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**Proposed changes to Timaru Mandatory  
Broadcast Zone  
- airspace user consultation**

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## **1. Introduction**

Civil aviation rule 71.157 enables the Director to designate a portion of uncontrolled airspace as a mandatory broadcast zone (MBZ) if, due to traffic density or special circumstances, the pilots within that zone are required to make radio broadcasts of their position and intentions.

NZB970 Timaru, surface to 4500 ft AMSL, was established to ensure that all aircraft operating in the vicinity of the NDB final approach tracks where IFR aircraft would be descending below cloud to be receiving and making radio broadcasts for situational awareness.

Laterally, NZB970 extends approximately 8 NM to the north and south of Timaru aerodrome and 4 NM to west, and 1 NM to the east.

These boundaries have not been fully reviewed since the introduction of RNAV approach procedures.

Air Nelson operates scheduled passenger transport services, two arrivals and two departures per day, at Timaru aerodrome using Q300 (Dash 8) turbo-prop aircraft equipped with an airborne collision avoidance system (ACAS). To reduce the risk of airborne collision, the Director has also designated that NZB970 is transponder mandatory between 1500 and 4500 ft AMSL.

There are approximately 50 other IFR movements per month, primarily by training aircraft.

Refer to Figure 1 which shows the existing Timaru MBZ boundaries.



- *Whilst not shown on the attached drawing there is a desire by users to create appropriate VFR reporting points within the MBZ/CFZ. Local user input to the locations would be desirable.*

*Consultation has taken place with Timaru airspace Users and the principle of Rangitata Island Aerodrome. Three versions of the attached drawing have been produced in an attempt to gain majority agreement. The MBZ and controlled airspace dimensions contained in the attached version is considered by Air Nelson as the minimum possible to afford IFR aircraft an acceptable level of safety when operating in the uncontrolled airspace surrounding Timaru aerodrome. The attached version has the support of South Canterbury Aero Club, Canterbury Aero Club [high level of IFR training at Timaru] and Airways Corporation NZ [controlled airspace changes]. Some Timaru users have voiced varying degrees of concern to the attached proposal. Some want the MBZ smaller and some want it larger. Some don't want any change at all to the present situation. The Rangitata Island Aerodrome principle does not support any change at all. The attached version is highly modified from the original proposal after taking into account all concerns raised, and in particular by Rangitata Island aerodrome. We believe the attached version will now not unduly restrict the traditional NORDDO, non-transponder equipped aircraft activities at Rangitata Island Aerodrome. To provide the 2nm buffer from the MBZ around Rangitata Aerodrome may mean Air Nelson will choose to track ELDAK—IKALO instead of direct ELDAK—UNTAT to give a little more room between the MBZ boundary and the activities at Rangitata. Discussions are also taking place with Airways re the hold at UNTAT [used for the 20 approach and missed approach] to see if this could be eliminated as, if used, it takes IFR aircraft almost directly over Rangitata Island Aerodrome. An alternative hold at IKALO might provide a better solution for arrivals and the missed approach. Resolution of these discussions is independent of the attached requested airspace changes.*

*The dimensions of the surrounding CFZ were proposed by local users and don't appear to be a point of contention. The corner points suggested are:*

- *Eastern boundary - Approximately 3 miles offshore, from abeam Makikihi in the south and abeam Hinds River Mouth in the north.*
- *Northern boundary - from 3 miles offshore, up the Hinds River to Mt Somers*
- *Western boundary - Mt Somers to Fox Peak  
- Fox Peak to Mt Dobson  
- Mt Dobson to Mt Neesing  
- Mt Neesing to Mt Studholme*
- *Southern Boundary - Mt Studholme to 3 miles offshore, through Makikihi*

The requested airspace changes are shown in Figures 2 and 3.

