

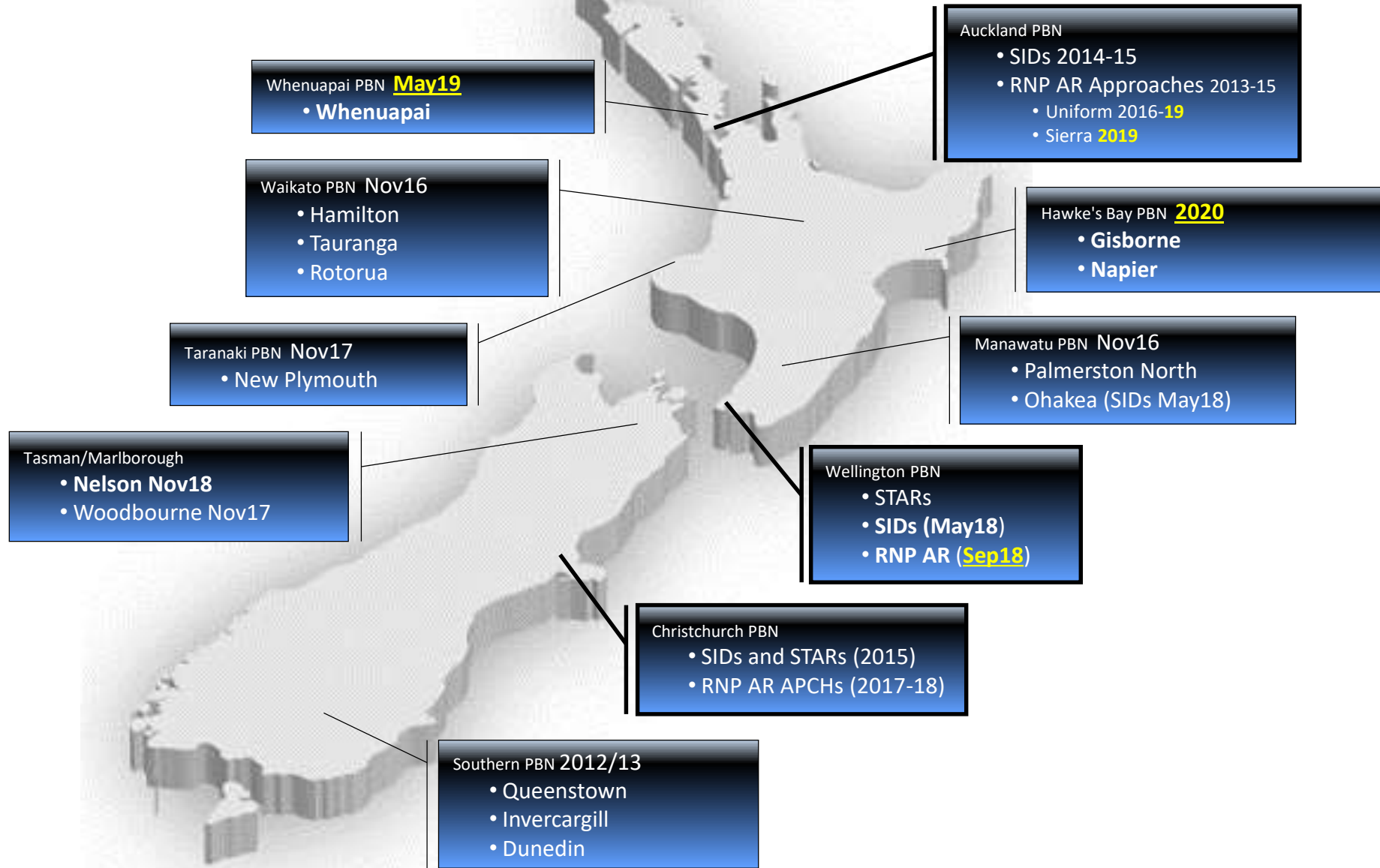
# ▶ P B N R O L L - O U T

A P P R O A C H 1 9

▶ Phil Rakena

2<sup>nd</sup> April 2019

# PBN Status



# Monthly IFR Flights – PBN %

<b>PBN Statistics</b>	<b>Feb-16</b>	<b>Feb-18</b>	<b>Feb-19</b>
PBN Approved	89.9%	97.0%	97.5%
RNAV 2	77.0%	94.2%	94.5%
RNAV 1	85.7%	95.4%	96.3%
RNP 1	77.1%	91.0%	91.3%
RNP APCH = RNAV (GNSS)	48.2%	88.9%	89.3%
RNP APCH with VNAV	36.2%	72.4%	74.1%
RNP AR APCH = RNAV (RNP)	35.8%	33.8%	35.0%

# Pending PBN

**AA RNP AR S 23L** – 28Mar19; approaches from south to 6.5 NM final

**AA RNP AR U 23L** – 23May19; approach from north (extended) to 6.0 NM final

**CH STAR** – 23May19; overlap between STAR and RNAV 'T' removed

**CH RNP Trial** – complete; CIAL drafting final report

**WN RNP Trial** – 20Sep18-19Sep19; interim report pending

12Sep19 34 RNP Y commencement altitude 3000ft

**NS PBN Follow-up** – 23May19; SID/STAR adjustment + Latseps

**WP PBN Implementation** – 23May19

**PM RNP AR 25** – 18Jul19 TBC; safety

**AA/WN SIDs & STARs** – 12Sep19; modification for 1C2L

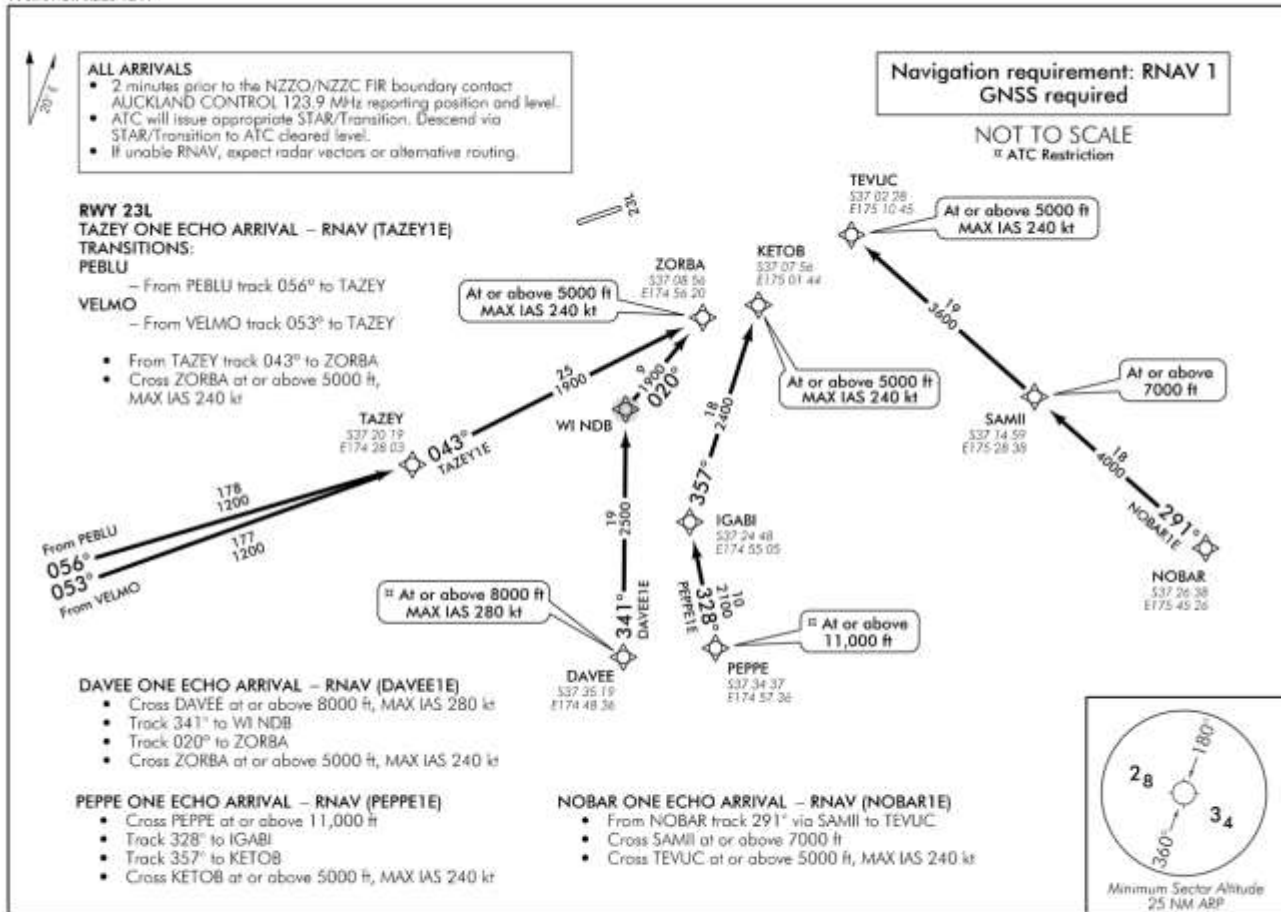
**CH DGP (15/15)** – deferred to 26Mar20, subject to CIAL

