

LAND'S END AIRPORT

CAP 1616 – AIRSPACE CHANGE PROPOSAL

FOR THE LAND'S END TRANSIT CORRIDOR (LETC)

-

STAGE 4B

Airspace Change Proposal

ID : ACP-2019-75



LAND'S END AIRPORT
ACP SUBMISSION STEP 4B:
AIRSPACE CHANGE PROPOSAL

June 2021 v2

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Issue	Month/Year	Change Requests
1.0	Apr 2021	Initial Draft Version
1.1	May 2021	Minor editorial changes and chart updates
1.2	May 2021	Correct missing text typo
2.0	June 2021	Reconsideration of proposal & reissue of 4B Document
2.1	June 2021	Correction of spelling mistakes and minor editorial

i Abbreviations & Glossary of Terms

ACAS	Airborne Collision Avoidance System	Equipment fitted to an aircraft that will provide information on other aircraft regarding range, altitude and bearing.
ACP	Airspace Change Proposal	The process by which a sponsor applies for a change to the design of a part of the UK airspace
ADS-B	Automatic Dependant Surveillance Broadcast	A way for an aircraft to determine its position via satellite navigation and periodically broadcast it, enabling it to be tracked
AIAA	Area of Intense Aerial Activity	
ATC	Air Traffic Control	
ATCA	Air Traffic Control Assistant	
ATCO	Air Traffic Control Officer	
ATCU	Air Traffic Control Unit	
ATM	Aerodrome Traffic Monitor	A type of radar used to assist in the safe operation of runways and airport utilisation
CAA	Civil Aviation Authority	The UK's aviation regulator ensuring that aviation reaches the highest safety standards
CAP	Civil Aviation Authority Publication	
CAT	Commercial Air Transport	
DP	Design Principle	
EC	Electronic Conspicuity	A means of aircraft transmitting their position to other ground or air-based systems
GA	General Aviation	
HEMS	Helicopter Emergency Medical Service	
IFR	Instrument Flight Rules	A term used to describe a pilot flying and navigating the aircraft with reference to the instruments in the flight deck

IMC	Instrument Meteorological Conditions	Instrument meteorological conditions (IMC) are meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions (VMC).
ISSC	Isles of Scilly Steamship Company	
ISSG	Isles of Scilly Steamship Group	
LETC	Land's End Transit Corridor	
LRMZ	Land's End Radio Mandatory Zone	
MLAT	Multilateration	A navigation and surveillance technique used to provide information on the position of an aircraft
PAX	Passengers	
PINS	Point in Space	A non-precision instrument approach mainly used by helicopters
RMZ	Radio Mandatory Zone	A designated piece of airspace that requires all aircraft to be fitted with and operate suitable two-way radio equipment
RNAS	Royal Naval Air Station	
RNP	Required Navigation Performance	Is a family of navigation specifications which permit the operation of aircraft along a precise flight path with a high level of accuracy and the ability to determine aircraft position with both accuracy and integrity.
SAR	Search and Rescue	
TCAS	Traffic Collision Avoidance System	Suitably equipped aircraft communicate digitally, between themselves, information regarding range, altitude and bearing to provide advice on airborne collision avoidance
TMZ	Transponder Mandatory Zone	A designated piece of airspace that requires all aircraft to be fitted with and operate electronic conspicuity equipment
UAS	Unmanned Aircraft System	Usually a large drone rather than the smaller domestic version
VMC	Visual Meteorological Conditions	Visual meteorological conditions (VMC) are the meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

1 Introduction

- 1.1 This document forms part of the document set required in accordance with the requirements of the CAP1616 airspace change process.
- 1.2 Land's End Airport is proposing to introduce an improved airspace solution to the Land's End Transit Corridor (an existing block of airspace linking the mainland to the Isles of Scilly) that could provide mitigation to the current unknown traffic environment. With an increase in air traffic movements within the Land's End Transit Corridor, the commencement of a second commercial operator (Penzance Helicopters) and the introduction of multiple IFR approaches (with more planned) a need for an Airspace Change was identified.
- 1.3 The owner of Land's End Airport, the Isles of Scilly Steamship Company (ISSC), has been providing lifeline services between the mainland and the islands for over 100 years. Air services provide a year-round lifeline link between the mainland and the Isles of Scilly and this proposal represents the final stage of a major investment program for the benefit of the island-based community and visitors.
- 1.4 This proposal is related to improving the safety of existing services and not about stimulating new traffic or altering any existing routes. Hence, in accordance with the levels as defined in CAP1616, the CAA has categorised this proposal as a Level 2C change. In line with the requirements for a Level 2C change, the environmental impact assessment has been conducted on the basis of CO2 emissions only. There would be no perceptible change to noise impacts to stakeholders on the ground; hence no noise analysis has been undertaken.
- 1.5 The LETC is used predominantly by scheduled passenger and freight carrying flights - both fixed-wing and, as of March 2020 from Penzance Heliport, rotary aircraft. In addition, it is used by military aircraft (both fixed-wing and rotary), SAR & Helimed helicopters, Trinity House helicopters, General Aviation flights and other charter and air-taxi operators.

Aircraft using the LETC become funnelled within a very narrow lateral and vertical area of airspace. In order to provide increased protection for all users, and in particular, the scheduled public transport flights - some of which may be conducting IFR RNP approaches - a need for an airspace change was identified.

Air Traffic Control Officers (ATCO's) at Land's End Airport and St. Mary's Airport oversee the safe, orderly and expeditious flow of aircraft using the LETC. The current LETC operation is further enhanced by an existing Letter of Agreement made between Operators and Land's End and St. Mary's ATCU's. An additional specific Letter of Agreement between Land's End ATCU and RNAS Culdrose ATCU details the procedures for when the Land's End RNP approaches are in use.

There are now four Airports/Heliports situated within the LETC – Land's End Airport, St. Mary's Airport, Penzance Heliport and Tresco Heliport. All these destinations are served by commercial air transport and all have, or intend to have, their own IFR RNP or PIN's approaches.

1.6 Land’s End Airport handled 15,042 aircraft movements (11,177 Airport Movements and 3,865 Overflights) and 64,000 terminal pax in 2019 (Jan-Dec). This makes it the 36th busiest Airport in the UK.

St. Mary’s Airport handled 12,329 Airport Movements and 94,000 terminal pax in 2019 (Jan-Dec). This makes it the 35th busiest Airport in the UK.

1.7 During this period of reduced air travel the route from Land’s End to St Mary’s has continued to be one that is accessed by essential flights both for passenger carrying and freight and has retained continuous traffic albeit at a reduced number. It was reported earlier in May 2021 that the Land’s End to St Mary’s route has actually been the busiest in the UK in April 2021.

TOP 10 ROUTES FROM UK AIRPORTS APRIL 2021			
Route	Airport Codes	Frequencies April 2021	Rank April 2021
Isles of Scilly – Land’s End	ISC LEQ	363	1
Alderney – Guernsey	ACI GCI	258	2
Belfast George Best City – London Heathrow	BHD LHR	150	3
Edinburgh-London Heathrow	EDI LHR	120	4
New York JFK – London Heathrow	JFK LHR	120	4
Glasgow – London Heathrow	GLA LHR	120	4
Aberdeen – London Heathrow	ABZ LHR	120	4
London Heathrow - Manchester	LHR MAN	120	4
Derry – London Stansted	LDY STN	112	9
Isle of Man - Liverpool	IOM-LPL	96	10

Source OAG Data Analysis

1.8 Having had to time to reconsider the situation surrounding the LETC and the provision of Air Traffic Services from the different units, and reviewing the feedback from stakeholders with the potential knock on effects of legislation changes in the near future we believe that a change in the original submission should be made.

1.9 We now propose that a more proportional and equitable solution would be to reclassify the LETC as an RMZ and alter the size to include the IAP’s at Land’s End & St Mary’s Airports (Option 3). This change to a RMZ is still very much in line with the Statement of Need and the agreed Design Principles.

This new airspace would be known as the Land’s End RMZ (LRMZ).

2 Executive Summary

Traffic levels in the LETC have built up steadily over the years with one or two notable exceptions due to staffing levels in St Mary's ATC and when Land's End airport hardened its main runways, both of which caused a temporary drop in aircraft movements. Overall though, there's been an increase in both commercial and GA movements. Although there may not be traffic levels to rival some of the busier airports the airspace sees a variety of aircraft types operating on a regular basis for example, commercial flights both fixed wing and helicopter, business charter, again fixed wing and helicopter, military helicopter and fast jet, general aviation, SAR, HEMS and hospital transfer flights. To add to this mix the LETC also sees paragliders, hang gliders and drone activity and two Ultra UAS companies running trials to and from the Isles of Scilly. Land's End airport has 4 RNAV instrument approaches, St Mary's airport has 2 NDB approaches with more RNAV/PINS approaches planned for St Mary's airport, Penzance and Tresco heliports. All of these activities take part mostly in class G airspace with only an ATZ at Land's End and St Mary's airports to offer protection for arriving and departing flights.

The voice of concern has been raised over the years as to what guarantees can be given to the travelling public, to name one group, regarding their safety as they fly to and from the Isles of Scilly. Outside of the relevant ATZs, there will always be unknown traffic, and whilst it is ultimately the pilots responsibility to 'see and avoid' Land's End airport wants to provide the safest environment it can not only to airspace users but to the 95,000 members of the public who travel to the Isles of Scilly by air each year. If it's possible to circumvent the need for any aircraft, but especially a commercial passenger carrying aircraft, to take drastic avoiding action in order to prevent a mid-air collision then it feels that sooner rather than later the airspace should be made safer. A lot of safety related changes come about after a serious incident or accident, such as when a child gets knocked down in the street and a speed limit is lowered or when sensors fail on an airliner and a loss of control ensues and there is a loss of life. There have been some minor incidents in the LETC over the years that have led us to realise that we have the opportunity to make a change for the better before something serious occurs. Safety really is of paramount importance to us and so we want to make the airspace safer for all users when we can.

Safety is a provocative word that can conjure up images both positive and negative. Everyone wants to feel safe and wants to think that professional bodies have their safety as a core discipline, however, safety is also sometimes seen as a way of preventing one from doing something and so is tainted with a negative side. Any airspace change is going to have elements from both camps and so of course needs to be a balance that is acceptable to all parties in the long run.

The major problem with the LETC is that there is the possibility of unknown traffic operating in very close proximity to the types of flight listed above. Whilst the implementation of class A airspace and installation of a state of the art RADAR system would solve the problem entirely this is neither achievable nor desirable so a more proportionate measure is called for that would achieve the same aims without causing unnecessary restrictions to the airspace users.

To this end Land's End airport, in December 2019, embarked upon following the CAP1616 process of an airspace change proposal to enhance safety within the LETC. 2020 was spent identifying stakeholders, initiating stakeholder engagement and developing design principles. Towards the end of the year a consultation strategy was developed, presented to the CAA and made ready for public launch in January 2021. On the 4th of January 2021 the consultation went live and ran for a period of 10 weeks ending on the 15th of March. Since then all the responses and feedback have been collated, analysed and categorised as to whether they may affect the final proposal or not. The findings were then presented to the CAA in the required format and any changes or updates incorporated into the final airspace change proposal.

The engagement and consultation with stakeholders so far has led us to the conclusion that the most equitable way forward for the LETC is to have it reclassified as a RMZ and to ensure that the IAPs at St Mary's, Tresco, Land's End and Penzance are all included within it. It is acknowledged that because the RNP approaches at St Mary's and the PINS approach at Penzance are still in the early stages of their respective ACP's that right now the size change incorporates the Land's End approaches and should St Mary's and Penzance be successful in their ACP applications the size be changed to reflect accordingly.

There was by no means full support for this option with the GA community objecting to any change to the current format of the LETC. When we took into account the fact that almost all of the GA objections to change carried no viable alternatives to enhancing safety and that the frequency of their flying within the LETC was limited to once or twice a year, and then placed these alongside commercial and charter aviation's desire for a greater margin of safety and that they made multiple flights on a daily basis, the option that needed to be carried forward to proposal became clear.

The RMZ part of the proposal is rather straightforward as this is a direct benefit to airspace users and ATC alike and will be the mainstay of improving safety. Having every airspace user in continuous contact with ATC will remove the unknown traffic element and raise safety margins for all concerned.

Ensuring that the IAPs were inside this new airspace just seemed like a sensible thing to do in combination with the above for the same safety reasons and especially since these are likely to be flown in IMC. Of course, we would like to redefine the shape to include all approaches both approved and those going through ACP's but recognise that at this point that would mean making the airspace bigger than it actually needs to be right now. With that in mind we propose that the end goal is to encompass all these approaches but in the short term just to alter the size to encompass the ones at Land's End. We go into greater detail about this in section 5 – Proposed Airspace Description.

By renaming the LETC we remove any old references and inferences and thus when pilots are planning to fly in this area the realisation of a new airspace and new requirements is brought to the forefront of their minds.

In conclusion then, if this proposal were to be accepted and the LETC reclassified as a RMZ with the IAPs encompassed within it there shouldn't be any more unknown traffic operating in the airspace. This will reduce the possibility of an incident or accident involving this traffic to almost nil and we would have achieved our aim of improving safety for all the airspace users to as high as practicable in a fair and equitable way to all of those users.

3 Current Airspace Description

3.1 Structures and Routes

The Land's End Transit Corridor is situated in the far South-West of England and is an established block of airspace approximately 38nm long and 15nm wide (Surface to 4,000ft altitude) linking the mainland to the Isles of Scilly.

It is situated in Class G airspace and partially within the RNAS Culdrose AIAA. (See [Appendix A](#) for diagram). There are danger areas to the north and east controlled by RNAS Culdrose which is situated approximately 16nm east of Land's End airport.

3.2 Airspace Usage & Proposed Effect

There are two airports (St Mary's & Land's End) and two heliports (Tresco and Penzance) that carry out regular year-round scheduled and charter flights. Generally, the airports operate from around 0800 to 1830 Monday to Saturday in the summer months. During the winter hours are reduced due to the lack in demand for flights and so the airports usually close at 1730 and Saturday afternoons. Very rarely are they open on a Sunday and usually only if the flying programme has been disrupted the day before.

Land's End airport has had RNAV instrument approaches since 2015 on all four of its main runways with on average 25-30 approaches being flown every month. St Mary's airport has NDB approaches on two of its main runways and is in the process of developing plans to include RNAV approaches as well. Tresco and Penzance heliports have started their own ACP to have PINS approaches at the two heliports.

Currently the main users of the LETC are:

- **Isles of Scilly Skybus** (Based upon 2019)
Skybus operate up to 8 aircraft on scheduled passenger carrying, freight, training and air ambulance flights all year round. The number of passenger flights varies greatly depending on the season
 1. Passenger carrying between 300–1000 per month
 2. Freight carrying between 70-90 per month
 3. Training between 20-130 per month
 4. Positioning flights 0-15 per month
- **Penzance Helicopters** (Based upon 2020)
Penzance Helicopters started operating in 2020 and had a disrupted first season due to COVID but during the months that they did operate conducted approx. 1400 flights between Penzance, Tresco & St Mary's.

- **General Aviation** (Based upon 2019)
GA flights again are very seasonal with between 30-220 per month, the majority being made during the summer months. These figures reflect those flights that arrived or departed from Land's End with any others made directly to or from St Mary's included in our overflight/transit figures.
- **PDG Helicopters/SAR/HEMS/Official/Air Ambulance/Military** (Based upon 2019)
This combined category covers flights made on behalf of the Trinity House Lighthouse Service (PDG) , search and rescue flights conducted by S92 helicopter, HEMS flights by Cornwall Air Ambulance Trust AW139, official flights usually conducted by Devon & Cornwall Police EC35, air ambulance transfer flights conducted by Skybus BN2 and military helicopter flights by MOD aircraft usually EH101 helicopters.

