CIVIL AVIATION AUTHORITY
OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

Application for designated airspace or visual reporting point

Note: The CAA standard rate hourly charge applies. Follow the link for information on fees and charges.

1. Organisation details

Person completing application			Mark Blanchard - Head of Policy and Standards
Legal name of organisation			Airways Corporation of New Zealand
Trading division name			Policy and Standards
CAA participant number (if known)			33794
Tel		Email	Mark.Blanchard@airways.co.nz
Purchase order number (optional)			

2. Reason for application

Activity or event:	Airspace petition for permanent designation

3. Designation details

Type of designation requested		
☐ Common Frequency Zone	☒ Control Area	☒ Control Zone
☐ Danger Area	☐ General Aviation Area	☐ Low Flying Zone
☐ Mandatory Broadcast Zone	☐ Military Operating Area	☐ Parachute Landing Area
☐ Restricted Area	☒ VFR Transit Lane	☐ Visual Reporting Point
☐ Volcanic Hazard Zone		
Status	☒ Permanent	☐ Temporary
Activation - timing or means	H24	
(indicate the proposed frequency of use or activation, UTC, NZDT or NZST time, or active by day, or active by NOTAM)		
Location - area or aerodrome	Wellington Airport	
Lateral dimensions	Refer attached petition below	
(Indicate using a radius or significant features or geographical coordinates in WGS-84: GPS datum)		
Vertical dimensions	Refer attached petition below	
(Give lower and upper limits in feet; state whether above mean sea level: AMSL or above ground level: AGL)		

CAA 24071-01
Rev 14 : Oct 2021

4. Administrating authority, using agency or air traffic control (ATC) unit

Agency	Wellington Tower & Wellington Approach
(Indicate which agency will act as an administering authority for a restricted area or MOA, a using agency for a danger area or low flying zone, or an ATC unit if controlled airspace)	
Airspace contact – full name and position	John Farron, Wellington Tower Team Leader Dallas Bean, Wellington Approach Team Leader
Contact details or radio frequency	Wellington Tower: 118.8, 125.25 Approach: 119.3, 122.3, 121.1

5. Consultation and other information

Evidence of consultation *(list or attach agreements and/or discussions with other affected airspace users - on a separate sheet if necessary)*	Refer to petition below.

An application for a permanent airspace change must be submitted at least 90 days prior to the effective date by either:

Email: aeronautical.services@caa.govt.nz

Post: Manager Aeronautical Services
Civil Aviation Authority
PO Box 3555
Wellington 6140
New Zealand

Airways New Zealand Petition

to

The Director of Civil Aviation

to

1. amend the Wellington CTR/C and CTA/C

and

2. add a transit lane north west of Wellington

on

13 January 2022

Prepared by: Policy and Standards

Airways New Zealand

Mark.Blanchard@airways.co.nz

As detailed and supported by this document, Airways submit a petition to;

1. amend the Wellington control zone (WN CTR/C NZA659); and

2. amend Wellington control areas (WN CTA/C) NZA638 (LL 4500ft) and NZA635 (LL 1500ft); and

3. establish a new WN CTA/C sector NZAXXX LL3500ft

3. consider the establishment of a Transit Lane North West of Wellington.

Accompanying documents:

1. Completed CAA Form 24071/01

Requested amended WN CTR/C and CTA/C

The requested changes to the WN CTR/C (NZA659) are depicted on the diagram below.

The existing CTR is also depicted for comparison.

Co-ordinates for the amended CTR and other airspace boundary changes are given from page 26.

The upper limit of the CTR remains at 2500ft AMSL.

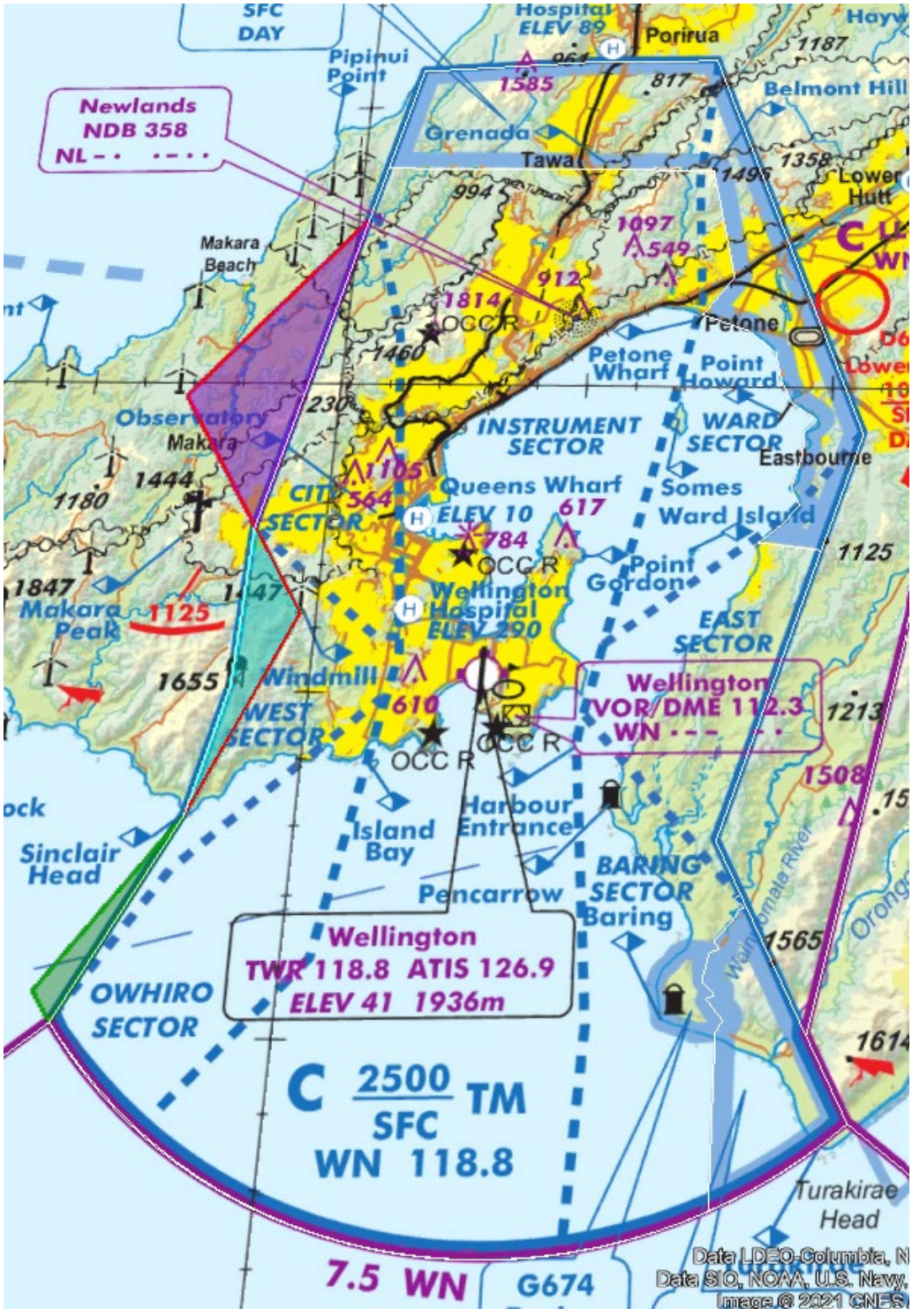

Diagram 1 Requested WN CTR

New CTA/C Sector to the East of Wellington 3500ft – 9500ft (amending part of current CTA/C NZA638 4500ft -9500ft).

Extension of CTA/C NZA635 Sector to the South West of Wellington 1500ft to 9500ft.