**NR & GS PBN** – 2020; requires airspace/VNC and ERC changes



# Auckland 23L RNP S

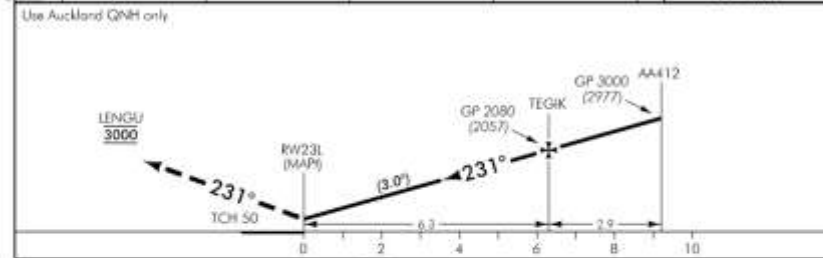
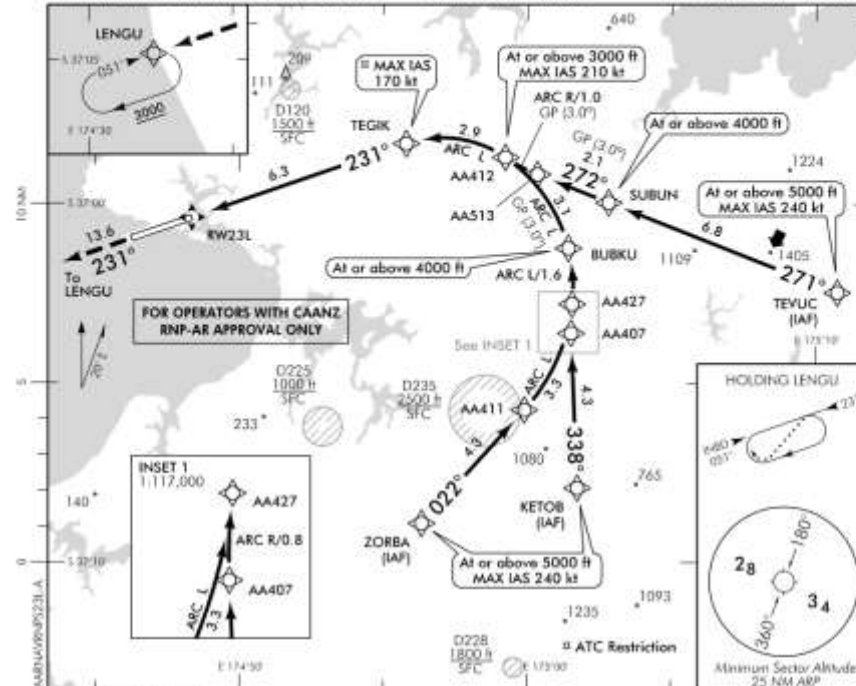
AARNVSTAR23L 12-A



New chart.

NZAA AD 2 - 33.20  
ELEV 23  
AUCKLAND APPROACH: 124.3 129.6  
TOWER: 118.7 120.95  
ATIS: 127.8 127.0  
AUCKLAND  
CAT A,B,C,D  
RNAV STAR RWY 23L (12)

NZAA AD 2 - 45.8  
AIP New Zealand  
ELEV 23  
CAT B,C,D  
AUCKLAND  
RNAV (RNP) S RWY 23L  
RWY 23L THR ELEV 23  
AUCKLAND APPROACH: 124.3 129.6  
ATIS: 127.8 127.0  
TOWER: 118.7 120.95



Category	A	B	C	D
RNP 0.30	NA		340(317) – 1500	

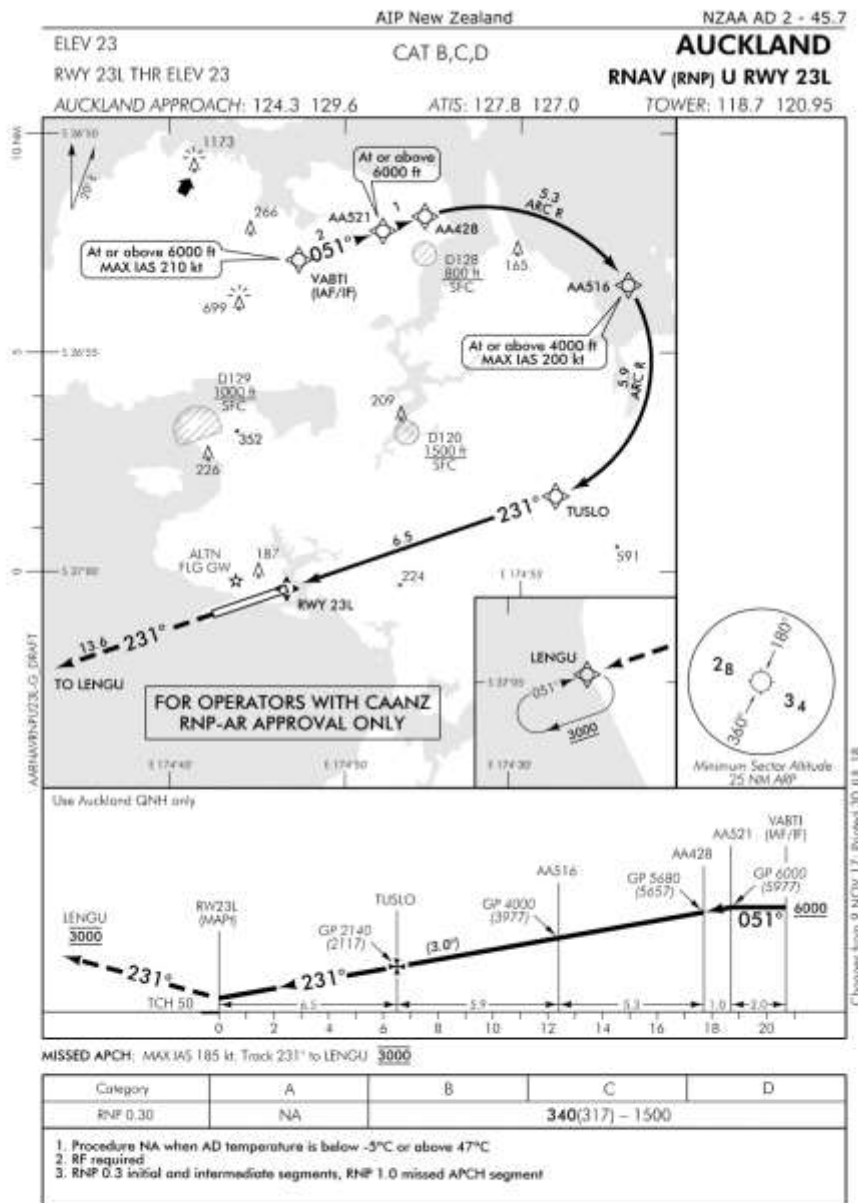
- Procedure NA when AD temperature is below -5°C or above 47°C
- RF required
- RNP 0.3 initial and intermediate segments, RNP 1.0 missed APCH segment

