
2016 Manawatu Airspace Review

Final airspace changes

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Introduction

This review has comprised of all the airspace detailed on the C2 visual navigation chart covering the area south of Taihape, westwards to Waverly, eastwards to Dannevirke and as far south as Paraparaumu.

Initial notification of the commencement of the review was made on 28 May 2015 and users were invited to make submissions on desired airspace changes by 7 August 2015.

The Manawatu airspace review has been aligned with Airways' implementation of new performance based navigation (PBN) procedures at Palmerston North, Ohakea and Whanganui aerodromes planned for November 2016.

A summary of the submissions received, and a copy of those submissions, was published on 12 November 2015. At this time, Airways was still designing the PBN procedures for the Manawatu region and reviewing controlled airspace requirements and final designs were yet to be confirmed.

The proposed changes to controlled airspace were provided to CAA in early January 2016, and these were published as part of the consultation process on 19 January 2016.

It was originally intended to hold airspace user meetings in early February, but due to many factors, CAA was finally able to host meetings at Fielding and Whanganui on 13 and 14 March respectively. Because of this delay, the cut-off date for submissions was extended from 25 February 2016 until 18 March 2016.

Further details of the proposed airspace changes are available in the following documents on the CAA Airspace Review website (http://www.caa.govt.nz/airspace/airspace_review.htm):

- Manawatu Airspace Review – Submissions
- Manawatu Airspace Review – Summary of Submissions
- Airways New Zealand submission to the Civil Aviation Authority's 2016 Manawatu Airspace Review

Overview of submissions

Submissions were received from four operators/users/organisations by 18 March 2016.

The proposed changes have been analysed by CAA technical specialists.

At the user consultation meetings, the proposed airspace changes were discussed in detail.

Controlled airspace changes

Controlled airspace is designated in portions of airspace where the Director has determined that an air traffic control service is required to be provided in accordance with the airspace classification – Classes A, B, C, D and E1¹.

- A control zone (CTR) is controlled airspace extending upwards from the surface to a specified upper limit.
- A control area (CTA) is controlled airspace extending upwards from a specified lower limit above the earth.

The boundaries of controlled airspace are designed solely to protect IFR routes and procedures.

Rule 71.55 allows the Director to designate a CTR around an aerodrome if an aerodrome control service or an aerodrome and approach control service is required if the traffic density and pattern requires the controlled airspace. Primarily this is done where the number of regular passenger transport operations takes place over service level thresholds.

The Director has determined that approach control services are required for IFR aircraft arriving at and departing from Palmerston North and Ohakea aerodromes. Approach control service – both surveillance and procedural (outside surveillance cover) – is provided by Ohakea Sector of Christchurch ATS Centre, based in Christchurch.

71.55(b) requires the CTR to be as small as practicable to protect the flight paths of IFR flights arriving at and departing from the aerodrome.

Additionally, the lateral limits of a CTR must –

- Encompass the paths of IFR aircraft arriving and departing under IMC
- Extend at least 5 NM from the centre of the aerodrome, in the direction from which instrument approaches may be made
- Take into account the category of IFR aircraft using the aerodrome.

CTRs are not designed to protect VFR flight paths and procedures. IFR aircraft conducting a visual approach are not flying an instrument procedure and pilots are responsible for their own containment within controlled airspace.

71.53(c) requires that the lower limit of a CTA must –

- be at least 500 feet below the flight paths of IFR flights that the Director determines to require an air traffic control service; and
- be established at—
 - the highest practical altitude; and

¹ CAR 71.51(a), ICAO Annex 11, Doc 4444

- not less than 700 feet above the surface of the earth

This allows VFR flights that may wish to avoid operating in CTA to fly below it.

The Palmerston North and Ohakea CTRs are Class D, while all of the CTA in the Ohakea TMA is Class C.

1. Palmerston North CTR

The Palmerston North CTR is already as small as practicable so there are no changes to be made to release controlled airspace.

There were several requests to amend the north-eastern boundary to place Ashhurst either entirely within or without the CTR.

