

Airspace Change Proposal by Stapleford Aerodrome

Proposal for the establishment
of an RMZ

14 April 2023 - Version 1.0

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1 Introduction

1.1 Purpose

This document outlines a proposal for the establishment of a Radio Mandatory Zone (RMZ) in the vicinity of Stapleford Airport, to support the operation of a Required Navigation Performance (RNP) Instrument Approach Procedure¹ (IAP) to Stapleford Airport Runway 21. Its purpose is to present the proposed options for the RMZ and to gather feedback on these options on their impact on the airspace and airspace users and to determine if any additional actions could be taken to support the proposed RNP Approach.

This consultation will be open from 17 April 2023 to 10 July 2023 (12 weeks).

1.2 Background

Between 18 December 2017 and 26 March 2018, Stapleford Aerodrome held a public consultation under the auspices of UK CAA CAP 725 for the implementation of RNP approach procedures to Runway 21. The objective of the Airspace Change Proposal (ACP) was to introduce the Instrument Approach Procedure (IAP) to both formalise the use of instrument flight procedures for training purposes and provide an official instrument approach procedure to support the return to base flights for Stapleford aircraft and other aircraft when the weather conditions (e.g. cloud base) are below that required for Visual Flight Rules (VFR) operations.

Since submission of the ACP comment response pack, safety case and other documentation as required by the regulatory process to the CAA, there have been further discussions about the need to create a known traffic environment in the immediate vicinity around Stapleford aerodrome beyond the boundary of the existing Aerodrome Traffic Zone (ATZ). The airspace around Stapleford is Class G uncontrolled airspace and is a high traffic environment for VFR traffic since it is in a bottle-neck surrounded by the controlled airspace of Luton and Stansted to the north, Heathrow and London City to the south and Southend to the east. Hence aircraft flying under VFR in the north London area are naturally funnelled into this area.

The intention is not to use the procedure operationally when VFR conditions exist (e.g. the normal circuit is active), but only for training (with an instructor/safety pilot). The operational use of the proposed instrument approach could result in aircraft flying Instrument Flight Rules (IFR) descending through cloud with VFR traffic operating below the cloud in Visual Meteorological Conditions (VMC) in Class G airspace.

It is Stapleford's intention to share information on the activation and use of the IAP with aerodromes and Air Traffic Service Units (ATSU) in close proximity to the IAP so that transiting aircraft or adjacent departing and arriving traffic are aware of the operation of the Stapleford IAP. Nevertheless, there remains the possibility for aircraft not in receipt of a Lower Airspace Radar Service (LARS) service, nor in communication with Stapleford to be operating in the vicinity without IFR traffic being aware of their presence. The proposals outlined in this paper are presented as a supplement to the previous consultation documentation provided in Annex.

¹ RNP APCH charts can have several minima depending on the kind of RNP approach to be flown. In the original proposal, the minima proposed included LPV which is now removed following the loss of EGNOS. The implementation will be limited to the LNAV minima.

1.3 Rational for proposal

The airspace in which the Stapleford IAP is proposed to be implemented is acknowledged as busy airspace with high levels of VFR activity². Due to this high VFR utilisation, it is not proposed to permit the IAP to be flown operationally (i.e. IFR use) when VFR circuits are possible; training on the Stapleford instrument approach will be undertaken in VMC with an instructor/safety pilot. Nevertheless, it is still possible that the procedure may be utilised as a cloud break procedure³ when the cloud-base is between 600ft AGL (800ft QNH) and 1000 AGL (1200ft QNH) and poor weather circuits are in operation.

In these cases, whilst it would be expected that the levels of VFR traffic would have dropped and the airspace would be less busy, there still remains a risk that there may be traffic below the clouds and that such aircraft and any on the IAP would be unaware of each other. In the absence of air traffic control and a single frequency, it is proposed that the establishment of a RMZ would provide an additional mitigation to ensure that all (radio equipped) aircraft active in the affected airspace would be aware if the Stapleford IAP were active since such information would be available through the relevant ATISs through:

- Having been alerted by Stapleford to the presence of the planned IAP – including slot;
- Potentially⁴, using a discreet transponder conspicuity code transmitted by aircraft on the RNP approach.

This proposal is made in accordance with the CAA Policy statement: Policy for Radio Mandatory Zones and Transponder Mandatory Zones published 13 January 2022⁵.

The addition of an RMZ within this part of the airspace will introduce some restrictions, but it is noted that due to the existing airspace structure, virtually all easterly or westerly flowing aircraft in Class G will already be on radio. The presence of the Stansted Control Area (CTA), Stapleford ATZ and proximity of the London City CTA would suggest that most should already be talking to Stapleford Radio/North Weald Radio or be in receipt of a LARS service from either Farnborough North or Southend Radar.

It is noted that the airspace above North Weald (below the Stansted CTA Class D airspace) is already a Transponder Mandatory Zone (TMZ). It is acknowledged that this does not impose radio carriage requirements. However, it is reasonable to expect that an aircraft operating within a TMZ will be radio equipped.

The use of RMZs is already established in UK airspace with a notable example in the vicinity of Chester (Hawarden airport EGNR). However, unlike Hawarden, which has an Air Traffic Control (ATC) service and the controlling authority is Hawarden Radar on 120.055 MHz, the introduction of an RMZ around Stapleford will require additional letters of agreement (LoA) between units with overlapping Designated Operational Coverage (DOC) in the area. It would require Stapleford to share information about IFR arrivals and would imply a sharing of responsibility between existing providers to ensure all transiting and arriving aircraft are in possession of timely, accurate traffic information generated by the sponsor based on an approved slot system.

² <http://fasvig.org/reports/mas-1-vfr-significant-areas>

³ A procedure when a flight under IFR rules is taken through a cloud layer in order to make visual contact with the airport, at which point the flight continues visually to the landing. Depending on the cloudbase, the flight would be expected to revert to VFR and continue a standard circuit approach.

⁴ A request has been made to the CAA for the provision of a discreet code for use by the Stapleford IAP.

⁵ http://publicapps.caa.co.uk/docs/33/20220113-Policy_for_RMZ_and_TMZ.pdf

The establishment of an RMZ is intended to create as far as practicable a traffic environment where arriving/departing and transiting aircraft can be alerted to the likely use of the IAP. The size and shape of such an RMZ may take different forms, and a number of possible options are presented in this paper. The RMZ would help ensure that, were an arrival operationally permitted to use the procedure, it would be the only one utilising the procedure, protected by a buffer period, and ensure that all adjacent aircraft would be alerted to the IAP usage so that the risk of potential conflicts were minimised⁶. Slot allocation will be managed in advance with no ad hoc slots (unless in emergency) giving the sponsor time to ensure distribution of the traffic information to all interested parties. Transmission to adjacent units would be via web/e-mail/text/phone or through a proposed discreet transponder conspicuity code⁷ as individually agreed with stakeholders within the LoA.

⁶ It is noted that the intended utilization of the IAP is 2-3 movements per day operationally. This altering is therefore not expected to place additional workload constraints in sharing the information about the procedure. More details on the anticipated use of the procedure are provided in the original consultation document which is provided in Annex B.

⁷ Subject to approval and allocation by the CAA.

2 Concept of Operations

This section presents a proposal for the operation of the RMZ that would be applicable for each of the options presented in the following section.

The following summary of Stapleford's RNP IAP Concept of Operations, has been written with particular reference to the procedures already proposed to be applied to mitigate the capabilities of the existing Aerodrome Ground Communications Service (AGCS) not meeting the normally required level of ATC. The material within this section has been drawn from a variety of existing documents previously developed as part of the ACP. This includes, but is not limited to:

- The Safety Case;
- The Aerodrome Ground Operations Manual;
- The Slot Time Document; and
- Pilot briefing

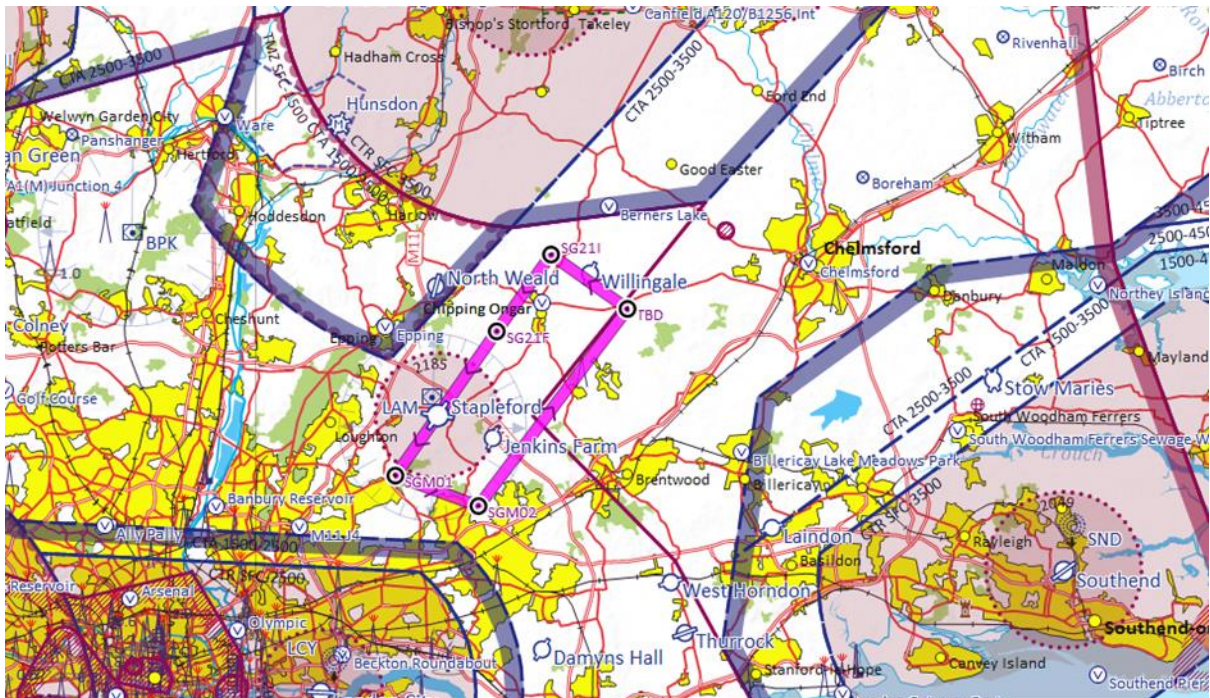


Figure 1: Stapleford proposed IAP within surrounding airspace

The pilot briefing document is laid out like a checklist with notes following each event associated with an arriving aircraft which intends to make an RNP approach. These actions inter alia are designed to ensure that an aircraft conducting an Instrument approach has exclusive access to the approach deconflicted, as far as possible, from known traffic in the vicinity.

It is recognised that there remains a small, but non-zero, risk of either an aircraft in the vicinity coming into proximity or of an aircraft entering the ATZ whilst an aircraft is participating in an instrument approach. The levels of traffic participating in the IAP, together with the number of movements potentially in the vicinity of the aerodrome indicates that a Radio Mandatory Zone if established would create, as far as possible, a 'known traffic environment'. The extents of the Stapleford IAP including Missed Approach Procedure are illustrated within the surrounding airspace displayed within Figure 1.

Unlike other RMZs, there is not an established primary frequency within this airspace. The airspace is established as Class G, and there are numerous frequencies that aircraft could be established on including:

- Farnborough North LARS;
- Southend LARS;
- Stansted (Essex Radar) (listening frequency);
- Thames Radar (listening frequency);
- London Information;
- Local aerodromes, for example: Stapleford, North Weald, Elstree, Damyns Hall, Thurrock.