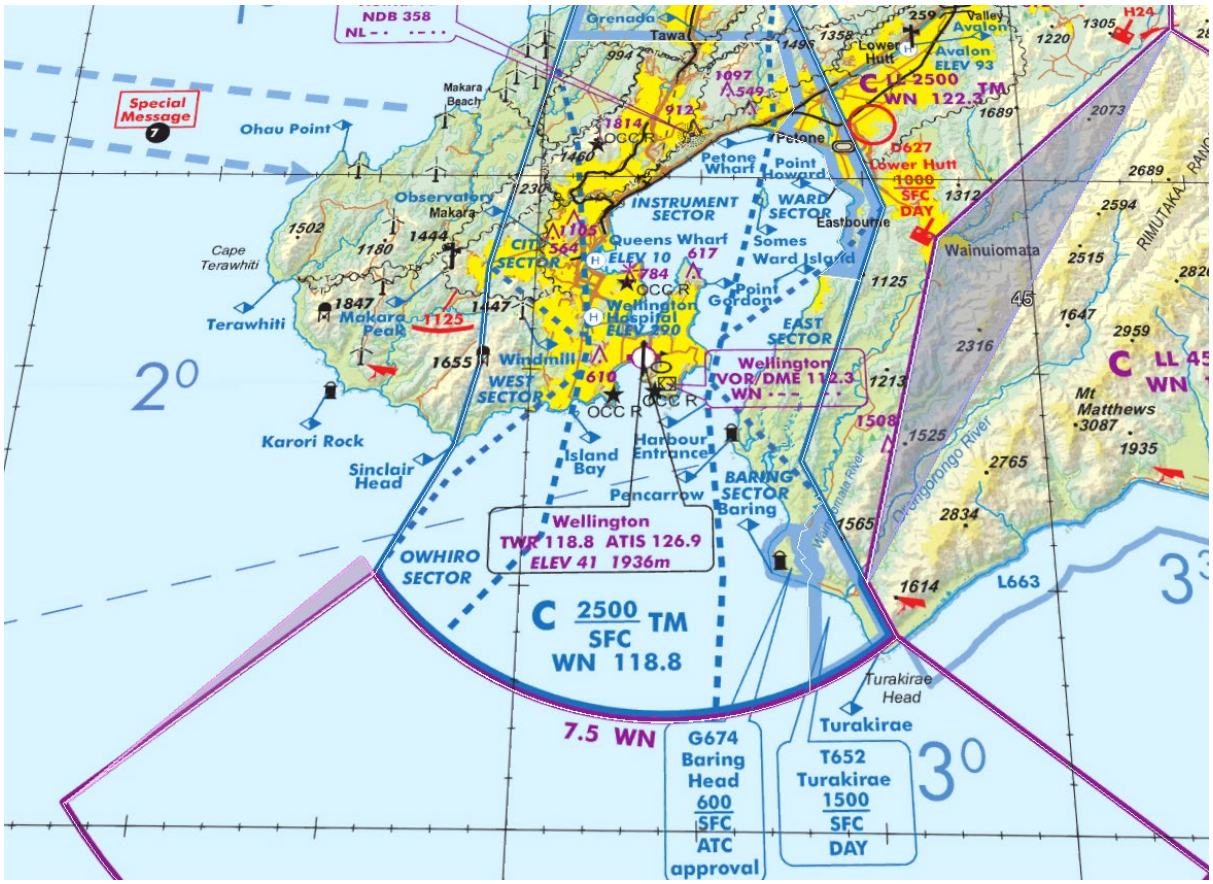

Diagram 2 Requested WN CTA

Airspace containment criteria applied

The guide for assessing airspace containment is the CAA Airspace Containment Policy 2011. As per this policy Airways has determined containment for amended procedures using procedure design protection areas as defined by Aeropath.

Procedure Changes

There are no track or altitude changes to any instrument approach inbound legs.

SIDs for RWY16 and RWY34 have been amended.

All missed approaches have been amended, associated with the removal of the Newlands NDB.

All procedures were either designed within current airspace boundaries or evaluated for additional airspace changes required to ensure airspace containment.

Designs utilised maximum operationally acceptable SID climb gradients to limit airspace expansion, and waypoint placement to reduce the extent of controlled airspace.

Note; IFR procedure changes will occur not before 1 December 2022 but are subject to resource and required approvals. Airspace environment change will allow procedure implementation after 1 December 2022, while still being valid for all current procedures until that change occurs.

Reason for Change

Airways intends to deploy a Divergent Missed Approach Protection System (DMAPS) for Wellington. This system will establish SIDs and Missed Approaches on at least 30 degree divergent tracks, as soon as procedurally possible after departure or missed approach.

Airways have evaluated significant safety and efficiency gains from DMAPS, with removal of the ATC directed requirements for Cat B or greater aircraft to enter the visual circuit in the event of a missed approach or go-around.

DMAPS was deployed in Christchurch in March 2020, with the prior evaluated safety and efficiency benefits being realised.

Airspace Containment Assessment by Aeropath of Procedures Not Contained within Existing Airspace

Diagram 3
West Bound SID RWY34, additional CTR SFC-2500ft required for airspace containment shown in yellow.

Note; airspace assessment allows for worse case straight line tracking from 34DP to next waypoint (0kt turn), and maximum procedure speed turn on the outside of the turn.

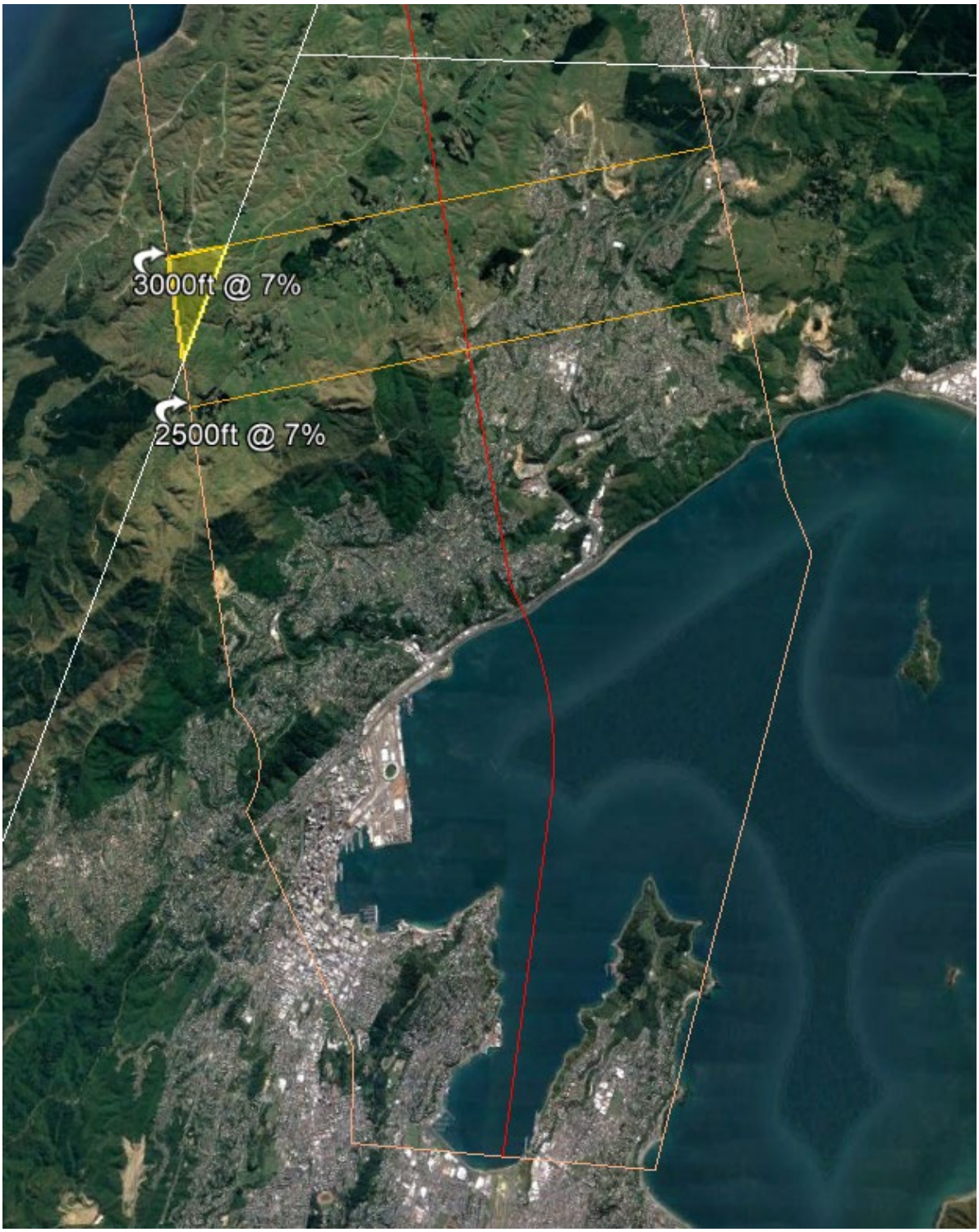

Diagram 4

North Bound SID RWY34, additional CTR SFC-2500ft required for airspace containment shown in yellow.