The combined range of movements of these categories is between 0-100 per month.

- **Overflight / Transit** (Based upon 2019)
This category can be a mixture of GA, Military and Skybus passenger flights and is seasonal and can range anywhere from 80-700 per month.

In summary of the monthly usage, it varies depending on the time of year as St Mary's is a holiday destination, so the winter months are much quieter. Looking at the 2019 figures the range went from 600 in the quietest month (February) to 2100 in the busiest (July). Despite early restrictions due to COVID regulations the figures are expected to be higher for 2021 because of the number of flights that Penzance Helicopters are likely to conduct (From 12/4/21 to 20/4/21 150 flights conducted).

The proposed direct effects on traffic are likely to be minimal as routing within the LETC will not be changed. An indirect effect is the remote possibility that an aircraft won't be able to make adequate 2-way radio contact before reaching the LETC boundary and so would have to hold outside of the airspace until communication with ATC was established. This is judged to be remote as Land's End ATC has a DOC (Designated Operational Coverage) of 30NM and up to 8000ft. This has proved to be more than adequate, and the only times communication has been disrupted between ATC and aircraft has been when Royal Navy helicopters have been flying near the surface of the sea in the Mounts Bay area.

There are a couple of Paragliding clubs that utilise an area near to Sennen Cove which is situated within the ATZ to the west of the airport (See fig 1 below). These aircraft are not radio equipped. Agreements have been made in the past with these clubs to allow them to operate within the ATZ when other operations are taking place, and this would still be the case under a Letter of Agreement. As long as this formal agreement was in place any change to the airspace would have no effect on these paragliding activities.

Sennen Cove
 Paragliding and Hang-gliding activities carried out during airport operational hours with agreement of ATC and Airport Authority.

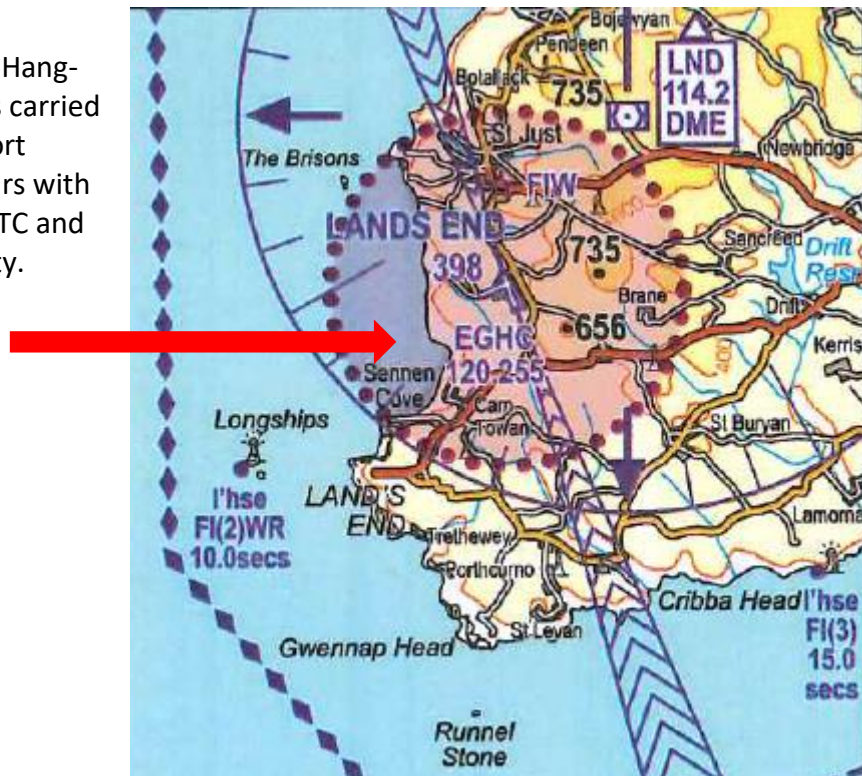


Fig 1 Land's End ATZ – Sennen Cove

3.3 Operational efficiency, complexity, delays and choke points

There are no proposed changes to air traffic patterns so there will be no impact for operational efficiency or complexity. A lot of GA flights route along the north coast to either transit to the Isles of Scilly or approach Land's End airport for arrival. There are no preferred or required points of entry into the LETC with ATC giving joining instructions or transit advice in line with the runway in use or traffic in the vicinity, any change to the classification of the LETC would not alter this and so there should be no reason that choke points should be created.

3.4 Safety Issues

The main safety issue with the LETC as it is today is the element of unknown traffic that operates within the airspace. Although on the chart's pilots are strongly recommended to contact ATC prior to entering the LETC, being class G airspace, pilots are not required to do so and there have been many occasions when known traffic has reported visual with an unknown aircraft or a return on ACAS has alerted them to its presence. With the introduction, last year, of another operator to the Isles of Scilly from Penzance, more instrument approaches being planned at St Mary's airport, Tresco and Penzance heliports unknown traffic transiting through this busy route will become more of an issue and raises safety concerns.

Whilst its accepted that there is unknown traffic all over the UK and pilots in class G airspace are ultimately responsible for their own traffic avoidance, Land's End airport wants to provide

the safest environment it can with the least disruption and continuing to allow access to all airspace users.

3.5 Environmental Issues

There are no specific environmental issues within the LETC in the current operation.

4 Statement of Need

- 4.1 The following text is from the DAP1916 Statement of Need form, as submitted in December 2019.

Situated in the far South-West, the Land's End Transit Corridor (LETC) is an established block of airspace (Surface to 4,000ft altitude) linking Land's End Airport to the Isles of Scilly.

The Corridor is situated in Class G airspace and within the RNAS Culdrose AIAA.

The LETC is used predominantly by scheduled passenger and freight carrying flights - both fixed-wing and, as of March 2020 from Penzance Heliport, rotary aircraft. In addition, it is used by military aircraft (both fixed-wing and rotary), SAR & Helimed helicopters, Trinity House helicopters, General Aviation flights and other charter and air-taxi operators.

Aircraft using the LETC becomes funnelled within a very narrow lateral and vertical area of airspace. In order to provide increased protection for all users, and in particular, the scheduled public transport flights - some of which may be conducting IFR RNAV approaches - a need for an airspace change was identified.

In summary, the purpose of this ACP is to consider possible airspace solutions that could provide mitigation to the current unknown traffic environment within the LETC.

- 4.2 Land's End airport believes that the establishment of a RMZ would align with initiative 11 of the CAA's Airspace Modernisation Strategy (CAP1711).

5 Proposed Airspace Description

5.1 Objectives/Requirements for Proposed Design

The primary objective for this proposal is to increase safety within the LETC by removing unknown traffic. This has to be achieved in a cost effective, sustainable and fair manner for the airspace users. It has to take into account the needs of all users then weigh these up against each other and the overall goal of making things safer.

5.2 Proposed New Airspace and Usage

5.2.1 The new airspace would be redefined as the Land's End RMZ (LRMZ) and so where appropriate the rest of the document will refer to this new airspace as such.

5.2.2 The proposed changes are for the Land's End RMZ shape to change to include the instrument approaches at Penzance, Land's End, St Mary's and Tresco and for it to become a RMZ as shown in fig 4. It is proposed that this be carried out in stages as laid out in 5.2.5 below. The vertical extent of the Land's End RMZ would remain the same as surface (SFC) to 4000ft.

5.2.3 The eastern (land) portion of the Land's End RMZ falls within the Culdrose AIAA (SFC-6000ft). Most of the sea portion falls within class G airspace. There are two ATZ's, one at St Mary's (SFC-2000ft and 2nm radius) and the other at Land's End (SFC-2000ft and 2nm radius). Neither Penzance nor Tresco heliports have an ATZ.

5.2.4 The airspace would continue to be used by all types of aviation that currently utilise it with a possible future use of large freight carrying UAS that are currently undergoing trials between St Mary's, Land's End and Perranporth airports.

5.2.5 The shape change would take place in three stages as follows

- Stage 1 – Change the shape to include the IAP's at Land's End Airport
- Stage 2 – Change the shape to include the PINS approach at Penzance Heliport
- Stage 3 – Change the shape to include the IAP's at St Mary's Airport

The reason for the stages is to take into account that neither St Mary's nor Penzance have their procedures published as of yet and if not already will be going through their own ACP's shortly. In order to take these potential changes into account we would propose that the finished shape look something akin to fig 4 below, accepting that the final procedures for Penzance and St Mary's may change slightly as their ACP's progress. For ease of demonstration and to acknowledge the fact that Penzance has a currently active ACP it is assumed that Stage 2 would include Penzance and Stage 3 St Mary's, however this may be reversed depending on the outcomes of their respective ACP's.

It is proposed that we carry out stage 1 now in this ACP and further stages depending upon the successful outcomes of Penzance and St Mary's ACP's.

5.3 Changes between Consultation and Final Proposal

As a result of the consultation we were able to incorporate some ideas regarding the size and shape of the Land's End RMZ in effect refining the shape to ensure airspace wasn't unnecessarily taken up. Step 4A: Update Design, section 3 Design Log refers to this.

5.4 The final overall shape of the Land's End RMZ takes into account the IAP's at both airports, associated holds at both airports, the proposed PINS approaches at Penzance and the VFR northern route from Land's End to St Mary's. Step 4A: Update Design, section 3 Design Log shows pictures of the proposed LETC with the IAPs included.

5.5 The Stage 1 shape of the Land's End RMZ includes the IAP's at Land's End and is shown in fig 2 below.

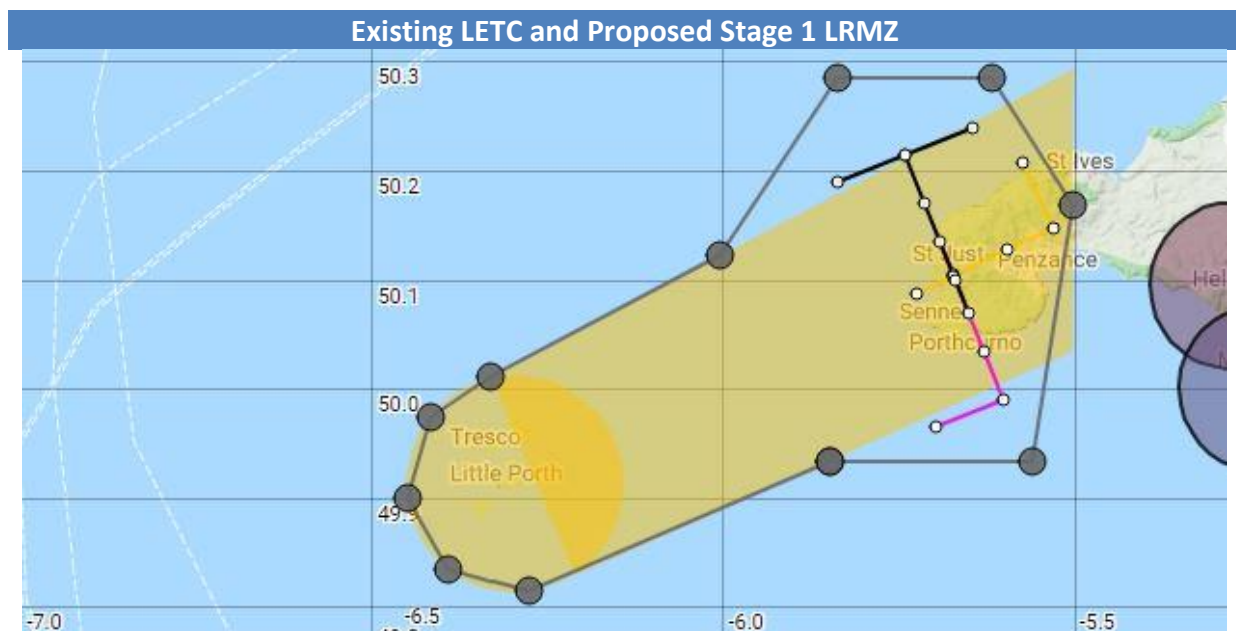


Fig 2: Current LETC in yellow with the proposed LRMZ (Stage 1) outlined

5.6 The Stage 2 approximate shape of the Land's End RMZ will include the PINS approach at Penzance and is shown in fig 3 below. The exact size and shape of the extra portion around Penzance may alter depending on any revisions that may be needed to the Penzance PINS ACP.

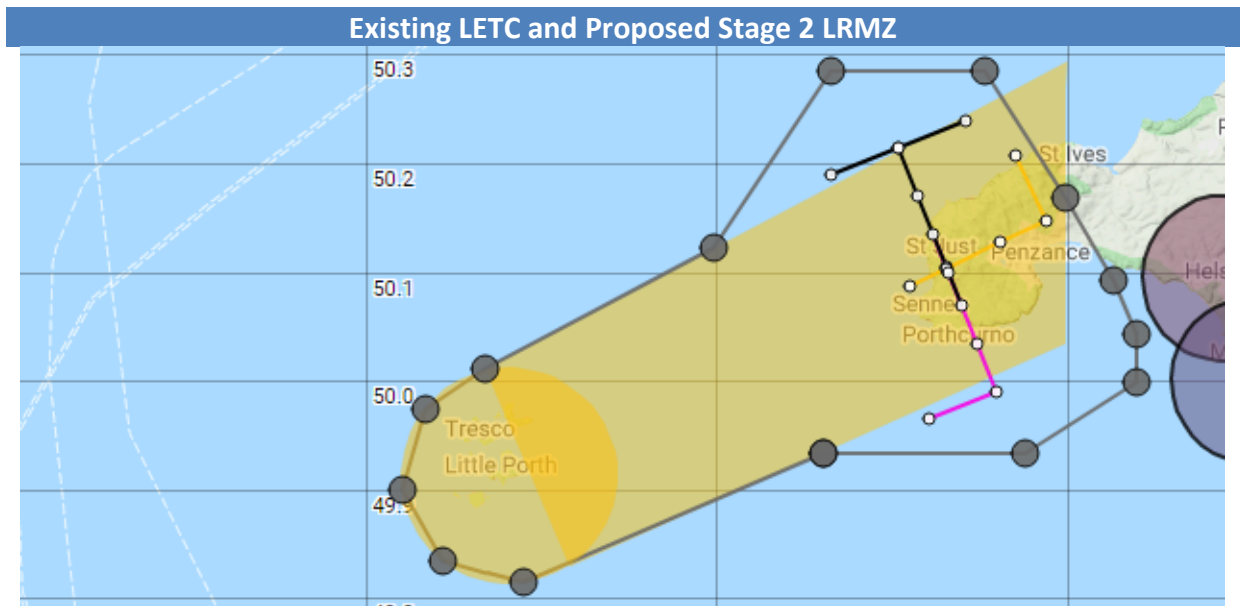


Fig 3: Current LETC in yellow with the proposed LRMZ (Stage 2) outlined to now include the proposed PINS approach at Penzance

5.7 The Stage 3 approximate shape of the Land’s End RMZ will include the PINS approach at Penzance and the RNP IAP’s at St Mary’s and is shown in fig 4 below. The exact size and shape of the extra portion around Penzance and St Mary’s may alter depending on any revisions that may be needed to their respective ACP’s.

