

Airport Land's End



APPENDIX - E



Isles of Scilly
Steamship
GROUP



Group of Companies

Travel

Skybus

Scillonian

Land's End

Engineering

Gry Maricha

Dry Dock

Westward

Land' s End Airport

Airspace Change Proposal

Contents

1. Foreword
2. Context
3. Executive Summary
4. Runway Operations
5. Existing Approaches
6. Consultation Proposal
7. Runway 07 approaches – For Information Purposes Only
8. Consultation Options
9. Environmental Impacts
10. Consultation Process
11. How Can Stakeholders Respond?
12. Consultation Feedback Form
13. Glossary
14. Technical Summary

1. Foreword by Robert Goldsmith, Chief Executive, Isles of Scilly Steamship Group

We are very proud of our relationship with local communities and stakeholders, and are committed to being a responsible neighbour. The purpose of this document is to ensure you have an opportunity to participate in this important consultation about the introduction of new navigation procedures at Land' s End Airport. These procedures will have a minimal effect on the way that aircraft approach the airport in reduced visibility weather conditions compared with current procedures, which affects approximately 7% of arriving flights, roughly 334 per year.

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 nearly 100 years. Air services from Land' s End Airport are now the most important year-round link between the mainland and the Isles of Scilly. The proposal for the new navigation procedures represents the final stage of a major investment programme to make year-round air services more resilient for the benefit of the island-based community and visitors. The attached proposals are related to improving the reliability of existing services and not about stimulating new traffic over and above what would otherwise use the Airport.

2. Context

Land's End Airport (EGHC) is the most South Westerly airport on the United Kingdom mainland and is owned and operated by the Isles of Scilly Steamship Company (ISSC). Land' s End Airport is one of the UK' s smallest commercial airports in terms of activity levels, ranked 52nd for aircraft movements in 2014 (CAA Annual Airport Statistics*). However, the airport is of great local importance as it provides job security and essential life line air links to the Isles of Scilly. In the local context, the Airport is an important employer with more than 83 jobs on site, many of which are highly skilled professional roles such as pilots, air traffic controllers, fire fighters, aircraft engineers and many others.

The only commercial passenger aircraft operator at Land' s End Airport, Isles of Scilly Skybus, is also an ISSC subsidiary. Skybus operates de Havilland (Canada) DHC-6 300 (Twin Otter) aircraft, with 17 seats, and Britten Norman BN2 Islander aircraft, with 8 seats, for scheduled passenger services to St Mary's in the Isles of Scilly from Land' s End and Newquay Airports, with additional seasonal summer services from Exeter Airport. The short runway lengths at Land' s End Airport and St Mary' s Airport mean that it is not feasible to operate larger commercial aircraft types on the route. Pictures of both these aircraft types are shown in Appendices J and K.

Programme that has contributed towards this GNSS proposal.

- * CAA Table 3 1– Air Transport Movements 2014
http://www.caa.co.uk/docs/80/airport_data/2014Annual/Table_03_1_Aircraft_Movements_2014.pdf

relevant to this consultation process. The exact number at any point in time would be dependent upon prevailing weather conditions and the overall level of aircraft movements planned to be using the Airport. The remaining number of aircraft landings (93%) would be operated as they are today, visually. More is explained about visual landings further on in this document.

Why the airport is proposing these changes:

- Land' s End Airport is an important life-line link to the Isles of Scilly. Following on from recent Airport improvement works, the Airport is now looking to increase its reliability in reduced visibility weather conditions. This will mean that key services such as mainland medical/hospital appointments, stretcher flights, Royal Mail deliveries, newspapers, magazines as well as the business trips will be better served.
- Land' s End Airport is the closest mainland gateway to the Isles of Scilly and the reliability of its air services help to underpin tourism that makes up 85% of the economy of the islands. The further consolidation of confidence in year-round air links to the Isles from the largest mainland gateway Airport could prevent damage to the longer-term sustainability of the community.
- It is consistent with UK Civil Aviation Authority (CAA) policy regarding the future implementation of new navigation technology. The International Civil Aviation Organisation (the United Nations specialist Aviation Agency) has a General Assembly Resolution to Implement GNSS approaches with Vertical

Land' s End Airport is consulting on two possible options and these are explained in detail in Section 8. These are:

- Option A (preferred option) Introduce the GNSS approaches
- Option B Do nothing

Also contained within this consultation document is a 'For Information Purposes Only' section regarding introduction of a GNSS approach to runway direction 07.