Note; airspace assessment allows for worse case straight line tracking from 34DP to next waypoint (0kt turn), and maximum procedure speed turn on the outside of the turn.

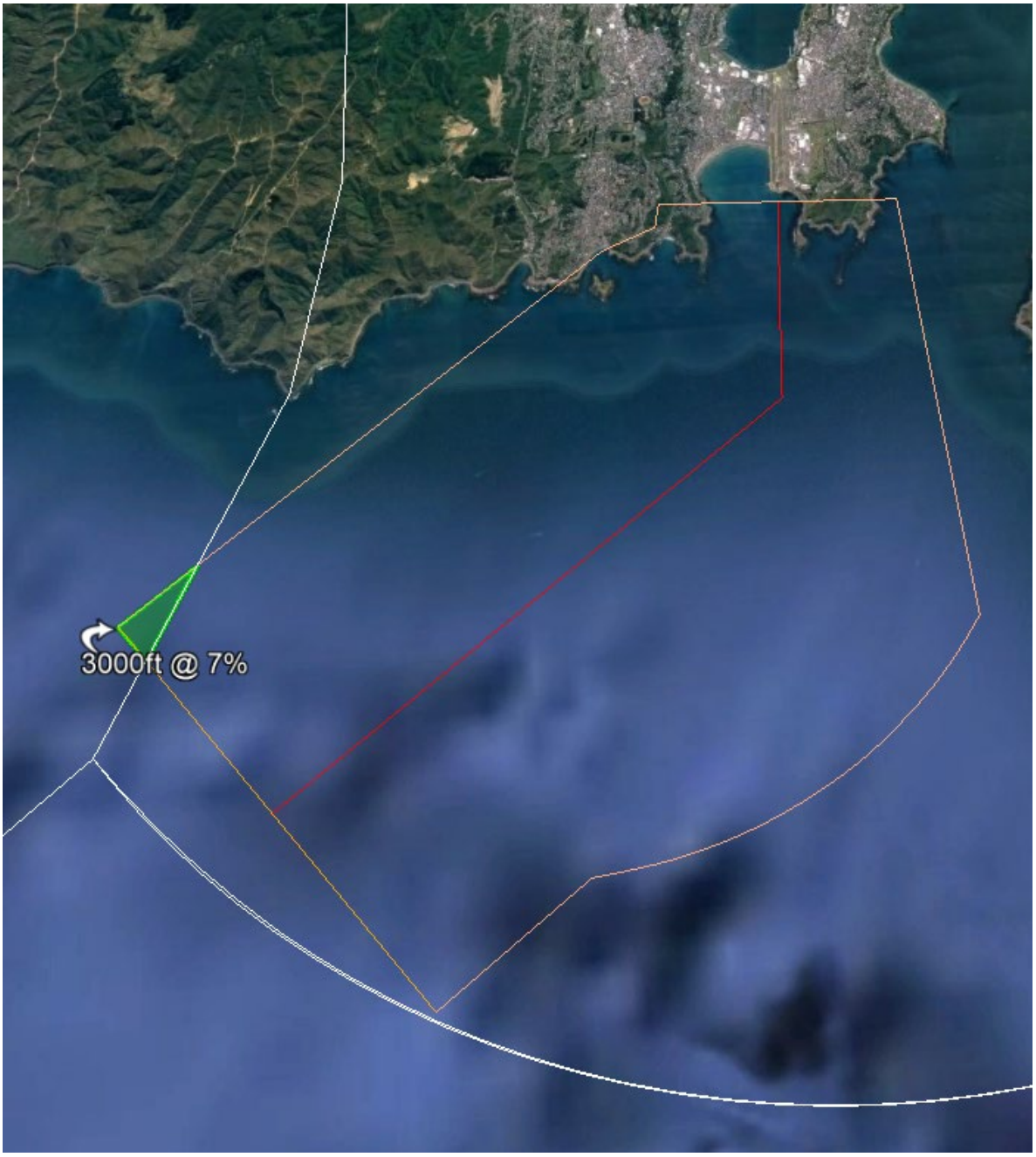

Diagram 5

West Bound SID RWY16, additional CTR SFC-2500ft required for airspace containment shown in green.

Note; airspace assessment allows for worse case straight line tracking from 34DP to next waypoint (0kt turn), and maximum procedure speed turn on the outside of the turn.

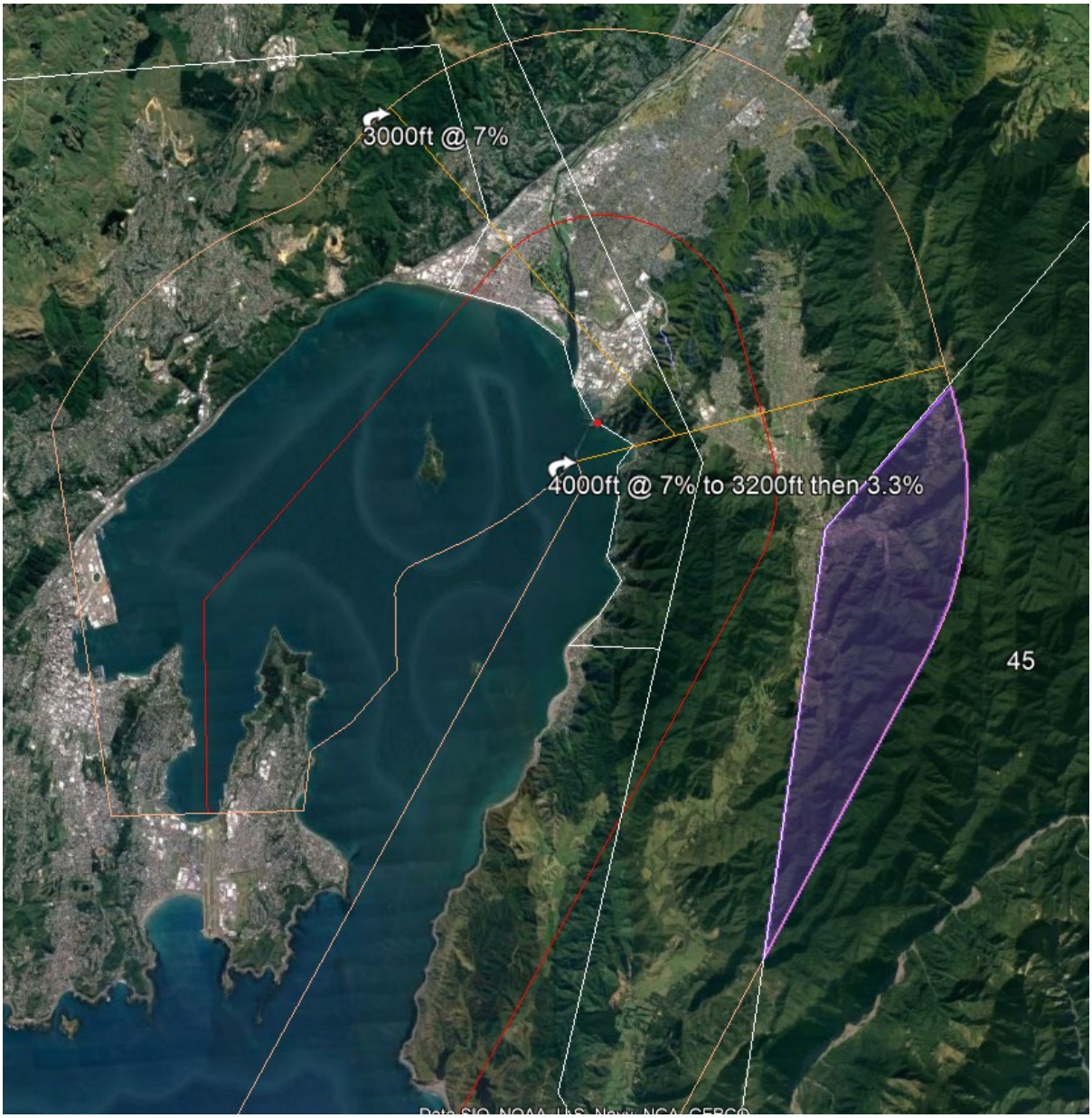

Diagram 6

East Bound SID RYW34, additional CTA required for airspace containment, with lower CTA limit changing from 4500ft to 3500ft, shown in pink.