Effective: 28 MAR 19

AUCKLAND  
RNAV (RNP) S RWY 23L  
© Civil Aviation Authority

# Auckland 23L RNP U

# FCR and Northern Runway



In FY18, Auckland Airport completed a concept design for the Flexible Contingent Runway (FCR) based on a detailed safety case for night operations of the FCR. Through consultation with Airways, airlines and CAA, the safety case has been extended to include day operations in the case of an emergency or works continuing into daylight hours. Detailed design is expected to continue through FY19 with the aim to have a FCR operational in FY20.

Looking further ahead, planning has begun to assess the need for a second runway which will provide additional capacity. Current forecasts suggest this will be needed by FY28.

# CH & WN RNP Trials



NEWS | AIRPORT NEWS & UPDATES

## WELLINGTON FLIGHT PATH TRIAL

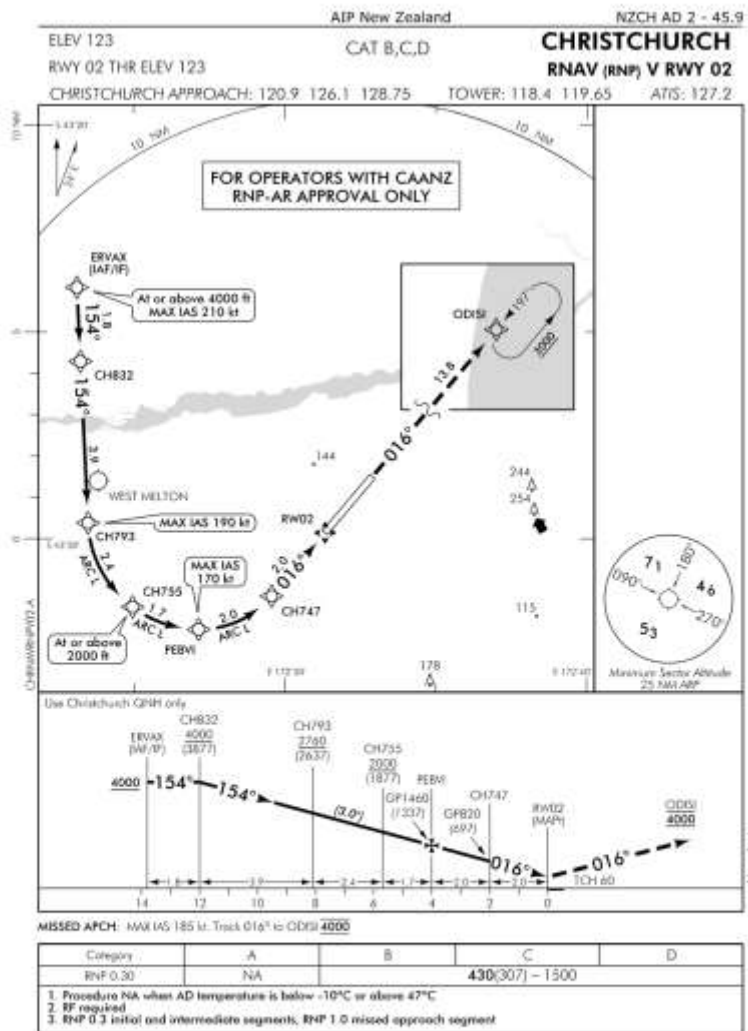
20 MAR 2018



A trial using satellite navigation technology to improve flight paths, reduce noise and improve the environment will commence in Wellington from September.

A trial using satellite navigation technology to improve flight paths, reduce noise and improve the environment will commence in Wellington from September.

The Performance Based Navigation (PBN) trial will see aircraft use their Global Positioning System (GPS) to follow optimised flight paths with better accuracy, meaning they'll consume less fuel, create less noise and emit less carbon dioxide.