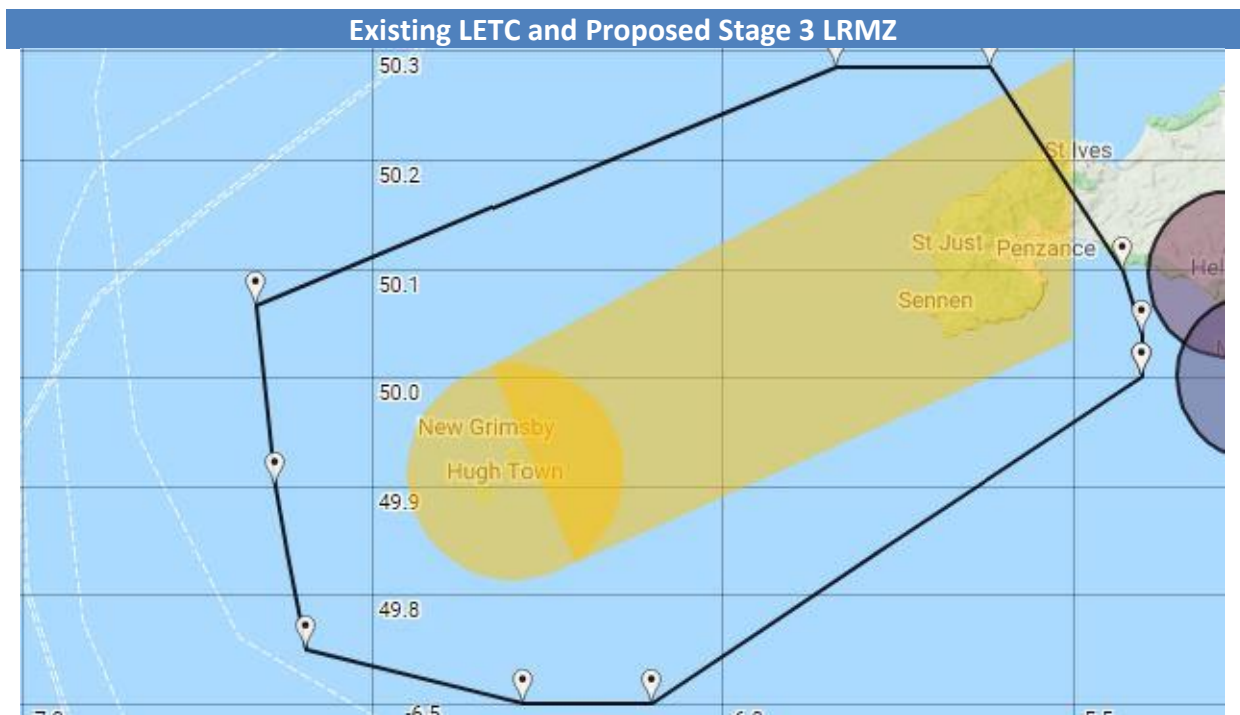


Fig 4: Current LETC in yellow with the proposed Land’s End RMZ (Stage 3) in outline that includes approaches and holds at St Mary’s, Land’s End and Penzance.

- 5.8 The horizontal limits of the Land's End RMZ Stage 1 can be defined as running approximately parallel to an imagined centreline between Land's End airport and St Mary's airport with a boundary some 6nm north and south if it. Working from St Mary's towards Land's End the LRMZ follows the size and shape of the current LETC until a point approximately halfway between the two airports when the shape widens to encompass the IAP's & associated holds at Land's End. Stage 2 would be the same as above with the addition of an extra portion to include the PINS approach at Penzance.
- 5.9 The horizontal limits of the LRMZ Stage 3 can be defined as running approximately parallel to an imagined centreline between Land's End airport and St Mary's airport with a boundary some 15nm to the north and another some 13nm south. The eastern boundary is some 9nm east of Land's End airport with the western boundary some 15nm west of St Mary's airport.
- 5.10 Most of the size change takes place over the sea and won't have an adverse effect on most of the traffic using that portion of the LRMZ. Traffic transiting to the Isles of Scilly would almost certainly be within the LRMZ anyway and RNAS Culdrose has confirmed during the consultation phase that all of their aircraft using this airspace are radio and transponder equipped.

6 Impacts and Consultation

- 6.1 Land's End airport completed engagement activities with stakeholders identified as those being most likely to be affected by the proposed design. These targeted stakeholders are listed in Appendix B. The Consultation Strategy Document details all the engagement activities completed prior to the consultation going live.
- 6.2 Unfortunately the start date of our online consultation coincided with a national lockdown on 4th January 2021. Land's End airport carefully considered whether to proceed with the consultation or to delay to a future date. Looking at how the ACP process had developed already, some of which had been conducted during a previous lockdown, it was concluded that we would begin the online consultation as planned and assess its progress and effectiveness during the time period allocated. If it was evident that the lockdown was having an adverse effect, then we would call a halt and recommence at a more opportune time. This was not the case and we had a lot of interest in the proposals ending up with 63 user responses.
- 6.3 Land's End airport commenced a focused consultation on the proposed airspace changes on 4th January 2021. The consultation was conducted via an online portal (Citizen Space) where users could submit a formal response alongside viewing the Consultation Document and a user-friendly slideshow outlining the proposals. The consultation document provides information on how the consultation was administered; an overview into the current airspace; the proposed changes and impacts of the proposed changes.

- 6.4 Users were given four options to choose from and asked for feedback and comments on Design Principles 8 & 9. Overall feedback or comments were also sought at the end of the online survey before submission.
- 6.5 Although many users from the GA community suggested that we should have included a 'No Change' option it had been identified earlier in the submission process that doing nothing was not a viable option since a safety concern had been raised and identified. The Statement of Need accepted and approved by the CAA, highlighted that there was a case for an improved situation within the LETC and so 'No Change' was not included in the public consultation. In the general feedback and comments users were still able to ask for any rankings to be ignored and still expressed their call for 'no change'. These were all noted and indicated in Stage 3, Step 3D: Collate and Review Responses Document, in section 3.
- 6.6 The consultation was open for ten weeks; closing on Monday 15th March 2021. A total of 63 responses were received during this period. A full summary of how the consultation was run and assessment of responses can be found in Stage 3, Step 3D: Collate and Review Responses Document.

6.7 Net Impact Summary

Option - RMZ			
Subject	Scale of Impact/Benefit	Evidence	Notes
Noise	None	No change to flight paths in the LETC	
Air Quality	None	No change to flight paths in the LETC	
CO2 Emissions	None	No change to the number of flights in the LETC	
Capacity	None	No expected change to ATC workload	
Access	Negligible	There may be a very small number of aircraft, estimated to be <1% that do not, or would not wish to, use 2-way radio equipment and therefore would not be permitted to enter the airspace. Neither Land's End nor St Mary's airports accept non-radio	Land's End airport handled 15042 air traffic movements during 2019 (Jan – Dec). ATC did not receive one telephone request to operate a non-radio aircraft within the LETC during that time. However due to the type of

		equipped aircraft to take-off or land.	airspace there was still unknown traffic seen within the LETC
Safety	Enhanced	All aircraft would be in 2-way radio communication with ATC before entering the LETC	Unknown traffic would be eliminated from the LETC

6.8 Units affected by the proposal

This section determines the likely impact on operations based on consultation responses and operational analysis.

The ATC units/airports consulted during the ACP process were

- RNAS Culdrose
- Penzance Heliport
- St Mary's Airport
- Tresco Heliport
- Perranporth Airfield
- Cornwall Airport Newquay

6.8.1 RNAS Culdrose replied to the consultation via Email from the MOD Defence Airspace and Air Traffic Management section and stated that none of the proposals would have an adverse effect on their operations and so raised no objections. Land's End airport has a very close working relationship with RNAS Culdrose and has letters of agreement in place concerning general use of the LETC and use of RNP approaches at Land's End airport. There is also a letter of agreement in place for the operation of BLOS UAS at RAF Predannack which is a satellite of RNAS Culdrose some 6 miles further round the coast.

6.8.2 Penzance & Tresco heliports are both keen to have a greater level of protection for their passenger carrying flights and for the proposed PINS approaches to both heliports. Land's End airport has stayed in close contact with the operators of the heliports to ensure that any requirements that they may have were included within the ACP. The aircraft operating out of the heliports would greatly benefit from the proposal.

6.8.3 St Mary's airport has been included in this ACP from the start and has been one of the main consultees and partners involved in its development. They have therefore been fully supportive of the proposal and the inclusion of their RNP IAP's that are currently in the design stage.

6.8.4 Perranporth airfield is outside of the LETC being some 15 miles north of the northern edge of the LETC but operates a flight training school that utilises the LETC and areas close to it. It also is a popular stop off point for flights transiting to the Isles of Scilly

through the LETC. Land's End airport identified Perranporth as a key stakeholder so was keen to seek their involvement in the online consultation. They expressed concerns that were addressed in the Stage 3, Step 3D: Collate and Review Responses Document, some of which have gone towards helping refine the proposed shape of the LETC.

- 6.8.5 Cornwall Airport Newquay are that much further up the coast again so are not directly impacted by the LETC. They do operate LARS for this part of the southwest of England though and so needed to be consulted early on and were also identified as a key stakeholder. Again, their comments were dealt with in the Stage 3, Step 3D: Collate and Review Responses Document. They are in support of the proposal citing safety as the main concern.

6.9 Military Impact and Consultation

- 6.9.1 RNAS Culdrose are the main operator of military aircraft in the LETC and surrounding area. There are danger areas and IFR helicopter operating areas close by with Culdrose as the controlling authority. The MOD Defence Airspace and Air Traffic Management section replied to the consultation via Email on behalf of RNAS Culdrose stating that the proposed changes to the LETC did not adversely affect their operations as all their aircraft are radio equipped.

6.10 General Aviation airspace users impact and consultation

- 6.10.1 When considering the impact that a change may have on the users of the airspace, we looked closely at who was flying within the airspace, the frequency of operation, the number of flights made, the type of operation, the potential benefits and the potential adverse effects.
- 6.10.2 Of the total air traffic movements in 2019 approx. 10 % were made by GA aircraft either arriving or departing from Land's End airport or transiting the LETC. The majority, of the remainder of the movements were conducted by commercial aviation companies. Only a small number of the GA flights were made more than once in a year.
- 6.10.3 A possible impact on these GA flights would be that if they didn't carry the equipment required by the airspace then they may not be able to carry out the flight. Pilots flying aircraft that are non-radio equipped or if they were unwilling to use the radio would not be able to enter the airspace unless by prior agreement.

For example; Paragliding activities take place, mainly, during the summer months within the western edge of the Land's End ATZ. These paragliders are not radio-equipped, and all activities are subject to an agreement with the airport authority and need specific ATC approval on the day.

- 6.10.4 A new Letter of Agreement (LoA) has been drafted to the paragliding operators at Sennen Cove to confirm our intentions to allow continued access to the airspace and assuage the fears expressed in their feedback during the consultation.
- 6.10.5 The LETC is notified as SFC to 4000ft and so aircraft without the required equipment fitted could still utilise the airspace above or around the LETC.
- 6.10.6 To get a wide variety of views Land's End airport included, in the list of targeted stakeholders, representatives from all aspects of aviation many of which came from the GA community. Local airfields, flying clubs and national bodies were all contacted from the beginning of the ACP and their feedback and opinions sought. This feedback has been listened to and taken into account at every stage and where possible incorporated into the final proposal.
- 6.10.7 It is acknowledged that there were a great many calls from the GA community to do nothing, however, as has previously been stated in this document, this is not a viable option. For the sake of the safety of all airspace users and the travelling public all aircraft flying in the LETC should be conspicuous. Even though this may cause an adverse impact on a minority of users the safety benefits to the remaining 90% far outweigh this. To minimise these adverse effects Land's End airport will commit to ensuring that where traffic and ultimately safety allows, it will enter into tactical agreements with any pilot who cannot completely comply with the requirements of the airspace.

6.11 Commercial air transport impact and consultation

- 6.11.1 During the consultation every commercial or business operator that was contacted has been in full support of the proposal. Other agencies such as HEMS & SAR aircraft will benefit directly from the proposal as well, as requiring all aircraft to be in two-way radio communication will improve situational awareness during their more challenging operations.
- 6.11.2 The impact on commercial operations will only be positive and add a level of security and safety to their operations especially when carrying out IAP's and during IMC.

6.12 CO₂ and Local environmental impact and consultation

It is not anticipated that this change will have an adverse effect on CO₂ emissions or noise impacts to stakeholders on the ground, therefore no further environmental impact assessments have been conducted. Aircraft tracks and routings are not expected to change, and the proposal is not expected to bring a sudden influx of air traffic to the region.

6.13 Economic Impacts

- 6.13.1 The economic impact on commercial aviation is expected to be nil as all of the operators consulted are already radio equipped.

6.13.2 The economic impact on GA is expected to be negligible, when taken as a whole, as all the aircraft handled currently within the LETC are radio equipped. It is believed, although not evidenced obviously, that the unknown traffic is radio equipped but elect not to use it. We can come to this conclusion because the type of aircraft that have been seen can be identified and an assumption of their basic avionics fit made.

For example; it is likely that an aircraft flying under a Certificate of Airworthiness, such as a P28A, has a radio fitted.

6.13.3 Land’s End Airport Ltd is part of a larger group of companies, Isles of Scilly Steamship Group. Neither the sponsor, Land’s End Airport Ltd nor the airline based at the airport, Isles of Scilly Skybus, will benefit economically from the proposal.

7 Design principles

7.1 In March 2020 Land’s End airport undertook to develop some design principles (DP) in order to then start to explore the options available for a change to the LETC. After a period of engagement with identified stakeholders these design principles took shape and were agreed upon and finalised.

The chronology of the engagement activity is summarised in the table below:

ENGAGEMENT ACTIVITY	DATE
Identifying Stakeholders	16 th - 20 th March 2020
Initial Consultation Documents circulated	26 th March 2020
Notification of Consultation extension Circulated (COVID-19)	30 th April 2020
Local Air Safety Committee circulate consultation documents	4 th May 2020
Consultation Deadline	7 th May 2020
Draft Design Principles with Stakeholders for comment	29 th May – 10 th June 2020
Submission to the CAA	12 th June 2020

7.2 The finalised Design Principles are

DP1	The airspace design and its operation must be as safe or safer than today for all airspace users that are affected by the airspace change.
DP2	Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change is that it accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.
DP3	Ensure that all airspace users, current & future, retain the ability to have safe and efficient access to the airspace.
DP4	Ensure that all possible technical solutions – both existing and emerging – are considered (e.g. RADAR, ADSB, MLAT, TCAS). The lifecycle cost of options shall be affordable to the Airport's and commercial operator's income, the equipment costs for GA and other users.
DP5	Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including classification and flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.
DP6	Options should consider an RMZ and/or TMZ solution.
DP7	Ensure that any changes fully consider any environmental impact – to include noise, air pollution and social issues.
DP8	As feedback was received regarding the size of the airspace (some requesting a small volume and others a larger volume), both the height and breadth of the LETC will be fully considered.
DP9	The airspace design shall consider operation by a single authority.

7.3 As part of the CAP1616 process and during Stage 2A Design Principle Evaluation, the available options were tested against the design principles. The degree to which the design principle has been met is indicated by the following colour coding

Green	MET
Yellow	PARTIAL
Red	NOT MET (Or change represents a detriment)

Design Principle Evaluation	
LETC reclassified as a Radio Mandatory Zone (RMZ)	ACCEPT
Change the LETC from Class G uncontrolled to an RMZ. See Stage 2: Design Options document for more detail.	