For the operational concept within this proposal, it is proposed that the implementation of the RMZ is simplified as much as possible avoiding un-necessary frequency changes that can be avoided. This means that two fundamental principles are proposed to apply:

- 1) Arriving or departing aircraft to/from either North Weald or Stapleford, should continue the existing practice of remaining on frequency with either station prior to transferring to next frequency. Any impact of IAP activity will be communicated to departing aircraft prior to departure. Arrivals should establish communication as soon as possible, especially during periods of lower cloud base or marginal conditions, to allow routing to circuit joining that is clear of the IAP. For example, this might mean routing south around Stapleford, or remaining below 1500' and north of the A414 for arrivals to North Weald.
- 2) Transiting aircraft should establish contact and remain on frequency with either Farnborough North or Southend LARS or establish contact Stapleford within the published DOC⁸ for information on the planned use of the IAP.

⁸ As part of this implementation, an extension to the DOC will be requested to 20 NM / 5000'

3 Options for consultation

Given the airspace adjacent to Stapleford, the proposed RMZ needs to be large enough to protect the IAP but small enough to enable non-radio traffic to pass through the airspace if they so wish. It is noted that the presence of the existing TMZ and the Stapleford ATZ provide a “virtual” RMZ for much of the airspace that wishes to transit east or west. In the sections below, options for the RMZ are proposed and their respective merits discussed.

3.1 Option #0: Baseline - Do Nothing

Under the baseline scenario there would be no change to the radio requirements within the airspace. However, as stated, this would not achieve the objective of enabling aircraft operating within the airspace from learning about the use of the IAP or alerting the aircraft on the IAP to the presence of aircraft within the vicinity. Since this does not improve the situation, this option is does not meet the objective and is discarded.

3.2 Option #1: Limited to ATZ

Figure 2 below presents the proposed extent for an RMZ option collocated with the Stapleford ATZ. This represents the smallest possible RMZ. The vertical extent of the RMZ would be from the surface (SFC) to 2000ft above ground level (AGL) or the base of the London Terminal Manoeuvring Area (TMA).

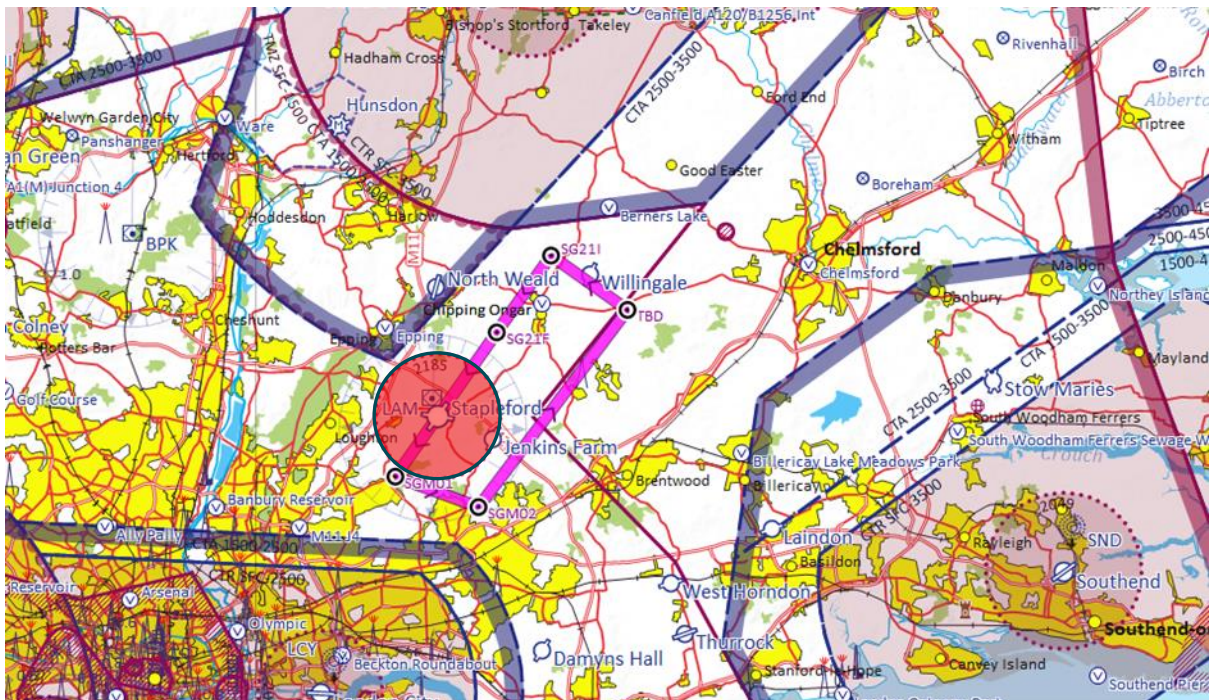


Figure 2: Option 1: RMZ collocated with the Stapleford ATZ.

The effect of this RMZ in the local airspace would be limited to the Stapleford ATZ. As this does not cover the IAP and does not improve the situation over today, this option does not meet the objective and is deemed not a viable solution for implementation of the Stapleford IAP.

Non-radio traffic, would continue to be able to access the airspace in which the IAP is located and route south via the <2NM space between the southern edge of the Stapleford ATZ and the London City CTA.

Whilst this option would have the least level of impact, it has some other limitations which are:

- There is effectively no change to the existing requirement to establish two-way communications to enter an ATZ (Rule 11) and this (given that Stapleford does not accept non-radio traffic) which effectively creates already an RMZ in all but name;
- There is still the possibility of traffic being present beneath the critical straight in part of the IAP as the aircraft is descending from the Intermediate Approach and Final Approach legs.
- There is no added value or operational benefit to traffic which may in cloud, or which need to be aware of traffic descending from cloud within the approach.
- Since it does not introduce any real changes over that of today it does not address the situational awareness concerns already discussed nor meet the objectives in improving awareness of the use of the IAP.

3.3 Option #2: RMZ covering the IAP

Figure 3 below presents the proposed extents of an RMZ which would cover the area over which the IAP is proposed. The RMZ would extend vertically from SFC to the base of the London TMA. It would mean improved situational awareness for any aircraft having established or about to establish on the approach. Option #2 is the preferred option.

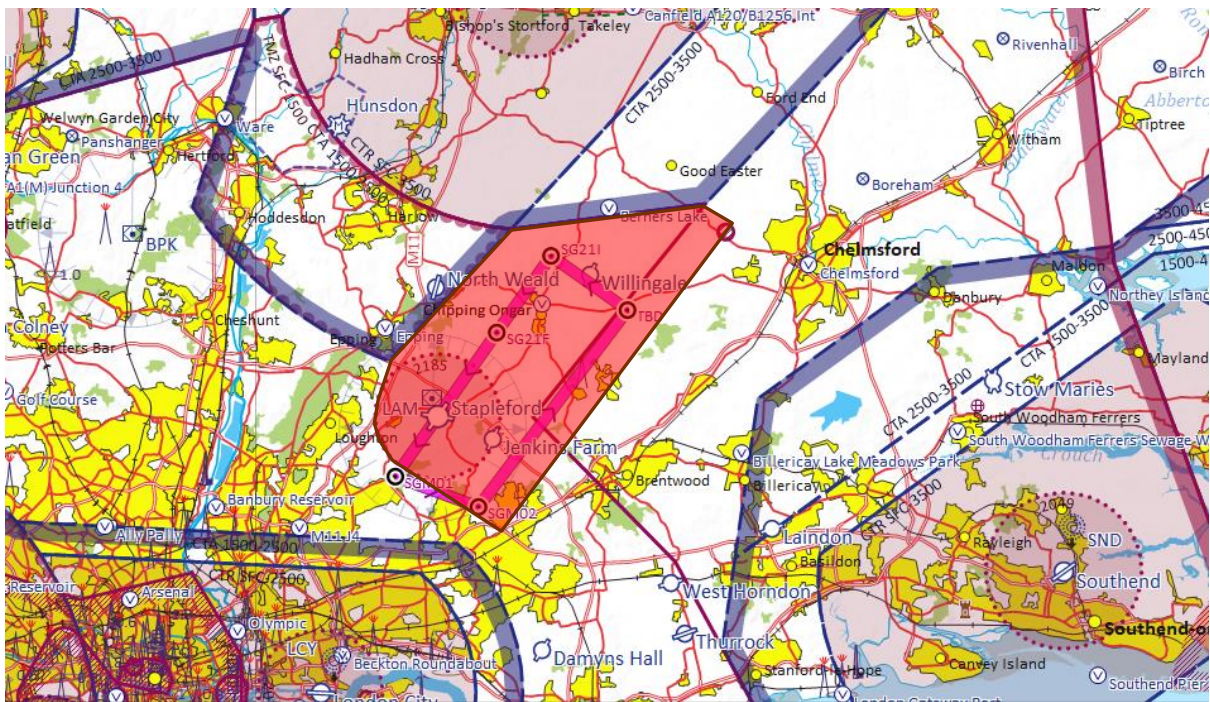


Figure 3: Option 2: RMZ covering the IAP

This proposed option would contain the full IAP for arriving aircraft just prior to establishing at the Initial Approach Fix (IAF). All traffic departing and arriving within the RMZ would be informed of the likely use of the IAP through their local ATSU following the established LoAs. Unlike Option 1, this option specifically ensures that the portion of the procedure from the intermediate approach where the aircraft is descending and likely to interact with North Weald arrivals and departures will be within the RMZ.

This RMZ provides more protection than Option 1 with the following observations:

- All operations with the RMZ would need to be radio equipped and on frequency. This would be expected to mainly impact North Weald and Stapleford traffic, but also Willingale traffic.
- All traffic within the RMZ can expect to be alerted if there is an aircraft on an IAP based on the previously defined LoA.
- Stapleford Radio may experience an increase in traffic on frequency wishing to penetrate the ATZ compared to today.
- Non radio traffic will still be able to operate East-West to the south of the ATZ though the gap will be narrower. This allows through such traffic that may still be taking place.
- The proposal to extend only to the edge of the ATZ in the west/south-west is to try minimise the lateral extent in this area. Given that aircraft in the climb out would be standard operations in this area, it is reasonable to conclude the transiting aircraft would also avoid operations in this area.

3.4 Option #3: RMZ extended to the East with shelf

Figure 4 below presents the proposed extents of an RMZ which would cover an extended area to the east of Stapleford. This configuration is split vertically with the area in red (Area A) extending vertically from SFC to the base of the London TMA. The area in orange (Area B) would extend from 2000ft to 2500ft proposed to coincide with the base of the London City CTA.