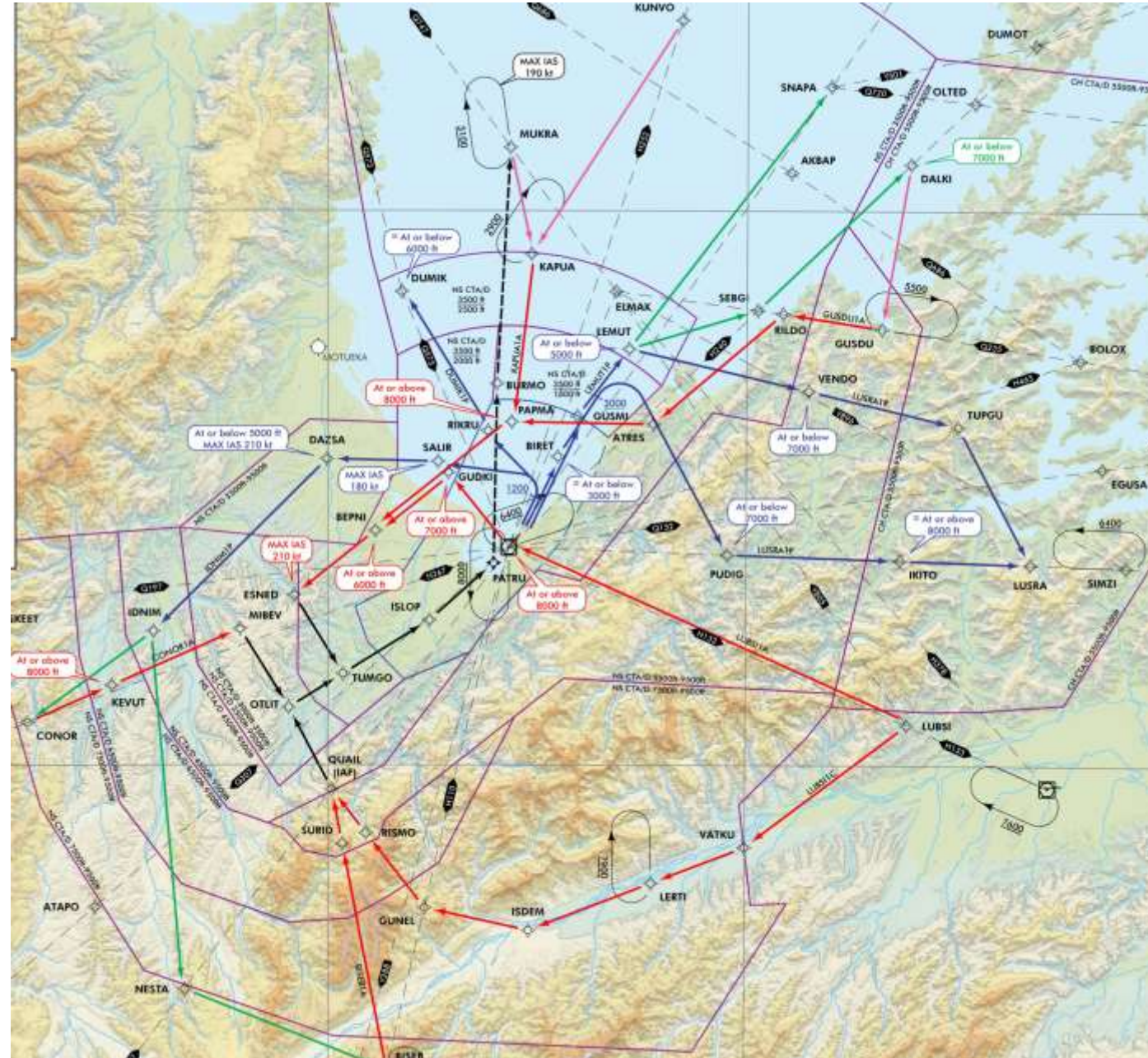


# Nelson PBN

Implemented November 2018

Refinements 23May19:

- SID - BIRET 3000ft hold-down removed
- STARs - GUSDU & KAPUA 8000ft hold-up added



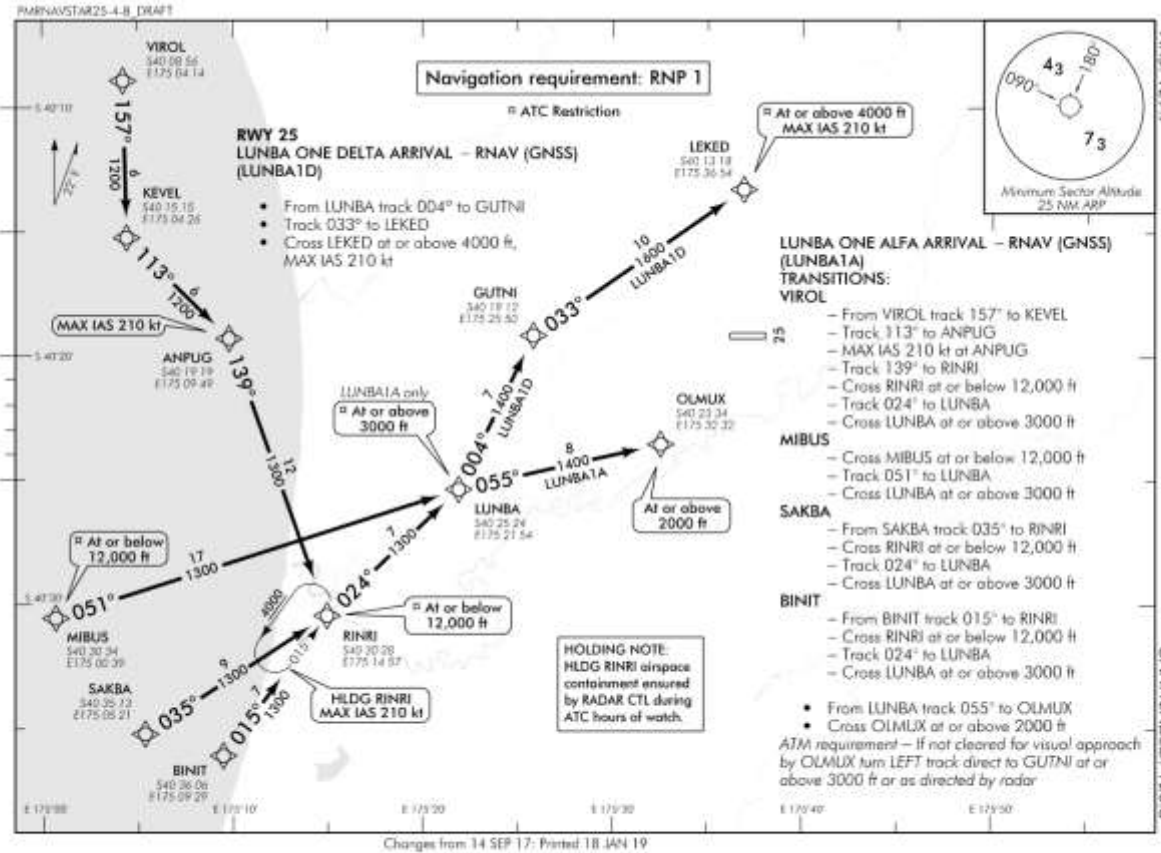


# Palmerston North 25 RNP

Effective: DRAFT\_V1

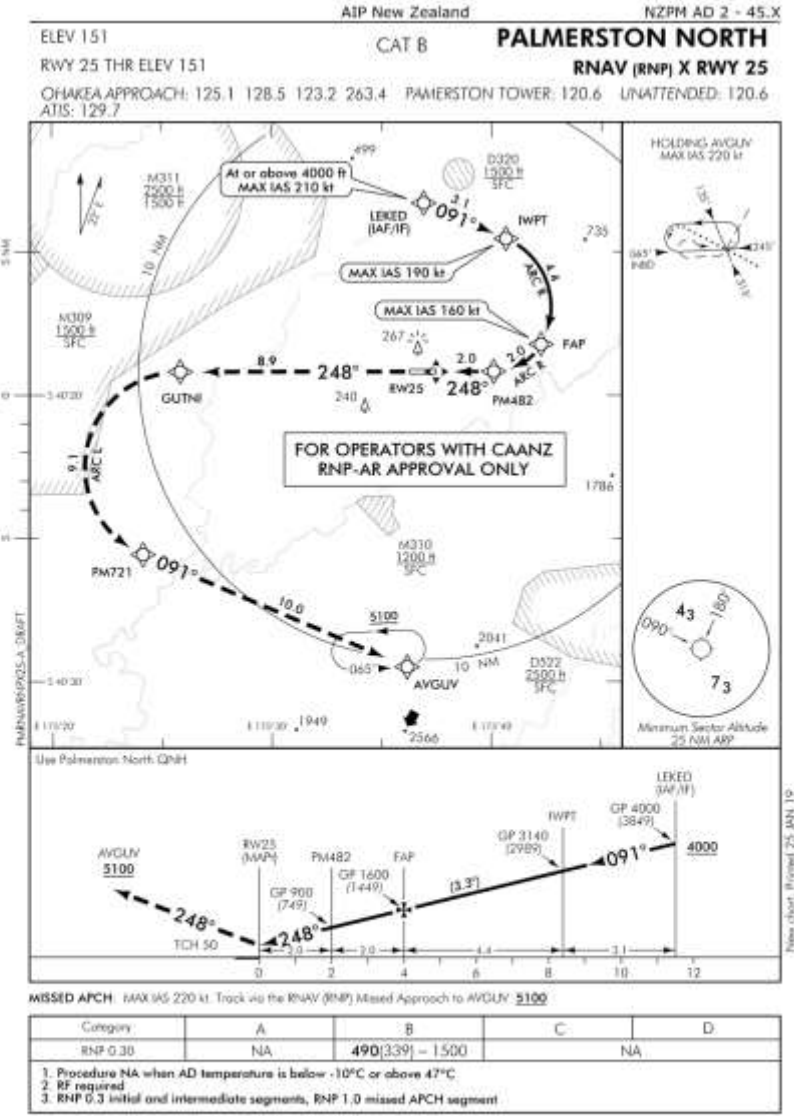
© Civil Aviation Authority

PALMERSTON NORTH  
RNAV (GNSS) STAR RWY 25 (4)