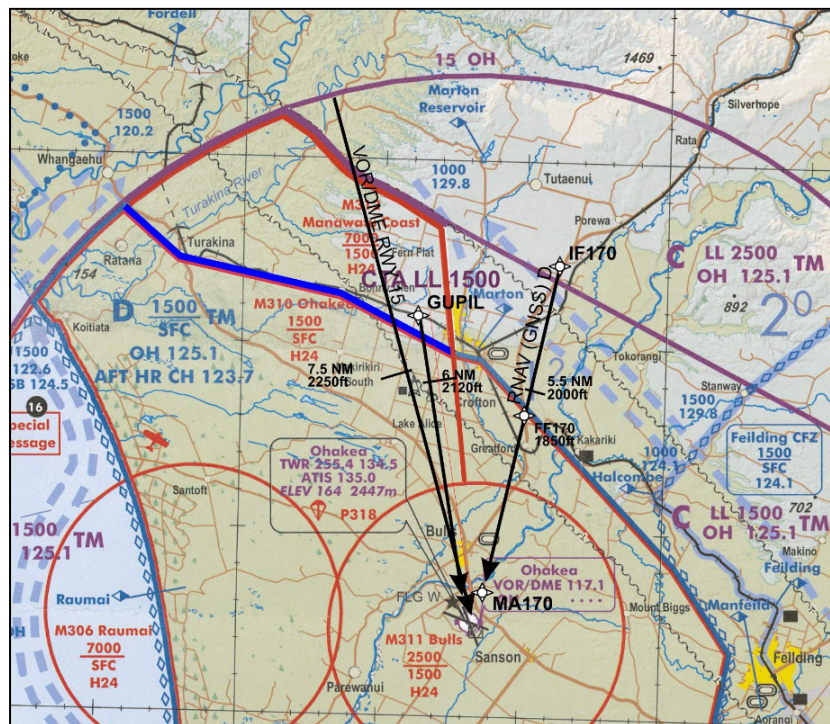
To ensure that IFR paths and procedures are contained, it would be necessary to extend the CTR to encompass Ashhurst.

2. Ohakea CTR

The Ohakea CTR northern boundary will be amended and reduced to align with Marton-Bonny Glen-Turakina towards Whangaehu, generally following the railway line to Turakina.

The new boundary is depicted by the blue line in Figure 1.

Figure 1 – proposed amended OH CTR northern boundary



3. Control areas

1. Raise lower limit of NZA339 over wind farm

It was requested that the lower limit is raised to provide more clearance for VFR aircraft transiting underneath from the Tararua wind farm turbines.

Airways advised that this airspace is required for containment of IFR procedures so it is not possible to raise the lower limit. Refer to part 3 of this section below.

2. Raise the lower limit of NZA335 over Feilding aerodrome

It was requested that the lower limit of NZA335 be raised from 1500 ft to 1600 ft to allow for a 500 ft buffer between the standard overhead join and the circuit.

CAA comment: *The lower limit of 1500 ft is required to contain the Palmerston North RWY 07 departures.*

Options were explored to provide containment within a new lower limit of 1600 ft.

When designing controlled airspace boundaries, a vertical minimum of a 500 ft buffer at the inner boundary is required to protect the flight paths of IFR aircraft within controlled airspace. Also included is a 1 NM visual fix error buffer unless the boundary is a very prominent feature such as a road, railway line or shoreline.

Unfortunately, the lack of a prominent feature on the north-eastern boundary of the Palmerston North control zone did not allow for raising the lower limit without extending the northern boundary of the CTR to account for the 1 NM buffer.

It was decided that moving the CTR boundary would result in more restrictive airspace than leaving the lower limit of NZA335 at 1500 ft.

3. Addition of new CTA

There were two requests for new CTA to be established.

(i) East of Palmerston North

To fully contain Palmerston North RWY07 departures, two new control areas, lower limit 2100 ft, would need to be added to the northern and southern boundaries of NZA336 (lower limit 1800 ft) east of Palmerston North aerodrome.

To remain contained within the existing controlled airspace, a climb gradient greater than 6.5% would be required. This gradient would be difficult to achieve by turbo-prop aircraft and unattainable by most piston-engine aircraft.

Due to the surrounding terrain, it is not possible to simply extend the boundaries of NZA336 and comply with the minimum 700 ft AGL between lower level of controlled airspace and the surface that allows VFR flight underneath.