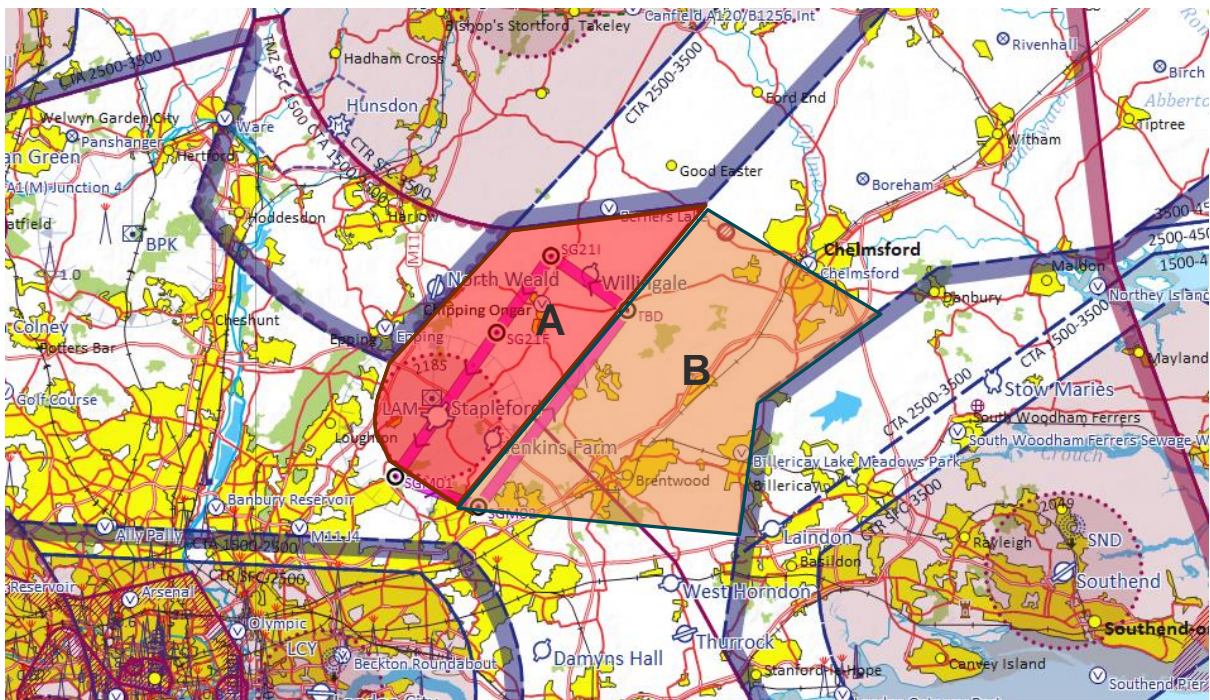


Figure 4: Option 3: RMZ extended to the East with shelf

This configuration would provide additional protection for aircraft joining the airspace prior to initiating the IAP whilst still facilitating non-radio traffic. The increased airspace volume could reduce workload for aircraft routing to any aerodrome within the RMZ encouraging earlier communications. Here a worst-case assumption is made that the aircraft was not on frequency prior to entering the RMZ and would therefore not be aware of an IFR operation taking place.

This proposed option would mean that all arriving IFR aircraft will be contained within the RMZ as they manoeuvre to join the IAP. Compared to Option 2, it allows for a marginal reduction of the RMZ to surface containment since the aircraft on the missed approach will be climbing and above 1500ft by Jenkins Farm⁹ due to climbing to 2300ft for the IAF.

This RMZ option provides more protection than Option 1 with the following observations:

- All operations with the RMZ would need to be radio equipped and on frequency for the following areas:
 - Area A (red) RMZ SFC-2500ft (base of London TMA) - all traffic will need to be radio equipped;
 - Area B (orange) RMZ 2000ft-2500ft (base of London TMA) - only traffic accessing the shelf will need to be radio equipped.
- All traffic within the RMZ can expect to be alerted if there is an aircraft on an IAP based on the previously defined LoA.
- Stapleford Radio may experience an increase in traffic on frequency wishing to penetrate the ATZ compared to today.
- Non radio through traffic will still be able to operate below the orange part subject to a limit of 2000ft. This effectively places a limit of 2000ft on non-radio through traffic above which IFR operations may be taking place.

⁹ It is understood at the time of this consultation that Jenkins Farm is not in operation although on the VFR charts.

4 Consultation

4.1 Overview

The proposal for an RMZ was not included with the original consultation covering the introduction of the RNP IAP. It is therefore proposed that a limited consultation take place on the three RMZ options to affected stakeholders that could be impacted through the introduction of the IAP. This would specifically provide aviation stakeholders with the opportunity to express their opinion on which of the included proposals should be carried forward or how they should be varied. A full list of the proposed stakeholders that would be included in this consultation is provided in Section 5.

It is proposed that given the period since the IAP consultation and this option of an RMZ, that a further 12-week consultation on this amendment be held. This will commence when agreed with the CAA. The scope of the consultation will not be to address the introduction of the IAP which has previously been covered but to consider the RMZ options proposed or variations thereof.

4.2 How to respond to the Consultation

All stakeholders are invited to submit their feedback during this proposed supplementary consultation period through the communication channels listed below. All feedback will be given appropriate consideration and included as an appendix in the aerodrome's consultation summary report which will identify the issues and key themes identified through the consultation.

4.2.1 Website and Email

You are invited to respond using the online response form available at <https://consultations.airspacechange.co.uk/stapleford-flight-centre-ltd/stapleford-rmz-consultation>

If you are not able to respond via this online form, a paper copy will be made available on request to stapleford.acp@gmail.com. Once completed either scan and return to stapleford.acp@gmail.com or post to the address below.

4.2.2 Post

If you are unable to use firstly the online response form or secondly email, please send a letter to the following address:

Stapleford ACP Consultation Response
Stapleford Airport
Stapleford Tawney
Romford RM4 1SJ

Please note, we will only be responding to individual comments when it is necessary to do so to ensure that all stakeholders have the information that they need to participate in the consultation (e.g. if further information or clarification on this proposal is needed).

4.3 Consultation drop-in session

All stakeholders will be offered the opportunity to have a drop-in session with Stapleford Airport to discuss the proposals presented in this paper. These are offered on a registration basis and dates confirmed on request. If you would like to have a consultation on the proposed changes and IAP please email stapleford.acp@gmail.com where a mutually convenient date can be arranged.

4.4 What happens next?

After the consultation period closes, the Stapleford Airport will analyse the responses and publish a report summarising the feedback received and will identify the issues and key themes identified through the consultation and how the aerodrome intends to address them. Relevant information about the consultation in general, and any other information which might be useful, will also be collated. The report will be published on the Stapleford Flight Centre website.

Following this, a report based on this consultation document and the feedback report, will be sent to the CAA for consideration as part of the overall Airspace Change Proposal.

The CAA will then complete their regulatory assessment of the proposal. The CAA will decide if it has merit and will publish a decision on its website.

5 List of Consultees

5.1 Adjacent aerodromes

Consultee	Description
London (Stansted)	Major Airport
London City	Major Airport
London (Southend)	Major Airport
North Weald	Major GA Aerodrome
Hunsdon	Small GA Aerodrome
Elstree	Major GA Aerodrome
Willingale	Small GA Aerodrome
Damyns Hall	Major GA Aerodrome
Thurrock	Major GA Aerodrome
West Horndon	Small GA Aerodrome
Laindon	Small GA Aerodrome
Andrewsfield	Major GA Aerodrome
Earls Colne	Major GA Aerodrome
Stow Maries	Large GA Aerodrome
Rochester	Major GA Aerodrome
London Colney	Small GA Aerodrome

5.2 Traffic Information Providers

Consultee	Comments
Farnborough (North)	through NATS UK
London Information	through NATS UK
Stansted Radar	through NATS UK
Southend Approach	
Thames Director	through NATS UK
North Weald Radio	

5.3 The National Air Traffic Management Advisory Committee (NATMAC)

It is proposed that a cut down list of the NATMAC are included in the proposal for an RMZ since this is more relevant to the implementation of the already consulted RNAV approach procedures. The proposed stakeholders are listed in the table below.

Consultee	Acronym
British Business & General Aviation Assc	BBGA
British Gliding Association	BGA
British Hang Gliding and Paragliding Assc	BHPA
British Helicopter Association	BHA
British Microlight Aircraft Association	BMAA
British Parachute Assc	BPA
GA Alliance	GAA

Light Aircraft Association	LAA
Ministry of Defence	MoD
National Air Traffic Services	NATS
PPL/IR	PPL/IR Europe

6 Consultation Response Form

This form is provided in case it is not possible to access the airspace change form at <https://consultations.airspacechange.co.uk/stapleford-flight-centre-ltd/stapleford-rmz-consultation>. Please use the website link in the first instance.

<p>Please complete this form and return to Stapleford Flight Centre via email stapleford.acp@gmail.com or post to: .</p> <p>Name: Representing (self or organisation): Address: Email:</p> <p><input type="checkbox"/> Please tick this box if you do NOT want to share your personal information with the CAA</p>
<p><i>Please rank in order of preference using numbers 1 to 4 the four options presented in the consultation paper. (1 being the most preferred options and 4 being the least preferred option).</i></p> <p>Option 0 - Do Nothing _____</p> <p>Option 1 - ATZ only _____</p> <p>Option 2 - Covering the IAP without hold _____</p> <p>Option 3 - Covering the full IAP _____</p>
<p><i>Please describe why you have ranked the options this way. Please provide an explanation of why you have ranked the options this way. For example, your considered impact on the safety, accessibility, proportionality, flexibility, costs as a result of this action.</i></p>
<p><i>What alternatives to the RMZ proposal do you believe should be considered instead whether or not they help with the IAP introduction under the ACP? Please provide details.</i></p>
<p><i>Please provide any other comments you wish to be considered.</i></p>

A Annex A: Acronyms

ACRONYM	DEFINITION
ACP	Airspace Change Proposal
AGCS	Aerodrome Ground Communications Service
AGL	Above Ground Level
ATC	Air Traffic Control
ATSU	Air Traffic Service Unit
ATZ	Aerodrome Traffic Zone
BBGA	British Business & General Aviation Association
BGA	British Gliding Association
BHA	British Helicopter Association
BHPA	British Hang Gliding and Paragliding Association
BMAA	British Microlight Aircraft Association
BPA	British Parachute Association
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CTA	Control Area
DOC	Designated Operational Coverage
GA	General Aviation
GAA	General Aviation Alliance
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
IFR	Instrument Flight Rules
IR	Instrument Rating
LAA	Light Aircraft Association
LARS	Lower Airspace Radar Service
LTMA	London Terminal Manoeuvring Area
NATMAC	National Air Traffic Management Advisory Committee
NATS	National Air Traffic Services
PPL	Private Pilot License
RMZ	Radio Mandatory Zone
RNAV	Area Navigation
RNP	Required Navigation Performance
SFC	Surface
TMA	Terminal Manoeuvring Area
TMZ	Transponder Mandatory Zone
UK	United Kingdom
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions

B Annex B: Stapleford ACP Document

Please see attached pages.

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Airspace Change Proposal by Stapleford Aerodrome

Consultation Document

In partnership with:



HELIOS
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The logo for Helios, featuring the word "HELIOS" in a bold, grey, sans-serif font. The letter "O" is replaced by a stylized sun icon with rays. Below it, the text "an" is followed by a green circular logo containing a white lowercase "e", then "egis" in a grey, sans-serif font, and "company" in a smaller, grey, sans-serif font.

Foreword

We are very proud of our relationship with the local community 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 proposed introduction of new instrument approach procedures at Stapleford Aerodrome. These procedures will provide satellite guidance to approach runway 21L, increasing safety in deteriorating visibility weather conditions but will also have a small effect on the path that aircraft on the proposed approach will follow compared to today as aircraft will follow a defined path over the ground that moves the distribution of aircraft.

The implementation of these procedures is part of a global programme that aims to improve aviation safety. In July 2016, Stapleford Aerodrome became part of a European project co-funded by the European GNSS Agency. The objective of the project is to foster the design, development and implementation of satellite based instrument approach procedures, at three small aerodromes in the UK. The project is being co-ordinated in the UK by the Aircraft Owners and Pilots Association (AOPA) and aviation consultancy Helios in partnership with Stapleford Aerodrome.

Based on 2016 data, 6% of aircraft, approximately 700 flights per year, are expected to be able to use these satellite guided procedures if required, rather than the visual approach. These figures include a small margin for growth of training and business flights that will benefit the economy of the region.

The proposed procedures will not influence the number of aircraft that will continue to operate visually into the aerodrome.

We have explained in detail what this document is about and what we are consulting on further on in this document. Your opinions regarding the proposals set out within this document and your general feedback are very important to us, and we encourage you to respond, whether you have positive or negative views on the proposal.

The stakeholder consultation runs from 18th December 2017 to 26th March 2018 and details of how to respond have been outlined in section 7.4.

