

# ACP-2021-038 – Skyfarer NHS drone delivery trials Coventry

Targeted Engagement with Aviation Stakeholders  
Version 1.0 – Dated: 19/05/2021

## Acronyms and Abbreviations

<b>AAL</b>	Above Aerodrome Level
<b>ACP</b>	Airspace Change Proposal
<b>AIAA</b>	Area of Intense Air Activity
<b>AMSL</b>	Above Mean Sea Level
<b>ANSP</b>	Air Navigation Service Provider
<b>BVLOS</b>	Beyond Visual Line Of Sight
<b>GA</b>	General Aviation
<b>MET</b>	Meteorological
<b>NM</b>	Nautical Mile
<b>SFC</b>	Surface of the earth
<b>TDA</b>	Temporary Danger Area
<b>UAS</b>	Unmanned Aerial System
<b>VRP</b>	Visual Reference Point

## Reference Documents

Document Title	Source	Edition/Version	Date of Issue
The Air Navigation Order 2016 and Regulations	CAP 393		February 2021
Airspace Change – Guidance on the regulatory process for changing the notified airspace design and planning and planned and permanent redistribution of air traffic, and on providing airspace information	CAP 1616	Third edition	01/03/2021
Unmanned Aircraft System Operations in UK Airspace – Guidance	CAP 722	Eighth edition	05/11/2020
Unmanned Aircraft Systems UAS Airspace Restrictions Guidance and Policy	CAP 722C	First edition	10/12/2020
CAA Policy for the Establishment of Permanent and Temporary Danger Areas	CAA DA/TDA Policy 20200721	NA	21/07/2020

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## 1. Statement of Need

Skyfarer Ltd (the airspace change sponsor) are a UK-based Unmanned Aircraft (UA) operator leading the UKRI sponsored project 84502 - 'enabling drone powered medical logistics in the UK'. The project aims to progress the operational capability of drone technology into a logistical use case specifically for medical delivery in association with the NHS. The potential benefits of conducting medical deliveries by drone include reductions in transport times, road congestion and CO2 emissions.

The planned trials require Beyond Visual Line of Sight (BVLOS) drone operations between routes that connect Coventry University Hospital, Rugby Hospital and a staging area 'Feldon' located near the village of Marton (approximately six nautical miles to the south of Coventry Hospital). The trials would take place over a two-month period commencing 26<sup>th</sup> August 2021 and ending late-October 2021.

Current regulations mandate that BVLOS operations must be conducted within 'Segregated Airspace' unless the drone is equipped with an approved detect and avoid (DAA) capability. Skyfarer drones are not equipped with DAA (nor is there currently a CAA approved solution available) therefore, Skyfarer wish to make an application for a temporary danger area (TDA) for the purpose of providing an appropriate operating environment in order to conduct these trials.

## 2. Proposed Option for TDAs

Skyfarer's proposed option is for three different TDAs in order to ensure the volume of airspace requested is kept as small as possible in order to allow for the intended operations whilst minimising the effect on other airspace users. The TDAs are temporarily designated as TDA 1, TDA 2 and TDA 3. Figure 1 provides an overview, with more detailed descriptions below.