Design Principle	Summary of Assessment	MET?
DP1 The airspace design and its operation must be as safe or safer than today for all airspace users that are affected by the airspace change.	Establishing the LETC as an RMZ would eliminate the unknown traffic element as all aircraft would need to be in 2-way communication with ATC therefore, safety would be enhanced for all users	
DP2 Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change is that it accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.	By ensuring 2-way radio communication with ATC there is a significant safety enhancement thus potentially lowering the possibility of airprox and mid-air collisions	
DP3 Ensure that all airspace users, current & future, retain the ability to have safe and efficient access to the airspace.	An RMZ would enhance safety for all airspace users and since the cost of satisfactory 2-way radio equipment isn't prohibitive to most user's access to the airspace is still possible.	

DP4	Ensure that all possible technical solutions – both existing and emerging – are considered (e.g. RADAR, ADSB, MLAT, TCAS). The lifecycle cost of options shall be affordable to the Airport’s and commercial operator’s income, the equipment costs for GA and other users.	An RMZ doesn’t explore any current technical solutions. Installing satisfactory 2-way radio communication equipment is affordable for most GA airspace users and is not considered to be an unacceptable cost.	
DP5	Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including classification and flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.	Whilst not classified as controlled airspace an RMZ adds a measure of certainty to the traffic operating within the LETC allowing for safer and more efficient access and operation of aircraft	
DP6	Options should consider an RMZ and / or TMZ solution.		
DP7	Ensure that any changes fully consider any environmental impact – to include noise, air pollution and social issues.	No change	
DP8	As feedback was received regarding the size of the airspace (some requesting a small volume and others a larger volume), both the height and breadth of the LETC will be fully considered.	While there is no requirement to change the existing size of the LETC airspace for this option, doing so may further increase the safety benefits to all users.	
DP9	The airspace design shall consider operation by a single authority	Establishing an RMZ would encourage all ATCUs operating within the LETC to consider a single authority	

- 7.4 DP9 “The airspace design shall consider operation by a single authority “, has been looked at carefully to see what solutions may be preferred. Currently the way the LETC works is that traffic entering from the east usually benefits from a LARS from either RNAS Culdrose or Newquay and then transfers to Land’s End ATC, usually by prompting from those units, at an appropriate point close to the LETC boundary. The flight then continues with Land’s End ATC and if transiting to St Mary’s will be transferred at an agreed point, usually LND 10DME or 18nm to run to St Mary’s.
- 7.5 The current setup works well and is widely known by pilots and the ATS units, so we felt that this was a sensible starting point and should the proposal be successful would continue in this manner. RMZ requirements could be met by being in two-way radio communication with any of the currently operating ATS units or operating within the terms of a letter of agreement.

8 Options Analysis and Development

- 8.1 Land’s End Airport has explored many ways that the airspace might be managed and considered a number of options to help enhance safety in LETC and during this process, has examined and considered the following main themes

- Operational impact on current and potential future flights
- Economic impact on existing commercial operators and the local communities directly economically effected by flights between the Isles of Scilly and the mainland
- Safety management and risk analysis of both the current situation and any potential changes in the future
- Technical constraints and opportunities available to major stakeholders
- Environmental impacts including noise, Co2 and air quality

Taking all these into account the following options as to how safety margins could be increased were considered

- Do nothing
- Obtain a radar feed from an existing radar unit
- Install a radar at or near Land’s End Airport
- LETC reclassified as Class D controlled airspace
- LETC reclassified as Class E controlled airspace
- Establish a RMZ
- Establish a TMZ
- Establish a combined RMZ/TMZ
- Alter the size and dimensions of the LETC
- Utilise ADS-B technology

- 8.2 The options went out for feedback to the list of stakeholders in Appendix B and using their feedback and our own analysis we carried four options forward for consultation.

- Option 1. RMZ
- Option 2. Combined RMZ/TMZ
- Option 3. RMZ + Alter the size of the LETC
- Option 4. Combined RMZ/TMZ + Alter the size of the LETC (Preferred)

Having assessed all the proposed options, we originally suggested that a Combined RMZ/TMZ coupled with increasing the size of the LETC around the IAPs at Land's End and St Mary's airports was the preferred solution. Although option 4 was preferred and the initial proposal was put forward in this manner, after further consideration it is now proposed that we move forward with option 3 instead, as a fairer and more workable solution to the safety issues in the current LETC.

- 8.3 We received 63 responses to the consultation with opinions generally split between wanting no change to the current LETC and supporting option 4 above. Opinions were again generally split between the GA community wanting no change (although this was by no means unanimous) and the commercial/professional community supporting option 4.
- 8.4 After careful consideration and study of the feedback and opinions of all the respondents, and our own analysis of the situation and subsequent review, we decided that option 3 was the right option to carry forward to the CAA as our formal proposal. The full consideration and assessment of feedback received during the consultation can be found in the documents
 - Stage 3, Step 3D – Collate & Review Responses
 - Stage 4, Step 4A – Update & Submit
- 8.5 Option 3 - RMZ + Alter the size of the LETC is the design resubmitted because it best meets the needs of the design principles, regular airspace users, ATC and offers the most balanced and equitable solution to enhancing safety.

9 Airspace description requirements

	The proposal should provide a full description of the proposed change including the following:	Description for this proposal
a	The type of route or structure; for example, airway, UAR, Conditional Route, Advisory Route, CTR, SIDs/STARs, holding patterns, etc	RMZ
b	The hours of operation of the airspace and any seasonal variations	To coincide with the airport operating hours. Summer and winter hours vary. (Typical Summer 0700-1730 & Winter 0800-1730 UTC)
c	Interaction with domestic and international en-route structures, TMAs or CTAs with an explanation of how connectivity is to be achieved. Connectivity to aerodromes not connected to CAS should be covered	Land's End & St Mary's airports, Tresco & Penzance heliports are already within the LETC and would still be fully encompassed by the proposal
d	Airspace buffer requirements (if any). Where applicable describe how the CAA policy statement on 'Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes' has been applied.	N/A
e	Supporting information on traffic data including statistics and forecasts for the various categories of aircraft movements (passenger, freight, test and training, aero club, other) and terminal passenger numbers	This proposal would have no impact on the traffic mixture and no significant impact on the traffic density. (Stage 3, Step 3A Options Appraisal, 4.8/4.9 for traffic forecast)
f	Analysis of the impact of the traffic mix on complexity and workload of operations	This proposal would have no impact on the traffic mixture
g	Evidence of relevant draft Letters of Agreement, including any arising out of consultation and/or airspace management requirements	See Appendix C

h	Evidence that the airspace design is compliant with ICAO Standards and Recommended Practices (SARPs) and any other UK policy or filed differences, and UK policy on the Flexible Use of Airspace (or evidence of mitigation where it is not)	RMZ to be implemented as per Regulation (EU) 923/2012
i	The proposed airspace classification with justification for that classification	Airspace remains Class G
j	Demonstration of commitment to provide airspace users equitable access to the airspace as per the classification and where necessary indicate resources to be applied or a commitment to provide them in line with forecast traffic growth. 'Management by exclusion' would not be acceptable	See section 5 & 6.10
k	Details of and justification for any delegation of ATS	No change to delegation of ATS. Controlling authority is yet to be decided.

10 Safety Assessment

10.1 The first and overriding design principle is to ensure the airspace design and its operation must be as safe or safer than today for all airspace users that are affected by the airspace change. The analysis of options and feedback from stakeholders has confirmed that the proposed option 3, RMZ + alter the size of the LETC, meets this design principle.

10.2 Under this change all aircraft wishing to operate within the LETC would need to establish 2-way radio communication with ATC before entry.

The RMZ would remove the potential of unknown traffic operating within the LRMZ and vastly increase safety and situational awareness for the airspace users.

10.3 After initial consideration regarding what might be gained from altering the size of the LETC, it was decided that a major improvement would be to increase the size around the IAPs at Land's End and St Mary's airports & Penzance Heliport. Currently when aircraft are carrying out an IAP their tracks take them outside the LETC. By having the IAP's inside the LETC and having it designated as an RMZ as well this would greatly enhance safety for aircraft carrying out these approaches especially if they were in IMC at the time.

10.4 The proposed option - RMZ + Alter the size of the LETC to encompass the IAP's at Land's End and St Mary's Airports & Penzance Heliport (In stages as detailed in section 5 above), will provide the safest and most effective solution for all current and future users of the LETC. This option has a negligible impact on CO2 emissions, has no further noise impact than already present, nor does it negatively impact air quality or lifestyles of those under the flight paths.

11 Operational Impact

	An analysis of the impact of the change on all airspace users, airfields and traffic levels must be provided, and include an outline concept of operations describing how operations within the new airspace will be managed. Specifically, consideration should be given to:	Evidence of compliance/proposed mitigation
a	Impact on IFR general air traffic and operational air traffic or on VFR General Aviation (GA) traffic flow in or through the area	Minimal impact affecting only those aircraft flying without a radio. See sections 6.10.3 - 6.10.7
b	Impact on VFR operations (including VFR routes where applicable);	Routes would remain the same as current
c	Consequential effects on procedures and capacity, i.e. on SIDs, STARs, and/or holding patterns. Details of existing or planned routes and holds	All the IAP's and holds at the airports and heliports within the LETC would be encompassed within the RMZ
d	Impact on aerodromes and other specific activities within or adjacent to the proposed airspace	No impact on the airports or heliports within the LETC, paragliding activities would continue under a new LoA (Appendix C), flight training by Perranporth and Fly NQY would continue to the north outside of the LETC as it does currently.
e	Any flight planning restrictions and/or route requirements	No restrictions other than the need for radio usage.

12 Supporting Infrastructure

	General requirements	Evidence of compliance/proposed mitigation
a	Evidence to support RNAV and conventional navigation as appropriate with details of planned availability and contingency procedures	All the RNAV IAP's and holds at the airports and heliports within the LETC would be encompassed within the RMZ. No changes to the procedures needed.

b	Evidence to support primary and secondary surveillance radar (SSR) with details of planned availability and contingency procedures	LARS is currently provided by Newquay & RNAS Culdrose. RNAS Culdrose LARS coincides with their hours of operation (MON-FRI 0800-1700) which covers most of the hours of operation of Land's End & St Mary's airports. Anything out of this, Newquay LARS covers as their hours extend further into the evening (typically 2100) and covers weekends.
c	Evidence of communications infrastructure including R/T coverage, with availability and contingency procedures	The LETC is SFC-4000ft and is covered by Land's End ATC (DOC 30nm SFC-8000ft) and ST Mary's ATC (DOC 40nm SFC-10000ft). The LARS units have far greater ranges so the LETC is more than adequately covered.
d	The effects of failure of equipment, procedures and/or personnel with respect to the overall management of the airspace must be considered	Existing contingency procedures and management protocol will continue to apply as today.
e	Effective responses to the failure modes that will enable the functions associated with airspace to be carried out including details of navigation aid coverage, unit personnel levels, separation standards and the design of the airspace in respect of existing international standards or guidance material	As above (12d)
f	A clear statement on SSR code assignment requirements	No change
g	Evidence of sufficient numbers of suitably qualified staff required to provide air traffic services following the implementation of a change	No additional staff needed

13 Airspace and Infrastructure Requirements

	General requirements	Evidence of compliance/proposed mitigation
a	<p>The airspace structure must be of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to fully contain horizontal and vertical flight activity in both radar and non-radar environments</p>	<p>The LETC is designed to adequately cover all aircraft tracks between Land's End airport and the Isles of Scilly. With the extension around the IAP's Performance cat A aircraft will be able to carry out approaches, holds and missed approaches and still remain within the airspace.</p>
b	<p>Where an additional airspace structure is required for radar control purposes, the dimensions shall be such that radar control manoeuvres can be contained within the structure, allowing a safety buffer. This safety buffer shall be in accordance with agreed parameters as set down in CAA policy statement 'Safety Buffer Policy for Airspace Design Purposes Segregated Airspace'. Describe how the safety buffer is applied, show how the safety buffer is portrayed to the relevant parties, and provide the required agreements between the relevant ANSPs/ airspace users detailing procedures on how the airspace will be used. This may be in the form of Letters of Agreement with the appropriate level of diagrammatic explanatory detail.</p>	<p>N/A</p>
c	<p>The Air Traffic Management system must be adequate to ensure that prescribed separation can be maintained between aircraft within the airspace structure and safe management of interfaces with other airspace structures</p>	<p>The eastern portion of the LETC falls within the Culdrose AIAA. An LoA for the ATSU's withing the LETC and RNAS Culdrose exists and will continue to for any future change. See Appendix D</p>

d	Air traffic control procedures are to ensure required separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures	As above (13c)
e	Within the constraints of safety and efficiency, the airspace classification should permit access to as many classes of user as practicable	The classification of airspace will not change and providing aircraft are adequately fitted with radio equipment or have otherwise entered into an agreement with ATC access for all types of airspace user will be maintained.
f	There must be assurance, as far as practicable, against unauthorised incursions. This is usually done through the classification and promulgation	The LETC is a long-standing entity promulgated on charts and the AIP entry for St Mary's and Land's End airports. Both airports operate a PPR system when pilots are fully briefed by ATS staff so a full explanation of requirements will be made during this process. Both LARS units in the area have been targeted as key stakeholders and are fully aware and in support of the proposal. The other local airfields and airports will receive specific written notification and briefing.
g	Pilots shall be notified of any failure of navigational facilities and of any suitable alternative facilities available and the method of identifying failure and notification should be specified	Existing contingency procedures would continue to apply
h	The notification of the implementation of new airspace structures or withdrawal of redundant airspace structures shall be adequate to allow interested parties sufficient time to comply with user requirements. This is normally done through the AIRAC cycle	The change will be promulgated through the AIRAC cycle as per the typical schedule (currently planned for 10/21)
i	There must be sufficient R/T coverage to support the Air Traffic Management system within the totality of proposed controlled airspace	As above (12c)

J	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, the need for operating agreements shall be considered	As above (13c)
k	Should there be any other aviation activity (low flying, gliding, parachuting, microlight site, etc) in the vicinity of the new airspace structure and no suitable operating agreements or air traffic control procedures can be devised, the change sponsor shall act to resolve any conflicting interests	Should this occur, we would act appropriately and expeditiously.