Proposed CTR Boundaries

To the North West of Wellington.

Airways has sort to minimise the growth of the CTR to that extent necessary to protect IFR procedures, while establishing readily identifiable controlled airspace boundaries. Prominent geographical features are used where available with straight lines between these.

Diagram 7
CTR Extension and Reduction, using Sinclair Head, and Windmill as Prominent Geographical Features

Aqua colour area is released from the CTR, purple colour area is added to the CTR.

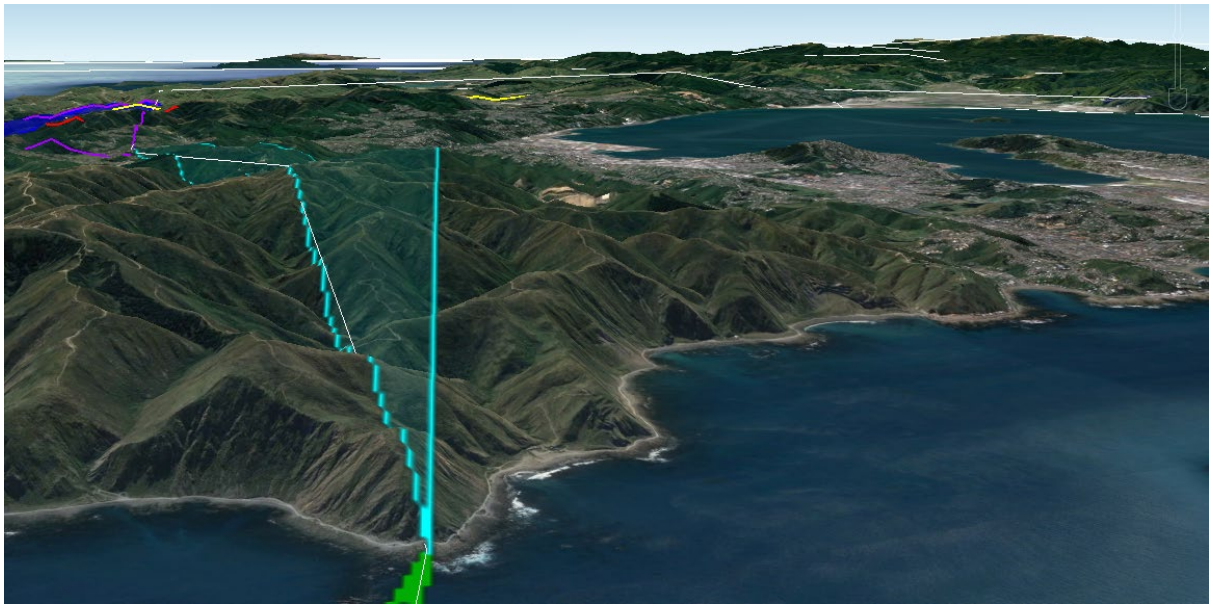

Diagram 8
Sinclair Head looking North

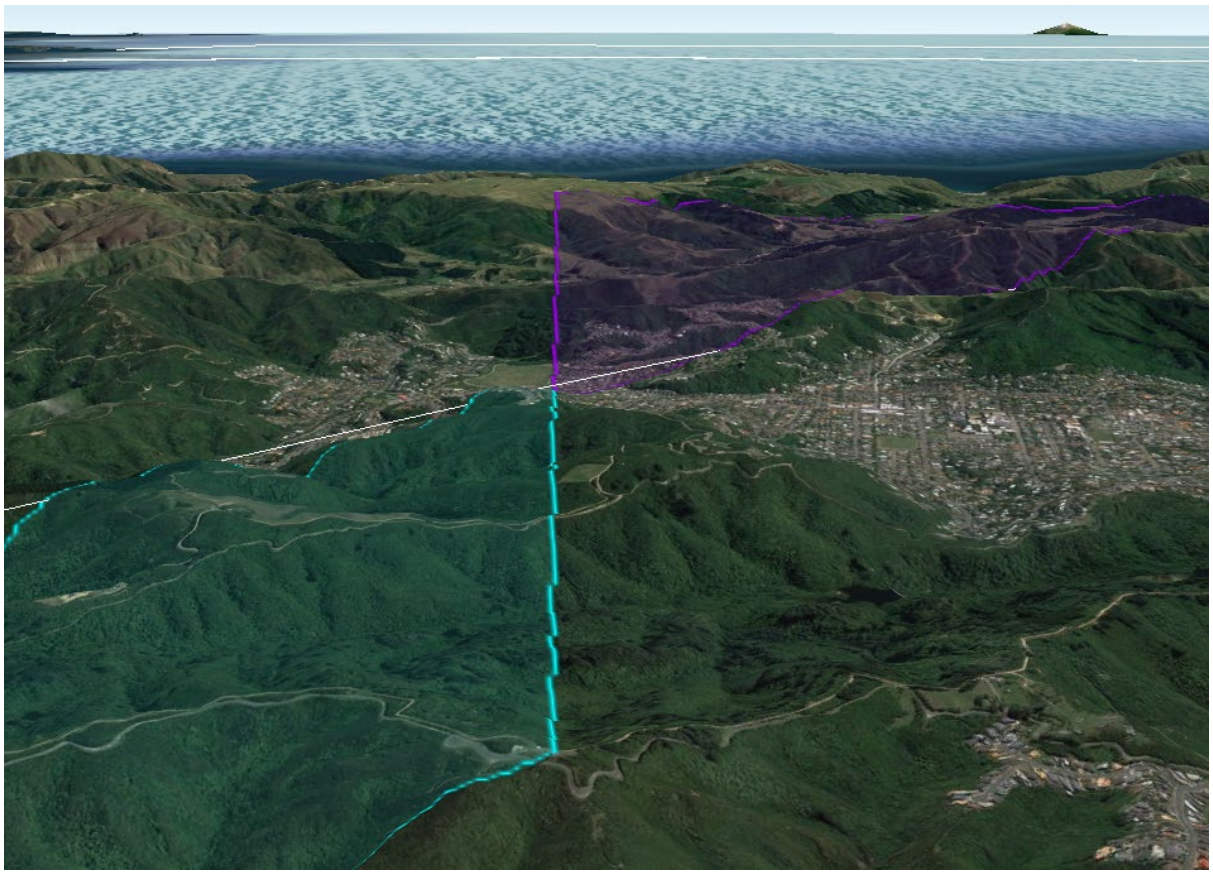

Diagram 9
Windmill looking North-West

Diagram 10
North-Western Boundary looking North-East

Boundary Points

From existing CTR boundary at Sinclair Head

1. S41° 21’ 43.80” E174° 42’ 57.60” (Existing CTR boundary at Sinclair Head VRP) to
2. S41° 18’ 38.80” E174° 44’ 43.60” (Windmill VRP) to
3. S41°15'06.53" E174°41'55.88" (East most Windmill 1.8nm North West of Makara)
4. S41° 11’ 58.88” E174° 45’ 15.45”E (to Existing CTR boundary)

Note: All of the West Wind Farm is clear of the CTR. The amended boundary near point 4 passes through a windmill (S41° 12’ 32.32” E174° 44’ 40.03”) 500m west of the Windmill staging area.