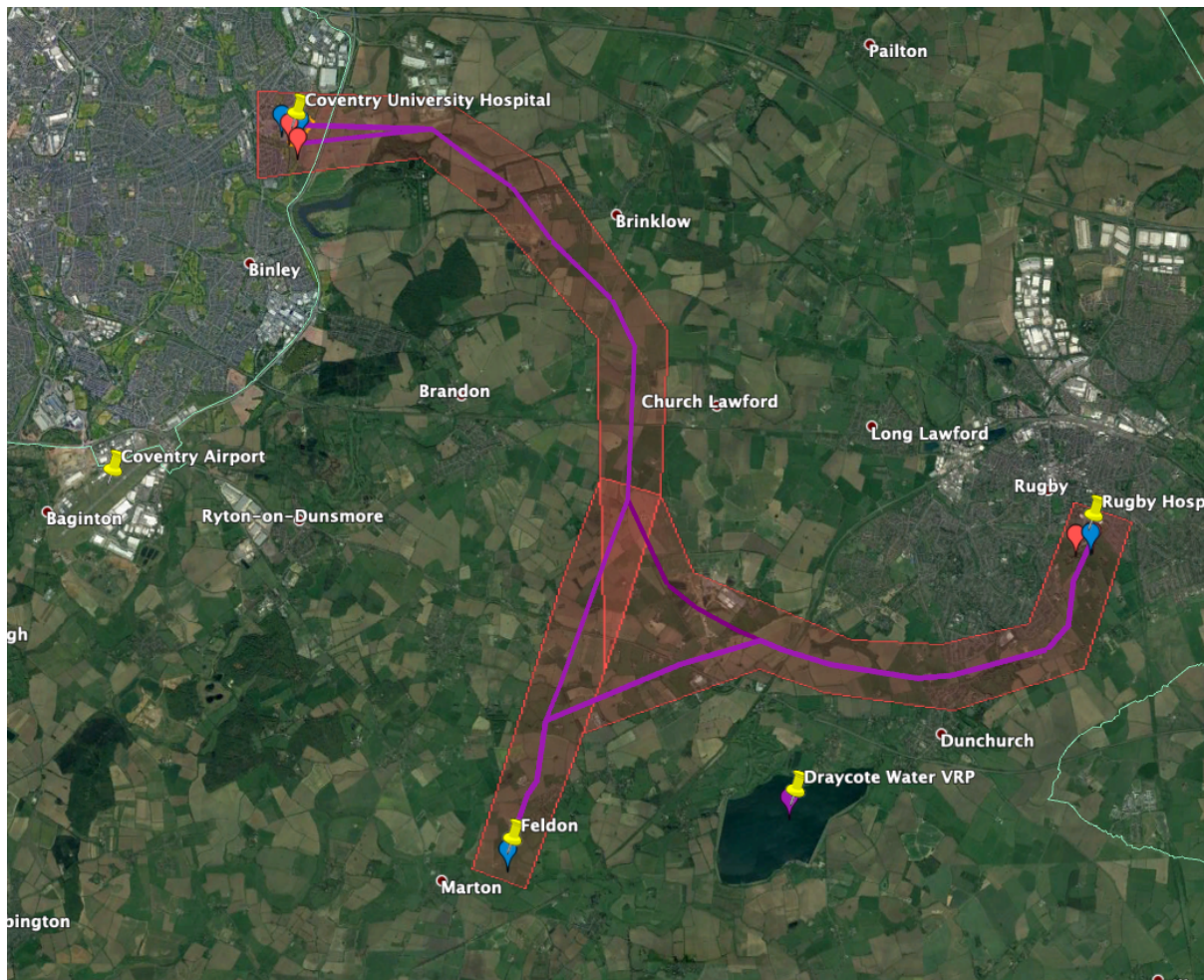


Figure 1: Proposed TDAs option overview (TDA areas shaded red, routes shown as purple lines)

There are three specific routes for the trails:

- Route A: Feldon to Coventry University Hospital.
- Route B: Feldon to Rugby Hospital.
- Route C: Coventry University Hospital to Rugby Hospital.

The specific TDAs required for each route are shown in Table 1.

Route	TDAs required
Route A	TDA 1 and TDA 2
Route B	TDA 1 and TDA 3
Route C	TDA 2 and TDA 3

Table 1: Routes and applicable TDAs

## 2.1 TDA 1

The lateral dimensions of TDA 1 would be starting at a point located at N52°19'08" W001°23'42", thence a straight line joining the points:

- N52°22'22" W001°21'59"
- N52°22'13" W001°21'10"
- N52°19'01" W001°21'10"
- N52°19'08" W001°23'42"
- See Figure 2



The vertical dimensions of TDA 1 would be:

- Lower Limit: SFC
- Upper Limit: 900ft AMSL

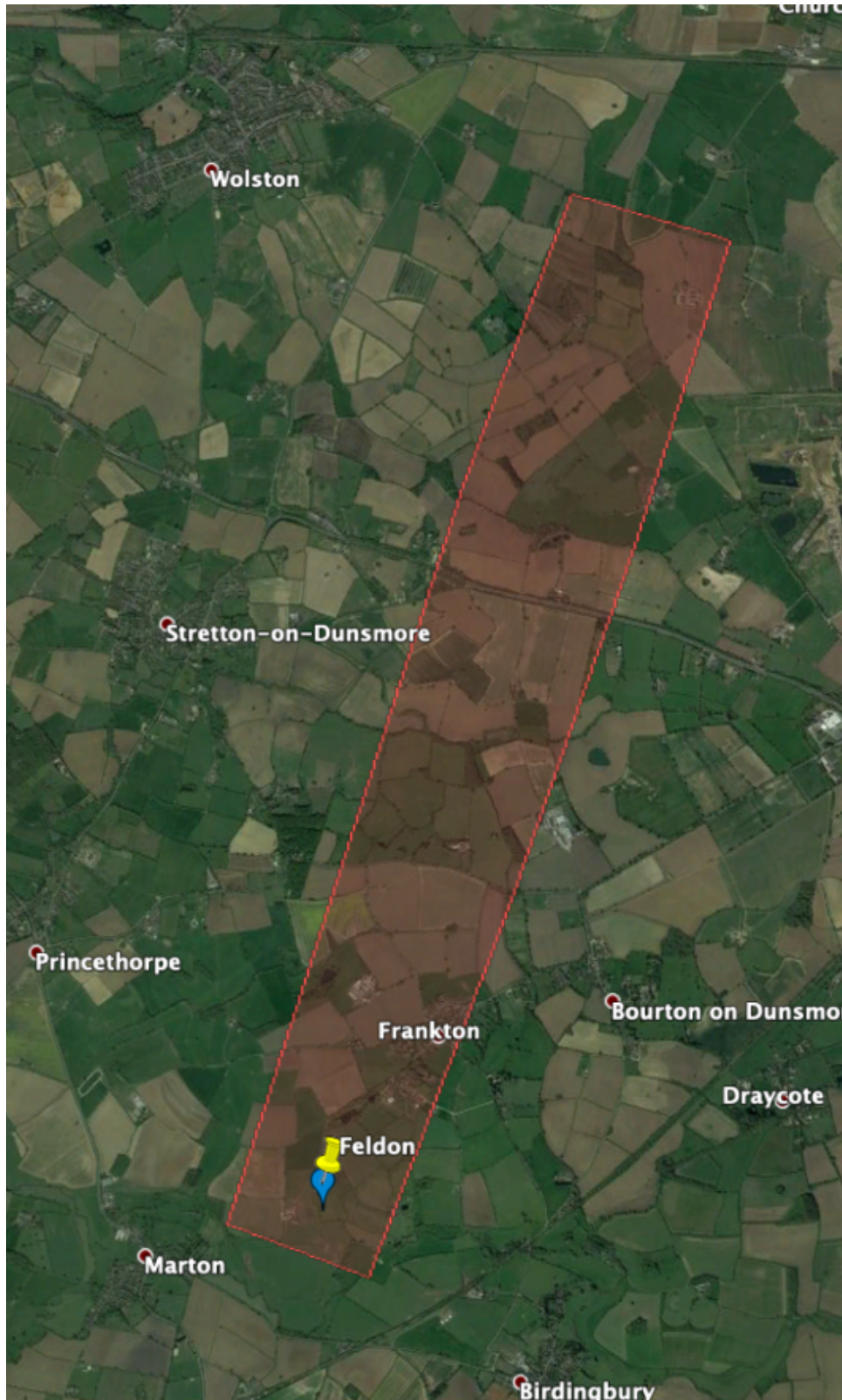


Figure 2: TDA 1

## 2.2 TDA 2 (Figure 3)

The lateral dimensions of TDA 2 would be starting at a point located at N52°25'35" W001°26'43" thence a straight line joining points:

- N52°25'31" W001°24'10"
- N52°24'55" W001°22'39"
- N52°23'34" W001°21'04"
- N52°22'13" W001°21'10"
- N52°22'22" W001°21'59"
- N52°23'31" W001°22'03"
- N52°24'32" W001°23'27"
- N52°25'02" W001°24'28"
- N52°24'52" W001°26'41"
- N52°25'35" W001°26'43"
- See Figure 3

The vertical dimensions of TDA 2 would be:

- Lower Limit: SFC
- Upper Limit: 900ft AMSL

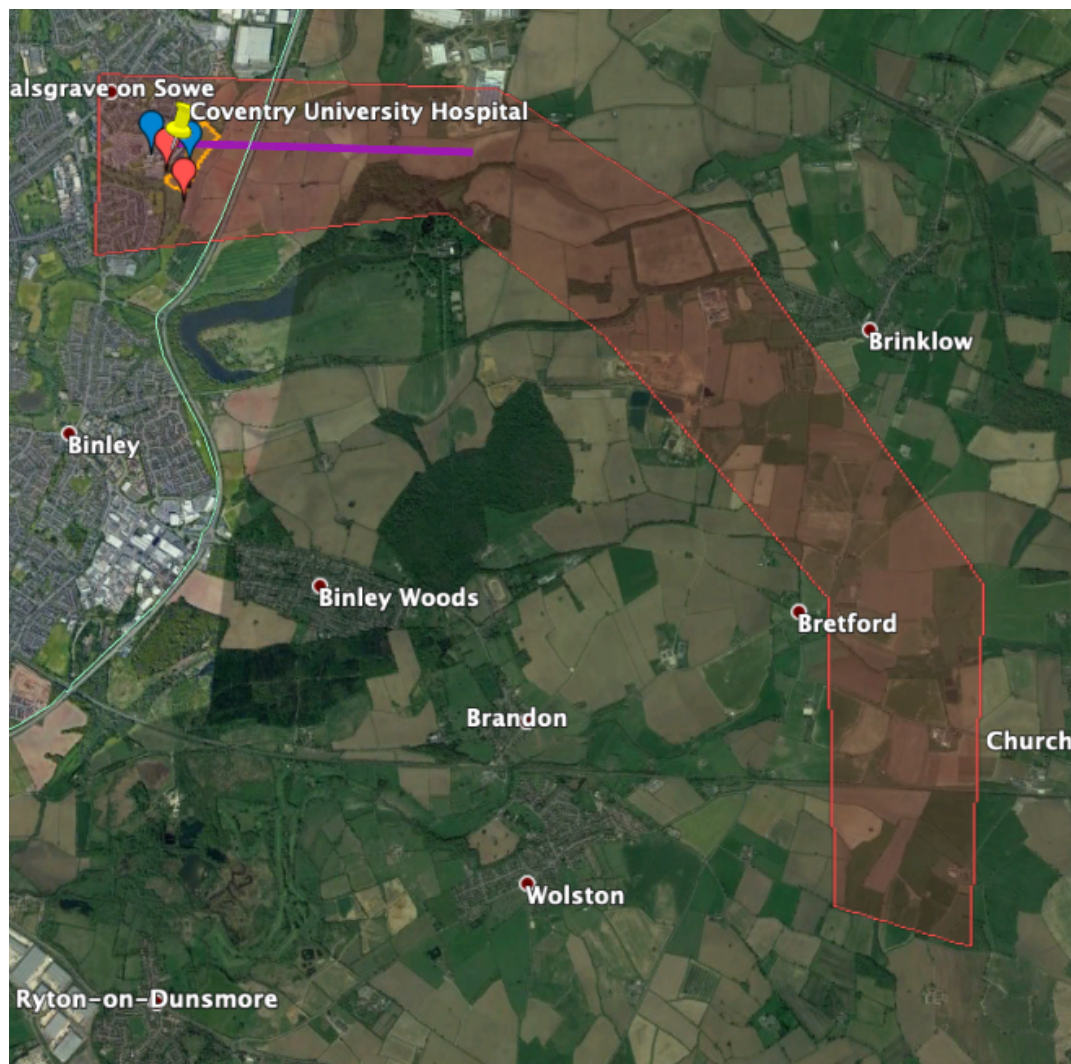


Figure 3: TDA 2

### 2.3 TDA 3 (Figure 3)

The lateral dimensions of TDA 3 would be starting at a point located at N52°22'22" W001°21'59" thence a straight line joining points:

- N52°22'13" W001°21'10"
- N52°21'34" W001°20'43"
- N52°21'01" W001°18'35"
- N52°20'59" W001°17'22"
- N52°21'09" W001°16'11"
- N52°22'09" W001°15'33"
- N52°21'59" W001°14'46"
- N52°20'47" W001°15'25"
- N52°20'26" W001°17'12"
- N52°20'35" W001°18'56"
- N52°20'47" W001°19'50"
- N52°20'15" W001°22'13"



- N52°20'46" W001°21'55"
- N52°22'22" W001°21'59"
- See Figure 4

The vertical dimensions of TDA 3 would be:

- Lower Limit: SFC
- Upper Limit: 900ft AMSL

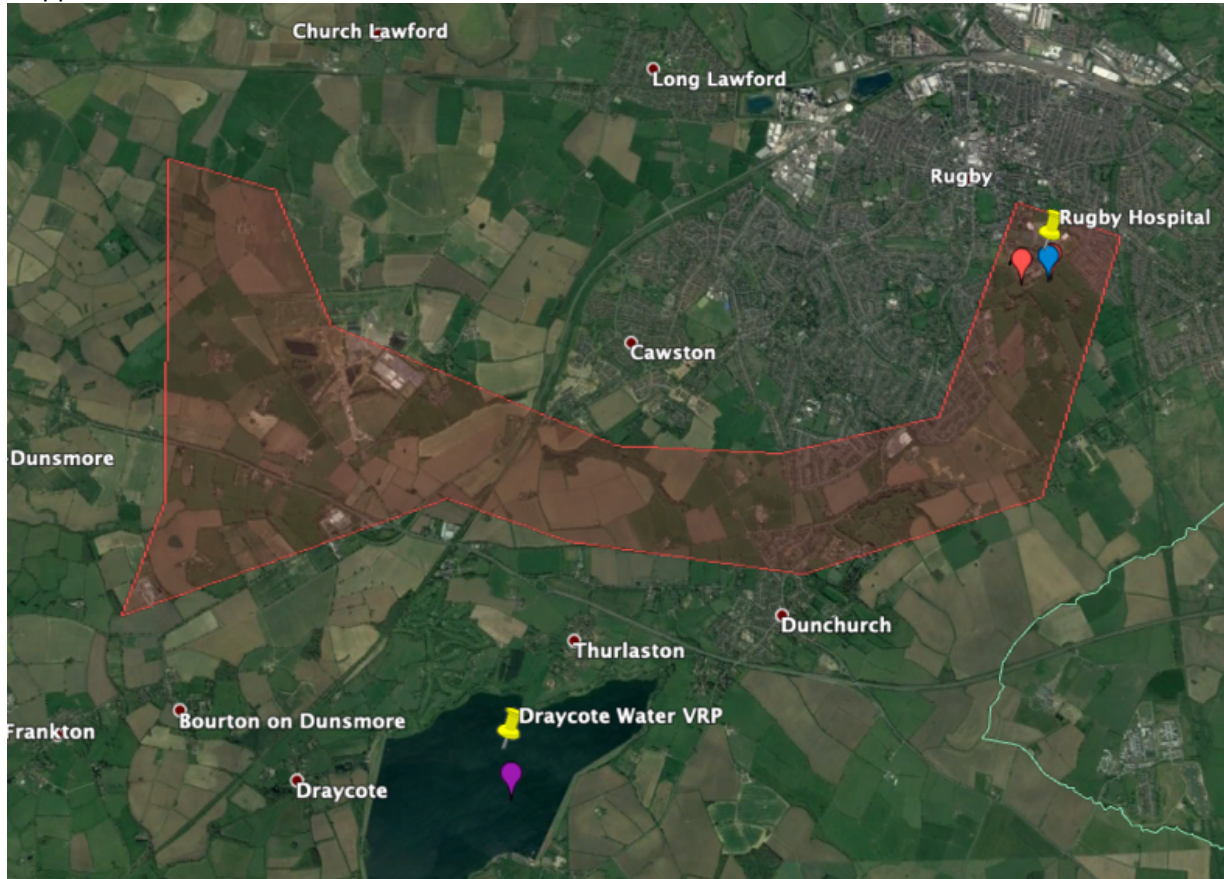


Figure 4: TDA 3

### 3. Impact on flight paths below 7000' and over inhabited areas

#### 3.1 Airspace Notes:

- The proposed TDAs are wholly within Class G airspace.
- The southern portion of TDA 1 is overlaid by Birmingham CTA (Class D) airspace which has a lower limit of 3500' AMSL.
- A small section of the western portion of TDA 2 is overlaid by Birmingham CTA (Class D) with a lower limit of 2000' AMSL

#### 3.2 Coventry Airport (EGBE) Notes

- Coventry airport and ATZ are in proximity to the proposed TDA option but not infringed by it
- Coventry Airport has an elevation of 267' AMSL and is overlaid by Birmingham CTA (Class D) airspace which has a lower limit of 1500' AMSL
- The Coventry ATZ covers a circle, 2.5nm radius with an upper limit of 2000' AAL
- Circuits on Rwy 05/23 are normally conducted to the SE



- The fixed wing circuit height is 1260' AMSL
- The helicopter circuit height is 967' AMSL
- Three Visual Reference Points (VRP) are defined: Draycote Water (N52 19.57 W001 23.07) and Southam (N52 16.53 W001 23.07, and Nuneaton (N52 33.90 W001 26.88).

### 3.3 Impact on the route between Draycote Water VRP and EGBE

This route crosses TDA 1 and TDA 3 however, the proposed Upper Limit for these TDAs (900' AMSL) would allow for manned aircraft traffic operating on that route to overfly the TDA if operating at or above the EGBE circuit heights (1260' AMSL and 967' AMSL (fixed wing and helicopter respectively)). Therefore, there would be little or no impact on aircraft operating along this route.