	ATS Route requirements	Evidence of compliance/proposed mitigation
a	There must be sufficient accurate navigational guidance based on in-line VOR/DME or NDB or by approved RNAV derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/Eurocontrol standards	The existing Northern VFR route (LND R252) from Land's End to St Mary's is wholly contained within the LETC as are the RNP approaches to Land's End and the NDB approaches at St Mary's. The proposed size change will encompass the new RNP/PINS approaches being designed by St Mary's airport and Penzance & Tresco heliports.
b	Where ATS routes adjoin terminal airspace there shall be suitable link routes as necessary for the ATM task	N/A
c	All new routes should be designed to accommodate P-RNAV navigational requirements	N/A

	Terminal airspace requirements	Evidence of compliance/proposed mitigation
a	The airspace structure shall be of sufficient dimensions to contain appropriate procedures, holding patterns and their associated protected areas	As above (12a) (13a)
b	There shall be effective integration of departure and arrival routes associated with the airspace structure and linking to designated runways and published instrument approach procedures (IAPs)	As above (12a) (13a General Requirements) (13a ATS Route Requirements)
c	Where possible, there shall be suitable linking routes between the proposed terminal airspace and existing en-route airspace structure	N/A
d	The airspace structure shall be designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace	No change from today
e	Suitable arrangements for the control of all classes of aircraft (including transits) operating within or adjacent to the airspace in question, in all meteorological conditions and under all flight rules, shall be in place or will be put into effect by the change sponsor upon implementation of the change in question (if these do not already exist)	No change to the classification of airspace or provision of ATSOCA from today
f	The change sponsor shall ensure that sufficient visual reference points are established within or adjacent to the subject airspace to facilitate the effective integration of VFR arrivals, departures and transits of the airspace with IFR traffic	No change from today
g	There shall be suitable availability of radar control facilities	No change from today. LARS available from Newquay and RNAS Culdrose.
h	The change sponsor shall, upon implementation of any airspace change, devise the means of gathering (if these do not already exist) and of maintaining statistics on the number of aircraft transiting the airspace in question. Similarly, the change sponsor shall maintain records on the numbers of aircraft refused permission to transit the airspace in question, and the reasons why. The change sponsor should note that such records would enable ATS managers to plan staffing requirements necessary to effectively manage the airspace under their control	This can be carried out as part of the statistics gathered by the ATS units within the LETC and any further requirements under the CAP1616 process likewise carried out by ATC.
i	All new procedures should, wherever possible, incorporate Continuous Descent Approach (CDA) profiles after aircraft leave the holding facility associated with that procedure	No change to the procedure in place as of today

	Off-route airspace requirements	Evidence of compliance/proposed mitigation
a	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, the need for operating agreements shall be considered	As above (13c General requirements)
b	Should there be any other aviation activity (military low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or air traffic control procedures can be devised, the change sponsor shall act to resolve any conflicting interests	Should this occur, we would act appropriately and expeditiously.

14 Environmental requirements

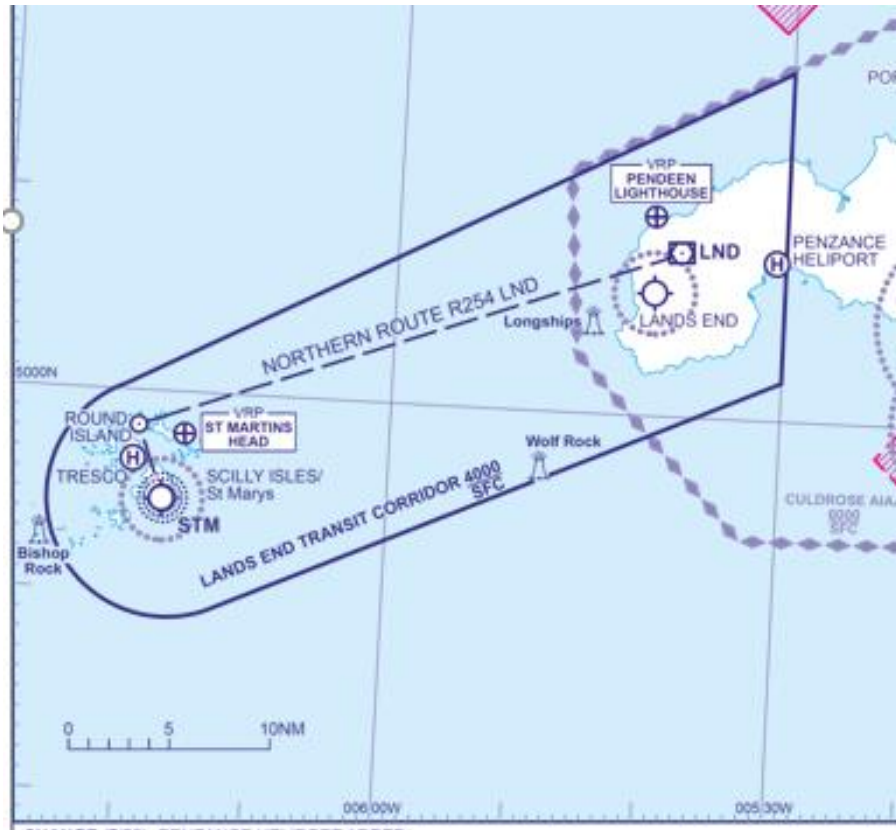
	Theme	Content	Evidence of compliance/proposed mitigation
a	WebTAG analysis	Output and conclusions of the analysis (if not already provided elsewhere in the proposal)	Not required due to negligible impact. (See 4.3 in Stage 3, step 3A Options Appraisal Phase 2 Full)
b	Assessment of noise impacts (Level 1/M1 proposals only)	Consideration of noise impacts, and where appropriate the related qualitative and/or quantitative analysis, including whether the anticipated noise impact meets the criteria for a proposal to be called-in by the Secretary of State (paragraph 5(c) of Direction 6 of the Air Navigation Directions 2017) If the change sponsor expects that there will be no noise impacts, the rationale must be explained	N/A
c	Assessment of CO2 emissions	Consideration of the impacts on CO2 emissions, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on CO2 emissions impacts, the rationale must be explained	No change (See section 6.7)

d	Assessment of local air quality (Level 1/M1 proposals only)	Consideration of the impacts on local air quality, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on local air quality, the rationale must be explained	N/A
e	Assessment of impacts upon tranquillity (Level 1/M1 proposals only)	Consideration of the impacts on local air quality, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on local air quality, the rationale must be explained Consideration of any impact upon tranquillity, notably on Areas of Outstanding Natural Beauty or National Parks, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no tranquillity impacts, the rationale must be explained	N/A
f	Operational Diagrams	Any operational diagrams that have been used in the consultation to illustrate and aid understanding	
g	Traffic forecasts	10-year traffic forecasts, from the anticipated date of implementation, must be provided (if not already provided elsewhere in the proposal)	See Stage 3, Step 3A Options Appraisal Phase 2 Full, sections 4.8 & 4.9
h	Summary of environmental impacts and conclusions	A summary of all of the environmental impacts detailed above plus the change sponsor's conclusions on those impacts	See section 6.12

Appendix A

Land's End Airport Ltd

CHART SHOWING THE CURRENT LETC



AIRAC AD 2-EGHC-3-1 Land's End Transit Corridor

Appendix B

Land's End Airport Ltd

List of Targeted Stakeholders in Stages 1, 2 & 3

Stakeholders marked in red strikethrough were included in Stages 1 & 2 but have requested not to be included in stage 3 so will not be contacted further

Key Stakeholders
RNAS Culdrose
Sloane Helicopters
Environment Agency
Natural England
St Mary's Airport
Isles of Scilly Skybus
Perranporth Flying Club
PDG Helicopters
Tresco Heliport
Penzance Heliport
Newquay Cornwall Airport
Fly Newquay
Cloud 9 Hang Gliding and Paragliding Association
Cobham Aviation Services Ltd (Now Draken Europe Helicopter Academy)
Other Stakeholders
British Microlight Aircraft Association (BMAA)
St Just Town Council
Honourable Company of Air Pilots (HCAP)
Skybus Flight Safety Manager
Cornwall Protection of Rural England CPRE
Cornwall Council
National Trust
Duchy of Cornwall
Health Watch
Island Partnership
Derek Thomas MP
British Helicopter Association
Airprox Board
AOPA
Director of Aviation Affairs
Seahawk Gliding Club @ RNAS Culdrose

35 out of 39 NATMAC Organisations
Airlines UK
Airspace4All
Airport Operators Association – XXXXXXXXXXXX
Airport Operators Association – XXXXXXXXXXXX
Airfield Operators Group
Aircraft Owners and Pilots Association – XXXXXXXXX
Aircraft Owners and Pilots Association – XXXXXXXXX
Association of Remotely Piloted Aircraft Systems UK
Aviation Environment Federation
BAe Systems
British Airline Pilots Association – XXXXXXXXX
British Airline Pilots Association – XXXXXXXXX
British Airline Pilots Association – XXXXXXXXX
British Balloon and Airship Club
British Business and General Aviation Association
British Gliding Association
British Helicopter Association
British Hang Gliding and Paragliding Association
British Microlight Aircraft Association/general Aviation Safety Council
British Model Flying Association
British Parachute Association
General Aviation Alliance
Guild of Air Traffic Control Officers
Honourable Company of Air Pilots
Helicopter Club of Great Britain
Light Aircraft Association
Military Aviation Authority
Ministry of Defence – Defence Airspace and Air Traffic Management
NATS – XXXXXXXXX
NATS – XXXXXXXXX
Navy Command HQ
PPL/IR Europe – Group Mailbox
PPL/IR Europe – XXXXXXXXX
UK Flight Safety Committee
United States Airforce Europe

Appendix C

Land's End Airport Ltd

Letter of Agreement to allow Paragliding Activities within the ATZ

Letter of Agreement – Hang-gliding & Paragliding activities within the Land's End ATZ

Between

Land's End Airport Ltd and Cloud 9 Hang-Gliding & Paragliding

Effective: 10th May 2021

1 Purpose

- 1.1 The purpose of this letter of agreement (LoA) is to provide locally agreed procedures for the operation of hang-gliders and paragliders within the Land's End airport Air Traffic Zone (ATZ) in order to achieve safe interaction with other aircraft.

2 Background

- 2.1 An ATZ is airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic. The Land's End airport ATZ is a cylinder extending from the surface up to 2000ft and a radius of 2nm centred on the Aerodrome Reference Point (ARP).
- 2.2 The ATZ is published as active to coincide with the opening hours of the airport and is controlled by Land's End Air Traffic Control (ATC). All aircraft wishing to operate within the ATZ must seek ATC permission beforehand and comply with all ATC instructions when inside it.



Fig 1: Land's End ATZ bordered by red dotted line (Surface to 2000ft and 2nm radius centred on ARP)

2.3 Normally Land's End airport does not allow the operation of non-radio aircraft within the ATZ.

3 Application and Review of the Letter of Agreement

3.1 Permanent amendment to this LoA is to be affected only with the written consent of the signatories or their successors.

3.2 Land's End Airport reserves the right to withdraw this agreement at any time with minimal notice given in writing to the signatories.

3.3 This LoA becomes effective at 0001 on 1 May 2021

3.4 This LoA is effective during Land's End Airport hours of operation.

3.5 It is the sole responsibility of a representative of Cloud 9 to confirm Land's End Airport hours of operation before any aerial activity commences.

3.6 This LoA shall normally be reviewed annually from the date of signing.

3.7 This LoA shall be re-signed on change of authorised signatory of either party. Failure to do so may void this agreement.

4 Cloud 9 General Responsibilities

4.1 Cloud 9 shall take all reasonable steps to promote the procedures within this LoA amongst its members/customers and ensure there is adequate signage at the launch site that informs all pilots of the procedures to be followed.

4.2 Cloud 9 shall inform Land's End ATC if it becomes aware of any pilots not following the procedures agreed within this LoA. Land's End airport accepts that Cloud 9 cannot be held responsible for actions taken by pilots who are not Cloud 9 members.

4.3 Cloud 9 shall inform Land's End ATC of any accident or incident it becomes aware of that occurred during Land's End airport hours of operation.

5 Pilot Responsibilities

5.1 Upon arrival at the launch site and before flying activity takes place the pilot shall telephone ATC to seek permission to get airborne informing them of:

- a number of canopies likely to get airborne
- b areas of operation
- c expected starting time
- d expected finishing time

5.2 When flying activities have ceased at the site the pilot shall telephone ATC to confirm such. If this is beyond the operating hours of ATC, then this phone call may be omitted.

5.3 Land's End ATC contact telephone numbers:

- **01736 788944**
- **01736 785224**

6 ATC Responsibilities

6.1 Upon receiving a request to commence flying activities at the site, ATC shall:

- a Ensure that these activities will not conflict with any previously booked activities
- b Pass on any relevant flight safety information and confirm understanding
- c Inform the pilot of the expected ATC closure time
- d If there is no Air Traffic reason, approve the activity
- e Inform all other relevant flights of paraglider activity

7 Cancellation

7.1 Cancellation of this LoA must be provided in writing and should normally be made with a minimum pre-notification of 1 month.

7.2 Should the minimum pre-notification period not be possible the cancellation must be made by telephone to the signatories on the agreement. This must be followed up immediately in writing with all reasoning stated clearly.

7.3 It is the responsibility of the signatories to ensure that their contact details are kept up to date and that any changes communicated to the other party or parties without delay.

7.4 Should the minimum pre-notification period not be possible and telephone contact also not possible then the cancellation can still be made in writing with all reasoning stated clearly.

8 Interpretation and Settlement of Disputes

8.1 Should any doubt or diverging views arise regarding the interpretation of any provision of this LoA, or in case of dispute regarding its application, the parties shall endeavour to reach a solution acceptable to all.

9 Parties to the Agreement

9.1 The parties to the said agreement are Land’s End Airport Ltd and Cloud 9 Hang-Gliding & Paragliding.

XXXXXXXX

Airport Manager

Land’s End Airport Ltd

Dated: 10th May 2021

XXXXXXXX

Owner/Operator

Cloud 9 Hang-Gliding & Paragliding

Dated: 10th May 2021

Appendix C

Land's End Airport Ltd

Letter of Agreement for flights within the LETC

Land's End Transit Corridor Letter of Agreement (LETC LoA)

Introduction

The purpose of this letter is to provide locally agreed and CAA approved procedures within the Land's End Transit Corridor (LETC), in order to achieve an expeditious flow of Traffic consistent with safety.

Document References:

1. UK AIP AD2 EGHC (Text and IAP Charts) / EGHE 1.2.22 (Text) and 3.1 (Chart), 8.1 (Chart)
2. CAP 774 (UK Flight Information Service)
3. CAP 493 (Manual of Air Traffic Services Part 1)

The following is a record of the agreement between the representatives of the Air Traffic Service providers at St. Mary's Airport, Land's End Airport, RNAS Culdrose, Penzance Heliport, the aircraft operator Penzance Helicopters and the aircraft operator Isles of Scilly Skybus.

PDG Helicopters (Trinity House Operations at Land's End), Specialist Aviation Services (Cornwall Air Ambulance at Newquay Airport), Bristow Helicopters (HM Coast Guard Rescue at Newquay Airport) as regular users of the LETC, are included in the distribution list of this document for information purposes only as their specific type of operations may preclude them from complying fully with the procedures.

Background Information

1. Types of Air Traffic Services (ATS) available within and adjacent to the LETC:
 - a) EGHE/ISC – BASIC Service routinely provided – PROCEDURAL Service routinely provided to aircraft carrying out Instrument Approach Procedures unless another service has been requested.
 - b) EGHC/LEQ – BASIC Service routinely provided;

- c) EGDR – BASIC / TRAFFIC / DECONFLICTION Services routinely provided;
 - d) EGHQ/NQY – BASIC / PROCEDURAL / TRAFFIC / DECONFLICTION Services routinely provided.
 - e) EGHK/PZE – AGCS
 - f) EGHT/TSO – AGCS
2. Agreement should be reached between the Pilot and Controller regarding the type of Service being provided.
3. Pilots should be aware of the types of ATS available and the responsibilities of the Pilot and Controller for each type of service:
- a) Provision of separation is dependent upon the type of service, not the FlightRules.
 - b) In Class G airspace, the pilot is ultimately responsible for terrain clearance.