The proposed areas are shown in Figure 2 below.

Figure 2 – proposed new control areas east of Palmerston North



Airways identified the following issues with establishing the small areas of additional controlled airspace:

- Depiction on charts;
- Pilots being able to determine boundaries;
- VFR aircraft avoiding the CTA would need to be operate closer to terrain/obstacles (areas are over the Tararua windmill farm).

It was noted that:

- the nominal tracks of the proposed PBN departures are within controlled airspace; and
- the existing PM instrument procedures east of PM are also not fully contained by the existing airspace.

CAA comment: *CAA agrees that the issues arising from designating the airspace outweigh minor safety benefits gained from **fully** containing the procedures.*

Airways has advised that the an advisory note will be added to the departure chart advising pilots that the departure gradient shown on the procedure will enable the aircraft to be clear of terrain, but is not fully contained within controlled airspace. Additionally, a required climb gradient for airspace containment will be published.

(ii) Additional Ohakea CTA between Levin and Eketahuna

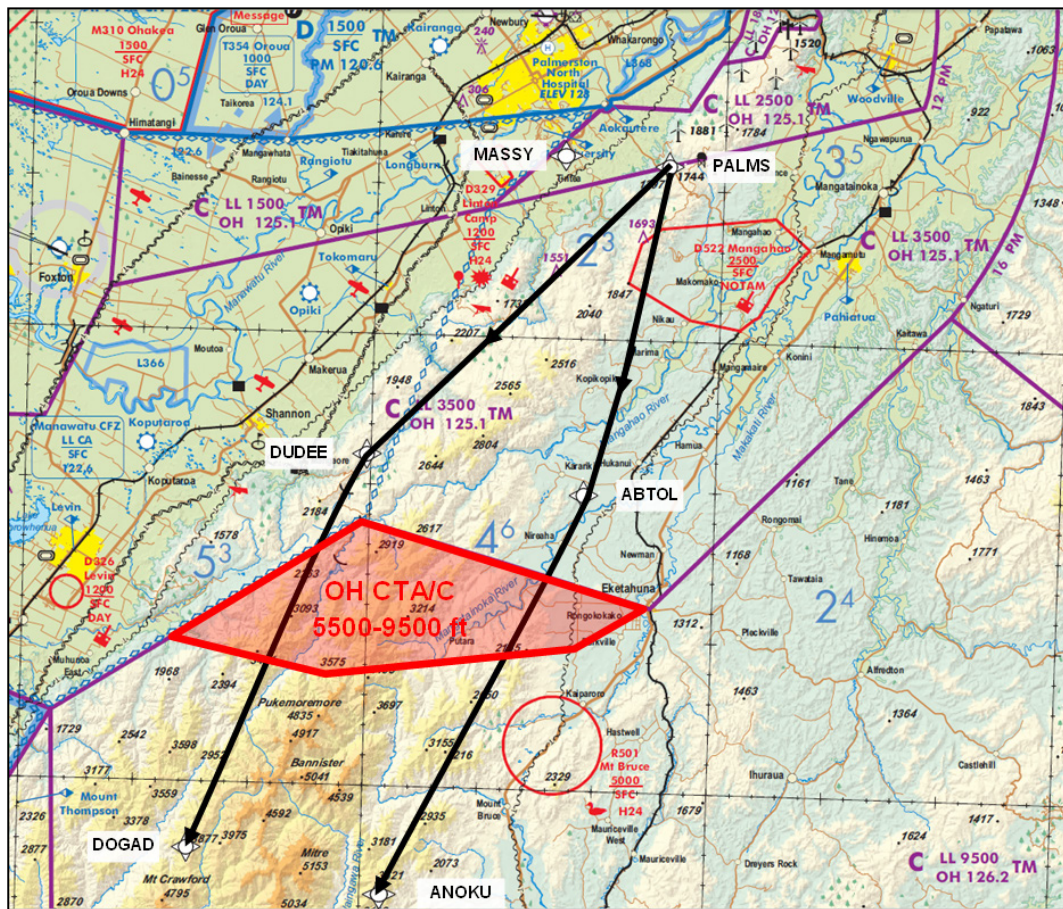
This controlled airspace is requested for the following reasons:

- airspace containment for proposed new PBN departures from Palmerston North tracking to the south.