NZPM AD 2 - 33.7  
ELEV 151  
NZPM  
OHAKEA APPROACH: 125.1 128.5 123.2 263.4  
ATIS: 129.7

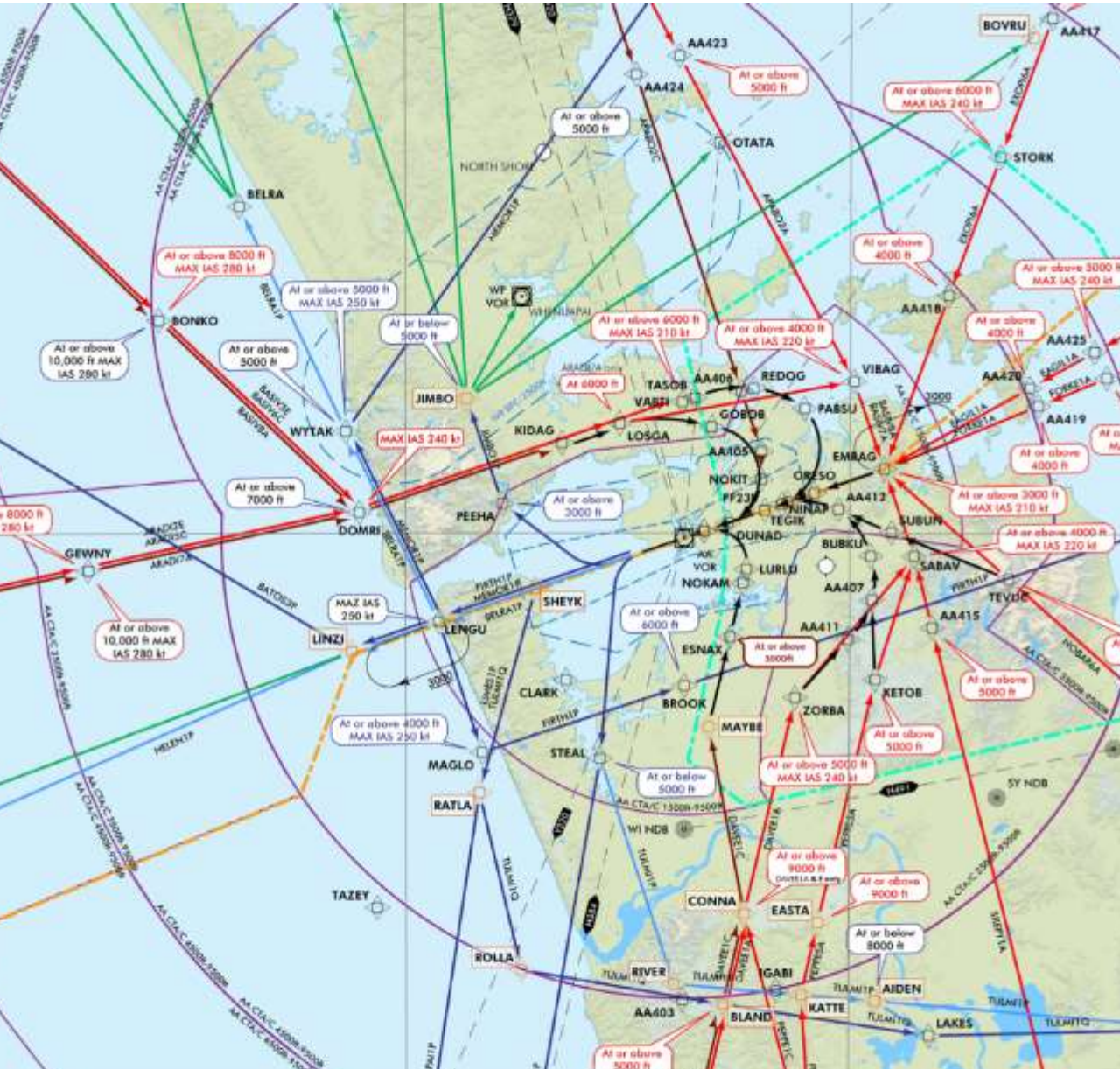
NZPM AD 2 - 33.7  
ELEV 151  
CAT A,B,C,D  
PALMERSTON NORTH  
RNAV (GNSS) STAR RWY 25 (4)  
PALMERSTON TOWER: 120.6  
UNATTENDED: 120.6



