(iv) Activities that create habitat for birds (including waterbodies, swales or retention basins for the management of storm water)

Explanation

REPAs are provided at the end of each runway strip. The REPAs comprise fan shaped areas commencing at the ends of the runway strips as shown on Map 13.2.

Statistically there is greater chance of aircraft related accidents in the REPAs. The consequences of an aircraft accident involve potential effects of low probability, with a high potential impact. Activities which result in a substantial number of people on land within the REPAs, therefore have the potential to exacerbate loss of life in the event of an aircraft accident. This risk is managed by a rule controlling the use of land and buildings for the assembly of a substantial number of people.

In terms of risk to safe flight operations the above rule also restricts activities that create habitat for birds. By attracting birds, those activities increase the risk of bird strike accidents, particularly in take-off/landing operations. While other activities may attract birds, without necessarily creating habitat for birds, a balance has to be struck between the reasonable use of land within the REPAs and the degree of risk associated with potentially compatible activities. Other cause of potential interference with aeronautical navigation (including tall trees, hazardous substances and substances that interfere with the light and visibility, light and glare, and radio and electrical interference) are controlled elsewhere in this plan and/or in regional planning instruments.

13.4.5 RULES: PROHIBITED ACTIVITIES

R13.4.5.1 Airnoise Contour

New accommodation motels, dwellings and residential centres are Prohibited Activities in the Airnoise

Contour identified on Map 10.6.6.1.

These activities are expressly prohibited and no resource consent shall be granted.

Explanation

The above mentioned activities have been identified as being highly sensitive to the effects of excessive noise exposure associated with aircraft operations.

The impact of aircraft noise has been assessed by New Zealand Standard 6805:1992 – Airport Noise Management and Land Use Planning, which recommends as one of the criteria for land use planning within any defined airnoise contour that noise sensitive activities, such as dwellings and motels, be prohibited. The purpose of this rule is to give effect to this recommended standard.

13.4.6 RULES: SOUND EMISSIONS IN THE AIRPORT ZONE

R13.4.6.1 Airnoise Contour

(i) The Palmerston North Airport Company shall ensure that noise emissions from aircraft operations shall not exceed 65LDN at the airnoise boundary as shown on Map 10.6.6.1 when measured and assessed using the methods described in NZS6805:1992 Airport Noise Management and Land Use Planning.

The following is an exception to the rule:

(a) The operation of unscheduled flights required to meet the needs of a national or civil defence emergency declared under the Civil Defence Act 1983.

(b) Closure of major airports due to weather and the use of Palmerston North Airport by diverted aircraft.

(c) The use of Palmerston North Airport by diverted aircraft due to operational emergencies at other airports.

Refer to Section 4 – 'Definitions' for a definition of aircraft operations.

Explanation

Council considers that it is important to ensure that the effects associated with aircraft operational noise are managed, as far as practicable, at the source of these emissions. This rule places a requirement on aircraft operations associated with the Palmerston North Airport to comply with the limit specified at the airnoise boundary. In addition to this requirement, mitigation measures relating to aircraft operational noise are also contained in the Residential, Rural, Industrial, and Recreation Sections of this Plan.

(ii) Sound emissions from sources other than aircraft operations and aircraft engine testing shall not exceed the following limits when measured at or within the boundary of any land used for residential purposes in a rural or residentially zoned area, other than within the Airnoise Contour boundary:

7:00 am to 10:00 pm 55 dBA L_{10}

10:00 pm to 7:00 am 45 dBA L_{10} and 75 dBA L_{max}

Explanation

Given the level of activity within the Airport Zone associated, for example, with the servicing of aircraft, there is significant potential for adverse noise effects to be created. The above rule is based on the guidelines contained in New Zealand Standard 6802:1991 - Assessment of Environmental Noise, and has been included here to protect those residential properties located in close proximity to the airport from noise which is generated by other activities aside from aircraft operations.

(iii) Movements of military jet training aircraft shall be limited to the hours of 8:00 am to 9:00 pm (New Zealand Standard Time) or 10:00 pm (New Zealand Daylight Time), whichever is later.

Explanation

This rule has been included in the District Plan with the co-operation of the New Zealand Defence Force. The rule complements other methods to mitigate the adverse effects of noise from jet training aircraft, which may use the Airport. Those other measures include operational controls by the Royal New Zealand Air Force over their own activities in the form of standing orders to pilots, and arrangements with the Airport Company for use of the Airport.

(iv) Engine Testing

(a) All aircraft engine testing within the Airport Zone shall comply with the following:

1) Daytime:

(i) Between the hours of 7.00am and 10.00pm, noise emissions from aircraft engine testing shall not exceed 55dBA Leq 15 hours, provided, however, that noise emissions from essential unscheduled engine testing of jet aircraft shall not be included in the calculation of Leq 15 hours.

(ii) If there is an adequate and available noise mitigation facility testing shall take place within that facility.

