40 dBA; and
 - (ii) the related ventilation and/or air conditioning system(s) satisfy the requirements of New Zealand Building Code Clause G4 with all external doors of the building and all windows of the habitable rooms closed.
- 18.9.5.2 ASAN and additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the OCB shall:
- i) be constructed from materials and using construction methods so as to achieve at least a 25dBA noise reduction in all habitable rooms and rooms for sleeping or convalescing or learning (with all external doors of the building and all windows of these rooms closed) and be certified by an acoustical consultant as meeting that standard to the Council's satisfaction prior to construction and provide a ventilation system that:
 - a. complies with the mechanical ventilation requirements of Part G4 of the New Zealand Building Code for buildings where all external windows and doors are closed; and
 - b. creates no more than L_{eq} 40 dBA in the principal living room, no more than L_{eq} 30 dBA in the other habitable rooms, and no more than L_{eq} 40 dBA in any hallway, in each building. Noise levels from the mechanical system(s) shall be measured at least 1 metre away from any diffuser; and
 - c. Does not compromise compliance with Rule 18.9.5.1.
- 18.9.5.3 ASAN and additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping or convalescing or learning in the ICB shall:
- i) be constructed from materials and using construction methods and insulation such as to achieve at least a 30dBA noise reduction in all habitable rooms and rooms for sleeping or convalescing or learning (with all external doors of the building and all windows of these rooms closed) and be certified by an acoustical consultant as meeting that standard to the Council's satisfaction prior to construction and provide a ventilation system that:
 - a. complies with the mechanical ventilation requirements of Part G4 of the New Zealand Building Code for buildings where all external windows and doors are closed; and
 - b. creates no more than L_{eq} 40 dBA in the principal living room, no more than L_{eq} 30 dBA in the other habitable rooms, and no more than L_{eq} 40 dBA in any hallway, in each building. Noise levels from the mechanical system(s) shall be measured at least 1 metre away from any diffuser; and
 - c. Does not compromise compliance with Rule 18.9.5.1.
- 18.9.5.4 Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB and A single household unit on a

site where the Certificate of Title for the site was issued prior to 17 October 2007 in the ANB shall:

- i) be constructed from materials and using construction methods and insulation such as to achieve at least a 30dBA noise reduction in all habitable rooms and rooms for sleeping, convalescing and learning (with all external doors of the building and all windows of these rooms closed) and be certified by an acoustical consultant as meeting that standard to the Council's satisfaction prior to the assessment as a Discretionary Activity and provide a ventilation system that:
 - a. complies with the mechanical ventilation requirements of Part G4 of the New Zealand Building Code for buildings where all external windows and doors are closed; and
 - b. creates no more than L_{eq} 40 dBA in the principal living room, no more than L_{eq} 30 dBA in the other habitable rooms, and no more than L_{eq} 40 dBA in any hallway, in each building. Noise levels from the mechanical system(s) shall be measured at least 1 metre away from any diffuser; and
 - c. Does not compromise compliance with Rule 18.9.5.1.

18.9.5.5 Educational facilities, schools, and other educational facilities and additions to existing educational facilities, schools, and other educational facilities in the OCB and ICB shall be constructed and maintained so as to achieve an interior noise environment in classrooms and all other places of learning not exceeding 35 L_{eq} dBA 0830 - 1530 Monday to Friday (inclusive). Compliance with all other relevant Rules of Rule 6.8.3.5 is also required.

18.9.5.6 Opening Windows in ASAN in ANB, ICB and OCB

(i) Opening windows are permissible in ASAN and additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB, ICB and OCB.

(ii) Where non-opening windows are used in ASAN and additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB, ICB and OCB an early warning smoke detection system shall be installed and maintained within the premises, including in rooms for sleeping and exit ways, in accordance with an approved New Zealand Code or Standard or AS3786:1993. Where mechanical ventilation is provided, devices shall be installed to shut down or close off the system to prevent the travel of fire and smoke products.

18.9.5.7 Upon the completion of construction to meet Rules 18.9.5. the owner shall provide the Council with certificates:

- i) prepared by a suitably qualified and experienced acoustical consultant certifying that the acoustic treatment and sound attenuation measures are sufficient to achieve compliance with Rules 18.9.5 and have been undertaken in accordance with Rules 18.9.5; and
- ii) prepared by a suitably qualified and experienced ventilation engineer certifying that the ventilation measures are sufficient to achieve

compliance with Rules 18.9.5 and have been undertaken in accordance with Rules 18.9.5.