Air Traffic Control (ATC) Responsibilities within the LETC

1. Land's End ATC is responsible for routinely providing a BASIC Service for participating VFR & IFR flights within the LETC, EAST of 10 DME west of LNDVOR
2. St. Mary's ATC is responsible for:
 - a) Routinely providing a BASIC Service for participating VFR & IFR flights within the LETC, WEST of 10 DME LND VOR;
 - b) Routinely providing a PROCEDURAL Service for participating flights under IFR, carrying out holding, Instrument Approach Procedures (IAPs) or transiting St. Mary's Airport, subject to any necessary co-ordination with Land's End Tower, Penzance Radio, Tresco Radio, Newquay Radar or Culdrose Radar.
3. During St. Mary's ATSU closure periods, ATS will be provided by Land's End ATC through-out the LETC and vice versa when Land's End ATSU is closed.
4. Newquay & Culdrose ATSUs will endeavor to provide Air Traffic Services Outside Controlled Airspace (ATSOCAS) to participating flights within the LETC when:
 - a) requested by Land's End or St. Mary's ATSUs or any aircraft operator;
and
 - b) subject to co-ordination with Land's End or St. Mary's ATSU as appropriate.

Pressure Settings

1. The following pressure settings will be used within the LETC up to and including altitude 4000 feet:
 - a) Flights West of 10 DME LND VOR will use the St. Mary's Airport QNH;
 - b) Flights EAST of 10 DME west of LNDVOR will use the Land's End Airport QNH
2. If St. Mary's ATSU is closed, the Land's End Airport QNH will be used throughout the LETC.
3. If Land's End ATSU is closed, the St. Mary's Airport QNH will be used throughout the LETC.

Achieving an Expeditious Flow of Traffic consistent with safety within the LETC

1. The participants to this agreement will achieve a safe and expeditious flow of traffic by:
 - a) Whenever possible, Land's End and St. Mary's ATC will allocate the following levels, with agreement, to participating VFR flights:
 - i) Land's End and Penzance to St. Mary's or Tresco flights - generally flown at altitude 1500ft.
 - ii) St. Mary's or Tresco to Land's End or Penzance flights - generally flown at altitude 1000ft.
 - iii) Transit flights - generally at altitude 2000ft and above.

NOTE: Scheduled helicopters will generally be expected to descend to altitude 500ft at 23 DME LND inbound to St. Mary's or Tresco to be level by 25 DME LND and to climb not above altitude 500ft until 25 DME LND outbound.

- b) Where appropriate, segregating participating flights within the LETC; (See segregated route below)
- c) Endeavour to agree routes and/or levels with the pilots of other aircraft receiving an ATS within the LETC;
- d) Aiming to achieve a Deconfliction Minima between flights participating in a Procedural;
- e) Ensuring appropriate and timely co-ordination between local ATSU's;
- f) Reducing communications workload for both ATCO's and Pilots.

Note: *In Class G Airspace separation between aircraft is ultimately the Pilots responsibility. However, when providing a Procedural Service, Controllers will provide information and advice aimed at achieving the Deconfliction Minima. Controllers providing a Deconfliction Service will provide Deconfliction minima.*

2. Helicopter Routes

Whenever possible Penzance helicopters will adopt the following routes to aid expeditious and orderly traffic flow;

Direct Route Westbound; EGHK – Newlyn Quarry – St Buryan (South of Land's End ATZ) – Land's End Complex – 10 DME arc LND VOR

Or

Via the Southern Coast Westbound; EGHK – Mousehole – Runnel Stone – 10 DME arc LND VOR These routes will be reversed for Eastbound traffic

The decision as to which of these routes is to be used will depend on the traffic flow and weather conditions at the time.

Note: Penzance Helicopters will normal fly levels as stated above, however while routing via the South Coast may fly at 500ft amsl

Flight Rules

1. All Scheduled Public Transport flights within the LETC will be conducted under VFR unless precluded by Meteorological Conditions.
(Aircraft with an IAS of 140kt or less at or below 3000ft by Day – clear of cloud and with the surface in sight, flight visibility of not less than 1500 meters – not below 500ft above the surface except on departure and final approach to land. By Night at or below 3000ft– Distance from cloud 1500 meters Horizontal, 1000 feet Vertical and with the surface in sight and a flight visibility 5 Km.

2. Any requirement to fly IFR must be notified to ATC by the Pilot or co-ordinated by an adjacent ATSU:
 - a) prior to departure from Land’s End, Penzance, Tresco or St. Mary's;
 - or
 - b) if in flight, prior to entering the LETC.

3. **Separation Standards:**

It must be noted that there are no Separation Standards available to Land’s End or St. Mary’s ATC, other than Vertical, for RNAV Approaches or RNAV v NDB Approaches. Likewise there are no deemed Separations available between EGHC & EGHE Holds or procedures.

Multiple IFR flights between EGHC, EGHK, EGHT & EGHE are to expect delays in clearances and or releases from ATC.

4. For aircraft requiring an IAP into St. Mary's:

- a) For an aircraft in flight – Cleared Level at the IAF and EAT based on the aircrafts' ETA should be obtained by the Pilot prior to entering the LETC.
- b) For a flight from Land's End –Cleared Level at the IAF and EAT based on the aircrafts' ETA should be requested through Land's End Tower prior to start-up.

Note: Aircraft departing Penzance requesting an IFR departure to Tresco or St Mary's must obtain a clearance before aircraft start is approved and must obtain Release from St Mary's ATC before departure

5. For aircraft requiring an IAP into Land's End:

- a) For an aircraft in flight – Skybus and Flight Priority Category A & E can request airborne PPR for the IAP's at Land's End. All other airborne requests will be refused and aircraft must continue VFR or divert.
- b) For an aircraft departing St. Mary's - Start up clearance must be requested due to the limitations of the ATC service at Land's End, sequential departure times from St. Mary's shall not be permitted at less than 15 minute intervals.
- c) Pilots inbound to St. Mary's should be prepared to delay departure from Land's End and Penzance or be instructed to take up a hold until an IFR/IAP clearance has been issued.
- d) Pilots inbound to Land's End should be prepared to delay departure from St. Mary's until PPR has been granted and an expected release time has been obtained from Land's End.
- e.) Rapidly changing weather conditions may preclude the above notice being achievable. If this occurs, Scillies Approach will endeavor to achieve the Deconfliction Minima under a Procedural Service and allocate levels and EATs appropriate to the aircraft's current position and ETA.

Segregated Routes

1. In conditions of limited visibility (5000m or less) pilots may be requested to enter into an agreement or elect to fly the Northern Route. (LND VOR R254 between Round Island and the LNDVOR).
2. It is recommended that pilots follow this procedure when the meteorological conditions reported in flight or by Land's End or St. Mary's ATSU are as follows:
 - a) Visibility 5000m or less;
and/or
 - b) Cloud ceiling less than 1500 feet.

Instrument Approach Procedures – St. Mary's Airport

1. When the prevailing visibility is less than 1500m, St. Mary's ATC will inform Land's End ATC and Penzance Radio that weather conditions necessitate the use of IAP's into St. Mary's Airport for scheduled operators. The following procedures will then come into force:
 - a) St. Mary's ATC will telephone Land's End ATC and Penzance Radio to advise that all departures to St. Mary's are subject to release by Scillies Approach;
 - b) Land's End ATC / Penzance Radio will request engine startup and IFR clearance from St. Mary's ATC;

Note: For IFR departures to/from Penzance, Scillies will contact Culdrose to coordinate the transit of their AIAA and helicopter training areas.

- c) When the aircraft is ready for departure Land's End ATC / Penzance Radio will request a release from St. Mary's ATC. A release will only be withheld if safety is likely to be compromised or for deconfliction purposes. In such cases a Release restriction may be issued;
- d) Inbound flights from Newquay and Exeter will call Scillies Approach for a weather update at least 10 minutes flying time East of the LND VOR, and, if IAPs are in operation should be in receipt of an IFR clearance (Cleared Level at the IAF and EAT based on the aircrafts' ETA) prior to entering the LETC;

NOTE: Rapidly changing weather conditions may preclude the above notice being achievable. If this occurs Scillies Approach will endeavor to achieve the Deconfliction Minima under a Procedural Service, and allocate levels and EATs appropriate to the aircraft's current position and ETA.

- e) Pilots wishing to continue receiving a Radar service from Culdrose or Newquay radar within the LETC must ensure that they are transferred to St. Mary's ATC in sufficient time to enable the safe change from a radar based service to a Procedural service i.e. before reaching LANLO.
2. During periods where the weather criteria require IAPs and IFR departures from St. Mary's, St. Mary's ATC will:
 - a) Request the type of ATS Service required by the Pilots of departing flights;
 - b) Endeavour to provide the service requested;
 - c) Issue a departure clearance aimed at achieving the Deconfliction Minima.

Instrument Approach Procedures – Land’s End Airport

1. IAP’s at Land’s End are restricted to Isles of Scilly Skybus and Flight Priority Categories A to E aircraft only. (Other flights may be authorized by the CAA).
2. When a pilot elects to fly an IAP into Land’s End from St. Mary’s, the following procedures will apply:
 - a) Prior to start approval, St. Mary’s ATC will telephone Land’s End ATC and either confirm or request PPR for the inbound aircraft stating their request for which type of approach and to which runway.
 - b) Land’s End will either confirm or issue the approval – with no delay expected if no other IFR aircraft are booked in or issue an appropriate start-up time if other IFR aircraft are expected.

NOTE: The CAA requires a minimum 15 minute departure interval for aircraft requiring IAP’s at Land’s End when departing St. Mary’s (unless the preceding aircraft has landed or has diverted and is in contact with Culdrose or Newquay radar and the prescribed deconfliction minima can be ensured).

- c) St. Mary’s ATC will instruct the aircraft to squawk 4501.

3. Altitude/Level allocation

Inbound to Land’s End Runways:

- | | | |
|-----|-------------|-------------------------------------|
| i) | 16, 25 & 34 | Minimum Cleared Altitude 2,500 feet |
| ii) | 07 | Minimum Cleared Altitude 2,000 feet |

4. Clearance Limit

- | | | |
|------|--------|-------|
| i) | Rwy 07 | SIVBO |
| ii) | Rwy 16 | TUBNO |
| iii) | Rwy 25 | DIBTO |
| iv) | Rwy 34 | GESVI |

5. Transfer Point – Control & Communication

Once deconflicted from other participating traffic, aircraft will be transferred as follows:

- a) Rwy 07 Transfer to Land's End ATC at **SIVBO**
- b) Rwy 16 Transfer to Culdrose Radar at **17 DME LND (Note 1)**
- c) Rwy 25 Transfer to Culdrose Radar at **17 DME LND (Note 1)**
- d) Rwy 34 Transfer to Land's End ATC at **GESVI**

NOTE 1: *If Culdrose ATC is closed, aircraft shall be transferred to Land's End ATC.*

NOTE 2: *Subject to ATCO workload, Scillies Approach will have available the latest Land's End Weather at 17 DME LND.*

Note 3: *The 17 DME LND report is to be retained for all IAP flights in to Land's End unless transferred early to Culdrose Radar.*

6. Co-ordination

- a) Scillies Approach shall Co-ordinate with EGHC in accordance with paragraph 2 a) & b) above for all IAP's.
- b) *For flights under the Control of Scillies Approach inbound to Land's End for IAP's to Runways 07 & 34, Co-ordination with Culdrose shall be effected by St. Mary's ATSU.*
- c) Scillies Approach shall co-ordinate traffic intending to fly the 16 and 25 IAP's with Culdrose (during their hours of operation). Land's End ATC will expect first contact with such aircraft at the IAF.
- d) Land's End shall co-ordinate all missed approaches with Culdrose (during their hours of operation) and Scillies Approach to deconflict against possible IFR traffic. If Culdrose are closed, Land's End ATC shall retain the aircraft unless another IFR aircraft is on frequency. In this scenario, traffic information shall be passed without delay to either St Mary's ATC or Newquay ATC and the aircraft transferred (control and communication).

7. When a pilot elects to fly an IAP into Land's End except from St. Mary's, the following procedures will apply:

- a) Land's End ATC can only accept Skybus and Flight Priority Categories A to E flights or any other flight categories authorized by the CAA. If these requirements have not been met, the pilot will be advised they cannot be accepted and will be transferred to an appropriate Approach Control Unit to Divert; or if conditions allow, to continue inbound *VFR (if the aircraft is in IMC, the MSA and any traffic information should be passed before transfer to an alternative ATSU).*
- b) Land's End ATC will endeavor to ensure that only one airborne IFR aircraft is on frequency at any time. If more than one IFR aircraft is on frequency and airborne, traffic information must be passed immediately to the most appropriate Approach Control Unit and control and communication transferred.
- c) Land's End ATC shall confirm with St. Mary's ATC that no aircraft are flying IAPs at St Mary's (the approaches are not currently deemed separated).

d) Once the above three conditions have been confirmed, Land's End ATC will co-ordinate the IAP traffic with St. Mary's ATC and Culdrose ATC (Newquay ATC when Culdrose ATC is closed).

e) Land's End ATC will confirm that the aircraft squawking 4501 and provide a Basic Service

Note: *The swift and concise co-ordination between units during IAPs is critical to the safe and expeditious flow of traffic*

IFR Procedures – Penzance Heliport

2. When a pilot elects to fly an IFR into Penzance Heliport from St. Mary's or Tresco, the following procedures will apply:

- a) Request for IFR flight into Penzance Heliport must be made prior to start up clearance to allow Scillies time to coordinate with Culdrose and Land's End, sequential departure times from St. Mary's or Tresco shall not be permitted at less than 15 minute intervals.
- b) Scillies will confirm if Land's End have any IFR traffic to affect and will coordinate any clearance with Culdrose.
- c) When the aircraft is ready for departure, Scillies will issue a release including any restrictions previously agreed with Culdrose Radar and contact Land's End Tower and Culdrose Radar with the aircraft's departure time.
- d) Rapidly changing weather conditions may preclude the above notice being achievable. If this occurs, Scillies Approach will endeavor to achieve the Deconfliction Minima under a Procedural Service, and allocate levels and EATs appropriate to the aircraft's current position and ETA.
- e) IFR clearances transiting Land's End will not be issued below 2,500ft amsl
- f) Scillies Approach will transfer the aircraft to Land's End Tower at 10 DME West LND VOR
- g) Land's End Tower will transfer the aircraft to Penzance Radio on passing ***DME equivalent of Mousehole or St Buryan*** unless Culdrose have requested to work the aircraft.
- h) All missed approaches must be coordinated with Culdrose Radar (during hours of operation) and Land's End Tower. In the event that there other IFR traffic, traffic information shall be passed without delay to either St Mary's ATC or Culdrose ATC and the aircraft transferred (control and communication).

Note; Penzance Heliport and Tresco Heliport intend in the future to introduce PINS Approaches. At that time this LoA will be reviewed and amended as required.

Co-ordination between EGHC and EGHE

1. Traffic Information on all flights likely to enter the LETC will be exchanged using the co-ordination line, including flights being transferred to Culdrose or Newquay ATSU's.
2. If it is not possible to pass the information before the aircraft is less than 3 minutes from the transfer point, pilots are to be instructed to free-call the next ATSU as soon as possible with their position, level and POB.
3. Traffic Information on Scheduled Flights should include the following: Inbound/Over-flight
 - Abbreviated call-sign
 - Departure / Coasting out / Setting Course Time ETA (Long haul flights only)
 - Level Route
 - POB (passengers + crew + livestock)
 - Type of ATS required, if other than BASIC Service
4. Traffic Information on Non-Scheduled Flights within the LETC should include the following: IFR or VFR
 - Inbound/Over-flight
 - Registration or call-sign Aircraft Type
 - Point of Departure / Destination ETA
 - Level
 - Route – e.g. Northern route, via Pendeen, overhead, South abeam LEQ or LND VOR POB
 - Type of ATS required
 - The means by which the Pilot is navigation e.g. DME, GPS
5. St. Mary's ATC will inform Land's End ATC of any traffic making an IAP to St. Mary's Airport and/or Holding over LND VOR or LANLO.
6. Land's End ATC will inform St. Mary's ATC of any traffic making an IAP to Land's End Airport and/or in the UMBOB or NUTMU holds.
7. Land's End ATC and St. Mary's ATC shall co-ordinate closely before any aircraft commences an approach at either airport as the IAP's are NOT currently deemed horizontally separated.