On 7th May 2015, an initial viability discussion was held with the CAA at Gatwick. Following a supporting outcome, the airport commenced engagement with the CAA on 22nd July 2015, to begin a formal 'Airspace Change Proposal' (ACP) process. The CAA issue guidance on how airspace changes are undertaken and this can be found at: www.caa.co.uk/docs/33/CAP725.pdf

The changes being proposed are consistent with the Airport' s commitment to provide reliable and resilient flying operations, which are essential to ensuring a life-line for the Isles of Scilly.

This consultation is primarily aimed at the aviation community, local authorities and environmental organisations. However, the Airport would also welcome comments from individuals and other relevant stakeholders.

4. Runway Operations

Land' s End Airport is a four runway strip airfield. Two are a grass surface and two have recently been upgraded to hard asphalt surface. Each runway strip is operated in two directions for landing and take off and is primarily governed by the wind direction at the airfield. For performance and efficiency reasons, flights usually depart and land into wind. It is important to note that the wind conditions can change at various times throughout the day, and so the direction of take off and landing can also vary.

The four primary asphalt runway directions have been selected as being appropriate for the GNSS approaches; runways 25, 07, 16 and 34. These have been chosen to ensure aircraft can nominate a runway that is most closely aligned to the wind at the time. All aircraft have a 'cross-wind' (the wind that blows across the runway) limit and this limit is much lower for small aircraft such as those used at Land' s End Airport compared with larger commercial aircraft. This is an important consideration since it creates a significant additional benefit in terms of operating safety and resilience of having GNSS approach capability on multiple runways and directions.

5. Existing Approaches

Visual Approach

Aircraft landing at Land' s End Airport use a 'visual approach' . This is where pilots position the aircraft to land by using a visual reference to the airfield. The pilot will manually fly a circuit pattern around the airfield and will align with the runway using a combination of visual referencing and various lighting systems that are on the ground at the airport. A visual approach can only be flown when visibility is good and when the clouds are above a certain height. The flight path over the ground for a visual approach can vary slightly.

b) aircraft will follow a precise track over the ground, leading to greater consistency of flight paths. The CAA document CAP 785, Chapter 3 states that for environmental purposes, the DFT and CAA policy is to contain rather than spread flight tracks and noise.

The Airport has estimated that approximately 478 GNSS approaches per year will be flown for all runway directions. Further information on the approaches for runways 25, 16 and 34 are detailed below. The approach to Runway 07 remains unchanged from current practice and is excluded from this consultation – this is discussed further in Section 7.

Runway 25

Depending on the routing of the aircraft, there may be a slight change to where aircraft currently fly during the initial segment of the runway 25 proposed approach. It is believed that there would be approximately 100 landings using this runway (21% of total GNSS landings), or one every 3.7 days on average throughout the year. Appendix G shows actual tracks of aircraft approaching runway 25.

Runway 16

For approaches to runway 16, St Just will be overflowed at approximately 500 feet. This will be at a height similar to traffic that currently joins from a navigation point

7. Runway 07 GNSS approach introduction – For Information Purposes Only

This consultation document is an opportunity for Land' s End Airport to engage with its stakeholders to attain or confirm views and opinions about the impact of this ACP, and it is to this end that the Airport is seeking views for two proposed options with the introduction of GNSS approaches to runway directions 25, 16 and 34. This is because in some cases there will be a slight change to where aircraft will fly using the new approach procedures, and there will be impacts. The Airport believes these will be minimal (see Appendix F which gives technical details of the proposed new approach procedures).