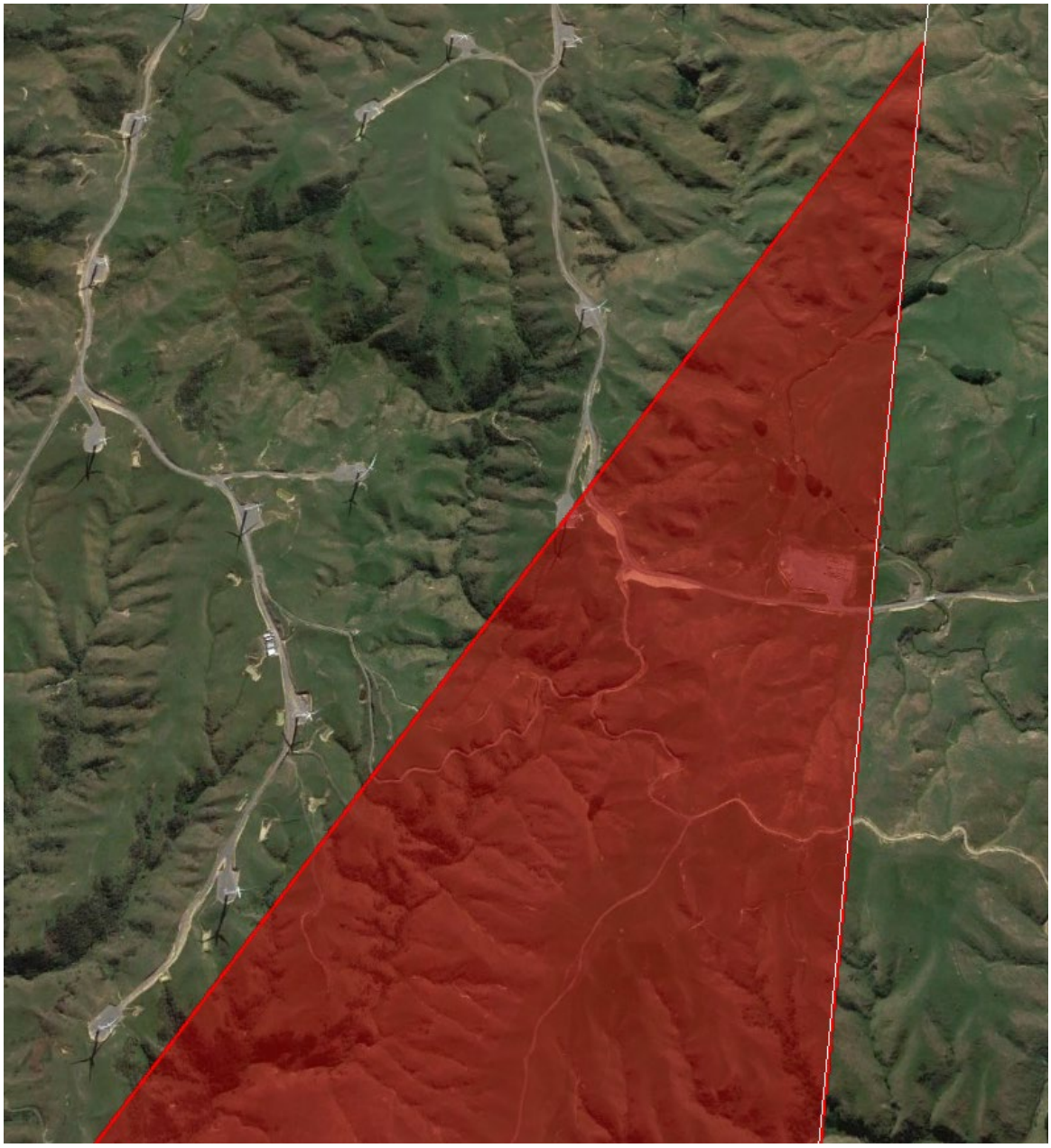

Diagram 11
Detail of Windfarm Outside of CTR Boundary

To the South West of Wellington – CTR Extension

From Existing Boundary Turn Point at 7.5 WN DME

1. S41° 24’ 40.70” E174°40’58.80” to
2. S41° 24’ 14.71” E174° 40’ 35.22” (8.6° westward extension of the 7.5 WN DME arc) to
3. S41° 21’ 43.8” E174° 42’ 57.6” (Sinclair Head VRP)

Diagram 13
CTR Extension to South West

Draft CTA Boundaries

To the East of Wellington, CTA/C NZA638 amended. New CTA/C sector in area released from NZA638 with lower level reduction from 4500ft to 3500ft.

From existing CTA boundary turn point at

1. S41° 24’ 45.40” E174° 54’ 44.40” to
2. S41° 16’ 28.40” E174° 57’ 17.50” (existing CTA boundary point) to
3. S41° 10’ 31.30” E175° 05’ 14.40” (existing CTA boundary point) to
4. S41° 24’ 45.40” E174° 54’ 44.40” (start point)

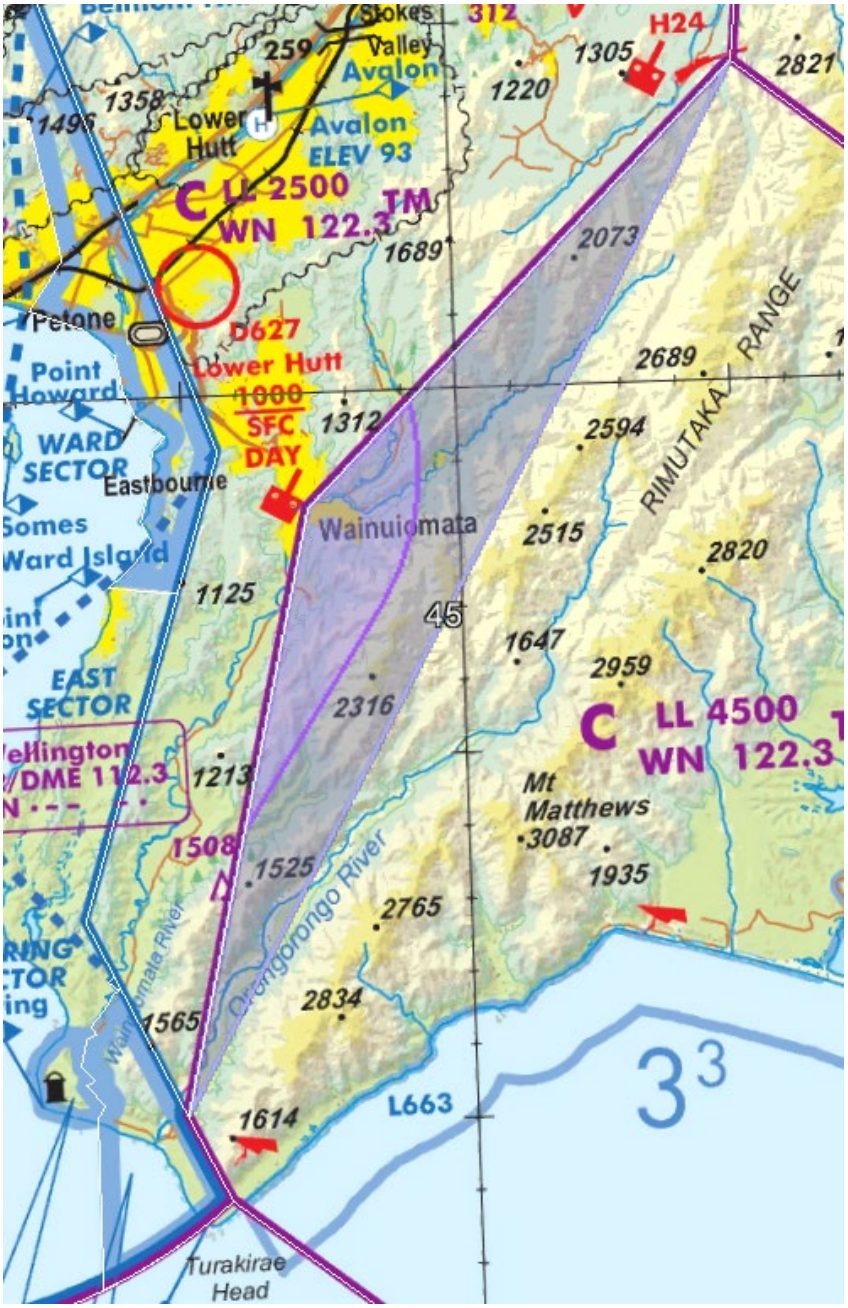

Diagram 14
CTA Change to the East LL3500ft
Note: This sector provides a minimum of 1184ft above the highest terrain.