- would also provide for correct containment of existing instrument flight paths and procedures climbing southbound from Palmerston North.
- containment of a proposed new holding pattern to the south east of Ohakea associated with an approach to Ohakea RWY 33.

New controlled airspace would be Class C, 5500-9500 ft, depicted as the red shaded area in Figure 3.

Figure 3 – proposed new Ohakea CTA/C



Other airspace changes

1. Mandatory broadcast zones (MBZ)

1. Transponder mandatory airspace to the surface

The request for transponder mandatory airspace to the surface in the Whanganui and Paraparaumu MBZs, as well as MBZs in other review areas where there is scheduled passenger transport services, was opposed by most general aviation organisations.

CAA comment: *In 2015 CAA considered a request from Air New Zealand for the designation of transponder mandatory airspace to the surface in uncontrolled special*

use airspace where regular passenger transport operations at uncontrolled aerodrome occur.

Following this study, CAA policy was formalised and the proposal is not supported primarily for the following reasons:

- *limitations in airborne collision avoidance system (ACAS) design and parameters. ICAO and European documents highlight these limitations when operating within aerodrome circuits and below 900 ft AGL.*

Eurocontrol's ACAS Bulletin No.6 describes the problem:

'The TCAS II traffic display can be misinterpreted, since it provides only partial information, it has limited accuracy, and it is based upon a moving reference. It has not been designed for the purposes of self-separation or sequencing, and using it for these purposes is inappropriate, and could also be hazardous.

*Although the ACAS traffic display assists to detect the presence of intruders in the close vicinity, flight crews should not be over-reliant on this display. It supports visual acquisition; **it is not a replacement for the out-of-window scan.**' (Emphasis is original.)*

- *There is no provision in existing rules for aircraft with an inoperable transponder to obtain approval to operate within a transponder mandatory airspace to enable the aircraft to be flown to a maintenance base which may be located within the MBZ for repairs.*

2. NZB374 Wanganui

In conjunction with the spelling change to the aerodrome, navigation aid, approaches, to Whanganui, the change will also be made to the MBZ.

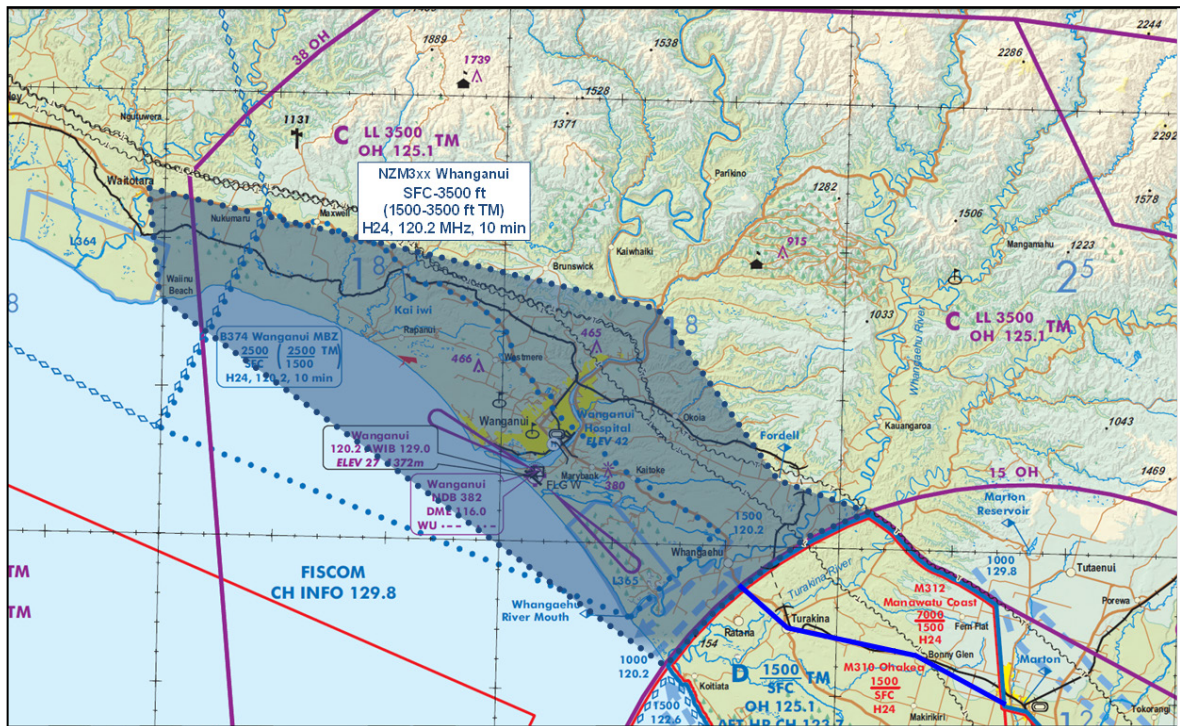
The proposals received to amend NZB374 was discussed at the user meetings. No submissions have been received opposing the changes.