However, for runway direction 07, GNSS approaches will not change any aircraft flight tracks over the ground or the heights of these aircraft compared to what currently takes place 'today' . Therefore, the Airport proposes to progress the introduction of GNSS approaches to runway direction 07 expeditiously and outside the scope of this consultation.

If GNSS procedures are implemented for all four runways it would become a priority to use 07 whenever conditions allow. The Airport expects to use 07 in favourable and light wind conditions as much as possible which could take its use up to 30% of overall GNSS landings. Based on 478 GNSS landings per year at the airport there will be around 143 landings per year using GNSS on this runway (or

8. Consultation Options

Option A – the Airport’s preferred option

- Implement GNSS approaches to runway directions 25, 16 and 34 which will provide significant enhancements to transport service resilience between the mainland and the Isles of Scilly (economic, social, tourism, customer service, medical, freight and mail).

Option B

- Do nothing.

If the Airport ‘does nothing’ , i.e. does not introduce any GNSS approaches and continues to use visual approaches only, the lifeline services to the Isles of Scilly for tourism, job security, day to day essentials and emergency supplies and services will continue to be adversely affected by unpredictable weather conditions, and in extreme cases the airfield cannot operate. This is an even worse scenario for the 2,250 residents of the Isles of Scilly in winter when there is no ferry service and only very limited flight schedule available to Newquay Airport as the only other transport link to the mainland. There is a particularly serious detrimental impact on the resident population in terms of missed or cancelled hospital treatment or appointments on the mainland. However, there

airspace used by RNAS Culdrose. The Western hold, though over the sea, would be in close proximity to Isles of Scilly airspace. The proposed North and South holds are both over the sea.

2. Rationalisation and removal of certain initial approach segment legs that are not essential.

Again, despite being operationally desirable, the Southern initial approach leg to runway 25 and the Eastern initial approach leg to runway 34 have been discarded from this final proposal. Removal of these two legs not only reduces new flight path tracks but also reduces potential flights in the Penzance vicinity and the proximity to RNAS Culdrose airspace.

3. Contraction and Consolidation of the four approach procedures.

The Airport has commissioned the designs to be suitable for only Category A and B aircraft (small aircraft types). As a result, and in conjunction with the procedure designer, the Airport has been able to reduce the three approach segments of all four approaches from the standard 5 nm each to 4 nm, 2.8 nm and 4.2 nm respectively. This has reduced each approach by 4 nm track miles – making both environmental and operational savings as well as reducing the areas overflown.

9. Environmental Impacts

The Airport has considered the environmental impact of this proposed change in relation to the following four areas:

- Air Quality
- Tranquility and Visual Intrusion
- CO₂ Emissions
- Noise

Analysis of each area reflects the fact that GNSS approaches will only apply to 10% of all arrivals into Land' s End Airport.

Land' s End Airport' s fleet mix of aircraft types is made up predominantly of some of the most efficient aircraft in terms of noise, emissions, fuel consumption and CO₂. This is demonstrated in Appendices J and K, which show aircraft type environment data.

Air Quality

The airport has considered the effects the proposed change may have on local air quality and in particular the effect on local air quality in the area surrounding the airport below 1,000 ft.

Tranquility and Visual Intrusion

The area in which the GNSS approach will be introduced is within the Land' s End Transit Corridor (LETC) designated primarily for aircraft flying into or out of Land' s End and St Mary' s Airports. This existing airspace is illustrated in Appendix A. Air Traffic Controllers use the LETC on a daily basis to manoeuvre aircraft that are arriving or departing from both airports.

The height and location at which aircraft fly is tactically managed by Air Traffic Control and will depend on a number of factors such as whether the aircraft is arriving or departing, the runway in use at each airport, other air traffic in the vicinity, and the height of the LETC.