To the South West of Wellington

Extension of the WN CTA 1500ft to 9500ft 4° west on the WN 7.5 DME arc. Purpose for extension is purely airspace boundary smoothing.

From existing CTA boundary turn point on the 7.5 WN DME arc at

1. S41° 24’ 40.70” E174°40’58.80” to
2. S41° 24’ 14.71” E174° 40’ 35.22” (4° westward extension of the 7.5 WN DME arc) to
3. S41° 29’ 27.30” E174° 33’ 17.30” (on existing WN CTA boundary at 15 WN DME)

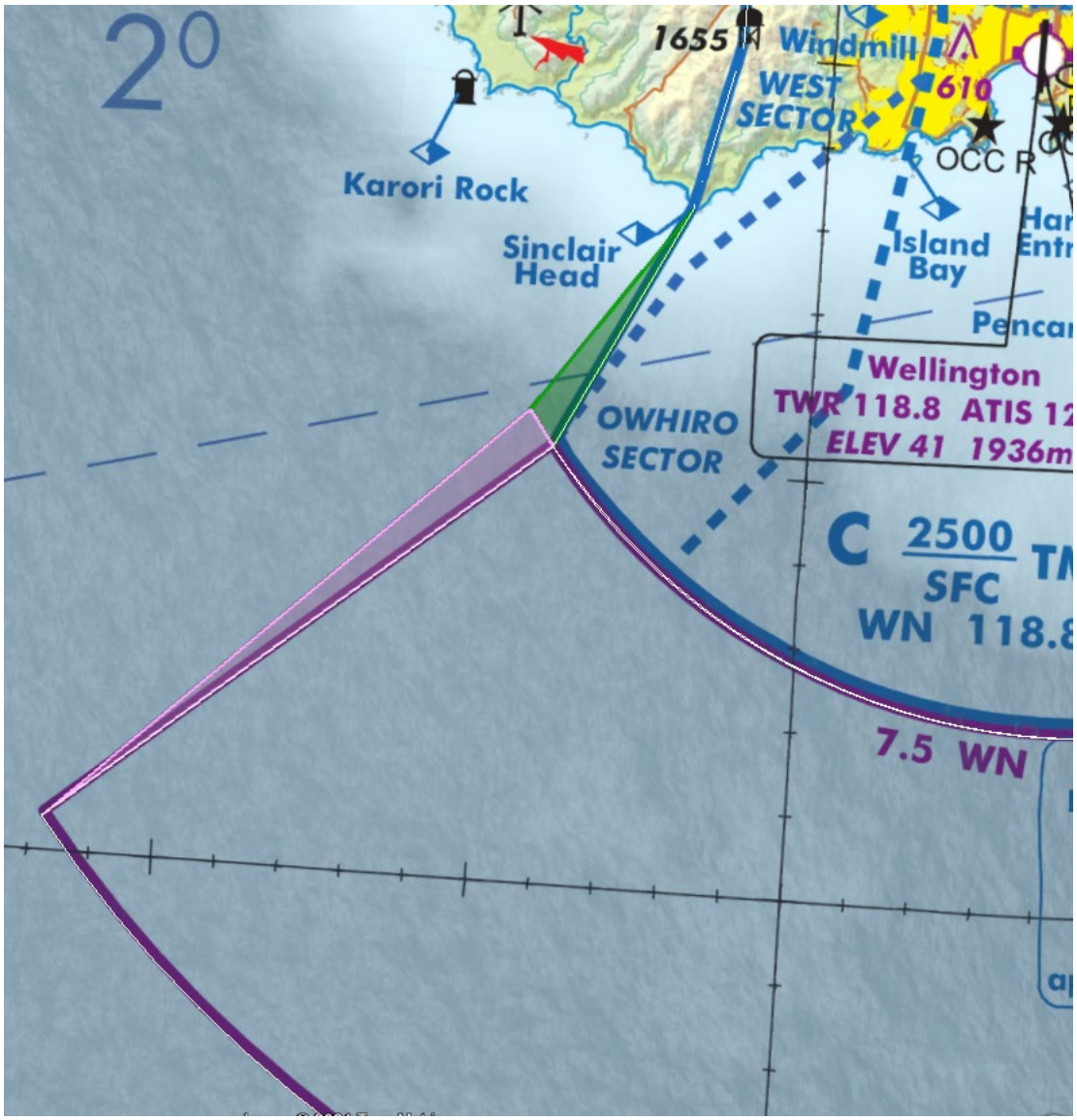

Diagram 15
CTA Change to the South West

Proposed Transit Lane

The CAA Airspace Containment Policy (2011) advises that those portions of controlled airspace not required because of limitations due to flight operations or terrain, should either be excluded in the controlled airspace design or a VFR transit lane designated.

Wellington is unique in terms of high terrain limiting the lower level of the associated CTA airspace. Airspace, that in other jurisdictions would be designated as CTA, with a lower limit of 1500ft, become instead CTR until CTA with a lower limit of 2500ft can provide the required procedure containment.

This results in a larger than normal CTR, with airspace at lower levels, further from the airfield, not required for containment of IFR procedures. The use of transit lanes at Wellington is already seen in T651 Porirua to the North, and T652 Turakirae to the South East.

In accordance with the Airspace Containment Policy Transit Lanes require a 1nm buffer for visual fix error unless a boundary is a very prominent feature. This is currently seen in Wellington as the coast boundary around Petone north east of Wellington and in Christchurch as a road boundary on T859 Swannanoa.

Airways has intentionally designed IFR procedures to allow use of sets of High Tension Electricity Transmission Lines to the north west of Wellington and displayed on the WN VNC as Transit Lane Boundaries, should the regulator consider that these constitute as very prominent features.

A VRF transit lane to the North West of Wellington would allow for less conflict between west bound IFR departures off RWY34 and VFR traffic departing from RWY34 to the north or west, and allow VFR and other aerial operations that currently take place outside the CTR, but within the area of expansion, to continue unhindered by day.

If it was deemed that the High Tension Transmission Electricity Transmission Lines did not constitute a very prominent feature then Airways considers that transit lanes boundaries would be limited to such a degree that they would be unwarranted.

Blue area is proposed Transit Lane SFC – 2000ft.

Red Line is the IFR procedure 2500ft protection boundary. Note the west SID has been assessed with a 60kt minimum procedure IAS.

Without acceptance of the Transmission Lines being a very prominent feature the protection areas become the yellow (with addition of a 1nm visual fix buffer).

The highest terrain beneath the transit lane is the land under the windmill designating the CTR and transit lane boundary at the western extreme, measuring 853ft. Excluding the consideration of the blades of this particular windmill, operations at 1000ft AGL would be possible throughout the transit lane.

Where the transit lane boundary leaves the Transmission Lines at the far North Eastern corner of the transit lane, this area is outside the 1nm additional buffer protection consideration.