2) Night-time:

(i) Between the hours of 10.00pm and 7.00am the following day, the total noise exposure from all aircraft engine testing shall not exceed the following limits:

(ii)

Table (a)

	Total Leq 1 hour	**L max**
1. All nights (except on three nights within any three successive calendar months)	55 dBA	70 dBA

2. On each of the three nights within any three successive calendar months that the above exception applies	60 dBA	70 dBA

(iii) The total duration of aircraft engine testing taking place between the hours of 10.00pm and 7.00am in any one night shall not exceed one hour.

(iv) The total exposure of aircraft engine testing taking place between the hours of 10.00pm and 7.00am, in any one night, shall not exceed the Total Leq 1 hour limits specified in the table above.

(v) All night-time aircraft engine testing shall take place within a certified noise mitigation facility. A certified noise mitigation facility shall be one that is designed, located, constructed, operated and maintained so as to meet the limits in the table in (a) above, and is certified as such in respect of each type of aircraft engine proposed to be tested. All certification shall be undertaken by an acoustical consultant (see definition section) who shall provide a certification report to the Palmerston North City Council prior to the construction of the noise mitigation facility, which shall state that the proposed facility will provide for engines to be tested in compliance with limits in the table in (a) above. Within three months of the commencement of testing of any type of aircraft engine and every two years thereafter a compliance report prepared by an acoustical consultant shall be provided to the Palmerston North City Council that demonstrates compliance with the noise limits in the table in (a) above. After the first three month period, if and so long as a compliance report is not in force for the facility for any engine type, the facility shall not be certified in respect of that engine type for the purposes of this rule.

(Note not forming part of this rule: the duty to adopt the best practicable option to control noise under section 16 of the Resource Management Act 1991 will apply).

(vi) All engine tests at 60% power setting or more shall be notified to Palmerston North Airport Limited within twenty-four hours of the event, who shall keep a register of such events.

(vii) Notwithstanding the above conditions for the night-time testing of aircraft engines–

(a) The total noise exposure from all essential unscheduled engine testing occurring between the hours of 10:00pm and 7:00am (refer to definitions) need not comply with the limits and requirements in (i) to (v) above, but shall not exceed the following limits:

Table (b)

	Total Leq 1 hour	**Lmax**
1. All nights (except on one night in any successive period of three calendar months)	65 dBA	80 dBA
2. On the night that the above exception applies.	70 dBA	80 dBA

(b) The total duration of essential unscheduled testing taking place between the hours of 10.00pm and 7.00am in any one night shall not exceed one hour.

(c) The total exposure of essential unscheduled engine testing taking place between the hours of 10.00pm and 7.00am, in any one night, shall not exceed the Total Leq 1 hour limits specified in Table (b) above.

(d) Essential unscheduled engine testing at 40% or more power setting not undertaken within a certified noise mitigation facility, and not complying with the limits and requirements in (i) to (v) above, shall take place on no more than five nights (10pm to 7am the following day) in any successive period of three calendar months.

(e) All essential unscheduled engine testing at 40% or more power level shall be notified to Palmerston North Airport Limited and to the Palmerston North City Council prior to the testing taking place. The notification shall include the fault to be rectified, likely time duration and power level of the engine test and likely location or choice of location of the test.

(f) If there is an adequate and available noise mitigation facility that can accommodate the aircraft engine testing being undertaken, the testing shall take place within that facility.

(g) Where there is no adequate or available noise mitigation facility and the essential unscheduled engine testing exceeds 40% power level, such testing shall not occur within 400 metres of any part of a residential zone outside the Airnoise Contour and any rural zoned dwelling existing at 31 March 1998 outside the Airnoise Contour.

(viii) Notwithstanding clauses (a)(2)(ii) and (a)(2)(vi)(b) of R13.4.6.1(iv) Engine Testing, the total duration of all aircraft engine testing taking place between the hours of 10:00pm and 7:00am in any one night shall not exceed one hour.

(b) Engine testing noise shall be measured and assessed at or within the boundary of any site zoned residential, or at or within the notional boundary of any rural dwelling existing at 31 March 1998, other than within the Airnoise Contour boundary. Noise levels shall be measured in accordance with NZS6801:1991 Measurement of Sound. Notional boundary defined as "A line 20 metres from the facade of any rural dwelling or the legal boundary where this is closer to the dwelling".

(c) If engine testing noise emissions occurring between the hours of 10.00pm and 7.00am the following day comply with the noise limits set out in R13.4.6.1(ii) then no limits on frequency or duration of testing apply.

Explanation

This rule recognises that there is an operational necessity for testing aircraft engines as a core function of the Airport, while limiting the potential for adverse effects on the amenity of surrounding residences, particularly at night. The rule sets a number of conditions for aircraft engine testing to occur, recognising the special attributes and characteristics of noise emissions from this source.

(v) Noise Insulation

Any habitable room used by a noise sensitive activity and any office activity in a building within the Airport Environs Precinct shall be protected from noise arising from outside the building by ensuring the external sound insulation level achieves the following minimum performance

Palmerston North City Council District Plan standard:

$D_nT_{,w} + C_{tr} > 35$ dB

Compliance with this performance standard shall be achieved by ensuring habitable rooms are designed and constructed in a manner that accords with an acoustic design certificate signed by a suitably qualified acoustic engineer stating the design as proposed will achieve compliance with the above performance standard.