18.9.5.8 Noise Reduction Performance Validation

- (i) A post-construction demonstration of compliance with the sound attenuation required in Rules 18.9.5 shall be a condition of occupancy of ASAN in the ANB, ICB and OCB and shall be provided to Council prior to occupancy. Compliance with the sound attenuation Rules 18.9.5 shall be achieved in the absence of any absorptive surface finishes such as carpeting or furnishings. This performance standard shall be required for each room within the residential building that is typically occupied, such as bedrooms, living rooms, dining rooms and dens. All building systems should be off during the testing to minimize background noise, including appliances and forced-air ventilation systems.
- (ii) The post-construction performance test shall be conducted in accordance with ASTM E966–04 “Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements” in order to obtain proportionate bandwidth spectra (e.g., octave band) for the exterior and interior locations based on actual aircraft events with appropriate corrections for background noise. The term outdoor-indoor level reduction (OILR) is equivalent to the term noise reduction in these rules. The exterior microphone shall be situated at least 2 meters from reflective exterior surfaces and shall be situated as far as possible from such surfaces in order to obtain a representative outdoor noise level for the residence under test.
- (iii) The noise reduction that is obtained via the application of this test standard and approaches described above shall be “normalized” with regard to a representative spectrum for aircraft operations from Ardmore Aerodrome and not restricted to the results that are obtained for a limited number of aircraft events.

18.9.5.9 ASAN in the ICB and OCB that do not comply with Rules 18.9.5 shall be non complying.

Note: Consultation should be carried out with the Airport Authority for Ardmore Aerodrome before seeking resource consent for an ASAN in the ICB and OCB that does not comply with Rules 18.9.5, as the Airport Authority may be considered to be an affected person in relation to any such proposal

18.9.5.10 Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping or convalescing or learning in the ICB and OCB that do not comply with Rules 18.9.5 shall be a Discretionary Activity. (Decision A16.1.10)

Note: Consultation should be carried out with the Airport Authority for Ardmore Aerodrome before seeking resource consent for additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB, ICB and OCB that do not comply with Rules 18.9.5, as the Airport Authority may be considered to be an affected person in relation to any such proposal.

- 18.9.5.10 Additions and alterations to an existing ASAN of habitable rooms and rooms for sleeping, convalescing and learning in the ANB and A single household unit on a site where the Certificate of Title for the site was issued prior to 17 October 2007 in the ANB that do not comply with Rules 18.9.5 shall be prohibited.
- 18.9.5.11 The cost and responsibility for any works required to achieve compliance with the standards and terms listed in Rule 18.9.5 shall be borne by the consent holder and do **not** alter the Airport Authority's responsibilities under Rule 6.14.9.9 of Part 6, Section 3 – Urban Papakura.
- 18.9.5.12 Explanation of Rule

The operational noise emitted by aircraft using the Ardmore Aerodrome has the potential to cause adverse effects on people, including annoyance, communication disruption and sleep disturbance. These potential adverse effects are avoided by the prohibition on new ASAN within the Air Noise Boundary area, and are mitigated by the rules requiring new ASAN in the Inner Control Boundary and Outer Control Boundary areas and additions or alteration to an existing ASAN located within the defined ANB, ICB and OCB to provide an appropriate level of noise attenuation.

L_{dn} accounts for the loudness of aircraft events, duration of the events, total number of the events and diurnal variation of the events correlates well with the cumulative effects of aircraft noise on humans. Single event noise also has the potential to disrupt human activities, including adverse effects on communication and sleep. Short term annoyance and cumulative effects are related in that it is the repeated exposure to short term annoyance that determines cumulative effects. Single event noise from aircraft using Ardmore Aerodrome is mitigated by rules requiring a 30dBA noise reduction for ASAN in the ICB and a 25dBA noise reduction for ASAN in the OCB, in addition to achieving the L_{dn} 40dBA performance standard.

International research has indicated that increasing levels of aircraft noise exposure may be significantly related to poorer reading comprehension in schools. World Health Organisation guidance is that the interior noise levels for schools should not exceed 35 L_{eq} dBA and based upon these guidelines, acceptable classroom environments can be maintained within a range of exterior noise environments provided the interior noise environment can be maintained at 35 dBA L_{eq} averaged over the class session. Higher noise levels may periodically occur. Classrooms and other interior places where learning takes place (such as libraries and auditoriums) in educational facilities, schools, and other educational facilities and additions of classrooms or other interior places where learning takes place to existing educational facilities, schools, and other educational facilities in the OCB and ICB are required to achieve an interior noise level not exceeding 35 L_{eq} dBA in classrooms and other places where learning takes place, in order to ensure that disruption to learning inside any school located within the noise contours for the Aerodrome does not occur.