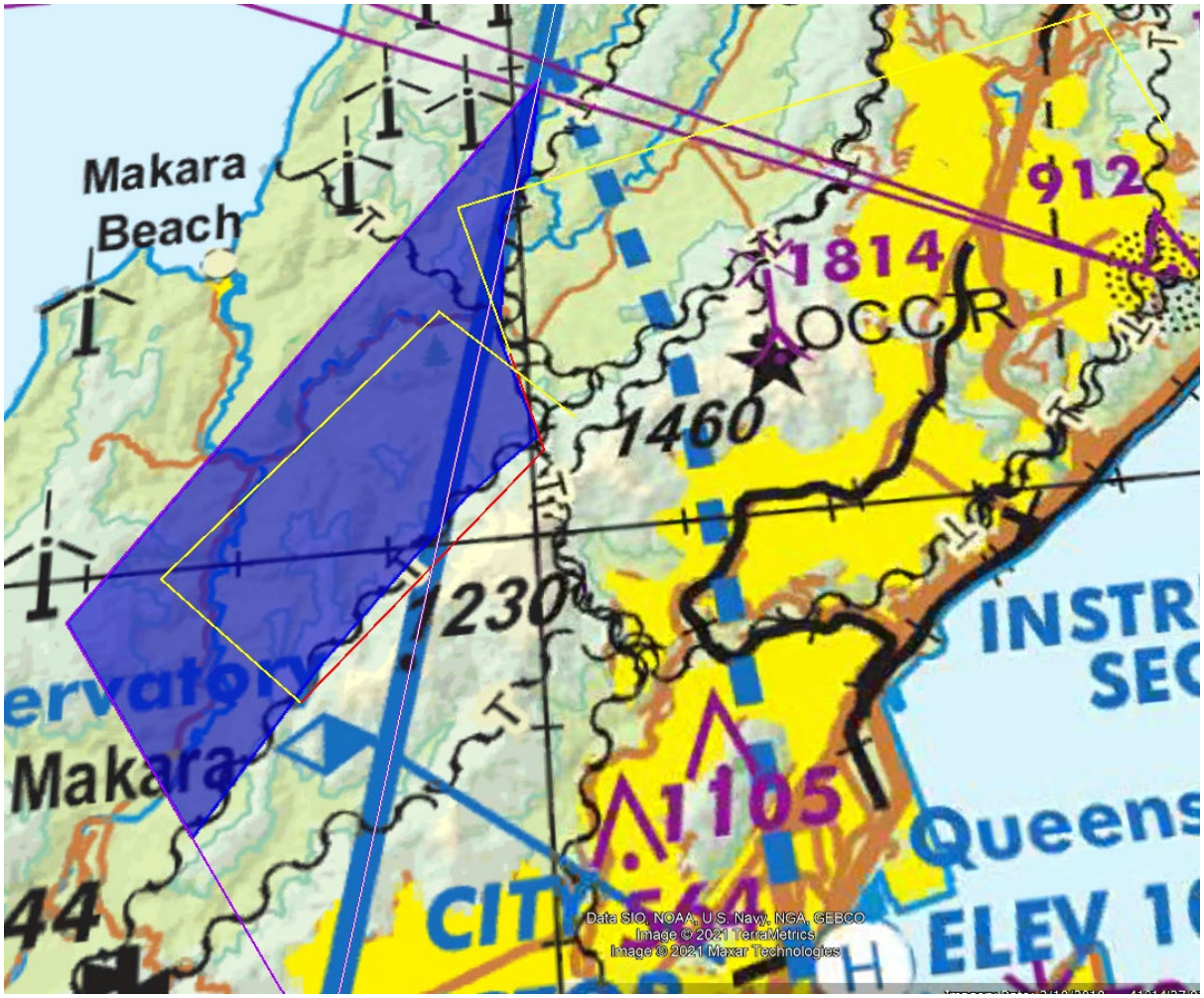

Diagram 16
Proposed Transit Lane CTR

Boundary Points

From Proposed CTR Boundary Turn Point at Windmill at Western extremity

1. S41°15'06.53" E174°41'55.88" (East most Windmill 1.8nm North West of Makara) to
2. S41° 11’ 58.88” E174° 45’ 15.45” (to Existing CTR Boundary) to
3. S41° 12’ 39.54” E174° 45’ 07.75” (Transmission Line cross over bridge on Windfarm access road)
4. Follow Transmission Lines south to
5. S41° 14’ 19.23” E174° 45’ 05.14” (Transmission Line Intersection with South West Transmission Lines)
6. Follow Transmission Lines south west to
7. S41° 16’ 14.06” E174° 42’ 49.20” (CTR boundary) to
8. S41° 15’ 06.53” E174° 41’ 55.88” (East most Windmill 1.8nm North West of Makara)

Diagram 17
Transit Lane looking North

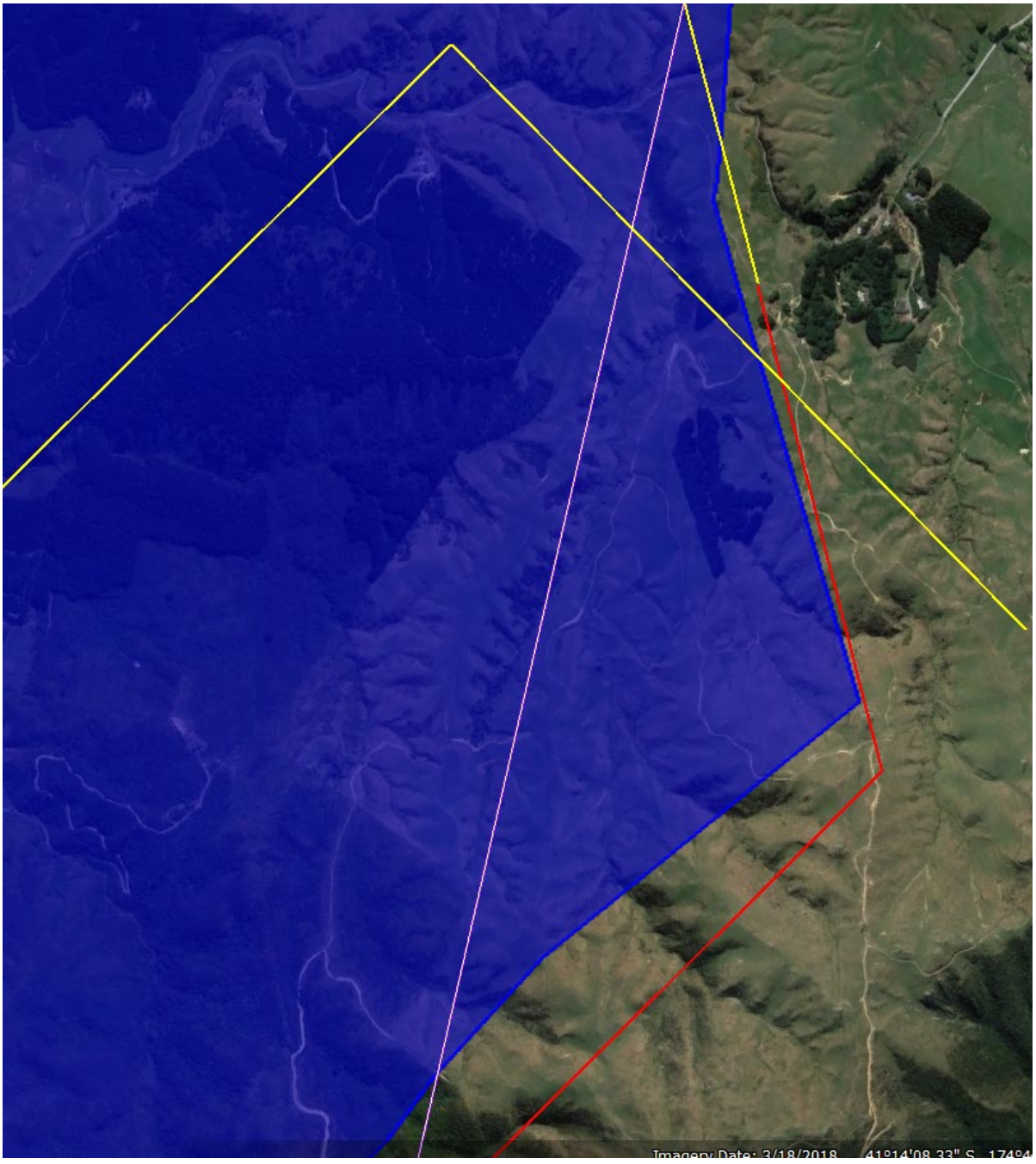

Diagram 18
Detail of Transmission Line Intersection

Consultation carried out by Airways

On 29 October Airways hosted a Teams meeting of local Wellington Airspace Stakeholders, explaining Airways proposals, and seeking feedback to these.