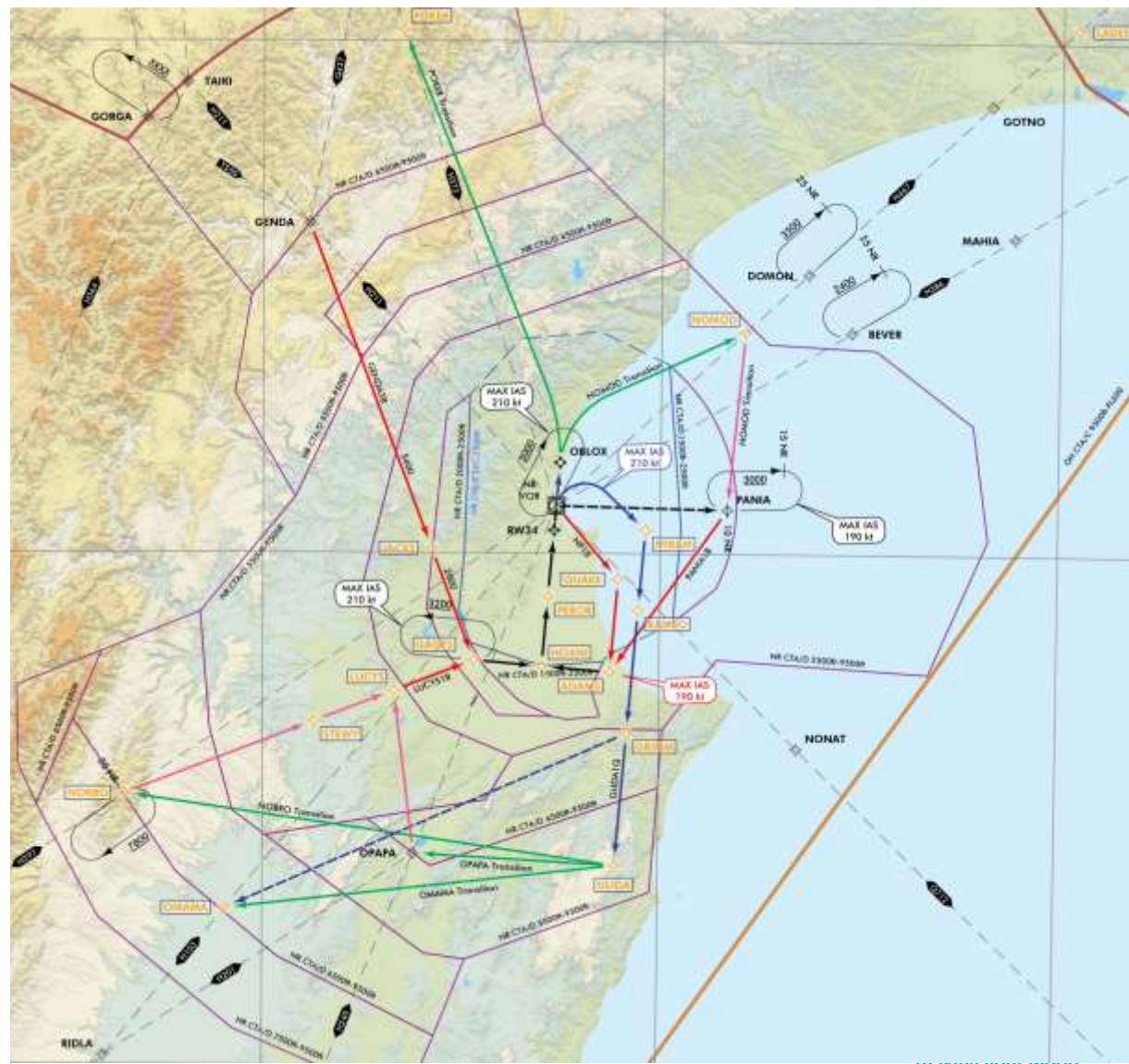
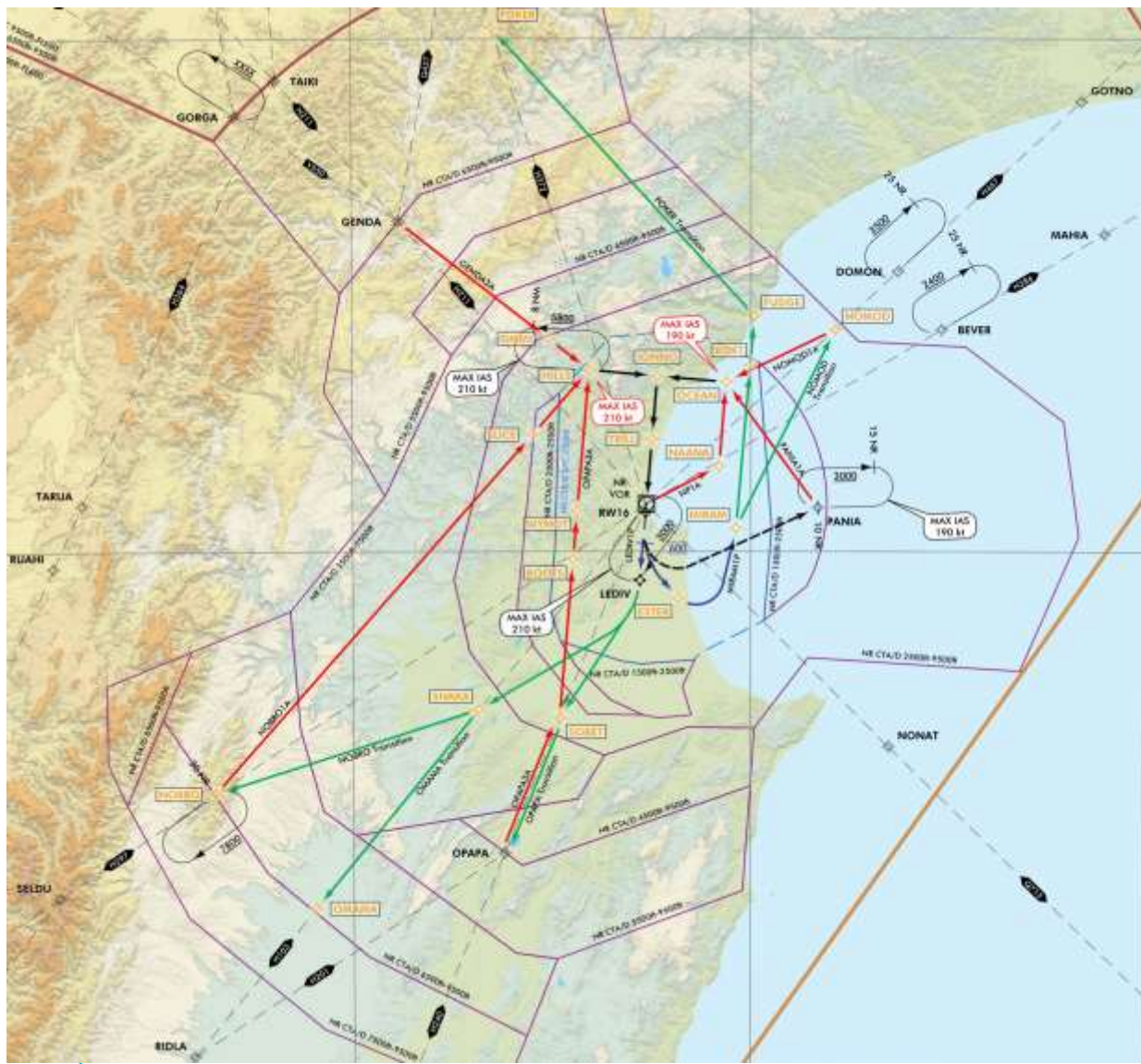
Effective: DRAFT\_V2