It is important to note that the area in which the proposed GNSS approaches are contained is located within an area of uncontrolled airspace. Aircraft operating within uncontrolled airspace are not required to communicate with Air Traffic Controllers, and as such are not required to follow set routes. Land' s End Airport does not have any control authority over these aircraft unless they are operating within the Airport' s Aerodrome Traffic Zone (ATZ), which is a 2 nautical mile (nm) radius from the Airport, see Appendix B. However, the aircraft pilot is still required

CO₂ emissions

Following engagement with the Airport's key aviation stakeholders, (i.e. pilots, air traffic controllers, other airspace users and airport operations staff) there is a consensus that this type of approach will allow aircraft to fly an optimal approach.

The current approach that is used for arrivals onto runways requires pilots to follow a visual approach into the airport as previously explained in Section 5. Once the pilot has the Airport in sight, they will be required to make a turn to align with the runway. When an aircraft begins to turn, a higher engine setting maybe required to maintain airspeed and thus increase CO₂ emissions, fuel burn and noise. The GNSS approach proposed will allow aircraft to fly on a straight line over the ground to land with minimal alterations to their direction of travel and engine settings. This type of approach will allow pilots to configure the aircraft more efficiently and potentially minimise fuel burn, CO₂ and noise during the approach.

The Airport is confident that CO₂ emissions, fuel burn and noise will not increase as a result from the implementation of this proposed airspace change.

The Twin-Otter readings were taken in the morning when the surface wind was 010 degrees at 6 knots. An average background noise reading of 42dBA was recorded.

The Islander readings were taken in the afternoon when the surface wind was 180 degrees at 2 knots. An average background noise reading of 45dBA was recorded.

The results were:

	500ft Pass	750ft Pass	1,000ft Pass
Twin-Otter	68.0 dBA	65.6 dBA	61.7 dBA
Islander	66.4 dBA	63.6 dBA	61.4 dBA

To put these results in to context, a noise reading was also taken in St Just Town Square on this date. This was a ten minute reading (10:49 to 10:59) which resulted in an average reading of 61.0 dBA and a peak of 68.0 dBA (large lorry passing). It should be noted that the large lorry passing had an identical value to the highest reading recorded on the aircraft study. Further comparisons can be made in that 68 dBA is a similar sound to a dishwasher (63-66 dBA) or standing near a road (70 dBA). *Ref 1

Both Skybus aircraft also have an 'A' rating for environmental noise within their class – this is detailed in Appendices J and K.

Traffic Level and Airport Capacity

From January-December 2014, Land' s End Airport handled 7,088 total aircraft movements. This is slightly lower than 2013 and 2012 figures, which were 8,586 and 7,460 total aircraft movements respectively. As has been explained earlier, both years recorded lower traffic than the historical norm mainly due to water logging of the (then) grass runways and airport closures for major runway works. The Airport expects 2015 air transport movements to have recovered to around 9,550 (or 4,775 landings).

The small relative scale of the Airport' s operations were explained earlier in the document. Aircraft movements at Land' s End Airport in 2014 were considerably lower (79%) of the level recorded in 2011 and less than all of the preceding three years. It is expected that there may be a modest annual increase in aircraft movements in the coming years if the economy continues to improve. However, the GNSS procedures will not be the driver of new traffic and will only improve the reliability of the operations already scheduled to operate.

is prepared for submission to the CAA, which is likely to take place in November 2015.

A full list of consultees to this proposal can be found in Appendix I.

Planned ACP Timetable

Date	Action
29th July 2015	Operational stakeholders notified of proposed ACP
18th August 2015	Commencement of consultation period
07th September 2015	Airport 'drop-in' session
12th October 2015	End of consultation period
23rd October 2015	Issue of Consultation Summary Report
4th November 2015	Submission of full ACP to CAA
January 2016	CAA Regulatory Decision

All information regarding the airspace change proposal can be found on Land's End Airport's website: www.landsendairport.com/consult.asp and a hard copy of the consultation document is available at St Just Library, Market Street, St Just, TR19 7HX.