Attendees were:

James Evan – Airways, Head of Service Delivery Terminals
Tim Bradding – Airways, Head of Service Delivery Towers

Mark Blanchard – Airways, Head of Policy and Standards
John Farron – Airways, Wellington Tower Team Leader
Tim Whitehead – Airways, Wellington Tower Senior Controller
Benjamin Rothwell – Airways, Wellington Senior Controller
Phil Hawke – Airways, Wellington Terminal Deputy Team Leader
Brent Norton – Airways, Senior Operations Specialist, Innovation and Research
Ben MacMillan – CAA NZ
Matt Palliser – Wellington Airport Company
Noah Woolf – Wellington Helicopters
Dai Daniels – Wellington Helicopters
Jason Eteveneaux – Sounds Air
Harry Stevenson – Search and Rescue Services Ltd, Wellington Hand and Paragliding Club
Andrew Sims – Wellington Aeroclub
Ian Miller – Wellington Hand Gliding Paragliding Club

Apologies
Dallas Bean – Airways, Wellington Terminal Team Leader

Feedback was received on the following issues;

1. WN CTR changes to the North West

   Operators wanted a simple boundary with readily identifiable features where possible. Changes were made to Airways initial proposals at the meeting, which resulted in a consensus close to Option B in this proposal. After considering all feedback Airways has proposed Option A as it releases more unrequired airspace while being less complex than Option B. Option A uses as strong geographical features as Option B.

   Local airspace users were concerned regarding CTR encroaching into the western coastal strip in frequent use by recreational users. Options A and B address these concerns.

   Local VFR users were concerned regarding conflicts and delays that would result from wider controlled airspace to the North West. Airways has made every effort to limit this expansion (climb gradients on SIDs, proposed boundaries) but some impact may be experienced. Establishment of the proposed Transit Lane would mitigate the remainder of these concerns.

   Transit Lanes

   The proposed Transit Lane was supported by ATC and those local users that currently use this uncontrolled airspace. There was a caution that any Transit Lane should be clearly identifiable to mitigate the risk of airspace incursions.

   Airways had identified further area to the North West that could be released as a transit lane 1500ft and below. There was concern regarding the risk and complexity of having a common boundary between transit lanes with different levels. On consensus this proposal was rejected.

2. WN CTR changes to the South West

   No issues or impacts were identified.

   Airways had identified an additional area that could be released as a transit lane SFC – 1500ft south of Sinclair Head. The consensus was that the risks of adding a transit lane outweighed the potential benefit. This proposed transit lane was removed from Airways petition.

3. WN CTA changes to the South West

   No issues or impacts were identified.

4. WN CTA changes to the East

   Airways original proposals sent in advance to meeting invitees had the southern boundary of this area near Turakirae Head. Prior to the 29 October meeting the boundary had been moved by Airways 1.4nm further north. This change mitigated local user concerns regarding recreational airspace use east of Turakirae Head and in the Orongorongo River valley.

As Option A for the CTR was not presented at the meeting of 29 October, a draft airspace petition that include this, and other changes in response to the meeting of 29 October, was sent via email to all meeting participants on 13 November seeking any further change requests. No further changes were requested.

Amended CTR, sectors, CTA and transit lane definitions

Proposed CTR coordinates

All that airspace bounded by a straight line from;
S41° 08’ 55.25” E174° 52’ 25.86” to;
S41° 15’ 40.20” E174° 55’ 40.17” to;
S41° 22’ 02.69” E174° 52’ 59.07” to;
S41° 25’ 55.64” E174° 55’ 30.36” then;
the arc of a circle of 7.5 NM radius centred on S41° 20’ 14” E174° 49’ 01” WN DME from;
S41° 25’ 55.64” E174° 55’ 30.36” clockwise to;
S41° 24’ 14.71” E174° 40’ 35.22” then a straight line from;
S41° 24’ 14.71” E174° 40’ 35.22” to;
S41° 21’ 43.80” E174° 42’ 57.60” Sinclair Head VRP to;
S41° 18’ 38.80” E174° 44’ 43.60” (Windmill VRP) to;
S41°15'06.53" E174°41'55.88" (East most Windmill 1.8nm North West of Makara)
S41° 11’ 58.88” E174° 45’ 15.45” (to Existing CTR Boundary)
S41° 09’ 10.30” E174° 46’ 06.87” to;
S41° 08’ 56.94” E174° 49’ 59.67” Y intersection of Main Rd, Raha St and Kenepuru Dr to;
S41° 08’ 55.25” E174° 52’ 25.86”
Vertical limits: SFC to 2500 ft
Classification: Class C
ATC Authority: Wellington Tower 118.8 120.0

Proposed North-Western Transit Lane coordinates

All that airspace bounded by a straight line from;
S41°15'06.53" E174°41'55.88" (East most Windmill 1.8nm North West of Makara) to;
S41° 11’ 58.88” E174° 45’ 15.45” (to Existing CTR Boundary) to;
S41° 12’ 39.54” E174° 45’ 07.75” (Transmission Line cross over bridge on Windfarm access road)
Follow Transmission Lines south to;
41° 14’ 19.23”S 174° 45’ 05.14”E (Transmission Line Intersection with South West Transmission Lines) to;
Follow Transmission Lines south west to;
S41° 16’ 14.06” E174° 42’ 49.20” (Proposed CTR boundary) to
S41°15'06.53" E174°41'55.88" (East most Windmill 1.8nm North West of Makara)
Vertical limits: SFC to 2000 ft

Proposed CTA NZA638mod LL 4500ft co-ordinates

S41° 17’ 12.1” E175° 16’ 05.9” GRC to;
S41° 25’ 54.9” E175° 13’ 00.9” GRC to;
S41° 33’ 35.8” E175°08’ 48.1” GRC to;
S41° 25’ 55.64” E174° 55’ 30.36” GRC to;
S41° 24’ 45.36” E174° 54’ 44.50” GRC to;

S41° 10’ 31.3’ E175° 05’ 14.4” GRC to;
S41° 17’ 12.1” E175° 16’ 05.9” GRC
Vertical limits: 4500ft to 9500ft
Classification: Class C
ATC Authority: Wellington APPROACH 122.3 119.3 121

Proposed CTA NZAXXX LL 3500ft co-ordinates

S41° 24’ 45.36” E174° 54’ 44.50” GRC to;
S41° 16’ 28.4” E174° 57’ 17.5” GRC to;
S41° 10’ 31.3’ E175° 05’ 14.4” GRC to;
S41° 24’ 45.36” E174° 54’ 44.50” GRC.
Vertical limits: 3500ft to 9500ft
Classification: Class C
ATC Authority: Wellington APPROACH 122.3 119.3 121

Proposed CTA NZA635 mod LL 1500ft co-ordinates

All that airspace bounded by a straight line from;
S41° 25’ 55.64” E174° 55’ 30.36” to;
S41° 30’ 34.89” E175° 03’ 28.40” then;
the arc of a circle of 15 NM radius centred on S41° 20’ 14” E174° 49’ 01” WN DME from;
S41° 30’ 34.89” E175° 03’ 28.40” clockwise to;
S41° 29’ 27.30” E174° 33’ 17.30” then a straight line from;
S41° 29’ 27.30” E174° 33’ 17.30” to;
S41° 24’ 14.71” E174° 40’ 35.22” then;
the arc of a circle of 7.5 NM radius centred on S41° 20’ 14” E174° 49’ 01” WN DME from;
S41° 24’ 14.71” E174° 40’ 35.22” anticlockwise to;
S41° 25’ 55.64” E174° 55’ 30.36”.
Vertical limits: 1500ft to 9500ft
Classification: Class C
ATC Authority: Wellington APPROACH 122.3 119.3 121.1