PALMERSTON NORTH  
RNAV (RNP) X RWY 25  
© Civil Aviation Authority

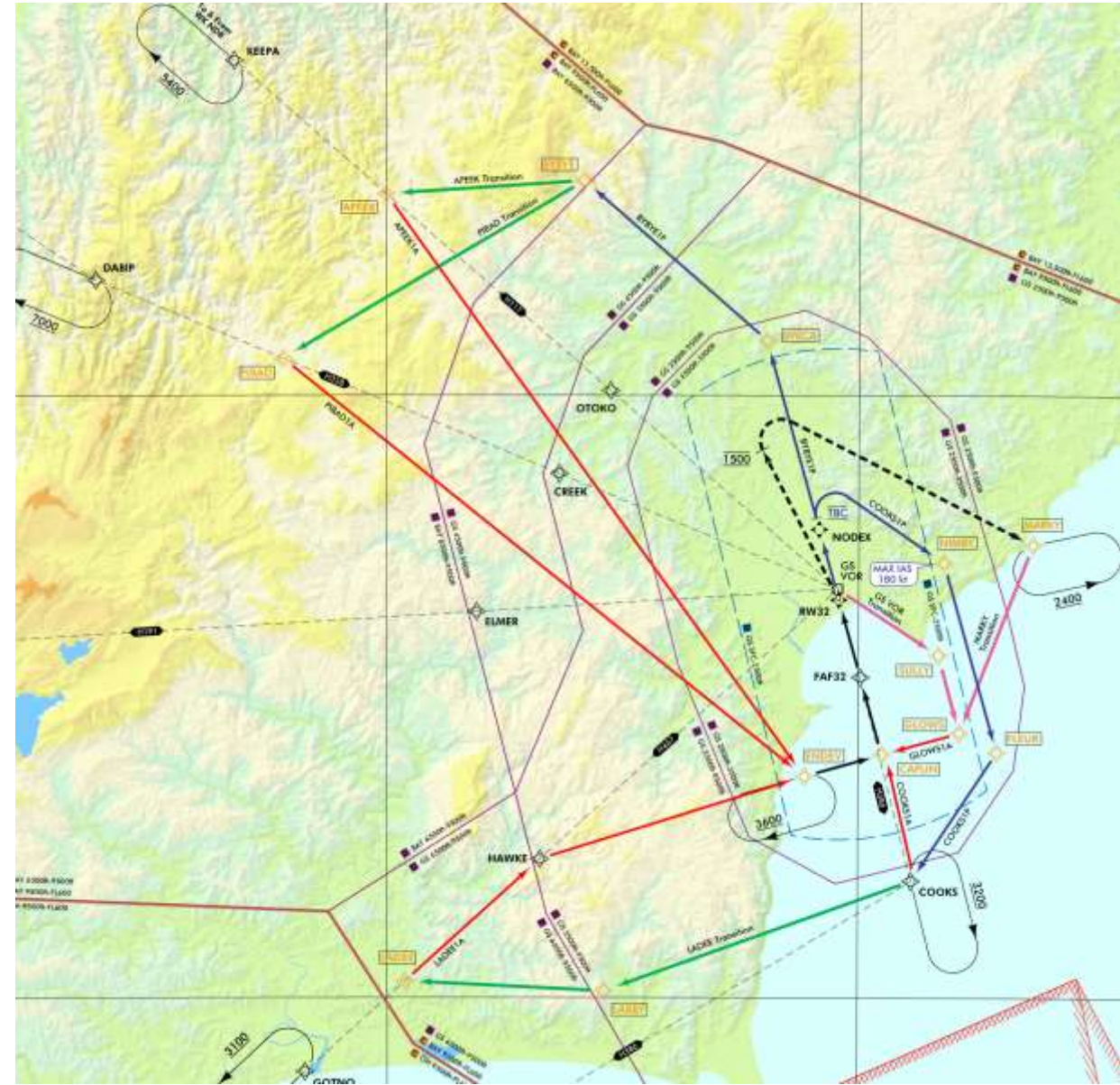
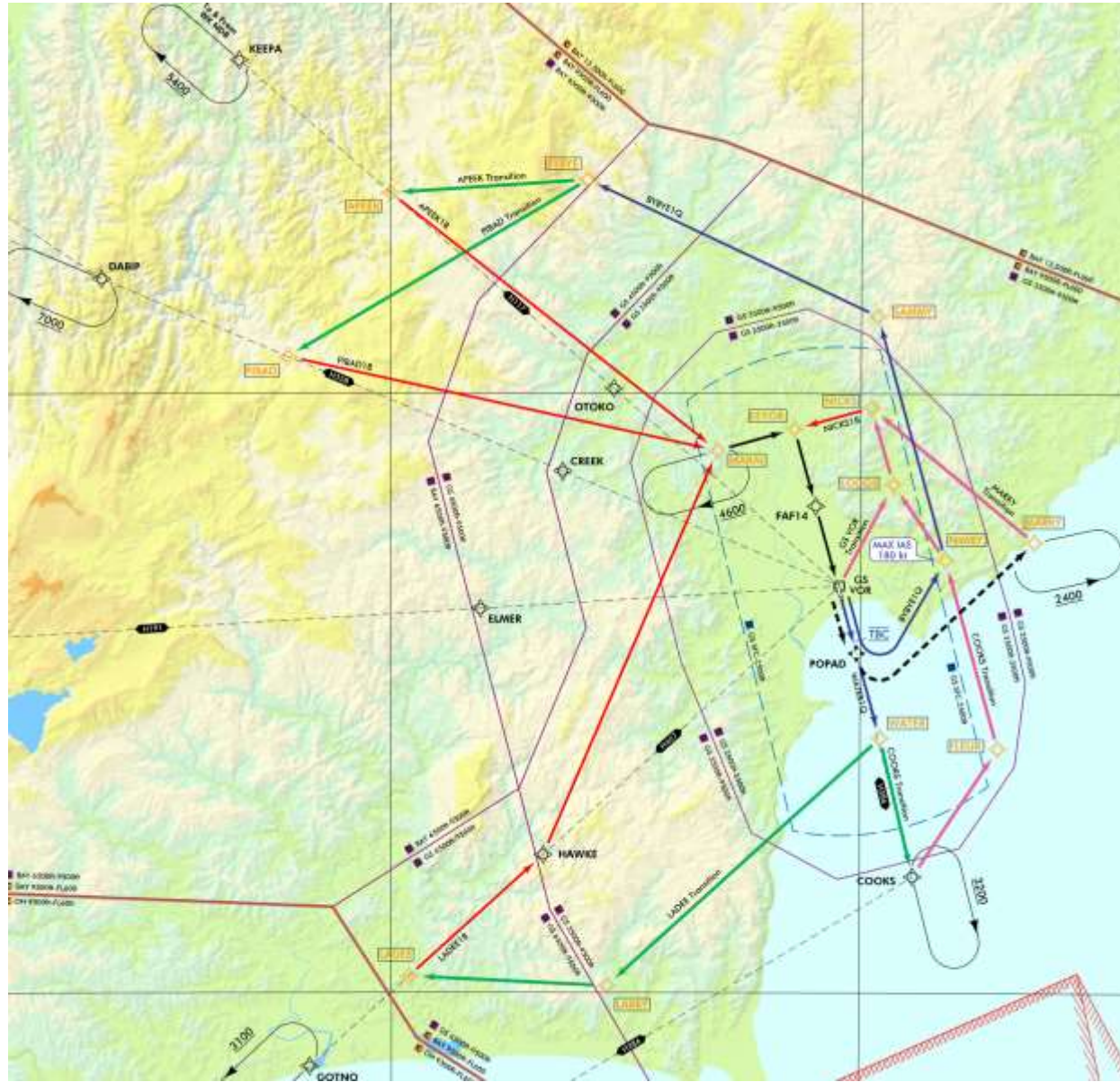
# Auckland & Wellington SIDs/STARs