It should be noted that in order to ensure that responsibility for mitigation of this aircraft operational noise does not rest solely with property owners within the ANB, ICB and OCB, specific noise mitigation requirements have also been imposed on operational activities within the Ardmore Aerodrome (refer Part 6 Of Section 3 – Urban Papakura).

Certification that construction will achieve the required noise reduction, being 25dBA within the OCB, and 30dBA within the ICB and ANB, is required so that Council can be satisfied that compliance has been achieved, and potential adverse noise effects on occupants and the potential reverse sensitivity effects on Ardmore Aerodrome are avoided, remedied or mitigated. Council will produce a guideline for construction, which will be available to owners and builders to provide guidance as to the materials and methods of construction that will achieve compliance with the noise reduction rules.

A noise reduction of 20 dBA or greater cannot be achieved for residential construction that meets typical egress requirements for occupants when windows are open. As such, it is essential that a forced-air ventilation system be incorporated into the design of new buildings to allow for sufficient fresh air while allowing for windows to be closed at the discretion of the occupants. The design of the forced-air ventilation system itself should not compromise the noise reduction by allowing excessive exterior noise into the structure.

If non-opening windows are used in any space then an early warning smoke detection system will provide early warning and time for occupants to action a plan of escape by using alternative means.

Owners are reminded that all building work must comply with the Building Act 2004 and the associated New Zealand Building Code, of which parts G4 and G5 are particularly relevant and that nothing in these rules is to be taken as limiting any obligations under that Act. It is noted that the Building Industry Authority of New Zealand has published, and updates from time to time, “Acceptable Solutions to the New Zealand Building Code” which outlines acceptable methods of complying with the New Zealand Building Code.

These rules are designed to ensure acoustical mitigation and minimum ventilation needs are met simultaneously. The New Zealand Building Code requires mechanical or natural ventilation that will be sufficient to ensure minimum indoor air quality, which will necessitate additional measures such as silencers in order to ensure compliance with the $L_{dn}40$ dBA internal noise environment and the 30 dBA or 25dBA noise reduction requirements of Rule 18.9.5. However, some building owners and users may desire higher levels of summertime cooling with all doors and windows closed and may therefore desire higher ventilation rates or an air conditioning system. In addition, where buildings are non standard buildings, such as dwellings with large glazed areas, or in the case of buildings used for community purposes, owners and users may also desire higher ventilation rates or air conditioning.

The specified noise levels (L_{eq}) from the mechanical system(s) shall be measured at least 1 metre away from any diffuser.

18.9.6 Rule – Matters for Discretion – Restricted Discretionary Activities.

- 18.9.6.1. When considering an application for resource consent for a restricted discretionary activity under Rules 18.9.1 to 18.9.3 the Council reserves discretion over the following matters and may impose conditions in respect of each of those matters:

- i) Any matters for discretion applicable to the activity under any other part of the district plan.
- ii) The internal noise environment of the proposed and any existing structure.
- iii) The internal air quality of the proposed or any existing structure.
- iv) Measures for or relating to the attenuation of aircraft noise arising in connection with Ardmore Aerodrome.
- v) The imposition of an obligation not to remove any required acoustic treatment measures without the Council's consent.
- vi) The registration of a covenant on the title pursuant to section 108(2)(d) of the Act to secure any conditions of consent imposing an obligation of the kind described in (v) above.
- vii) The nature, size and scale of the proposed development.

18.9.6.2. When assessing the application, the Council will have regard to the assessment criteria applicable to the activity under any other part of the district plan and the assessment criteria referred to in 18.9.7.

18.9.6.3. Except as provided for by Section 95A(2) and (4), 95B(3) and 95C(4) of the Act applications for Restricted Discretionary Activity under Rule 18.9.1 to 18.9.3 shall be considered without notification or the need to obtain approval from affected persons and notice of such applications does not need to be served.

18.9.6.4 Explanation of Rule

The matters for discretion, together with the relevant assessment criteria in 18.9.7, are intended to ensure that resource consent applications for new ASAN or additions and alterations to existing ASAN are assessed in terms of the degree to which the effects of aircraft noise can be attenuated. The matters for discretion for restricted discretionary activities are intended to also ensure that an assessment is carried out as to whether the nature, size and scale of the proposed development is such that it might lead to conflict with and adverse effects upon Ardmore Aerodrome.