Co-ordination between EGHT and EGHE

1. Flights shall be prenoted to Tresco Radio via telephone and transferred to Tresco Radio when on final approach.
2. All aircraft departing Tresco shall contact Scillies Approach BEFORE lifting. If an aircraft is unable to gain two-way communication with Scillies Approach, Tresco may relay the information over the telephone.

Further details can be found in a separate LoA between Tresco Heliport and St. Mary's Airport.

Co-ordination with EGDR or EGHQ

1. Flights receiving a Service from Land's End ATC:
 - a) VFR
 - i) Eastbound flights will be instructed to Free-Call Culdrose Radar (Newquay Radar when Culdrose are not available) on leaving the LETC;
 - ii) Any flights which may be potentially problematic e.g. language difficulties, formations etc. will be pre-noted to the relevant ATSU whenever possible.
 - b) IFR
 - i) Eastbound IFR departures will be pre-noted to Culdrose Radar (Newquay Radar when Culdrose is not available) prior to departure. Culdrose or Newquay Radar may then issue an SSR Code;
 - ii) Over-flights are to be pre-noted to Culdrose Radar (Newquay Radar when Culdrose is not available) before entering the AIAA;
 - iii) If Land's End ATC becomes aware of Traffic Holding over the LND VOR e.g. Training flights, Culdrose Radar is to be notified.
 - iv) When the Land's End IAP's are in use, Westbound scheduled overflights will transit the Land's End IAP areas no lower than 4,000ft to assist in providing vertical separation from any aircraft that may be in the Land's End holds.
 - v) Westbound IFR departures shall be coordinated with St. Mary's ATC prior to departure and a clearance obtained. If St. Mary's IAP's are in use, the Instrument Approach Procedures detailed above shall be followed.

2. Flights receiving a Service from St. Mary's ATC:

- a) Eastbound departures climbing above the LETC (4000 feet) will be pre-noted to Culdrose Radar (Newquay Radar when Culdrose is not available), where possible prior to departure. When Land's End IAP's are in use, Eastbound scheduled traffic will climb to FL50 to assist in providing vertical separation from any aircraft that may be in the Land's End holds.
 - i) Culdrose Radar (Newquay Radar when Culdrose is not available) may issue an SSR Code and the aircraft should be transferred when passing altitude 4000 feet or Flight Level equivalent;
 - ii) Over-flights are to be pre-noted to Culdrose Radar (Newquay Radar when Culdrose is not available) before entering the AIAA;
- b) St. Mary's ATC will inform Culdrose Radar of any Aircraft holding above altitude 4000 feet over LANLO and/or the STM NDB;
- c) When Land's End ATC are closed St. Mary's ATC will inform Culdrose Radar (Newquay Radar when Culdrose is not available) of any aircraft holding above altitude 4000 feet at the LND.

3. Flights receiving a Service from Culdrose ATC or Newquay ATC:

- a) Pilots expecting to continue receiving a service from Culdrose or Newquay Radar within the LETC should ensure that they contact Land's End or St. Mary's ATC, according to their Corridor entry position:
 - i) VFR prior to entry of the LETC;
 - ii) IFR inbound to Land's End: 10 mins prior to ETA for the IAF of the Land's End IAP's
- or
- iii) IFR inbound to St. Mary's: before reaching LANLO.
- b) There is a separate Letter of Agreement between Land's End and Culdrose ATC for aircraft inbound to Land's End from the East intending to fly the IAP's at Land's End and for aircraft inbound from the West intending to fly the runway 16 or 25 IAP's at Land's End. When co-ordinating such traffic, Culdrose ATC must be issued with the runway-in-use, Land's End QNH and any other Essential Aerodrome Information.

General Aircraft Operations within the LETC

1. Position Reporting

- a) Routine position reports shall be made at the points designated on the attached chart to:
 - i) Land's End ATC – 10 DME West LND VOR
Crossing the coast e.g. "Coasting Out/In"
Newlyn Quarry (Direct Route) or Mousehole (Via the South Coast)

ii) St. Mary's ATC – West of 10 DME West LND VOR.

iii) Penzance Radio – St Buryan (Direct Route) or Mousehole (Via the South Coast Route)

b) If flights are unable to report at 10 DME LND VOR, the Pilot should contact the next agency with an accurate position report and request them to inform the previous agency of the frequency change.

2. In the interest of R/T brevity the following items are to be omitted from reports:

i) Actual Time of Departure;

ii) Time of crossing a reporting point, unless a late report is made;

iii) Estimate for next reporting point;

3. It is imperative that position reports are accurate. If a routine point is missed an accurate late position report, using the LND DME or GPS where appropriate, should be made.

4. Routine Reports should consist of:

a) Westbound aircraft on entering the LETC

i) *Initial call to establish contact:*

- Callsign;
- Type of ATS required

ii) *Initial report after contact is established:*

- Position
- Level
- Next reporting point with ETA e.g. North or South abeam or overhead Land's End
- ETA St. Mary's
- Route (if requesting the Northern Route)

iii) *Subsequent Reports:*

- Position
- Level (if changed from previous call)

b) Eastbound aircraft (route and level passed to Land's End by St. Mary's ATC on departure)

i) *Initial call to establish contact:*

- Callsign;
- Position
- Type of ATS required

ii) *Initial report after contact is established:*

- Next reporting point e.g. North or South abeam or overhead Land's End
- Route (if requesting the Northern Route)

iii) *Subsequent Reports:*

- *Position*
- Level (if changed from coordinated level)
- Next Reporting Point

5. Aircraft should also report if they wish to change an agreed level or route prior to doing so for relevant traffic information.

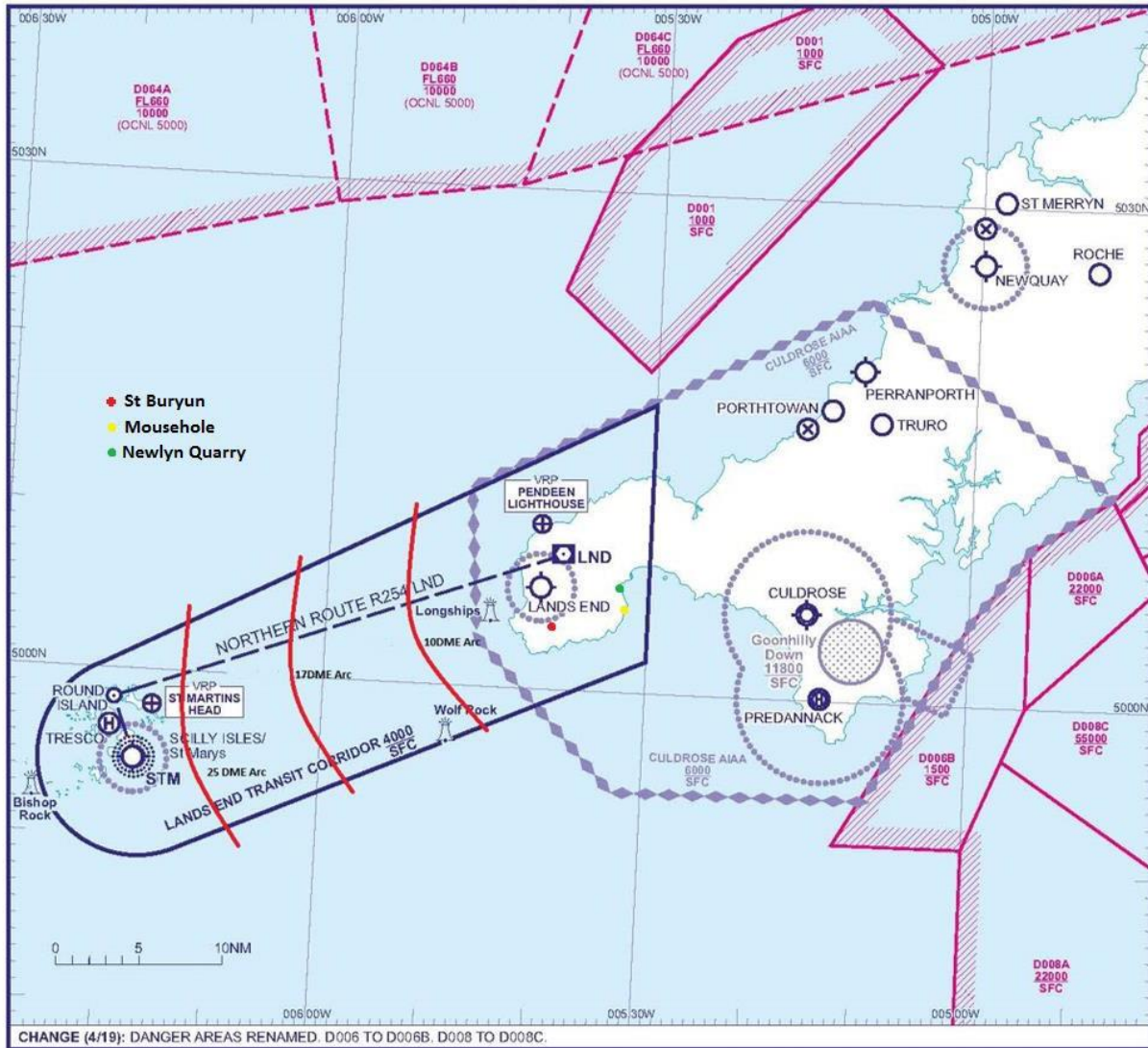
LETC Chart & Routine Position Reporting:

UNITED KINGDOM AIP

AD 2.EGHE-3-1
28 Mar 2019

LANDS END TRANSIT CORRIDOR

SCILLY ISLES/ST MARY'S

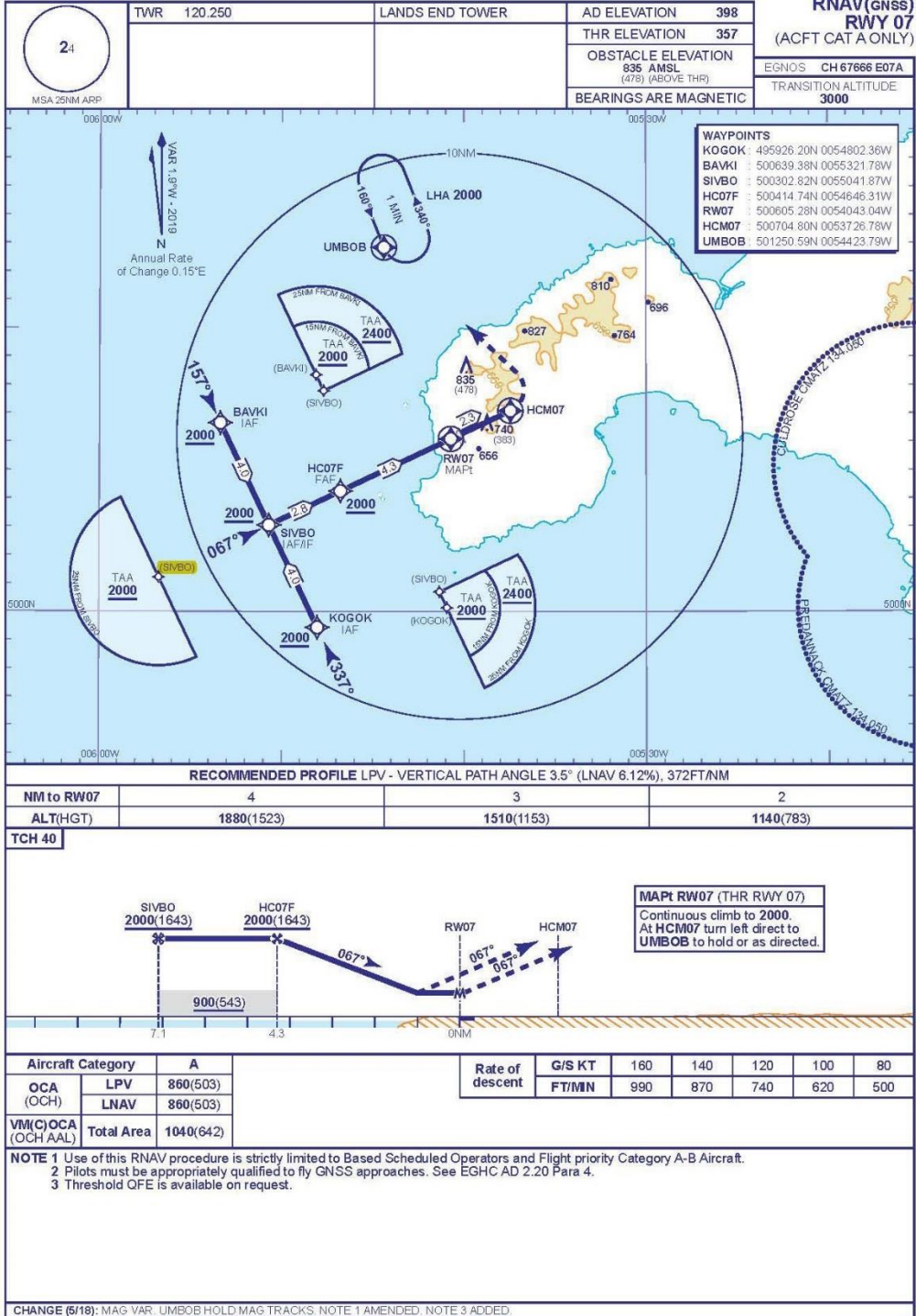


AERO INFO DATE 24 DEC 18

AD 2-EGHE-3-1

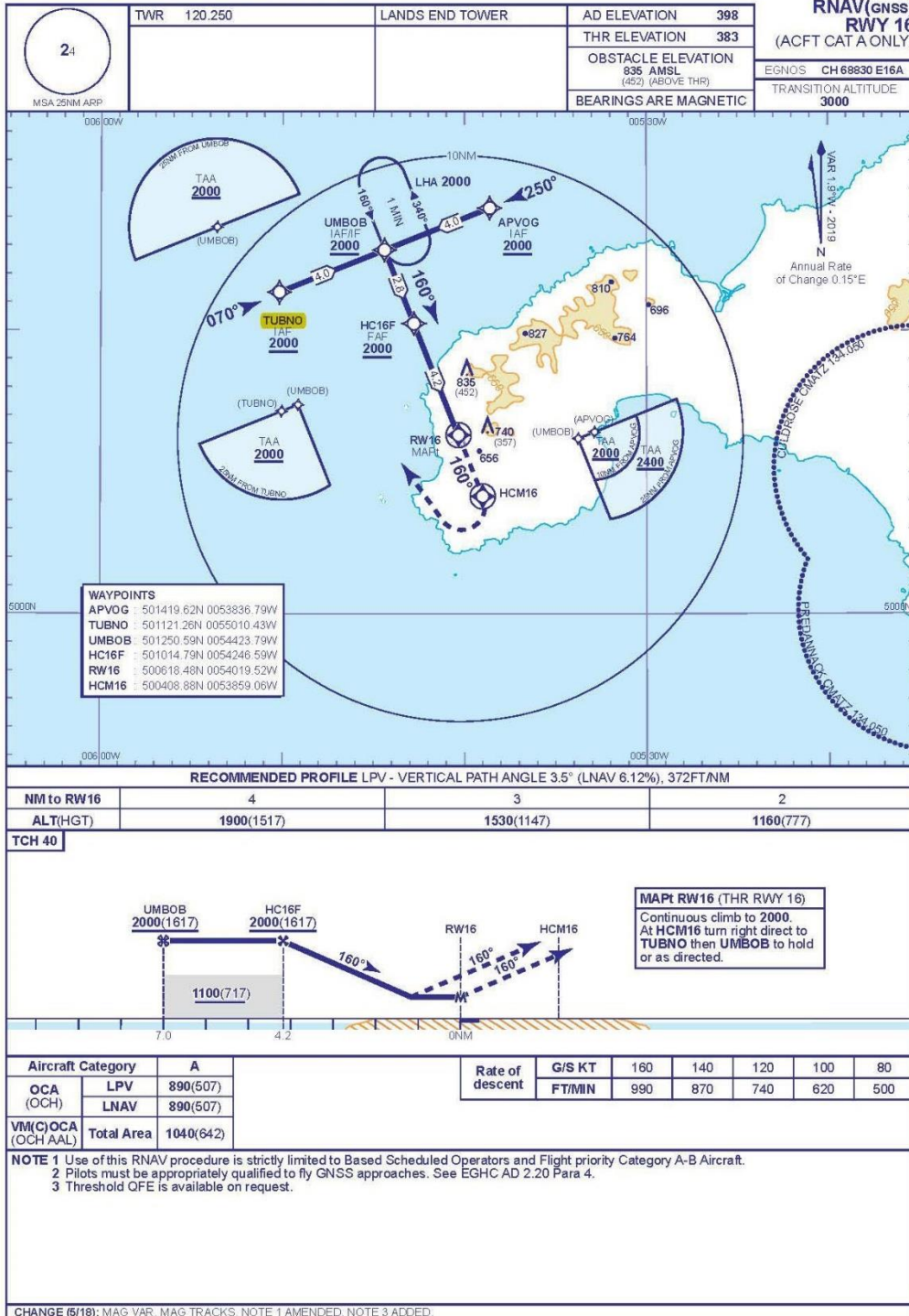
INSTRUMENT APPROACH CHART - ICAO

LANDS END
RNAV(GNSS)
RWY 07
(ACFT CAT A ONLY)



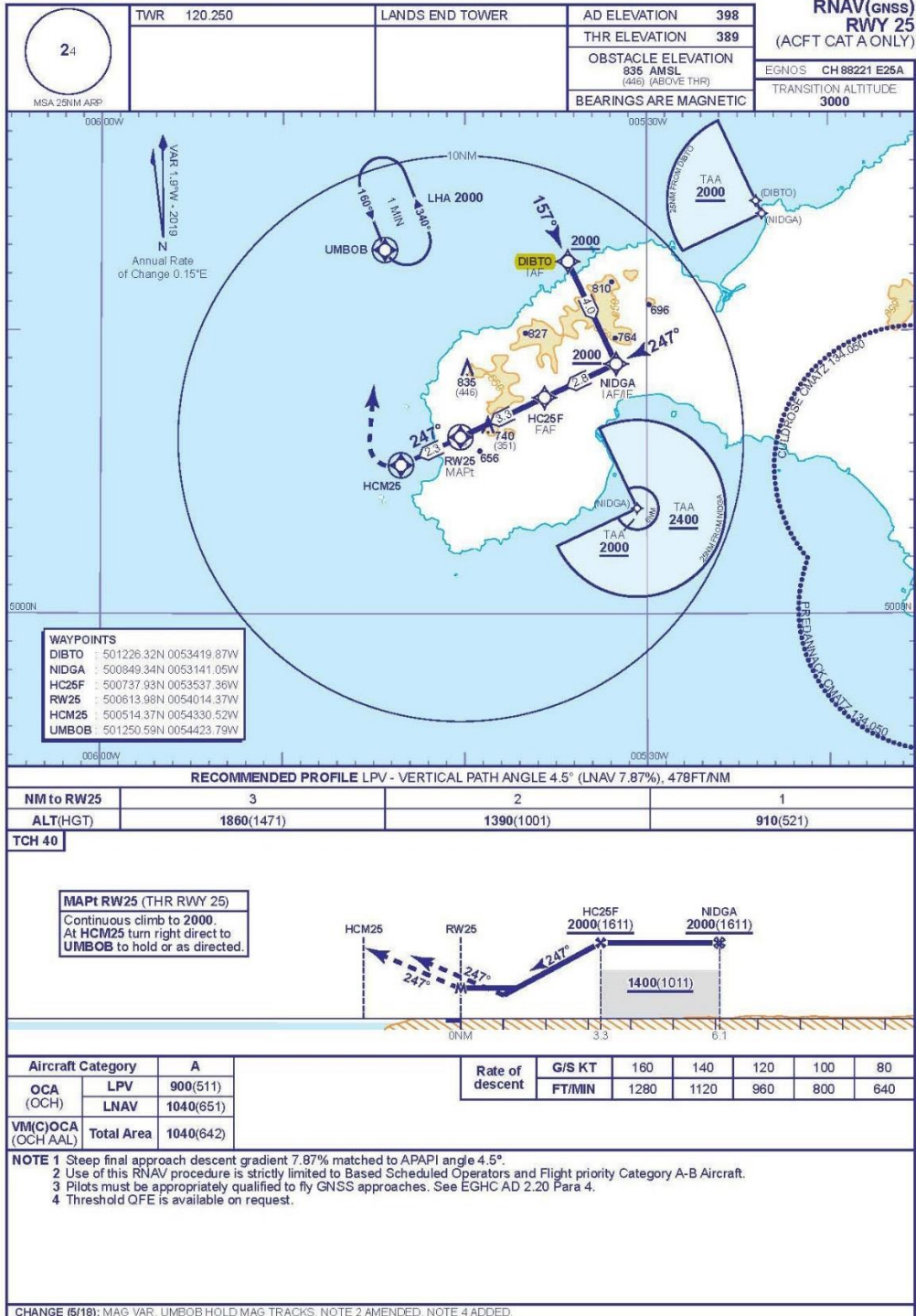
INSTRUMENT APPROACH CHART - ICAO

LANDS END
RNAV(GNSS)
RWY 16
(ACFT CAT A ONLY)



INSTRUMENT APPROACH CHART - ICAO

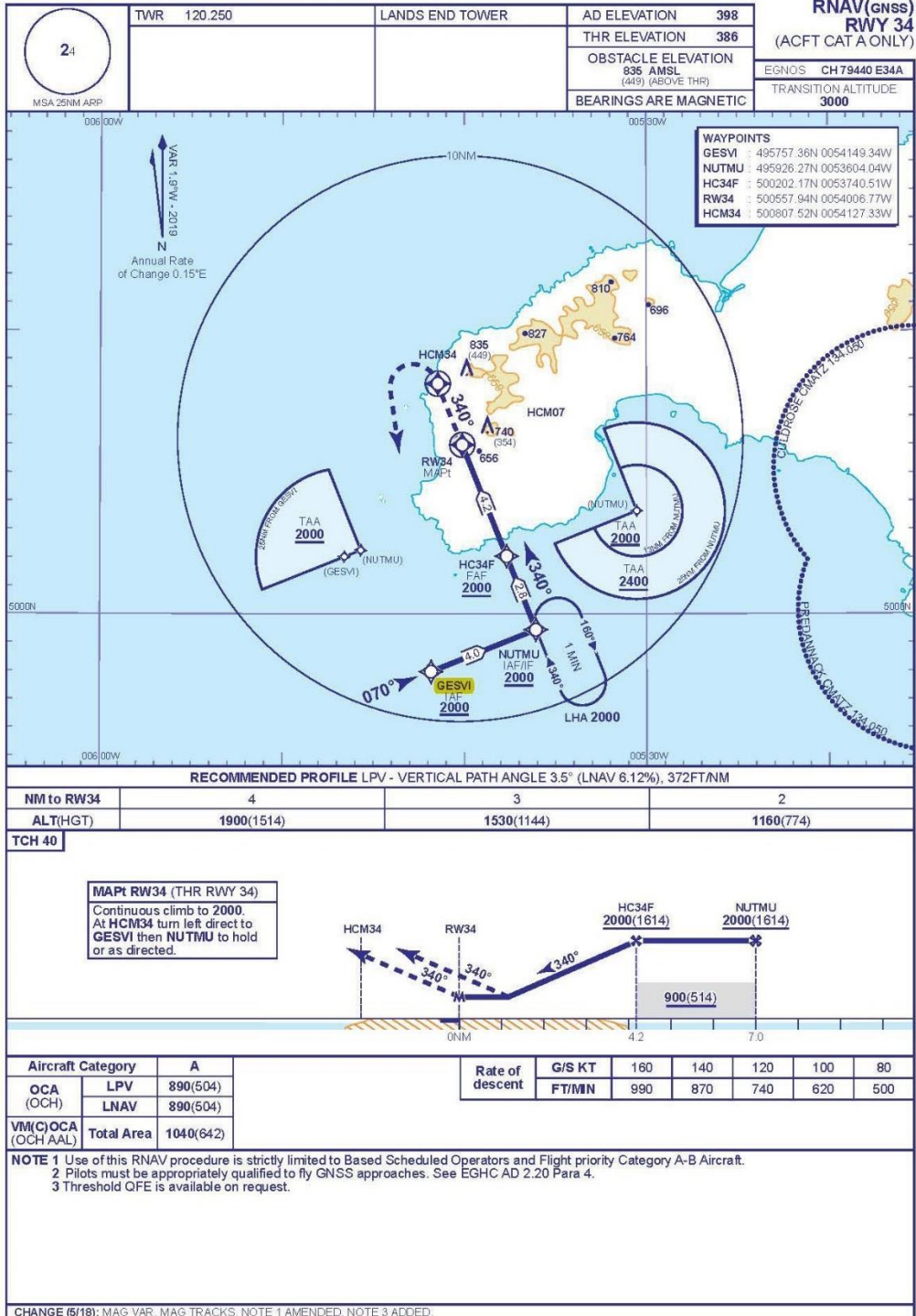
LANDS END
RNAV(GNSS)
RWY 25
(ACFT CAT A ONLY)



CHANGE (5/18): MAG VAR, UMBOB HOLD MAG TRACKS. NOTE 2 AMENDED, NOTE 4 ADDED.
 AERO INFO DATE 31 JAN 18

INSTRUMENT APPROACH CHART - ICAO

LANDS END
RNAV(GNSS)
RWY 34
(ACFT CAT A ONLY)



This Letter is subject to review, typically annually, by the Management of St. Mary's and Land's End Airports. Any changes subsequent to this review, or otherwise, will be subject to mutual agreement between all signatory parties prior to implementation.

This Letter of Agreement will come into effect from 20/07/2020:

Signature: _____ Date: _____

XXXXXXXXXX

Manager ATS/Airport St. Mary's Airport

Signature: _____
_____ Date: _____

XXXXXXXXXX

SATCO/Manager Land's End Airport

Signature: _____
_____ Date: _____

Capt. XXXXXXXX

Chief Pilot - Isles of Scilly Skybus

Signature: _____
_____ Date: _____

XXXXXXXXXXXXXXXX

Manager Penzance Heliport

Signature: _____
_____ Date: _____

XXXXXXXXXXXXXXXX

Chief Pilot – Penzance Helicopters

Signature: _____
_____ Date: _____

XXXXXXXXXXXXXXXXXXXX

SATCO RNAS Culdrose

Signature: _____
_____ Date: _____

Capt. XXXXXXXXXXXXXXX

Chief Pilot Starspeed Helicopters

Abbreviations:

A

AIAA	Area of Intense Aerial Activity
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATS	Air Traffic Service
ATSU	Air Traffic Service Unit
ATSOCAS	Air Traffic Services Outside Controlled Airspace ATSU Air Traffic Service Unit

C

CAS	Controlled Airspace
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D

DME	Distance Measuring Equipment
-----	------------------------------

E

EAT	Expected Approach Time
ETA	Estimated Time of Arrival

G

GPS	Global Positioning System
-----	---------------------------

I

IAP	Instrument Approach Procedure
IAF	Initial Approach Fix
IFR	Instrument Flight Rules

L

LETC	Land's End Transit Corridor
LoA	Letter of Agreement
LNAV	Lateral Navigation
LPV	Localizer Performance with Vertical Guidance

V

VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VOR	VHF Omni-Directional Radio Range

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Appendix E

Land's End Airport Ltd

Draft AIP Entry

EGHC AD 2.17 AIR TRAFFIC SERVICES AIRSPACE

Designation and lateral limits	Vertical Limits	Airspace Class	ATS unit callsign/ language	Transition Altitude	Hours of applicability	Remarks
1	2	3	4	5	6	7
LANDS END ATZ A circle, 2 NM radius centred at 50°06'10"N 005°40'14"W on longest notified runway (16/34)	Upper limit: 2000 FT Lower limit: SFC	G	LANDS END TOWER English			
LANDS END RMZ (LRMZ) An area bounded by 49°56'02.00"N 005°50'51.00"W 49°56'02.00"N 005°30'30.00"W 50°10'05.00"N 005°30'05.00"W 50°17'03.00"N 005°37'06.00"W 50°17'05.00"N 005°50'14.00"W 50°07'20.00"N 006°16'55.00"W 50°39'08.00"N	Upper limit: 4000 FT Lower limit: SFC	RMZ G	Entering from East: LANDS END TOWER English OR CULDROSE APPROACH English Entering from West: SCILLIES APPROACH English		SEE AD 2.18	

Designation and lateral limits	Vertical Limits	Airspace Class	ATS unit callsign/ language	Transition Altitude	Hours of applicability	Remarks
1	2	3	4	5	6	7
006°20'11.00"W 49°58'09.00"N 006°24'58.00"W 49°54'02.00"N 006°27'12.00"W 49°49'56.00"N 006°23'34.00"W 49°48'49.00"N 006°16'49.00"W						

EGHC AD 2.22 FLIGHT PROCEDURES

1 LAND'S END TRANSIT CORRIDOR

- a. Passenger carrying flights operating between Land's End Aerodrome and Scilly Isles/St Mary's Aerodrome operate within airspace designated as an RMZ centred on a direct track from Land's End to Scilly Isles from the SFC to 4000 FT ALT. Pilots intending to transit the '**Land's End RMZ**' must comply with sections 2 & 3 below.
- b. Pilots intending to transit the '**Land's End RMZ**' must contact either Culdrose ATC on 134.050 MHz, Land's End ATC on 120.255 MHz (if approaching from the east) or St Mary's ATC on 124.880 MHz (if approaching from the west), prior to entering. Pilots of aircraft transiting the Culdrose AIAA should contact Culdrose ATC on 134.050 MHz (Refer to AD 2-EGHC-3-1).
- c. Aircraft operating under VFR may be asked to follow the Northern (R254 LND) route according to traffic and/or weather conditions in the RMZ.

2 RADIO MANDATORY ZONE (RMZ)

For flight within the RMZ aircraft commanders must comply with **one** of the following:

- a. Establish satisfactory two-way RTF communication with and pass pertinent flight details to ATC prior to entering the LRMZ and maintain two-way communication with ATC whilst operating within the RMZ.
- b. Conduct flight in accordance with valid Letter of Agreement.

AD 2-EGHC-3-1