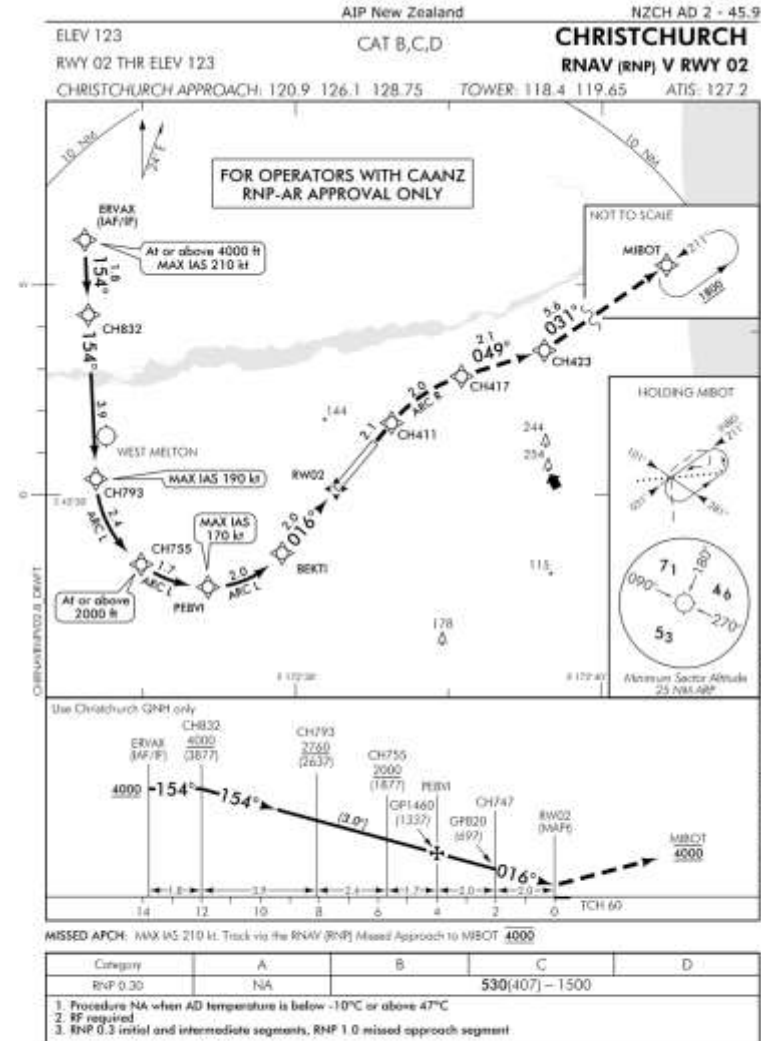
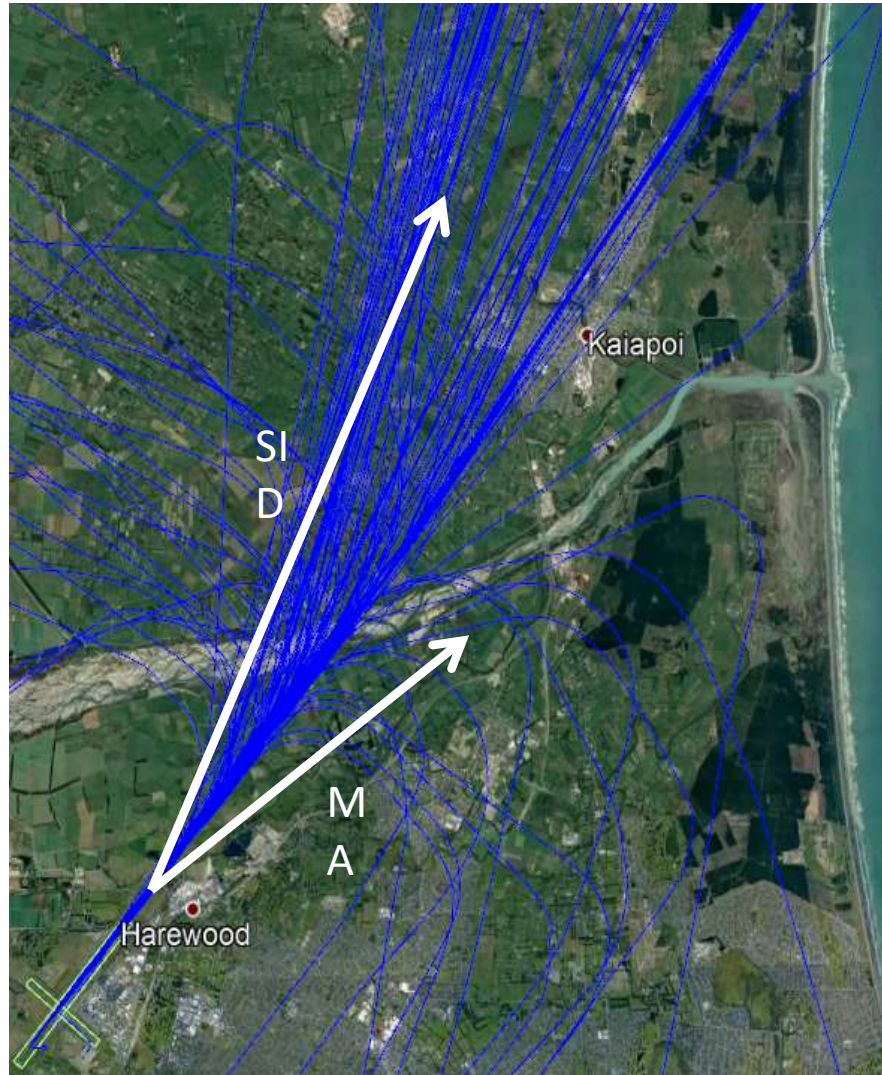
# Napier PBN



# Gisborne PBN



# DGP - Divergent Go-around/MA Protection



# Q & A

Why delays for legacy traffic?

Why delays for PBN traffic?

Why is vectoring still used in a PBN environment?

Why *RNP 1* not *RNAV 1* at regional aerodromes?

What about PBN at uncontrolled aerodromes?

Why are NDBs being pulled by Airways?

Will there be a PBN mandate?

...

Where to find info on PBN?

➤ [www.aip.net.nz](http://www.aip.net.nz) AIC

How to provide PBN feedback to Airways?

➤ Email PBN queries to local ATC Manager, or to [pbn@airways.co.nz](mailto:pbn@airways.co.nz) .

## 10.1 Priorities Applied by ATC

10.1.1 Providing safety is not jeopardised, ATC units will apply the following traffic priorities:

- (a) an aircraft known or believed to be in a state of emergency or impaired operation has priority over all other aircraft (*Note: Impaired operation includes an aircraft subject to unlawful interference, a multi-engined aircraft which has had an engine failure, whether or not an emergency has been declared, and an aircraft with radio communication failure*); and
- (b) an aircraft landing, or in the final stages of an approach to land, has priority over a departing aircraft; and
- (c) an aircraft landing or taking off has priority over taxiing aircraft.

## 10.3 Granting of Priorities

10.3.1 Priority will be given to the aircraft first able to use the airspace or manoeuvring area; **except**:

- (a) where a more orderly flow or a significant economic benefit for a number of other aircraft would result by deferring this priority;
  - (b) where a significantly greater economic penalty to another aircraft would result e.g. by permitting a light aircraft to operate ahead of a large jet aircraft;
  - (c) aircraft operating in the normal pattern will be given priority over aircraft desiring to operate in conflicting patterns;
  - (d) where a training instrument approach has been approved, normal priority will be given to the aircraft from the time it commences final approach; and
  - (e) where prior arrangement has been made for flight inspection checks and a priority has been predetermined.
- (f) where PBN has been implemented, priority may be given to PBN operations over non-PBN operations.

## Contact

For further information on aircraft operator approvals, contact CAA NZ ([www.caa.govt.nz](http://www.caa.govt.nz)). For further information on planned PBN implementation and associated ATM or airspace changes, contact:

PBN Implementation Manager  
Airways New Zealand

[pbn@airways.co.nz](mailto:pbn@airways.co.nz)

# AIRWAYS PBN UPDATE

## Current Status

## PBN Traffic Statistics

## Ongoing PBN

- AUCKLAND RNP U
- WLG RNP TRIAL
- NELSON
- WHENUAPAI
- PALMERSTON NORTH RNP
- AA & WN SIDS / STARS
- NAPIER
- GISBORNE
- DIVERGENT GOMA PROTECTION



AIRWAYS