18.9.7 Assessment Criteria – Restricted Discretionary Activities

When assessing applications for restricted discretionary activity resource consent under Rules 18.9.1 to 18.9.3 Council will consider the following assessment criteria:

- i) Any assessment criteria applicable to the activity under any other part of the district plan.
- ii) Whether the internal noise environment of the proposed and any existing structure will provide satisfactory levels of health, safety and amenity values to occupants.

- iii) Whether the internal air quality of the proposed or any existing structure will provide satisfactory health, safety and amenity values to occupants.
- iv) Whether the proposed measures for attenuation of aircraft noise arising in connection with Ardmore Aerodrome will satisfactorily avoid remedy or mitigate those effects.
- v) Whether mechanisms are proposed which will place an obligation on owners to ensure that required acoustic treatment measures are not removed without the Council's prior consent
- vi) Whether the registration of a covenant on the title pursuant to section 108(2)(d) of the Act to secure any conditions of consent imposing an obligation of the kind described in (v) above are proposed.
- vii) Whether, having regard to all the circumstances (including location in relation to the Aerodrome, likely exposure of the site to aircraft noise, noise attenuation and ventilation measures proposed, and the number of people to be accommodated), the nature, size and scale of the proposed activity is likely to lead to potential conflict with and adverse effects upon the operation of the Aerodrome.
- viii) Any other relevant matter set out in section 104 of the Resource Management Act 1991.

18.9.8 Assessment Criteria – Discretionary Activities

Internal Noise Environment

- i. The need to achieve an acceptable internal noise environment for habitable rooms and rooms for sleeping, convalescing and learning, whether the proposal provides for the relevant noise reduction in Rule 18.9.5; and whether the nature or degree of any failure to meet the acoustic standard in Rule 18.9.5 is insignificant.
- ii. Without limiting the generality of 18.9.8(i), whether or not the design, construction and materials of any structure to be used would achieve an acceptable internal noise environment for habitable rooms and rooms for sleeping, convalescing and learning with all external doors and windows of the building(s) closed.
- iii. Whether or not other measures are proposed to achieve an acceptable internal noise environment for all such rooms.

Internal Air Quality

- iv. Whether adequate ventilation as part of any acoustic treatment measures is to be provided.

Acoustic Treatment Measures in Additions and Alterations

- v. The reasonableness of requiring acoustic treatment measures (including measures for internal air quality purposes) in existing rooms, or whether such measures should be limited to the addition.
- vi. Whether any circumstances exist that would make compliance with the noise reduction standards in Rule 18.9.5 impracticable. The assessment of the practicality of compliance with the noise reduction standards will take into account whether it is practicable for the noise reduction standards of Rule 18.9.5 to be achieved in the addition or alteration, regardless of whether the remainder of the existing ASAN has achieved this noise reduction standard.
- vii. Whether the ASAN being added to or altered was constructed or consented to prior to the introduction of the land use compatibility planning provisions of the Plan in October 2007 and the requirement for complying with Rule 18.9.5 for the addition or alteration only will not achieve any appreciable noise reduction for the ASAN and /or the habitable room or room for sleeping, convalescing or learning, due to the existing absence of noise reduction measures either throughout the ASAN or the rooms that are to be altered or added to.
- viii. Whether the level of noise reduction by the proposed activity can be less than the level required by Rule 18.9.5 without compromising the overall health and amenity of the occupants within the room(s).
- ix. Whether the level of noise reduction by the proposed activity can be less than the level required by Rule 18.9.5 without creating or having the potential to create reverse sensitivity effects on Ardmore Aerodrome.

Removal of Acoustic Treatment Measures

- x. The desirability of ensuring required acoustic treatment measures are not removed without consent.

Nature, Size and Scale of Development

- xi. Whether having regard to all the circumstances, including location in relation to Ardmore Aerodrome and the ANB, ICB and OCB, likely exposure of the site to aircraft noise, noise attenuation and ventilation measures proposed, and the number of people to be accommodated, the nature, size and scale of the development is likely to lead to potential conflict with and adverse effects upon Ardmore Aerodrome activities.
- xii. Any other relevant matter set out in s.104 of the Resource Management Act 1991.