NZB374 will be amended as follows:

- Upper limit raised to 3500 ft (lower limit CTA)
- Eastern boundary to align with NZA355 Ohakea CTA/C, 1500-9500 ft, boundary
- Amend western boundary to include DUDED hold (9 NM from Whanganui RWY 11, MBZ boundary 11 NM)
- Northern boundary extended to Upokangaro
- Transponder mandatory 1500-3500 ft

The amended Whanganui MBZ is shown as the red shaded area in Figure 4.

Figure 4 – amended Whanganui MBZ



A further submission queried if the proposed common frequency zone is established surrounding the Wanganui MBZ, then the northern extension may not be necessary, provided aircraft were required to report on entry and on a regular basis

CAA comment: Common frequency zones are non-designated airspace and are advisory in nature. There is no provision for the Director to stipulate any conditions of use such as mandating any radio calls, including interval of reporting.

Also refer to CAA comments below with regard to River CFZ.

The aerodrome operator at Whanganui also expressed concern about traffic transiting through an active circuit, and would like future reviews of rules to allow an aerodrome operator the ability to exclude aircraft from the circuit unless the aircraft is operating at that aerodrome.

CAA comment: Rule 91.223 requires all aircraft operating within the vicinity of an aerodrome to conform with, or avoid, the circuit formed by other aircraft. However, it does not stipulate that an aircraft may only operate within the vicinity of an aerodrome when taking-off from, or landing at, that aerodrome.

ICAO Annex 2 standards allow for the establishment of aerodrome traffic zones (ATZ) – airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic. ATZs may be controlled or uncontrolled.

The ability for the Director to designate ATZs was removed from New Zealand civil aviation rules in 2004 for uncertain reasons, leaving a vacuum in this area. This action should be reviewed.

3. NZB680 Paraparaumu

No formal proposals were received to amend NZB680. However, the Kapiti Coast Airport submission did indicate that a review of the design in relation to the aerodrome flight information service now being provided at Paraparaumu should be considered.

This will require significant resource and cannot be completed in time for implementation of any changes by November 2016.

Work on this will proceed over the next 12 months to make any changes effective in November 2017.

2. Common frequency zones (CFZ)

Based on the submissions received and advised in the Summary of Submissions document dated 12 November 2015, the following changes will be made.

1. NZC376 Feilding

In line with the Massey School of Aviation proposal, NZC376 will be enlarged and the name changed to Rangitikei to differentiate from traffic operating in the circuit at Feilding aerodrome.

- Name change to 'Rangitikei'
- Frequency remains the same.
- Will include Feilding and Flat Hills aerodromes
- Eastern boundary to include Aokautere-Woodville-south of Whariti Peak
- North-western boundary extended to Marton Reservoir
- Massey proposal for larger area

2. New CFZ – River

Massey also proposed the establishment of a new CFZ surrounding the Wanganui MBZ, aligned with the proposed Rangitikei CFZ and the Taranaki CFZ.

One submitter was concerned that having a CFZ and MBZ on the same frequency would

CAA comment: Adjoining CFZs and MBZs on the same frequency is used elsewhere in New Zealand, e.g. Kerikeri MBZ/Bay of Islands CFZ, Paraparaumu MBZ/Tararua CFZ, West Melton MBZ/Canterbury CFZ, with no reported issues.