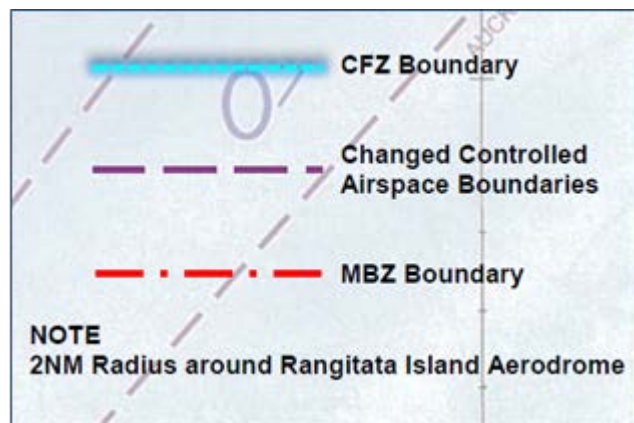
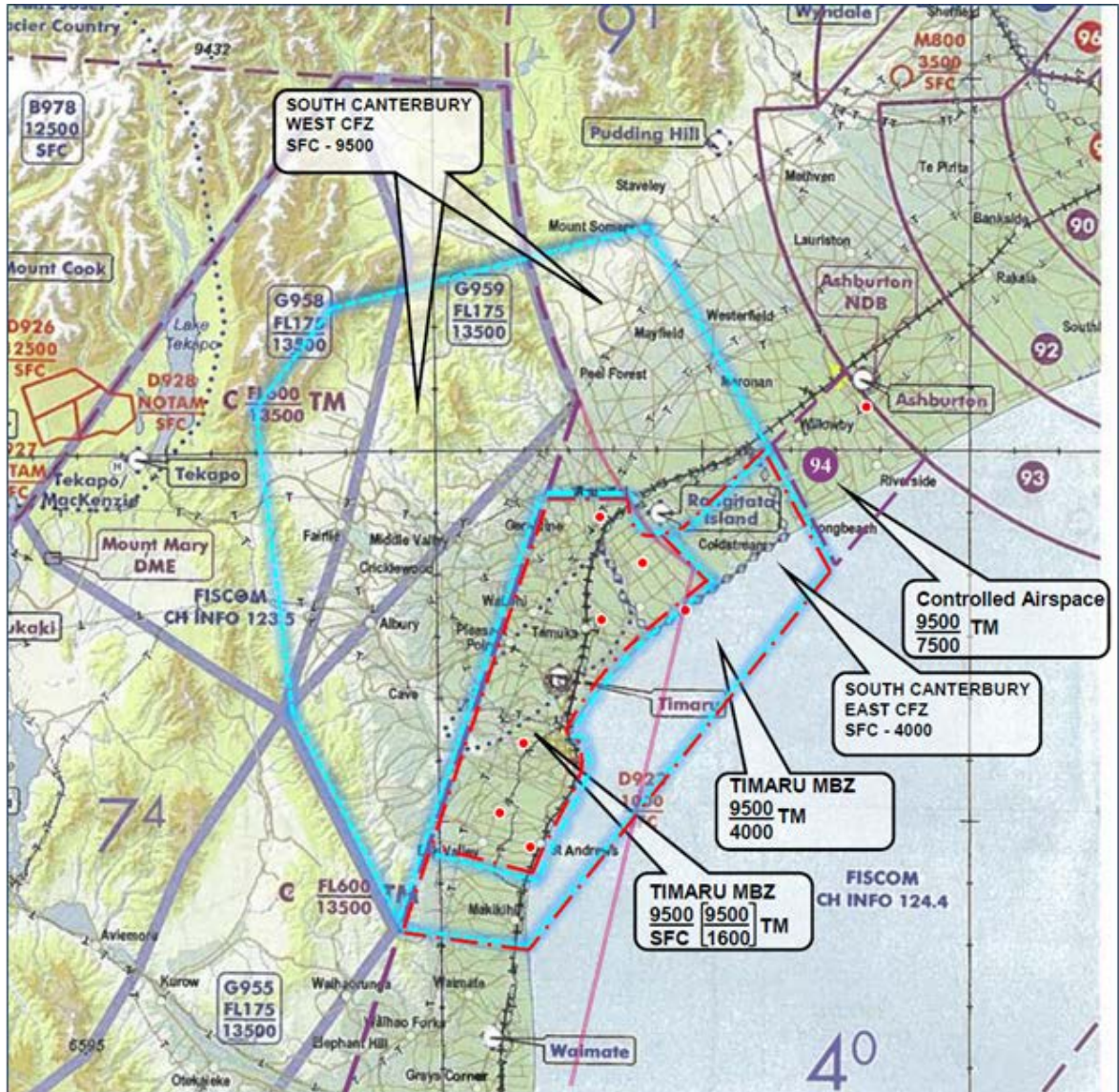