18.9.9 Rule - Subdivision Within the ANB, ICB and OCB Areas

- 1. Notwithstanding any rules to the contrary elsewhere in the District Plan subdivision within the ANB, ICB and OCB areas, other than boundary adjustments that do not create any additional lots, shall be subject to the following Rules:
 - 1. Subdivision within the ANB shall be a discretionary activity and:

- (i) applications for subdivision within the ANB shall provide a description of the nature, scale and intensity of the proposed use of the site(s) to be created; plans identifying the location of activities; and an assessment of the potential effects of the proposed use(s) of the site(s) on the operations of Ardmore Aerodrome, and the identification of legal mechanisms on any land title(s) to permanently avoid the establishment of any additional ASAN; and
 - (ii) where any application for subdivision fails to identify legal mechanisms for any title(s) that shall permanently avoid the establishment of ASAN, it shall require non-complying consent and be assessed as a non-complying activity.
 - 2. Subdivision within the ICB and OCB area shall require a restricted discretionary resource consent and applications for subdivision consent shall provide a description of the nature, scale and intensity of the proposed use of the site(s) to be created; plans identifying the location of any proposed ASAN; and an assessment of the potential effects of the proposed use(s) of the site(s) on the operations of Ardmore Aerodrome.
2. Matters for Discretion – Subdivision within the ICB and OCB
- 1. When considering an application for resource consent for a restricted discretionary activity under Rules in Part 18.9.9 the Council reserves discretion over the following matters and may impose conditions in respect of each of those matters:
 - i) Any matters for discretion applicable to the activity under any other part of the district plan.
 - ii) Measures for or relating to the attenuation of aircraft noise arising in connection with Ardmore Aerodrome.
 - iii) The imposition of an obligation not to remove any required acoustic treatment measures without the Council's consent.
 - iv) The registration of a covenant on the title pursuant to section 108(2)(d) of the Act to secure any conditions of consent imposing an obligation of the kind described in (iii) above.
 - v) The nature, scale and intensity of the proposed development.
 - vi) The location of proposed activities, including ASAN.
 - vii) Potential effects on Ardmore Aerodrome.
 - 2. When assessing the application, the Council will have regard to the assessment criteria applicable to the activity under any other part of the district plan and the assessment criteria referred to in 18.9.10.
 - 3. Except as provided for by Section 95A(2) and (4), 95B(3) and 95C(4) of the Act applications for Restricted Discretionary Activity under Rule 18.9.9 shall be considered without notification or the need to obtain approval from affected persons and notice of such applications does not need to be served.

18.9.9.4 Explanation of Rule

Subdivision within the ANB and ICB areas has the potential to increase the number of people adversely affected by aircraft noise, and the management of this effect is necessary to ensure the protection of Ardmore Aerodrome from calls for curtailment of activities.

18.9.10 Assessment Criteria

1. When assessing applications for restricted discretionary activity resource consent under Rules in Part 18.9.9 Council shall consider the following assessment criteria:
 - i) Any assessment criteria applicable to the activity under any other part of the district plan.
 - ii) Whether mechanisms are proposed which will place an obligation on owners to ensure that required acoustic treatment measures are not removed without the Council's prior consent.
 - iii) Whether the registration of a covenant on the title pursuant to section 108(2)(d) of the Act to secure any conditions of consent imposing an obligation of the kind described in (ii) above are proposed.
 - iv) Whether, having regard to all the circumstances (including location in relation to the Aerodrome, likely exposure of the site to aircraft noise, likely exposure of the proposed location of buildings to aircraft noise, noise attenuation and ventilation measures proposed, and the number of people to be accommodated), the nature, size and scale of the proposed activity is likely to lead to potential conflict with and adverse effects upon the operation of the Aerodrome.
 - v) Any other relevant matter set out in section 104 of the Resource Management Act 1991.
2. When assessing applications for discretionary activity resource consent under Rule 18.9.9 Council will consider the following assessment criteria in addition to any relevant matters under the Act:
 - i) Any assessment criteria applicable to the activity under any other part of the district plan.
 - ii) Whether mechanisms are proposed which will place an obligation on owners to ensure that required acoustic treatment measures are not removed without the Council's prior consent.
 - iii) Whether the registration of a covenant on the title pursuant to section 108(2)(d) of the Act to secure any conditions of consent imposing an obligation of the kind described in (ii) above are proposed.
 - iv) Whether, having regard to all the circumstances (including location in relation to the Aerodrome, likely exposure of the site to aircraft noise, likely exposure of the proposed location of buildings to aircraft noise, noise attenuation and ventilation measures proposed, and the number of people

to be accommodated), the nature, size and scale of the proposed activity is likely to lead to potential conflict with and adverse effects upon the operation of the Aerodrome.

- v) Any other relevant matter set out in section 104 of the Resource Management Act 1991.

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