The intention of the alignment is to allow for NORDO traffic to continue to operate in areas away from where it has been deemed that radio use is mandatory, but indicates to

pilots of radio-equipped aircraft operating in the vicinity of the MBZ to be on that particular frequency.

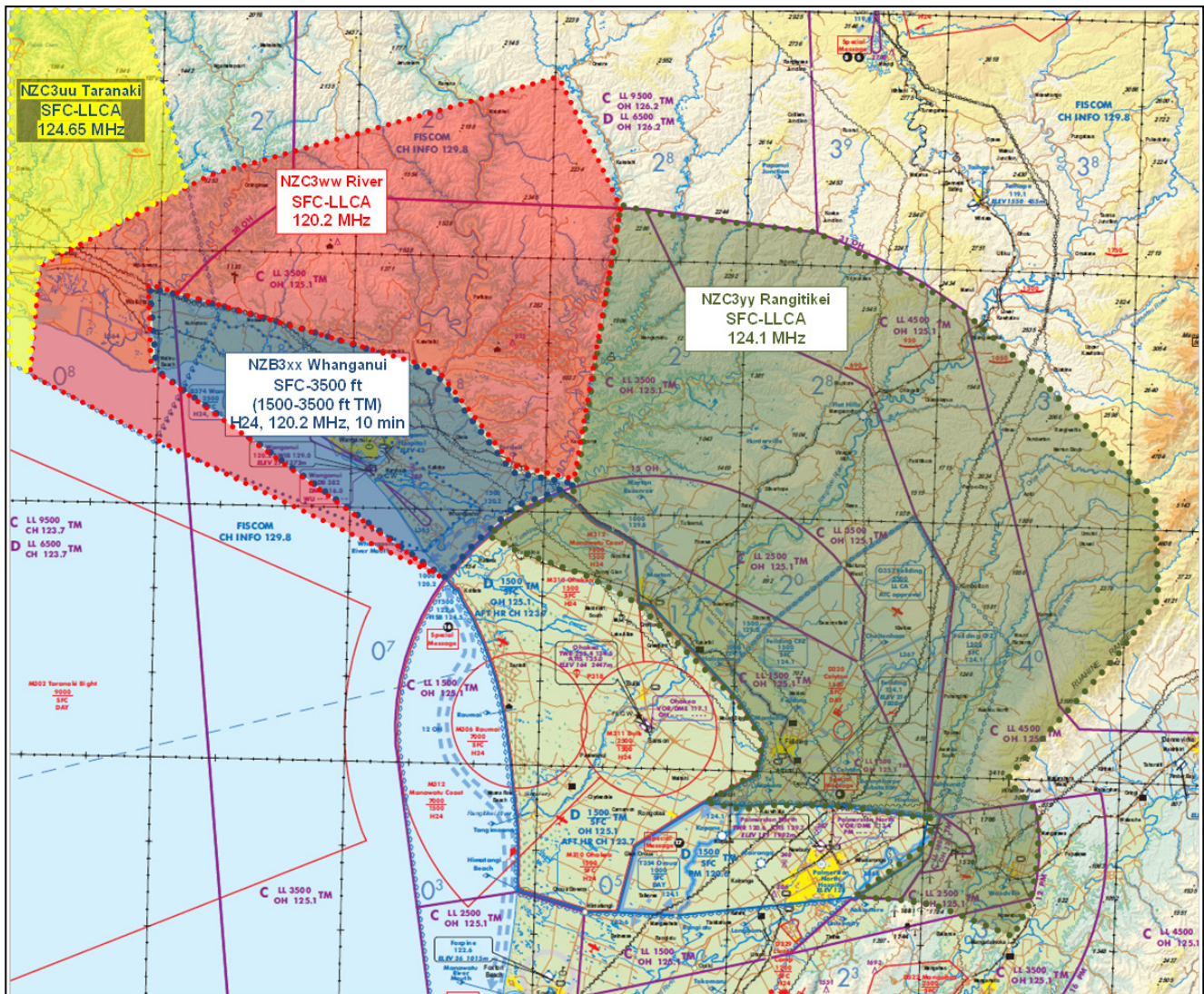
The appropriate use of a CFZ is important. CFZs differ from MBZs in that there is no mandatory requirement to make radio calls at specified intervals of 5, 10 or 15 minutes.