Figure 2 – requested airspace changes

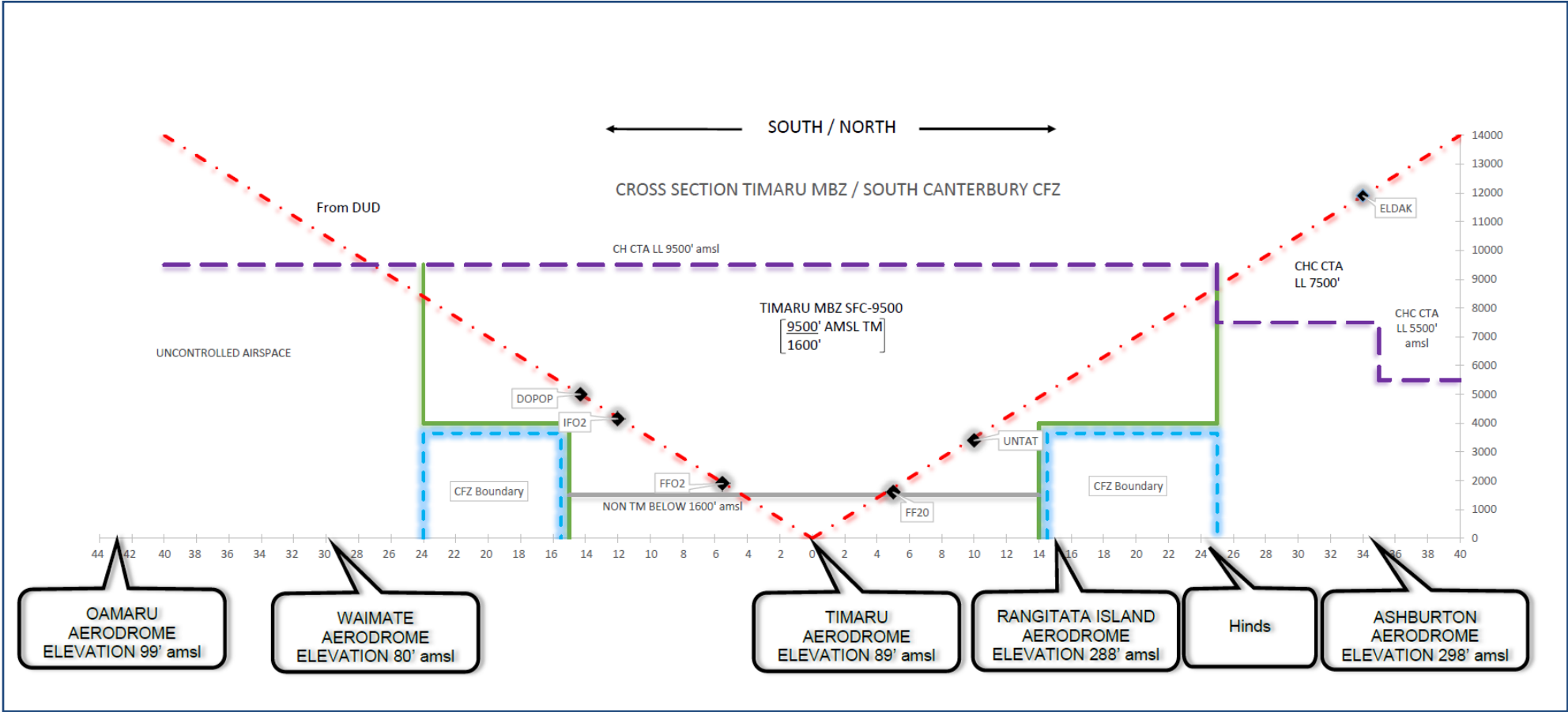


Figure 3 – elevation view of requested airspace changes

**CAA comment:**

At present pilots are required to report every five minutes inside the MBZ. This is not onerous in a small MBZ of approximately 16 NM by 5 NM (80 NM<sup>2</sup>), as it equates to normal reporting intervals when operating within the vicinity of an aerodrome i.e. circuit area. If the MBZ is extended in size, it will become approximately 50 NM by 15 NM (750 NM<sup>2</sup>), with associated reporting requirements.