(vi) Ventilation

Where bedrooms and sleeping areas with openable windows are proposed, a positive supplementary source of fresh air ducted from outside is required at the time of fit-out. For the purposes of this requirement, a bedroom is any room intended to be used for sleeping. The supplementary source of air is to achieve a minimum of 7.5 litres per second per person.

Office activities shall be provided with mechanical ventilation to comply with the Building Code (G4) at the same time as achieving the required external sound insulation level.

Explanation

Acoustic insulation is required for noise sensitive activities in buildings within the Airport Environs Precinct to mitigate the potential adverse effects on such uses and to avoid potential for constraint that such uses can place on airport operations. The ventilation requirement for bedrooms is to ensure noise attenuation is not compromised if compliance with the requirements of the Building Code (G4) for natural ventilation is achieved by installing openable windows. The required airflow level is based on the minimum standard for habitable spaces set out in NZS 4303: 1990.

(vii) Residential Interfaces

Where the Airport Zone and the Residential Zone and Rural Zone interface the following noise rules apply in the Airport Zone:

Daytime (7:00am to 7:00pm)	55dBA $L_{Aeq(15min)}$
Evening (7:00pm to 10:00pm)	50dB $L_{Aeq(15min)}$
Night-time (10:00pm to 7:00am)	45dB $L_{Aeq(15min)}$
Night-time Lmax	75dBA $L_{max.}$

Explanation

The Airport Zone is intended to accommodate noisy activities and this can result in tensions forming at interfaces with residential and rural activities. Residents living close to the airport should not realistically expect a high level of aural amenity with respect to nearby activities. The noise rules for activities in the Airport Zone that interface with residential activities are in place to ensure that noise does not become unreasonable or excessive.

R13.4.6.2 Airport Noise Management Plan

(i) The Palmerston North Airport Company (or equivalent controlling body) shall prepare a Noise Management Plan ("the NMP") relating to the operation of Palmerston North Airport in consultation with the Palmerston North City Council and Manawatu District Council.

(ii) The NMP shall include the following:

(a) The mechanisms for giving effect to R13.4.6.1.

(b) Procedures for the establishment and maintenance of a monitoring programme to demonstrate compliance with R13.4.6.1(i). The monitoring programme shall be carried out by a suitably qualified and experienced person and all measurements shall be in accordance with NZS 6805:1992 Airport Noise Management and Land Use Planning.

(c) Procedures for reporting the results of monitoring to the respective Councils.

(d) Procedures for carrying out such mitigation measures as are necessary to ensure compliance if monitoring indicates that the noise controls are being exceeded.

(e) Identification and establishment of procedures and systems to:

(i) Facilitate communication between the residents around the Palmerston North Airport, airport users, Palmerston North Airport Company, and Palmerston North City Council.

(ii) Identify key people for communications purposes and methods of contact.

(iii) Provide a dispute management system to receive, record, deal with and monitor complaints.

(iii) The NMP must be submitted for approval by the Palmerston North City Council within 12 months of the date on which this provision becomes operative. All aspects of the NMP require approval by the Council, which shall not be unreasonably withheld. Nothing in this rule or any other rule shall detract from Sections 16 or 17 of the Resource Management Act 1991 (and subsequent amendments) or the Council's powers to seek any enforcement order pursuant to the Act, including an order requiring the imposition of a curfew, or single event noise controls.

(iv) The NMP shall be reviewed by the Palmerston North City Council and Palmerston North Airport Limited, with input from the community and Manawatu District Council at three yearly intervals.

(v) Palmerston North Airport Limited (or equivalent controlling body) shall comply with the NMP and shall, as necessary, require compliance with the NMP by any persons using the Airport.

13.4.7 RULES: AIRPORT PROTECTION SURFACES

R13.4.7.1 Airport Protection Surface

(i) No structure, building, tree or other object (excluding aircraft navigation aids and beacons) shall impinge within the take-off climb surfaces or the approach surfaces for the main sealed runway (known as 07/25), transitional side surfaces or the horizontal and conical surfaces above the airport (refer to Figure 13.1).

(ii) For the purposes of interpreting (i) above, the following specifications apply:

(a) Runway Strip

The runway strip contains the main sealed runway and future extensions for a total length of 2500 metres. The runway strip is 300 metres wide, which is symmetrically disposed about the centre line of the main runway. The eastern end extends 7 metres beyond the end of the main runway. The western end extends 300 metres beyond the future extension of the main runway.

(b) Take-off Climb and Approach Surfaces for Main Runway

Take-off climb and approach surfaces extend from each end of the main runway. Each take off climb and approach surface is symmetrically disposed about the extended centre line of the main runway and extends for a horizontal distance of 12.5 kilometres (or for a slightly shorter distance where the Tararua Ranges rise higher than 30 metres below the approach surface near its south-eastern extremity, south of the Manawatu River).

The datum elevations for the origins of the take-off climb and approach surfaces at the west end of the runway is 36.9 metres above mean sea level (AMSL), and at the east end