11. How Can Stakeholders Respond?

Land' s End Airport welcomes all comments about the airspace change proposal and would like to invite you to submit your feedback by any of the following methods:

Email: airportmanager@islesofscilly-travel.co.uk

Letter: Airport Manager
Airspace Change Proposal
Land' s End Airport
Kelynack
St Just
Penzance
Cornwall TR19 7RL

Via our website: www.landsendairport.co.uk/consult.asp

All feedback received will be analysed and be part of the Airport' s considerations. A summary report will be made publicly available on the Airport' s website, www.landsendairport.co.uk/consult.asp as well as in St Just library.

All feedback received will be subject to public record and will therefore be submitted to the CAA. If you do not wish your personal information to be shared

12. Consultation Feedback Form

Please complete this form and return to the airport, using any of the following methods:

Email: airportmanager@islesofscilly-travel.co.uk

Letter: Airport Manager
Airspace Change Proposal
Land' s End Airport
Kelynack
St Just
Penzance, Cornwall, TR19 7RL

Name:

Address:
.....
.....

E-mail:

Consultation Options - (please tick which option you support)

Option A Implementation of GNSS Approaches

Option B Do Nothing

13. Glossary

ACP	Airspace Change Proposal
AIP	Aeronautical Information Publication
ANO	Air Navigation Order
ATCU	Air Traffic Control Unit
ATZ	Air Traffic Zone
CAA	Civil Aviation Authority
CAP 725	Airspace Change Process Guidance Document
GNSS	Global Navigation Satellite System
GPS	Global Positioning Satellite
ICAO	International Civil Aviation Organisation

14. Technical Summary

Existing Approaches and Airspace

At present, there are no instrument approaches promulgated for Land' s End/ St Just airport. Aircraft arriving at and departing from Land' s End/St Just operate within the Land' s End Transit Corridor, centred on the direct track from Penzance to Scilly Isles/St Mary' s, from the surface to 4000 ft.

Proposed RNP APCH

RNP approaches have been designed for all runway ends. The approaches to RWY 07 and 16 follow the T-bar concept whereas the approaches to RWY 25 and 34 are based on a truncated L-bar and a reversal procedure within the hold. Holds have been located at the RWY 34 intermediate fix (IF) and the RWY 16 IF. The aim is to keep within the designated airspace as far as possible, while still enabling direct approaches from St Mary' s. Terminal Arrival Altitudes (TAA) have been included to allow direct routing to the initial approach fixes (IAF).