Mr John Chicken

Manging Director Herts and Essex Aero Club

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Executive summary

Objective of this document

Stapleford Aerodrome wishes to introduce a more accurate, safer and predictable approach procedure for aircraft approaching runway 21L in reduced visibility conditions. The procedures are formally known as RNAV Global Navigation Satellite System (GNSS) Instrument Approach. Within this document they are referred to as instrument approaches.

This document describes in detail the proposed changes we would like to introduce and invites you, the stakeholders, to review and provide feedback on our proposal. We look forward to understanding your views and value your opinion.

Purpose of this change

This proposal is to implement instrument approaches to runway 21L at Stapleford for general aviation and small commercial aircraft and helicopters. An aerodrome layout has been provided in Figure 1.

If our proposal is approved, the implementation of the instrument approach will allow approaches to the aerodrome when the weather is poor (e.g. low cloud base or visibility) and improve the safety of operations during deteriorating weather conditions. Currently, there is no approved Instrument approach to Stapleford and aircraft intending to land at the aerodrome have to divert to another aerodrome if they are unable to see the runway.

Stapleford Flight Centre (SFC) currently provides instrument training using a 'good weather' training procedure based on the Lambourne (LAM) VHF Omni Directional Radio Range (VOR) that is scheduled to be withdrawn within the next two years. The proposed instrument approach will allow SFC to continue local instrument approach training following the withdrawal of the LAM VOR. Without any facility to support instrument approach training at Stapleford, such as the VOR or the proposed procedure, all instrument approach training would have to be conducted at an alternative airport increasing costs.

The introduction of the instrument approaches at Stapleford Aerodrome is also aligned with international and UK safety objectives related to performance-based navigation¹ and the UK Future Airspace Strategy.

Why is the aerodrome consulting?

The Aviation Regulator, The Civil Aviation Authority (CAA) requires an Airspace Change Proposal (ACP) to be carried out wherever there is a change to the airspace status, or change to procedures. This process is described in the UK CAA Publication (CAP) 725.

As sponsor of the change SFC is responsible for consultation with airspace and airport users, other organisations and the public who may be affected directly or indirectly by the change. This document has been written to facilitate our consultation as we seek input on our proposals and engagement with all consultees affected by the change. The results of this consultation will be used to help define our next steps in the proposal. All consultation responses and comments will be part of any document submission to the CAA post consultation.

¹ Performance-based navigation is a comprised of standards and systems which enable better navigation performance for aircraft and enable many future aviation concepts which improve aviation performance.

Scope of the consultation

The scope of the consultation is to address the impacts associated with the implementation of the instrument approach procedures at Stapleford Aerodrome. This includes comments on the new procedures that relate to the following:

- ✔ Improved operational efficiency at the aerodrome allowing the recovery of Stapleford flight centre aircraft in deteriorating weather conditions.
- ✔ Increased safety in deteriorating weather conditions by providing satellite-guided approaches to runway 21L.
- ✔ Enabling Stapleford flight centre to continue to undertake instrument flight training at the airport.
- ✔ Increased aircraft operations from training or as a result of enabling operations in weather conditions which would not be enabled today.
- ✔ The routing or height of the new instrument approach procedures.

The consultation is specifically not addressing any of the following as these are unrelated to, and unchanged by, the introduction of the new procedures:

- ✘ The routing or height of departing aircraft;
- ✘ The routing or height of existing visual approaches;
- ✘ Aerodrome operating hours or the Aerodrome Traffic Zone;
- ✘ Aircraft approaches to any other runway;
- ✘ Existing number of aircraft movements;
- ✘ Type of aircraft operating at the aerodrome;
- ✘ Changes to any existing noise abatement procedures;
- ✘ Changes to any airspace around the aerodrome;
- ✘ Noise related to procedures excluding instrument approaches.

Engagement of the UK Civil Aviation Authority

The decision to approve (or not approve) the proposal will be taken by the Civil Aviation Authority (CAA), the civil aviation regulator. Stapleford Aerodrome will be required to justify the proposal sufficiently to the CAA to gain permission to implement the new procedure, following the completion of this consultation and a review of the procedure designs.

On 2nd February 2017, Stapleford Aerodrome engaged with the CAA to discuss the viability of the proposal and formally commenced the Airspace Change Proposal with a Framework Briefing at CAA London. Stapleford Aerodrome and the CAA have agreed, the consultation period will be 14 weeks, commencing on 18th December 2017.

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1 Introduction

Stapleford Aerodrome plans to implement a new satellite-based instrument approach procedure to allow aircraft to land in weather conditions not currently supported by the existing procedures. As required by UK CAA Publication (CAP) 725, this requires an Airspace Change Proposal (ACP) to be carried out. SFC, as the Change Sponsor, is responsible for conducting the consultation process for the proposal. This consultation document will be made available through a number of channels (described in section 7.4) and can be accessed via <http://bit.ly/2ywaSLj>.

The aerodrome has received a grant from the European GNSS Agency to support the implementation and has engaged with the Aircraft Owners and Pilots Association (AOPA) and aviation consultancy Helios to facilitate and manage this airspace change proposal on their behalf. In developing the proposal, a number of options were considered by the aerodrome. To meet the aerodrome's safety requirements and objectives the preferred option is to implement satellite-based instrument approaches to runway 21L.

This consultation document aims to engage the views of interested stakeholders that may be affected by the implementation of this proposal. Appendix E contains a list of identified consultees, but should not be assumed to be exhaustive. All consultees² are encouraged to review this document and submit a response by post or email to the SFC, as detailed in section 7.4.

A certain amount of technical detail about the proposed instrument approach has been included in this consultation document as it is important for stakeholders to have the necessary facts to form an opinion. This has been placed in appendices to this document to aid readability; for the main body of this document we have map-based images to indicate the existing and proposed flight paths.

Organisation of the document

- | | |
|------------------|---|
| Chapter 1 | (this chapter) introduces this airspace change proposal document |
| Chapter 2 | provides a brief overview to the current operations at Stapleford Aerodrome |
| Chapter 3 | explains the key objectives for change at Stapleford Aerodrome |
| Chapter 4 | evaluates three potential options to fulfil the Aerodrome's objectives. |
| Chapter 5 | discusses the potential environmental impacts to Stapleford Aerodrome and the surrounding airspace |
| Chapter 6 | discusses the impact of the proposal to residents living nearby the proposed instrument approach route |
| Chapter 7 | discusses the consultation process including the planned timeframes and how to respond to this consultation along with next steps |
| Chapter 8 | provides a template for the consultation feedback form |

² Please note that in the context of this document a consultee is taken to be anyone that could be affected positively or negatively by the proposals contained herein.

- Appendix A** providing a list of key technical terms and definitions used in this document.
- Appendix B** provides a picture of the Stapleford Aerodrome ATZ
- Appendix C** provides pictures of aircraft expected to be capable flying the proposed approach procedure
- Appendix D** provides the draft technical charts used by pilots (Instrument Approach Plates) flying the proposed approach procedure
- Appendix E** provides a list of aviation and non-aviation stakeholder consultees to whom this document is of particular relevance

2 About Stapleford Operations

This section describes current operations at Stapleford Aerodrome. This includes an overview of the current traffic levels and existing flight paths flown.

2.1 Context

Stapleford Aerodrome is a general aviation airfield near the village of Abridge, in the County of Essex. The licensed aerodrome is operated by Stapleford Flight Centre and owned by Herts & Essex Aero Club Limited.

Stapleford Aerodrome is located within uncontrolled airspace and therefore pilots may fly when and where they like, subject to a set of simple rules. In this airspace, pilots are responsible for their separation from terrain and other aircraft.

The Aerodrome is surrounded by a cylindrical volume of airspace of 2 Nautical Miles (NM) in radius and to a height of 2000' above the aerodrome, known as the Aerodrome Traffic Zone (ATZ). The purpose of the ATZ is to protect traffic on and in the immediate vicinity of the aerodrome. The location of the ATZ is shown in Appendix B.

Within the ATZ an Air/Ground Radio operator is able to pass advisory information to pilots regarding the situation local to the aerodrome. This means the operator is unable to provide control instructions (which pilots are compelled to follow) and can provide advisory information only.

All aircraft currently arriving into Stapleford Aerodrome do so visually, under Visual Flight Rules (VFR). Such arrivals are commonly referred to as **visual approaches**. Visual approaches are operated in weather conditions generally clear enough to allow the pilot to see where the aircraft is going with visual reference to the ground (e.g. landmarks), and by visually avoiding obstructions and other aircraft. It is only permitted to fly under VFR when these outside references can be clearly seen from a sufficient distance; when flying through or above clouds, or in fog, rain, smoke or similar conditions, these references can be obscured. Thus, cloud ceiling (the height of the cloud's base) and visibility are important for safe operations during all phases of flight at Stapleford.

When operation of an aircraft under VFR is not possible (because the visual cues outside the aircraft are obscured by such poor weather conditions) Instrument Flight Rules (IFR) must be used instead. Under IFR, aircraft are flown using instruments on-board to aid navigation, using radio beacons or satellite signals as reference, thereby supporting the safe operations of the aircraft. Arrivals under such conditions are commonly referred to as **instrument approaches**. To fly these approaches, pilots must have the required license and operate a suitably instrument equipped and certified aircraft. This proposal is consulting to implement an instrument approach procedure to Stapleford Aerodrome (described in later sections).

2.2 Runway Configuration

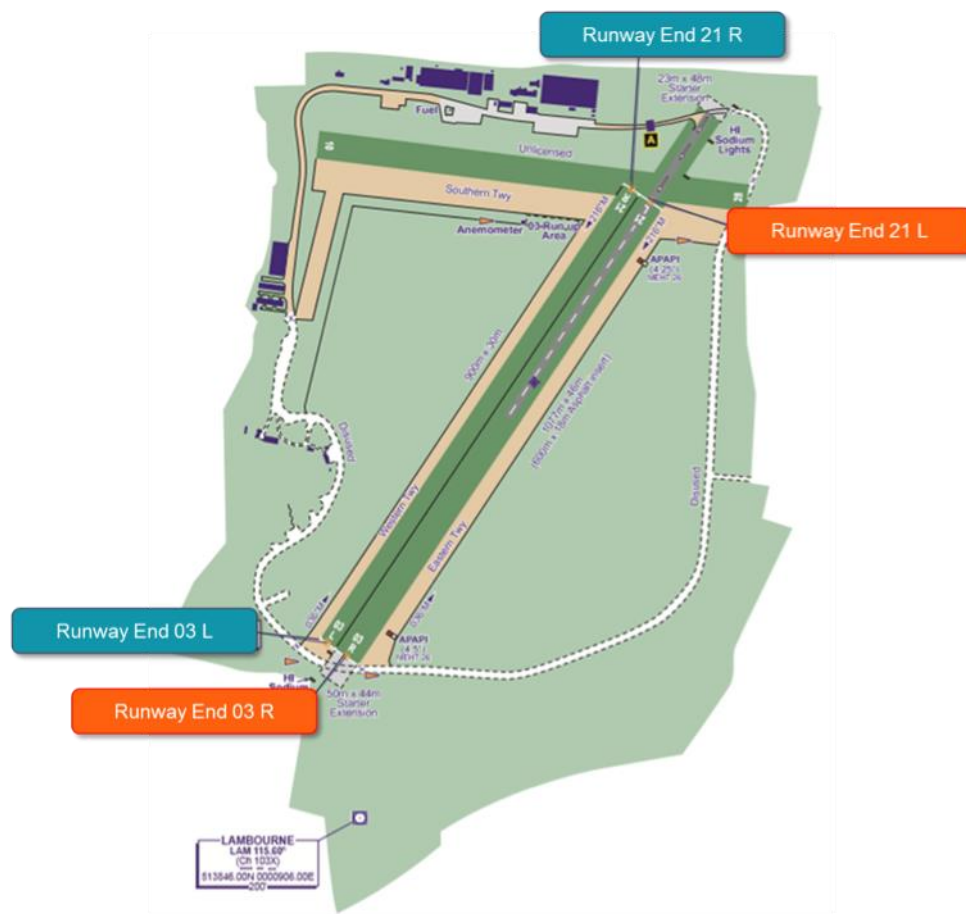


Figure 1: Stapleford Aerodrome runway configuration

Stapleford Aerodrome has 2 runways orientated approximately north-south as shown in Figure 1. Runway 03 R and 21L (1077 m long) is asphalt and grass and the smaller runway 03 L and 21 R (1095 m) is only grass. **Note, the focus of this consultation is instrument approach to runway 21L only.**

For aircraft performance reasons³ aircraft have to take off and land into wind. Runway selection is therefore primarily governed by the wind direction at the airfield. In the UK westerly winds prevail around 70% of the time and easterly winds around 30%.