Ongoing issues with incorrect radio use such as making too many radio broadcasts, continues to be a nation-wide problem which CAA is working on to address.

Figure 5 depicts the proposed CFZs, with the amended OH CTR and Whanganui MBZ boundaries.

- Taranaki CFZ – yellow
- River CFZ – red
- Whanganui MBZ – blue
- Rangitikei CFZ – green

Figure 5 – Manawatu CFZs and Whanganui MBZ



3. Military operating areas (MOA)

1. NZM310 Ohakea

The northern boundary of NZM310 would also be amended to align with the change to the OH CTR boundary.

4. General aviation areas (GAA)

There will be no changes to existing GAA NZG357 Fielding.

1. NZG673 Kapiti Coast

By November 2016, Wellington Gliding Club will have relocated from Paraparaumu aerodrome to Papawai in the Wairarapa.

As there will no longer be gliding operations on the Kapiti Coast, NZG673 Kapiti Coast will be disestablished.

2. New GAA – Puketoi Ranges

Hawkes Bay Hang Gliding and Paragliding Club made a submission in December 2015 for the establishment of a new GAA east of the Tararua/Ruahine ranges in the south Hawkes Bay/north Wairarapa area. The GAA is requested to enable extended cross country hang glider and paraglider flights from southern Hawkes Bay when weather conditions are favourable.

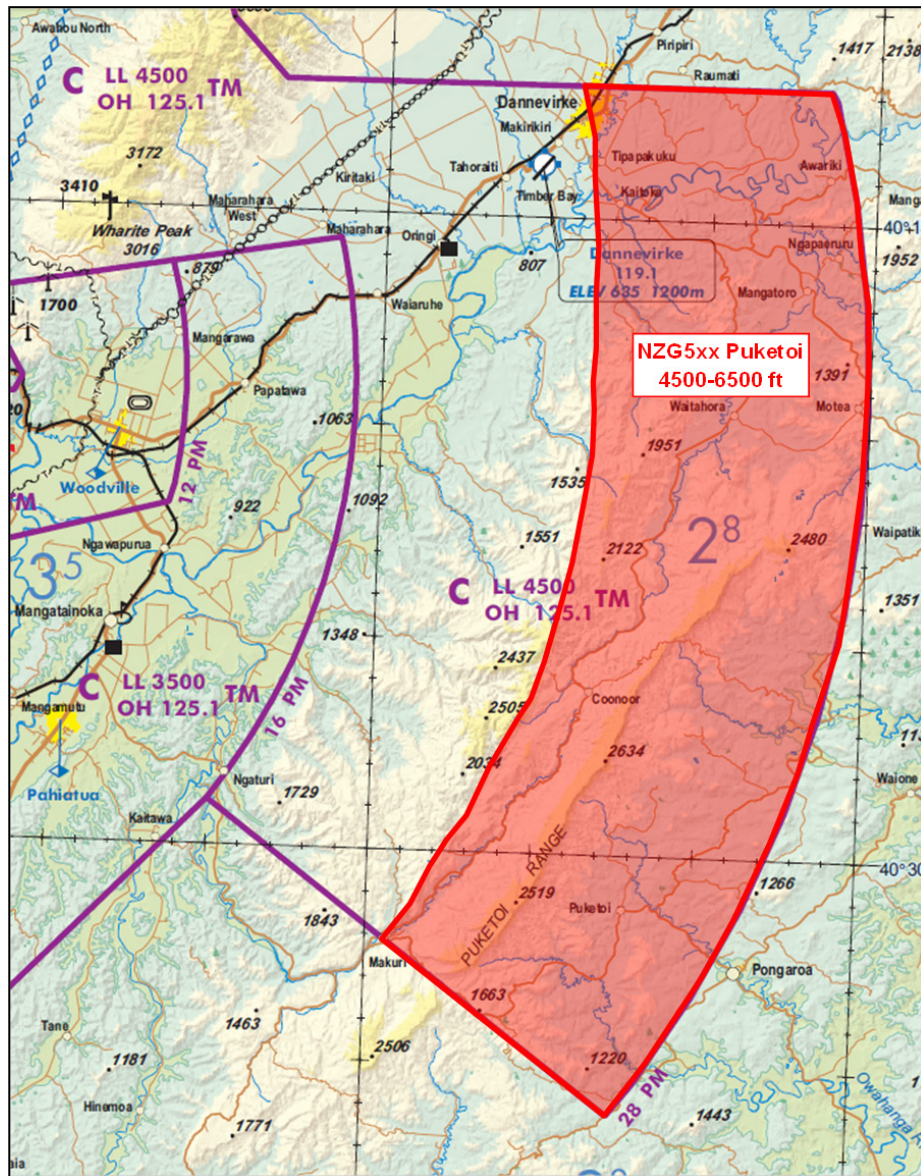
The original request was for all of the eastern portion of NZA346, east of the Manawatu Gorge from 16 to 28 NM Palmerston North. At the user consultation meeting in Feilding, there was some discussion with Airways as to the potential impact on IFR flights operating to and from Palmerston North.