Prior to May 2004, the Director was able to designate an approach conditional area (ACA). An ACA was uncontrolled special use airspace where the Director required VFR pilots to —

- operate at least 1000 ft vertically and 2 NM horizontally from cloud, even when at or below 3000 ft AMSL (or 1000 ft above terrain, which is higher). This was to provide additional buffer when an IFR aircraft would be descending below cloud; and
- maintain two-way radio communications on a specified frequency; and
- operate outside the ACA when an IFR aircraft was conducting an instrument approach procedure.

ACAs were always within 10 NM of an uncontrolled aerodrome, where IFR aircraft are generally commencing the instrument approach from approximately 3000 ft AGL. When ACAs were removed from Part 71, MBZs were designated in these locations to provide pilots with traffic situational awareness. The additional meteorological requirements were no longer able to be applied.

When designating uncontrolled airspace as transponder mandatory, the lower limit is generally at 1500 ft AGL or above 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.



Any transponder mandatory airspace lower limit would be set at a minimum of 1500 ft AGL for if the MBZ is amended, which aligns the 1600 ft lower limit proposed for other reasons.

### **3. Common frequency zone**

As detailed in the Air Nelson application, a new common frequency zone is also requested to the north and west of the proposed Timaru MBZ, from the surface to 9500 ft, as well as underneath the 4000 ft step in the amended MBZ to the surface.

### **4. Visual reporting points**

Rule 71.251 allows the Director to designate visual reporting points to provide information to air traffic services about the progress of a flight, or to allow the safe conduct of flight by visual reference.

Subsequent to receiving Air Nelson's application, a further request for the designation of new visual reporting points (VRP) was received for the following locations:

- Mayfield town
- Hinds town
- Hinds River Mouth
- Geraldine town
- Rangitata River Mouth
- Opihi River Mouth
- Washdyke Lagoon
- Pareora River Mouth
- Pleasant Point town
- Clandeboye Factory (Fonterra Dairy Factory). Marked as obstacle 310
- Temuka town
- Fairlie town
- Makikihi River Mouth
- Hadlow Hall
- Opuha Dam
- Arundel town

It should be noted that all of these locations are shown on the visual navigation charts.

### **5. Consultation**

This document will be sent directly to the organisations listed below. It would be appreciated if you would kindly forward the document to your members for comment and consideration.

**Aerodrome operators (charted aerodromes only)**

- Ashburton aerodrome – Ashburton Airport Authority
- Rangitata aerodrome – Russell Brodie
- Timaru aerodrome – Timaru District Council
- Waimate aerodrome – Waimate Aero Club

### **Operators, Organisations and User Groups**

- Air Nelson
- Aircraft Owners and Pilots Association
- Airways Corporation of New Zealand
- Balloon Aviation Association of New Zealand
- Canterbury Aero Club/International Aviation Academy of New Zealand
- Canterbury Airspace User Group
- Flying New Zealand
- Gliding New Zealand
- Model Flying New Zealand
- Mount Cook and Westland National Parks Resident Aircraft User Group
- New Zealand Agricultural Aviation Association
- New Zealand Airline Pilots Association
- New Zealand Aviation Federation
- New Zealand Hang Gliding and Paragliding Association
- New Zealand Helicopter Association
- New Zealand Parachute Federation
- New Zealand Parachute Industry Association
- Recreational Aircraft Association of New Zealand
- Royal New Zealand Air Force
- South Canterbury Airspace User Group
- Sport Aircraft Association New Zealand
- Sport Aviation Corp

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

<http://www.caa.govt.nz/airspace/airspace-review/>

Notifications will be sent to CAA email notification subscribers to Airspace Notifications – Briefing Areas 7, 8 and 9.

If there are any further questions regarding the review process, please contact Paula Moore – contact details below.

## **6. Submissions**

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

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](mailto:dianne.parker@caa.govt.nz)

Reference – Proposed Timaru MBZ changes

Closing date for submissions is **Monday 10 April 2017**.

## **7. Further information**

For further information contact:

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