The wind-preferential runways at Stapleford Aerodrome are 21Left (asphalt) and 21 Right (grass) as they are headwinds runways. Total aircraft movements for 2016 was approximately 40,000, of which approximately 80% landed on, or departed from runway 21L and around 20% landed on, or departed from runway 03R.

2.3 Stapleford Aerodrome operations

Stapleford is classed as a general aviation aerodrome with no scheduled commercial services. The aerodrome's primary business is training, but it is also used by a variety of other aircraft operators such as General Aviation, Helicopter and Commercial.

³ An aircraft flying into wind has a higher air speed (and thus more lift) than an aircraft flying with the wind, when both have the same ground speed.

The total number of movements at the airport was 40,000 in 2016, of which 35,000 movements were operated by SFC. Approximately 80% of flights utilised runway 21L, which represents 32,000 movements.

Note, one movement is counted as an arrival or departure to or from the airfield.

The following figures present IFR aircraft arrivals to and departures from Stapleford between October 2016 and September 2017⁴. The figures shown are for all navigation capabilities carried by the aircraft. Only those correlating to categories S or B would be able to use the proposed procedure. About 6.6% of arriving IFR aircraft were equipped for the basic version of the proposed approach procedure (S), whilst the proportion equipped for the advanced approach procedure (B) is 2.4%. For departures, this was 6.9% and 1.0% respectively.

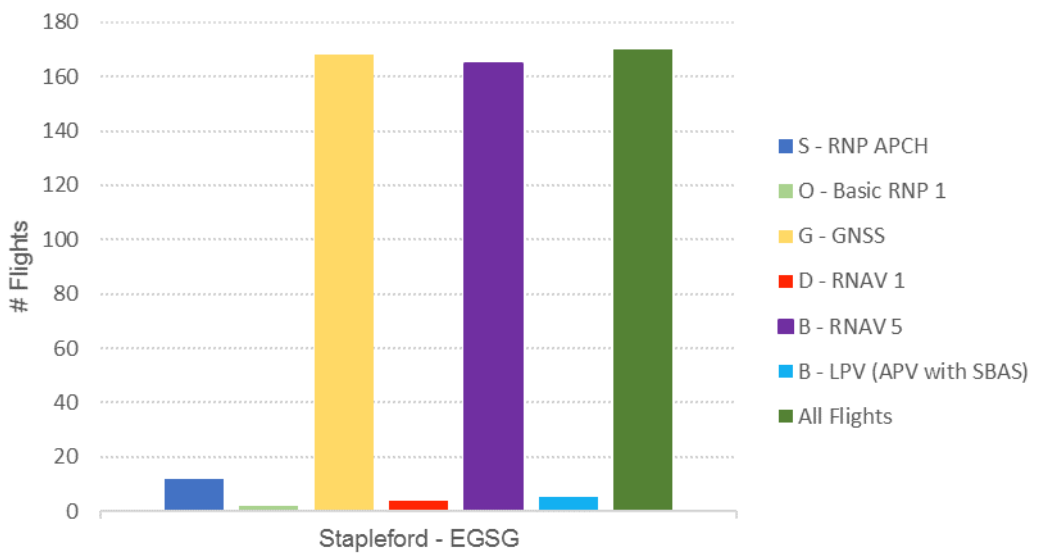


Figure 2: Stapleford arrivals and their equipage

⁴ Extracted from the Eurocontrol PRISME Flight Plan Database (<http://www.eurocontrol.int>)

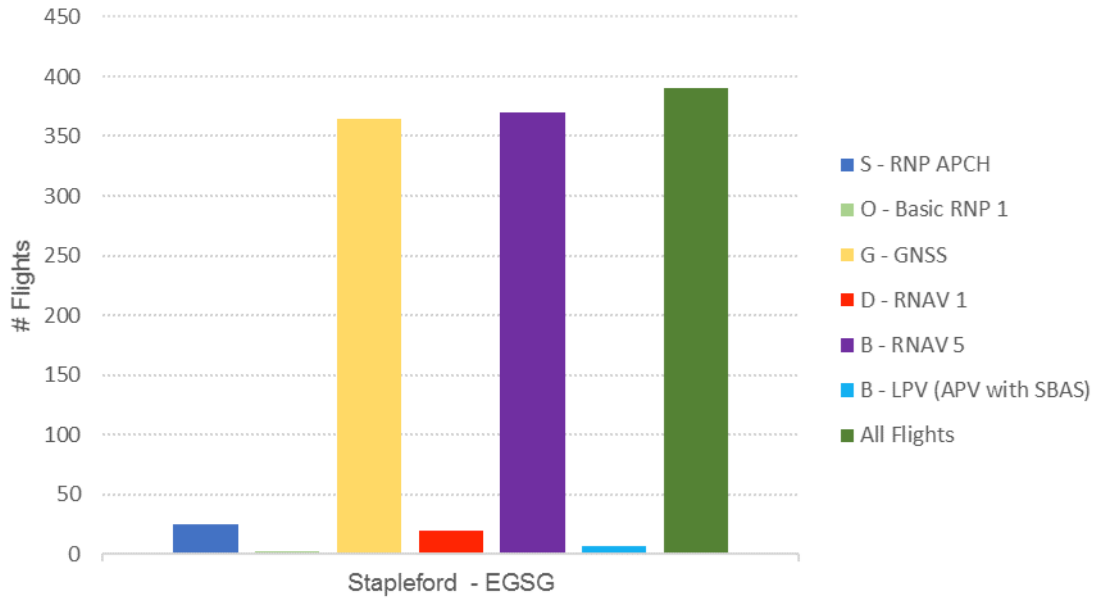


Figure 3: Stapleford departures and their equipage

We assume that after the instrument approach is introduced aircraft capability will evolve with time and arrivals and departures equipage will be comparable in number. Aircraft capability to use the procedure is expected to evolve within five years to about 700 potential movements per year. This represents around 3% of all arrivals, which, on average, equates to 2 LPV arrivals per day. This assumption includes a margin for training and expected growth of IFR movements.

The number of IFR movements operated by SFC is expected to remain broadly the same, as this is driven by demand for pilot training rather than availability of specific type of instrument procedure.

It is also in the Aerodrome's interest to ensure that visual approaches are unimpeded by the introduction of the new procedure given the primary business focus of the aerodrome on training during visual operations. All ab-initio training requires flight in visual conditions and this comprises the primary business of Stapleford Flight Centre.

Therefore, the balance between IFR and VFR operations are expected to be managed and total demand at the aerodrome is expected to remain the same.

2.4 Existing flight paths

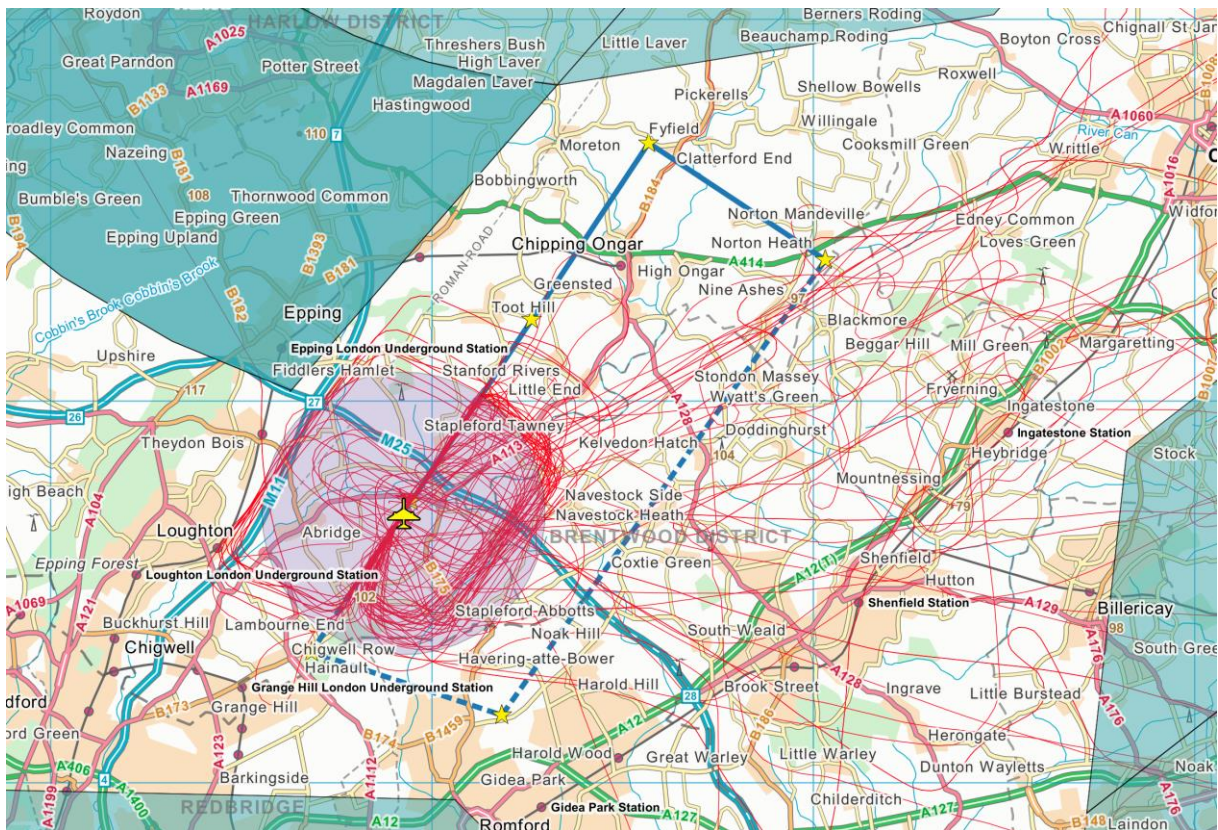


Figure 4: Sample of aircraft flight tracks arriving and leaving Stapleford Aerodrome in 2017

Visual approaches are currently the only type of approaches into Stapleford Aerodrome. As all approaches to the Aerodrome are currently flown visually, aircraft can operate without restriction and, therefore, traffic patterns tend to be random with a concentration on a regularly flown loop known as the aerodrome circuit. Figure 4 visualises a sample of approaches to the Aerodrome demonstrating the random nature of flights outside the ATZ. This is because the visual tracks are interpreted by the pilot rather than navigation aids, such as satellites, and therefore there is a spread in the flight tracks.

3 Why the aerodrome is proposing a change

This section explains why Stapleford Aerodrome wishes to introduce the new instrument approach. Key objectives and drivers are discussed to justify the introduction of instrument approach.

3.1 Objectives of this proposal

The prime objectives for implementing the instrument approach procedures at Stapleford Aerodrome are the following:

- To improve operational efficiency at the aerodrome by allowing the recovery of Stapleford Flight Centre aircraft in deteriorating weather conditions (instead of diverting to other aerodromes).
- To allow Stapleford Flight Centre to continue Instrument Flight training at the airport when existing infrastructure is removed.
- To improve the safety of aerodrome approaches to runway 21L in deteriorating weather conditions.