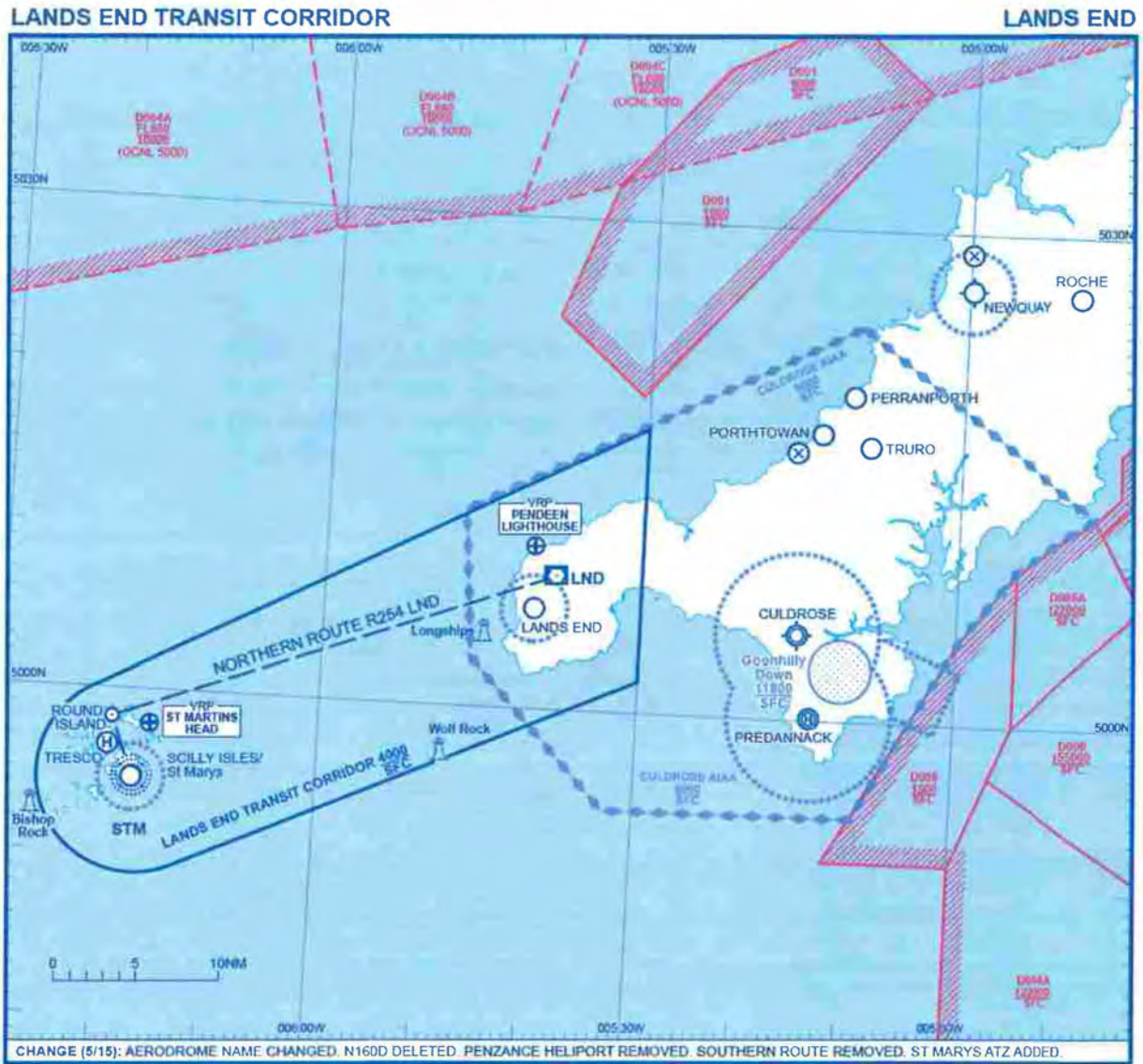
Following consultation with the ATC, the missed approach design comprises a turn back to hold at the IF or an IAF of the active runway.

Following a meeting with UK CAA on 21July it was decided to reduce the length of the initial approach segments on the T/L bars to 4NM.

The airspace in the vicinity of EGHC is categorised as Class G airspace and the AIP entry for EGHC clearly states that all instrument flight approaches are established outside controlled airspace. In all the proposed RNP approaches, the final approach segments lie within the "Land' s End corridor" although the initial approach segments for RWYs 16 and 34 are outside the corridor. These are shown in Appendices F, G and H.