One of the limiting factors to making the whole of the requested controlled airspace available is the Palmerston North RWY 25 approaches hold at UVUSI, 14 NM Palmerston North. Because of the hold, a GAA in NZA346 from 21 NM PM to the eastern boundary at 28 NM PM is currently under consideration. The proposed GAA is shown as the red area in Figure 6 below.

If ATC is able to manage the airspace when the proposed GAA is active, then the GAA will be designated.

The proposed GAA would be active by ATC approval.

Figure 6 – proposed GAA Puketoi Ranges



Consultation

This document will be sent directly to the following organisations.

Aerodrome operators (charted aerodromes only)

- Dannevirke aerodrome – Tararua District Council
- Feilding aerodrome – Feilding Aerodrome (Inc)
- Flat Hills aerodrome – Maurice Rowe
- Foxpine aerodrome – Foxpine Airpark Ltd

- Koputaroa aerodrome – Peter Kernohan
- Ohakea aerodrome – RNZAF Base Ohakea
- Otaki aerodrome – Otaki Airstrip Limited
- Palmerston North aerodrome – Palmerston North Airport Ltd
- Paraparaumu aerodrome – Kapiti Coast Airport Holdings Ltd
- Taihape aerodrome – JK and LM Holdings Ltd
- Wanganui aerodrome – Wanganui District Council
- Wanganui Hospital heliport – Wanganui Hospital

Operators, Organisations and User Groups

- Air New Zealand Group – includes Mount Cook, Air Nelson, Eagle Airways
- Aircraft Owners and Pilots Association
- Airways Corporation of New Zealand
- Aviation Federation New Zealand
- Balloon Aviation Association
- Flight Training Manawatu
- Gliding New Zealand
- Manawatu Airspace User Group
- Massey School of Aviation
- New Zealand Hang Gliding and Paragliding Association
- Recreational Aircraft Association of New Zealand
- Royal New Zealand Air Force
- Sport Aircraft Association New Zealand
- Sport Aviation Corp

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This document is also available on the CAA website at the following link:

http://www.caa.govt.nz/airspace/airspace_review.htm

Submissions

Prior to making a designation or classification of airspace, Civil Aviation Rule 71.9 requires the Director to consult with all parties that may be affected within the aviation industry.

This document forms part of the consultation process. Submissions are sought from any interested person, organisation or representative group.

Submissions are accepted either electronically or via mail.

Please address submissions to:

Group Executive Officer
Aviation Infrastructure and Personnel
Civil Aviation Authority of New Zealand
PO Box 3555
Wellington 6140
Fax: 04-569-2024

Email: dianne.parker@caa.govt.nz

Reference – 2016 Manawatu Airspace Review – final airspace changes

Closing date for submissions to these proposals is **Wednesday 20 April 2016**

Further information

For further information contact:

Paula Moore
Aeronautical Services Officer – Air Traffic Services (Airspace)
Civil Aviation Authority of New Zealand
P O Box 3555
Wellington 6140

Phone: (DDI) 04 560 9525

Email: paula.moore@caa.govt.nz

S-D180-20-08 (DW1328504-0)