3.2 Drivers for Change

Safety of Operations

Improving operational efficiency at the aerodrome by allowing the recovery of Stapleford Flight Centre aircraft in deteriorating weather conditions and enhancing the safety of aerodrome operation in deteriorating weather conditions, are the primary reasons why Stapleford is proposing to implement the instrument approach procedure.

An instrument approach is designed to ensure that aircraft flying the approach maintain safe clearance from obstacles such as terrain, radio masts, buildings, street lighting and vehicles on roads, all of which are features of the Stapleford approach.

An instrument approach with vertical guidance allows a pilot to fly the aircraft along a path that is aligned with the runway and is descending at the specified rate, without having visual contact with the runway. This is known as a stabilised approach.

An instrument approach may be flown to a minimum height known as the decision height by which point the pilot must decide if the runway is in view and a safe landing is possible. If the runway cannot be seen, the approach is terminated, and the missed approach procedure is executed.

At the decision height, the instrument approach will have correctly positioned the aircraft to the visual guidance provided by the aerodrome lighting and only minor adjustments to aircraft position are required in the final phase of the approach.

Approaches with vertical guidance are lower workload for the pilot as he/she is not continuously monitoring the descent rate and trying to ensure that the aircraft is at a particular altitude at a certain range. As it is easier to fly an approach there is less likelihood of having to change engine settings to maintain the glidepath reducing noise' fuel burn and emissions.

Improving training opportunities

Stapleford Flight Centre specialises in commercial flight training. Current instrument operations training and recovery is based on the Lambourne (LAM) VHF Omni Directional Radio Range (VOR) – a short-range radio navigation system allowing aircraft to determine

its position. Without an approved and published instrument approach at the airport when the LAM VOR is withdrawn from service in the next two years local IFR training will be forced to stop. The introduction of this approach procedure will allow continuation of IFR training. The new instrument approach may therefore also be used during good weather for training pilots to fly instrument approach, when traffic permits – i.e. when limited VFR circuit training is ongoing.

Improved Operating Minima

An instrument approach is designed to take account of obstacles and as the aircraft is precisely positioned on the approach path, the decision height will be much lower than for a visual approach. The instrument approach therefore allows operations to continue in deteriorating weather conditions to a lower cloud base and reduced visibility.

Economic viability

Stapleford Aerodrome is utilising part funding provided by the European GNSS Agency and future-proofing its business by implementing an instrument approach and therefore enabling future cost saving opportunities.

The introduction of satellite-based instrument approach procedures can be implemented with no financial outlay required on ground-based equipment and there are no associated on-going operations and maintenance costs to the Aerodrome. By implementing the instrument approach, Stapleford Aerodrome is optimising the operation for its current and future customers by providing a safe and reliable procedure which can be used in poor weather conditions rather than diverting to alternate airfields. Infrastructure costs are already borne by the European Community, and thus implementing the procedure simply extracts more value from existing assets.

Modernisation

Satellite-based approach procedures are being adopted worldwide due to requirement “ICAO Resolution A37-11”.⁵ The UK intends to meet the aims of this requirement through its Future Airspace Strategy (FAS).⁶ One of the key aims of FAS is to make airspace more efficient by improving the accuracy of where aircraft fly by using satellite-based navigation instead of ground-based navigation aids.

Environmental Positives

The proposed instrument approach procedures offer the opportunity for;

- More efficient flights as aircraft stay higher for longer.
- Fuels savings generated from reduced diversions and missed approaches in marginal visual conditions and therefore a reduction in CO2 emissions and reduced noise.
- Highly repeatable, more accurate and more predictable approach flight paths. This is further discussed in detail in the next section (section 4).

⁵ https://www.icao.int/Meetings/AMC/Assembly37/Documents/ProvisionalEdition/a37_res_prov_en.pdf

⁶ <https://www.caa.co.uk/Commercial-industry/Airspace/Future-airspace-strategy/Future-airspace-strategy/>

4 The proposed options

This section outlines the three potential options considered to meet requirements and objectives by Stapleford Aerodrome, as outlined in section 3.

4.1 Option A – Implementation of instrument approach

Stapleford Aerodrome is proposing to introduce instrument approaches to runway 21L only which will be used in conjunction with the existing visual approaches. This option aligns with the objectives and drivers for change listed in section 3.1. **This is the aerodrome's preferred option.**

The proposed instrument approach will involve aircraft using the Global Positioning System (GPS) to fly between waypoints that are programmed into the flight management computer on board the aircraft. They work on the same concept as a car “sat-nav”, but provide vertical as well as horizontal guidance. The satellite based Instrument approaches do not rely on ground based infrastructure.

The three main characteristics of this type of approach are:

- 1) The approach will be a “straight-in” instrument approach. In other words, the approach will follow an extended centre-line of the landing runway as compared to a proportion of visual approach that involve the aircraft positioning within the visual circuit. This ‘straight-in’ design is optimal for both flight operations and safety and is established preferred practice for instrument approaches, as set out in CAA policy. CAA document CAP 1122, Appendix 1, clearly states that approach designs should be kept as simple and standard as possible, e.g. whenever possible no off-set approaches (approaches to be kept to the centre line of the runway).
- 2) Aircraft will follow a set path over the ground, leading to greater consistency of flight paths.
- 3) The proposal will not require any ground based equipment to be installed and therefore there are no equipment maintenance schedules. Instrument approaches are designed to use data from satellites for accurate navigation

Figure 5 defines the path (dark blue line) that aircraft using the instrument procedure will use when using the approach to runway 21L. This will lead to a more predictable and repeatable route for approach to the aerodrome when compared to the red lines which represent the path taken by aircraft approaching the aerodrome visually.

4.2 Option B – Do nothing

This option does not meet the Aerodromes requirements and objectives stated in section 3. Aircraft in deteriorating weather conditions will have to divert to other airports. Local instrument training capabilities will be lost threatening the viability of the airport, and thus harming the local economy.

4.3 Option C – Implement NDB/DME approach

Conventional ground based navigation aids such as Non-Directional Beacons (NDB) and Distance-Measuring Equipment (DME) may be used to provide instrument approach guidance. There is currently no NDB located at Stapleford and the provision of the facility would represent a considerable capital expenditure. There is a DME associated with the NATS en-route Lambourne VOR located adjacent to the aerodrome, however the long-

term availability of the DME following the withdrawal of the VOR is outside of the control of the aerodrome.

An NDB/DME Instrument approach does not provide vertical guidance to the pilot on approach and the NDB is liable to interference and interruptions in the signal due to thunderstorm activity making the guidance erratic.

Ground based navigation facilities require considerable investment with respect to maintenance and equipment replacement at end of their operational life. They are also not as accurate as the satellite-based instrument approach procedures. More importantly, the absence of vertical guidance does not provide a safety benefit to the operation.

This option has been considered and discounted as not meeting the aerodromes objectives. In addition, as NDB/DME approaches are being phased out within the aviation industry, the option does not feature in the consultation feedback form in section 8.

4.4 Mitigation included in the proposed design to minimise the impact

The design of the instrument approach has been performed within the Internationally agreed criteria published by ICAO. The design of the instrument approach proposed (Figure 12: Draft instrument approach procedure for runway 21) has been developed taking into consideration:

- 4) Minimise over-flight of built-up areas to the maximum extent.
- 5) Avoidance of the surrounding controlled airspace (London City CTR and the Stansted and Southend CTAs).

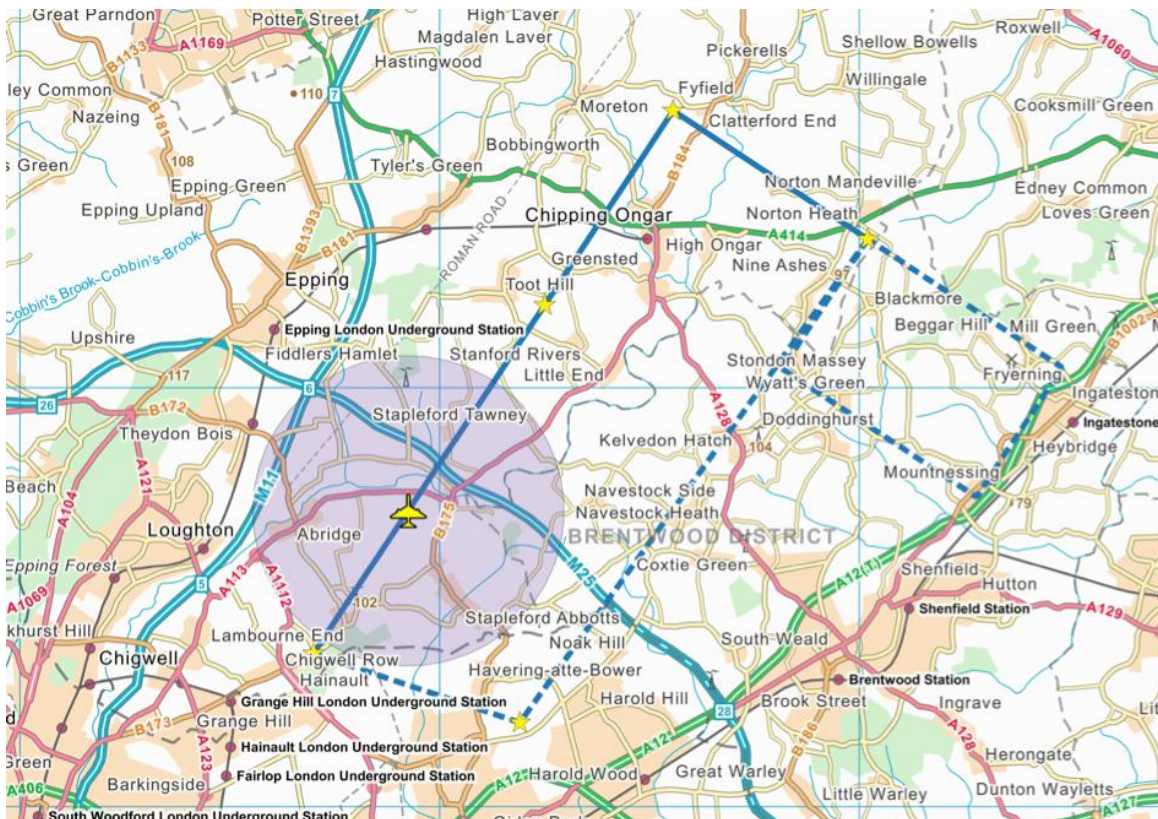


Figure 5: Proposed instrument approach to runway 21 L

5 Potential Environmental Impacts

This section evaluates the potential environmental impact of introducing the instrument approach at Stapleford Aerodrome.

5.1 Environmental Impacts

5.1.1 Noise

Stapleford Aerodrome do not expect a significant increase in the number of aircraft using the aerodrome and they do not expect a change in aircraft types using the approach, if the proposal is implemented. The expectation is that there may be an increase of two movements per day. The Aerodrome and its key aviation stakeholders conclude there will be an insignificant increase in noise from aircraft operations.

Given that the introduction of the instrument flight procedures will lead to a repeatable ground track over which aircraft will fly it is possible that there will be some increase in noise in some areas. However, the guidance afforded to aircraft through the instrument procedure is expected to result in aircraft flying higher (with less ground noise) than today. This is explained further in Section 6.

5.1.2 CO2 Emissions

Following engagement with the Aerodrome's key aviation stakeholders, (i.e. pilots, airspace users and airport operations staff,) there is a consensus that the proposal will allow aircraft to fly an optimal approach with lower engine power settings.

The current approach onto runway 21L requires pilots to follow a visual approach into the aerodrome. Once the pilot has the airfield 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 may be required to maintain airspeed and thus increase CO2 emissions, fuel burn and noise. The instrument approach proposed will allow aircraft to fly in 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.