Appendix A

Land' s End Transit Corridor

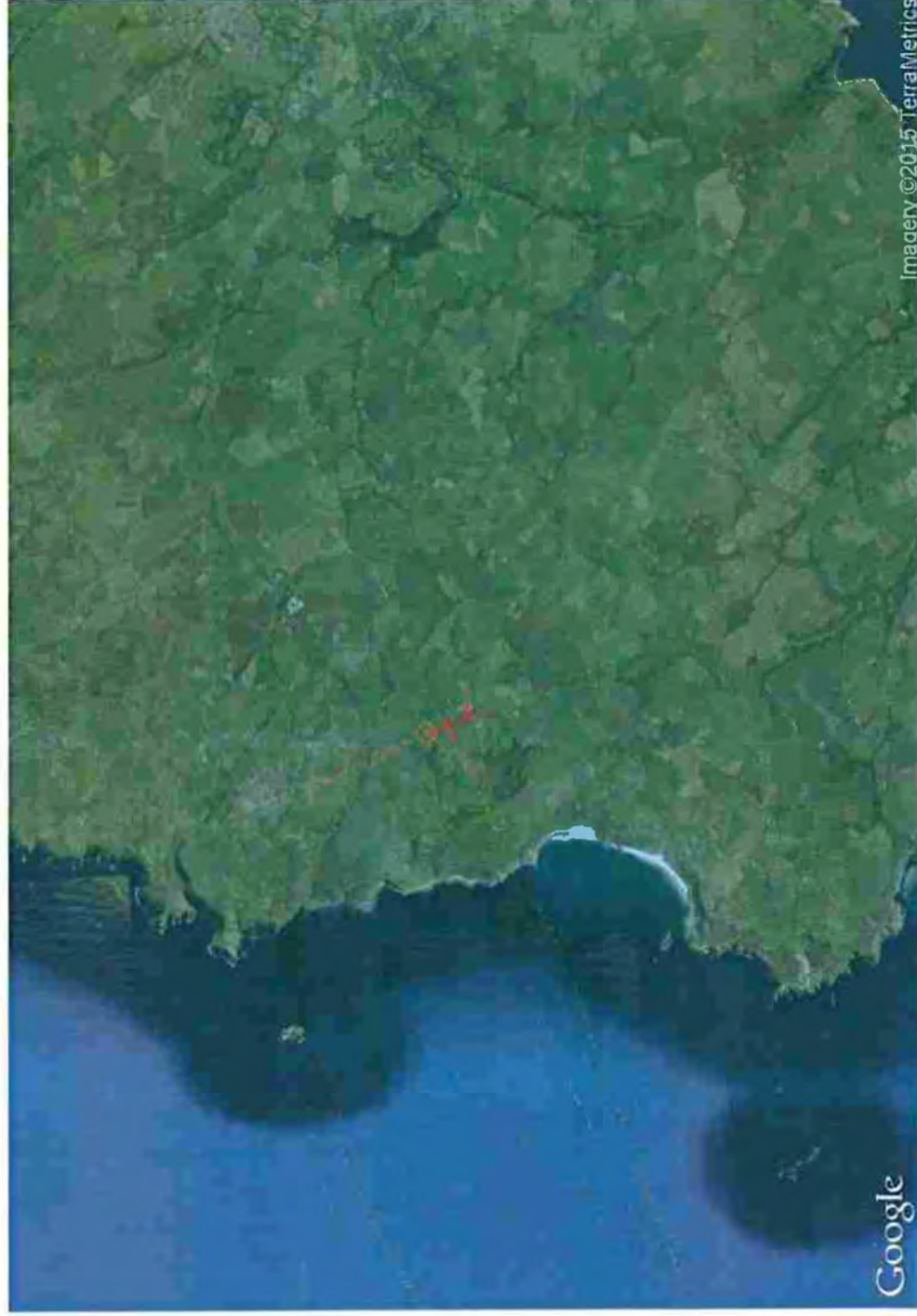


AERO INFO DATE 26 JAN 15

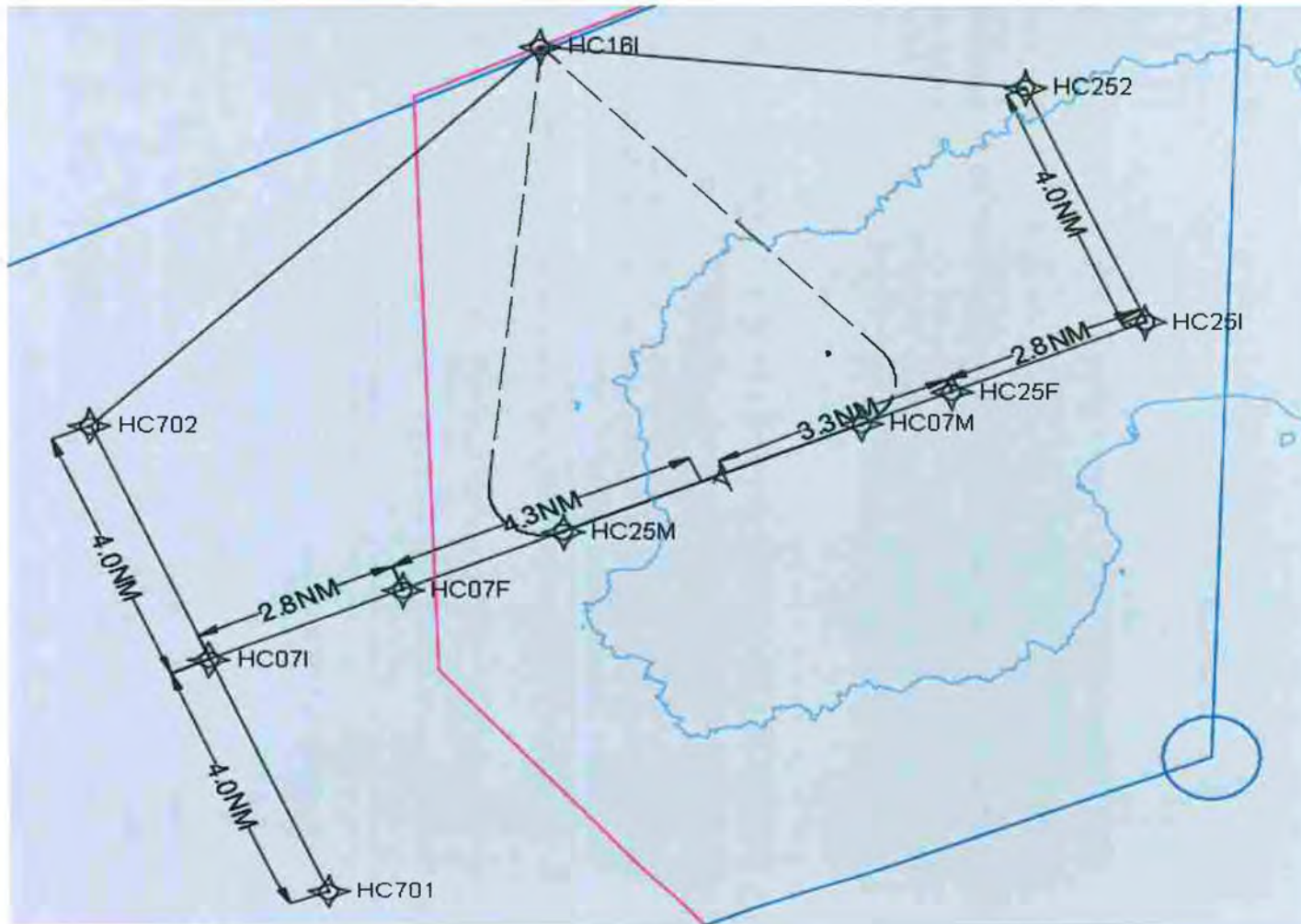


AERO INFO DATE 11 JUN 15

Appendix E **Track diagram for arrivals to runway directions 07 and 25**



Appendix G Agreed proposed RNP approaches runways 07/25



Appendix I List of Consultees

NATIONAL AIR TRAFFIC MANAGEMENT ADVISORY COMMITTEE (NATMAC)	
AOA	AOPA UK
AEF	BA
BAA	BAE SYSTEMS
BALPA	BATA
BBAC	BBGA
BGA	BHPA
BMAA	BMFA
BPA	BHA
easyJet	Euro UAV Systems Centre
GAPAN	GASCo
GATCO	HCG
Heavy Airlines	LAA
Light Airlines	Low Fare Airlines
NATS (NERL)	NATS
PPL/IR	UKAB
UKFSC	

RNAS Culdrose ATCU	
Newquay ATCU	
St Mary' s ATCU	
Skybus	
Cornwall Council	
St Just Town Council	
Trinity House	
National Trust	

Appendix J Aircraft type environment data – Twin Otter