### 3.4 Impact on other routes and inhabited areas

There would be little or no impact on the volume of air traffic flying below 7000' and over inhabited areas. This is due to the following reasons:

- The TDA Upper Limits are 900' AMSL therefore it is only low-level traffic that would need to change flight paths and the majority of aircraft below 7000' can overfly the TDAs
- TDA activation would not preclude the operation of low-level emergency services operators since UAV operations would be suspended when required.
- The TDAs are predominantly over rural areas.

## 4. Dates and Hours of Activation

The proposed TDA would be available from 26<sup>th</sup> August 2021 for 60 days, ending on 25<sup>th</sup> October 2021.

The specific dates for activation are weather dependent and therefore cannot be specified here, however promulgation would be via NOTAM with at least 24 hours' notice.

The hours of activation are also weather dependent. They would be conducted in daylight hours only. Flights could take place both during the week and on weekends. Initially there would be approximately 3 flights per week eventually scaling up to a maximum of 14 flights per week.

The TDAs could be activated for up to 1 hour per time and up to a maximum of 100 times during the 60-day availability period.

## 5. Airspace Management

The TDAs would be promulgated via AIC and activated as and when required via NOTAM (with a minimum of 24 hours' notice) in accordance with Section 4 above.

An Air Navigation Service Provider (ANSP) would provide a Danger Area Activity Information Service (DAAIS) on a VHF frequency. The details of the ANSP and frequency to be used will be established prior to the final submission to the CAA.