This lower power settings are offset against an average increase of around 4.5 nautical miles for an aircraft to fly the instrument approach.

5.1.3 Tranquility and Visual Intrusion

The instrument approach is not being implemented to increase the number of flights to or from Stapleford Aerodrome and any increase is expected to be negligible as described earlier.

Consequently, the aerodrome does not believe that there will be any significant positive or negative impact on tranquillity and visual intrusion as a result of the proposal.

As shown in figure 6, the placement of a Hold at 2300ft close to the Stondon Massey and Blackmore villages. These two villages may experience some visual intrusion; however, this does not mean their residents will see significant numbers of aircraft as it is expected that there will be approximately 2 per day that commences the approach near these villages and only a small proportion of these aircraft will fly the hold.

6 How does this proposal affect me?

This section provides a qualitative assessment of the noise and number of aircraft which may have an impact to areas overflowed by the proposed instrument approach procedures.

6.1 Assessment

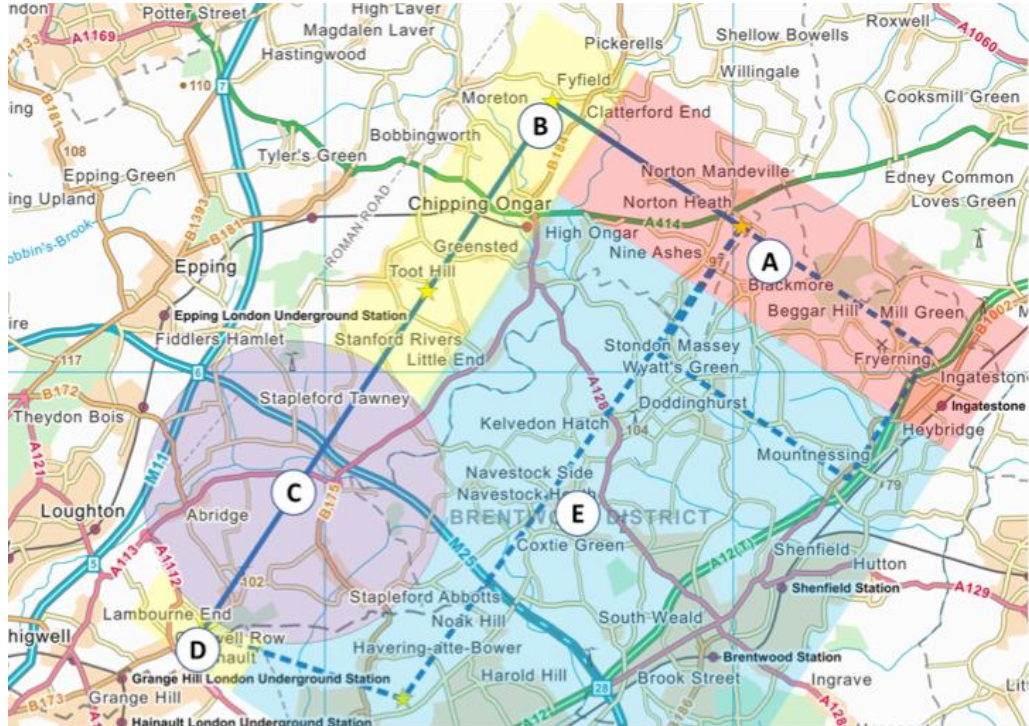


Figure 6: Map of areas impacted by instrument approach

The dark blue line in Figure 6 highlights the proposed instrument approach to runway 21L and the shaded areas show the underlying areas that may be impacted. Aircraft will typically start the instrument approach by joining from A and funnel into B (to land on runway 21L).

All approaches terminate within C at the aerodrome. Area E is used by aircraft using the missed approach procedure (dashed blue line). When, for any reason, it is judged that an approach cannot be continued to a successful landing, a missed approach or go-around is flown.

As noted in section 2.3 only 3% of arrivals are anticipated to utilise the instrument approach procedure.

Table 2 below describes the impact to areas A to E in terms of noise and number of aircraft. The terms, definition and key used in Table 2 have been defined in Table 1.

Indicator	Impact
	We estimate a net reduction of noise or aircraft numbers.
	We estimate a net increase of noise or aircraft numbers.
	We estimate no change of noise or aircraft numbers.

Table 1: Terms, definitions and key used in qualitative assessment











Region	Impact	Category	Rationale (Change to current day visual operations)
A		Noise	Aircraft will be flying at the same height (minimum 2300ft) when compared to an aircraft on a similar track flying a visual approach.
		No. of aircraft	No change is expected to number of aircraft in this area. As shown in the track sample presented earlier, this area is already overflowed for aircraft arriving and departing from Stapleford.
B		Noise	We anticipate a small increase in noise to the north of the A414, as the aircraft flying the approach will be directed over this area. It is also noted that the aircraft are at a relatively high altitude.
		No. of aircraft	A very small increase in the number of aircraft to the north of the A414. Compared to the traffic sample, this area does not currently receive many overflights from Stapleford. The impact is expected to be around two movements per day.
C		Noise	This area represents the ATZ and most circuit traffic is contained within this area. Compared to circuit traffic in level flight, aircraft arriving will be in low power configuration and quieter. The level of noise from the procedure should be negligible to undetected against this background.
		No. of aircraft	There is estimated to be no change to number of aircraft in the ATZ. Given that the aircraft would be flying to airport, all flights will have to follow the straight in approach at this point. Any additional movements should be undetectable due to the volume of training movements at Stapleford.
D		Noise	Most visual departures from RWY 21 impact this area. Noise from the new procedure should only be experienced when a missed approach is flown. This is expected to be rare in IFR operations. Noise from training flights flying the procedure is expected to be negligible in comparison.
		No. of aircraft	As noted, this area is impacted only in the event of a missed approach being flown. This is expected to be rare and consequently, no change to number of aircraft in this area.
E		Noise	We anticipate no change in noise as aircraft flying the missed approach will keep to a more northerly track in an area that is dominated by departures. Most noise would be from aircraft flying the missed approach for training purposes. However, compared to the departure dominated overflights through the area, this is deemed to be negligible.
		No. of aircraft	We anticipate a slight increase in traffic due to the combination of training traffic and aircraft flying further out when needing to use the missed approach. Compared to the overall numbers, this should be indistinguishable.

Table 2: Qualitative assessment of areas impacted by the instrument approach procedure

7 Consultation Process

7.1 Overview

The purpose of this consultation is to provide stakeholders and members of the public an opportunity to express their opinion, comment on the Airspace Change Proposal and for Stapleford Aerodrome to share information with them.

A full list of the stakeholders being contacted directly is provided in Appendix E which fall into two following groups: aviation and non-aviation stakeholders. The consultation document will be available to all stakeholders through the SFC website (advertised through local media and social media), public meetings and hard copies available at local libraries and on request.

7.2 Roles and Responsibilities

The roles and responsibilities of the key organisations central to facilitating, ensuring adherence to the consultation process and approval (if successful) of the proposal have been provided below.

Stapleford Aerodrome

The SFC is the 'change sponsor' for this proposal and is therefore responsible for the content of the proposal and also the consultation process. In developing the Airspace Change Proposal, Stapleford Aerodrome are following the framework laid down by the CAA within CAP 725 CAA Guidance on the Application of the Airspace Change Process.

CAA Safety & Airspace Regulation Group (SARG)

The CAA Safety & Airspace Regulation Group (SARG) is responsible for the Airspace Change Process. Any complaints regarding the Aerodrome's adherence to the airspace change process should be made to the address below. Any other responses will be referred back to Stapleford Aerodrome.

Airspace Regulator (Coordination)

Airspace, ATM and Aerodromes

Safety and Airspace Regulation Group

CAA House

45-59 Kingsway

London WC2B 6TE

Civil Aviation Authority

The ultimate decision on the implementation of the proposed approach procedure will be taken by the UK Civil Aviation Authority (CAA), the national regulatory body.

7.3 Consultation Kick-off

The proposal will be subject to a 14-week long stakeholder consultation commencing on 18th December 2017 and finishing on 26th March 2018.

All information regarding the airspace change proposal can be found on the Stapleford flight centre website at www.flysfc.com.

Hard copies will also be made available, on request, from the SFC on email address staplefordacp@askhelios.com.

7.4 How to respond to this consultation

All stakeholders are invited to submit their feedback during the consultation period through the communication channels listed below. All feedback will be given appropriate consideration and included in the aerodrome's consultation summary report which will identify the issues and key themes identified through the consultation and how the aerodrome intends to address them. This will be published on the SFC website before the formal proposal is submitted to the CAA (see the ACP Timetable, Table 3). All feedback received will be submitted to the CAA. If you do not want your personal information to be passed to the CAA, then please ensure that this is clearly shown/stated in your feedback.

It is strongly recommended that you fully read this section before you write your response.

The consultation closes at 12:00 Noon, on 26th March 2018.

Website and Email

You are invited to respond using the online response form available at <https://www.surveymonkey.co.uk/r/staplefordacp>.

Alternatively, you will find a hard copy version of the response form in Section 8 of this document.

You can also find a copy of the response form to download at <http://bit.ly/2B7NPcK>, which can be printed off or completed electronically and emailed. Once complete either scan and return to staplefordacp@askhelios.com or post to the address below.

Post

If you are unable to use email, please send a letter to the following address:

Stapleford ACP Consultation Response

Stapleford Airport

Stapleford Tawney

Romford RM4 1SJ

Please note, we will only be responding to individual comments when it is necessary to do so to ensure that all stakeholders have the information that they need to participate in the consultation (e.g. if further information or clarification on this proposal is needed).

7.5 Consultation drop-in session

All stakeholders are invited to attend a drop-in session at Stapleford Airport to be held at the airport on Tuesday 13th February between 15:00 and 22:00.

To ensure sufficient personnel are available to support the drop-in session, any stakeholder intending to attend this session is requested to book a convenient slot through the following link: <https://doodle.com/poll/cn43b7umi4pkvx2d>.

7.6 What happens next?

After the consultation period closes, the SFC will analyse the responses and publish a report summarising the feedback received and will identify the issues and key themes identified through the consultation and how the aerodrome intends to address them. Relevant information about the consultation in general, and any other information which might be useful, will also be collated. The report will be published on the SFC website as detailed in Table 3.

Following this, the Airspace Change Proposal (ACP) based on this consultation document and the feedback report, will be sent to the CAA.

The CAA will then complete their regulatory assessment of the proposal. The CAA will decide if it has merit, and will publish a decision on its website.

Date	Action
18 th December 2017	Consultation period commences
26 th March 2018	Consultation period ends
14 th May 2018	Consultation Summary Report issued
Q2/Q3 2018	Submission of full ACP to CAA
Q3 2018	CAA Regulatory Decision
Q1 2019	Potential implementation of Instrument Approach

Table 3: Planned Airspace Change Timetable

8 Consultation Feedback Form

Using a standard format makes it easier to interpret responses, which in turn makes each response more effective. Please use the following form when responding to the consultation by email or letter. It would be helpful to include in your comments specific place(s) where you think there would be changes of impact due to this proposal. Comments are also welcome if you think there would be no change of impact.

Please complete this form and return to Stapleford flight centre via email or post.	
Name:	
Representing (self or organisation):	
Address:	
Email:	
<input type="checkbox"/> Please tick this box if you do NOT want to share your personal information with the CAA	
Consultation Options – Please tick the option which you would like to support	
Option A	Introduce the Instrument Approach to runway 21L <input type="checkbox"/>
Option B	Do Nothing <input type="checkbox"/>
Comments: (please add additional pages as required if submitting hard copy responses)	

Figure 7: Consultation Feedback Form

A Glossary

ACP	Airspace Change Proposal	A proposal presented to the Civil Aviation Authority by an airport or an air traffic service provider eg NATS (see below), to change/introduce controlled airspace or (published) aircraft procedures
AIP	Aeronautical Information Publication	Information updated every 28 days that is essential to air navigation.
AOPA	Aircraft Owners and Pilots Association	The Aircraft Owners and Pilots Association UK, the trading name of British Light Aviation Centre Limited, is part of AOPA, the world's largest, most influential aviation membership association
ATZ	Aerodrome Traffic Zone	An airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic
CAA	Civil Aviation Authority	The governing body of Aviation in the UK
CAP	Civil Aviation Publication	Publications produced by the Civil Aviation Authority
DME	Distance Measuring Equipment	Navigation beacon, usually coupled with a VOR beacon, to enable aircraft to measure their position relative to that beacon
FAS	Future Airspace Strategy	Plans for the future make up of UK airspace
GA	General Aviation	Flights not involved in commercial air transport
GPS	The Global Positioning System	A space-based radio-navigation system owned by the United States government and operated by the United States Air Force
GNSS	Global Navigation Satellite System	Aircraft can navigate by the use of satellites (much the same as a satnav on your phone or car)
IAF	Initial Approach Fix	The position in the sky that an aircraft will start its approach to land
IAP	Instrument Approach Procedures	A series of predetermined manoeuvres for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually or the missed approach procedure is initiated.
IFR	Instrument Flight Rules	Navigate by use of cockpit instruments tuned in to radio beacons and the Global Navigation Satellite System (GNSS). These aircraft require instrument procedures that enable the aircraft to approach and land at an aerodrome.

MAP	Missed Approach Procedures	When, for any reason, it is judged that an approach cannot be continued to a successful landing, a missed approach or go-around is flown. A missed approach procedure is the procedure to be followed if an approach cannot be continued. It specifies a point where the missed approach begins, and a point or an altitude/height where it ends.
NATMAC	National Air Traffic Management Advisory Committee	The National Air Traffic Management Advisory Committee (NATMAC) is a non-statutory advisory body sponsored by Director of Airspace Policy (DAP). The Committee is consulted for advice and views on any major matter concerned with airspace management.
NDB	Non-Directional Beacon	A radio transmitter at a known published position used as an aviation navigational aid
PBN	Performance-based Navigation	Navigation of aircraft using navigation satellites and computerised on-board systems
RNAV	Area Navigation	Aircraft can fly any course without having to route over a beacon on the ground
VFR	Visual Flight Rules	Navigate and land by visual reference to the ground and landmarks.

B Stapleford Aerodrome ATZ



Figure 8: Stapleford Aerodrome ATZ

C Typical aircraft operating at Stapleford



Figure 9: Diamond DA42S



Figure 10: Piper PA28R



Figure 11: Cessna 152

D Instrument Approach Charts (Instrument Arrival Maps)

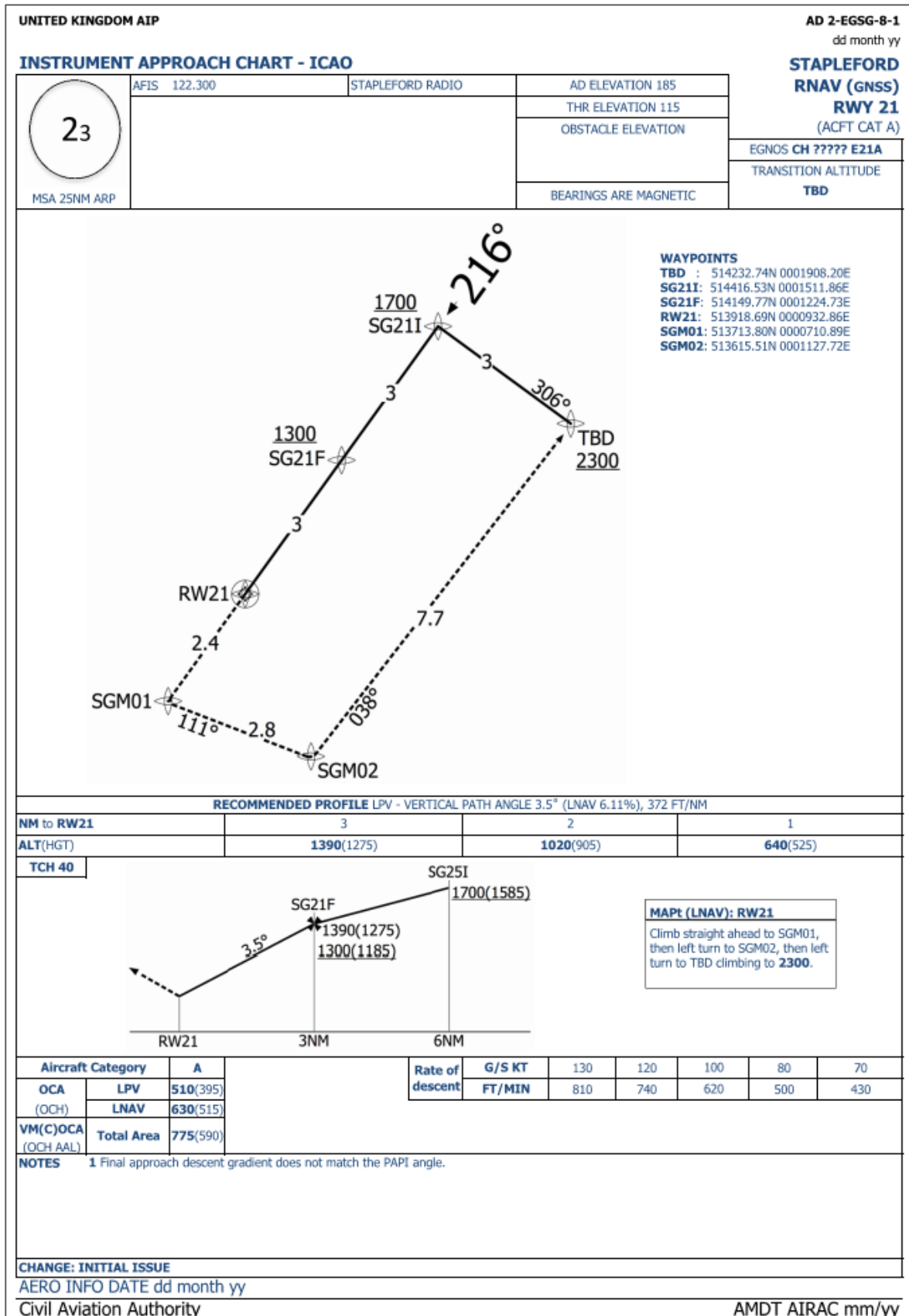


Figure 12: Draft instrument approach procedure for runway 21

E List of Consultees

E.1 Aviation Consultees

Airspace and airport users group

Consultee	Description	Contact
Stapleford flight centre	Commercial and private pilot training	http://www.flyafc.com/
London Executive Aviation	Air Charter Airline	www.flylea.com
Air Charter Service	Private Jet Charter	http://www.aircharter.co.uk/
HERTS and ESSEX Aero Club Limited	Aeroclub	https://beta.companieshouse.gov.uk/company/00412988/officers

Local airports

Consultee	Description	Contact
Southend Airport	Major Airport	damon.knight@southendairport.com
Stansted Airport	Major Airport	through NATS UK
London City Airport	Major Airport	through NATS UK
North Weald	Small Airfield	dgoodey@eppingforestdc.gov.uk info@northwealdairfield.org

The National Air Traffic Management Advisory Committee (NATMAC)

Consultee	Acronym
Aircraft Owners & Pilots Association	AOPA UK
Airfield Operators Group	AOG
Airlines UK	
Airport Operators Association	AOA
Aviation Environment Federation	AEF
British Aerospace Systems	BAE Systems
British Air Transport Association	BATA
British Airline Pilots Association	BALPA
British Airways	BA
British Balloon & Airship Club	BBAC
British Business & General Aviation Assc	BBGA
British Gliding Association	BGA
British Hang Gliding & Paragliding Assc	BHPA
British Helicopter Association	BHA
British Microlight Aircraft Association	BMAA
British Model Flying Association	BMFA

Consultee	Acronym
British Parachute Association	BPA
Civil Aviation Authority	CAA
Defence Airspace & Air Traffic Management	DAATM
Future Airspace Strategy VFR Implementation Group	FASVIG
GAA	
General Aviation Safety Council	GASCo
Guild of Air Pilots & Air Navigators	GAPAN
Guild of Air Traffic Control Officers	GATCO
Heathrow Airport Ltd	HAL
Heavy Airlines	
Helicopter Club of Great Britain	HCGB
Honourable Company of Air Pilots	
Isle of Man	IoM
Light Aircraft Association	LAA
Light Airlines	
Low Fares Airlines	LFA
Military Aviation Authority	MAA
Ministry of Defence	MoD
National Air Traffic Services	NATS
PPL/IR	
UK Airprox Board	UKAB
UK Flight Safety Committee	UKFSC
Unmanned Aerial Vehicles Association	UAVS

E.2 Non-aviation Consultees

National organisations

Consultee	Contact
Natural Environment Research Council	Natural Environment Research Council Polaris House, North Star Avenue Swindon, SN2 1EU United Kingdom
Natural England	foi@naturalengland.org.uk
National Trust	enquiries@nationaltrust.org.uk

Local authorities

Consultee	Contact
Essex County Council	contact@essex.gov.uk

Greater London Authority	City Hall The Queen's Walk London SE1 2AA
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Town and Community Councils

Consultee	Contact
Brentwood District	enquiries@brentwood.gov.uk
Epping Forest District	Epping Forest District Council, Civic Offices, 323 High Street, Epping, Essex CM16 4BZ
Havering London Borough	London Borough of Havering Town Hall Main Road Romford RM1 3BD
Redbridge London Borough	customer.cc@redbridge.gov.uk
Blackmore, Hook End and Wyatts Green CP	clerkofblackmorepc@yahoo.co.uk
Doddinghurst CP	clerk@doddinghurst-pc.gov.uk
Fyfield CP	caliban@gmx.co.uk
High Ongar CP	clerk@highongarpc.co.uk
Highwood CP	highwoodpc@hotmail.com
Ingatestone and Fryerning CP	Ingatestone & Fryerning Parish Council Suite 1 4 The Limes, Ingatestone Essex, CM4 0BE
Kelvedon Hatch CP	clerk@kelvedonhatch-pc.gov.uk
Lambourne CP	lambournepc@gmail.com
Moreton, Bobbingworth and the Lavers CP	mbiparishcouncil@gmail.com
Mountnessing CP	parishclerk.mountnessingpc@yahoo.co.uk
Navestock CP	navestockpcclerk@gmail.com
Ongar CP	clerk@ongartowncouncil.gov.uk
Stanford Rivers CP	stanforddriverspc@gmail.com
Stapleford Abbots CP	john.ashetons@btinternet.com
Stapleford Tawney CP	burrs.bellsfarm@gmail.com
Stondon Massey CP	clerk@stondonmasseypc.co.uk
Theydon Garnon CP	vicdor1933@gmail.com
Theydon Mount CP	Ann Brewett 1 Beachet Cottages, Mount End Theydon Mount, Epping, Essex CM16 7PN

Members of Parliament

Consultee	Contact
Alex Burghart, Member for Brentwood and Ongar	alex.burghart.mp@parliament.uk
Eleanor Laing, Member for Epping Forest	eleanor.laing.mp@parliament.uk
Julia Lopez, Member for Hornchurch and Upminster	julia.lopez.mp@parliament.uk
Wes Streeting, Member for Ilford North	wes.streeting.mp@parliament.uk
Andrew Rosindell, Member for Romford	andrew.rosindell.mp@parliament.uk