Information on the TDA will also be available from the TDA controlling authority (Skyfarer) by phone on 07877946928.

Emergency services and any other traffic with an urgent requirement to enter the TDA when active, would be given priority to do so via communication between them and the DAAIS (who would then

co-ordinate with the UAS pilot to suspend operations until the emergency services traffic was clear of the TDA).

## 6. Safety Considerations

All BVLOS operations conducted by Skyfarer are subject to assessment and approval by the CAA who, amongst other considerations, review Skyfarer's Operating Safety Case. The safety case includes provision for 'buffers' between the limits of the UAV's operating area and the edge of the TDA in order to ensure that the UAV's flight path is contained within the TDA under all circumstances and does not pose a risk to other airspace users.

Given the proximity of Birmingham CTA, the UAVs will be equipped with CAA approved ADS-B out in order to improve their electronic conspicuity. Additionally, Skyfarer will seek to establish an agreed process for flight notification and communication with Birmingham ATC by way of a Temporary Operating Instruction (TOI).

## 7. Stakeholder Engagement

As part of this change request Skyfarer are engaging with aviation stakeholders (airspace users, air navigation service providers and aerodromes) on the safety and operational viability of the proposed TDAs and to ensure minimum possible impact on other air users. We value Stakeholder feedback and request that it be submitted in accordance with sections 7.2 and 7.3 below.

### 7.1 Stakeholder Identification

Skyfarer has sought to identify all aviation stakeholders that might be impacted positively or negatively by the proposed changes. They are shown in Appendix A.

Identified stakeholders are encouraged to inform Skyfarer if they are aware of any additional aviation stakeholders that they consider relevant, who are not already identified in Appendix A.

### 7.2 Engagement Period

Skyfarer proposes a standard engagement period of six weeks. The formal engagement period will commence on 20<sup>th</sup> May ending on 1<sup>st</sup> July 2021.

### 7.3 How to Respond

All identified stakeholders will receive this document via email or be notified by phone. It will also be publicly available on the CAAs Airspace Change Portal at:

<https://airspacechange.caa.co.uk/PublicProposalArea?PID=369>

Please provide any feedback, questions or comments by the end of the proposed engagement period by sending them to the following email address: [TDA@skyfarer.co.uk](mailto:TDA@skyfarer.co.uk)

Please note that all responses will be included in the subsequent report and made publicly available (with personal contact details of the respondent redacted).

### 7.4 Post Engagement

With regards to next steps at the completion of the engagement period:

- Skyfarer, as the change sponsor will review responses and produce a report summarising the results of this engagement activity. This report will be made available to the CAA as part of this engagement process and will also be published on the CAAs Airspace Change Portal.
- If the TDA proposal is approved, Skyfarer will collate, monitor and report to the CAA on the level and content of related complaints/feedback once TDA has been implemented.

## Appendix A: List of Stakeholders

Skyfarer has sought to identify all aviation stakeholders that might be affected by the proposed changes.

The stakeholders identified are:

ORGANISATION / PARTY
AIRPORTS with an ATZ or CTZ within 30nm
Birmingham Airport
Coventry Airport
Derby Airfield
East Midlands Airport
Leicester Airport
Northampton/Sywell Aerodrome
Oxford Airport
Tatenhill Airfield
Wellesbourne Mountford Airfield
Wolverhampton Halfpenny Green Airport
RAF AIRPORTS
RAF Brize Norton
RAF Weston on the Green Airport
RAF Cosford
AIRFIELDS within 25nm
Baxterley Airfield
Bidford Gliding Site
Bromsgrove Airfield (Stoney Lane)



Buttermilk Hall Farm Airfield
Catton Microlight Site
Enstone Airfield
Finmere Airfield
Fisherwick Microlight Site
Hinton in the Hedges Airfield
Home Farm Fields
Home Farm (Ebrington) Airfield
Hook Norton Airfield
Husbands Bosworth Airfield
Measham Cottage Farm Airfield
Osbaston Lodge Airfield
Overgreen Farm Microlight Site
Packington Microlight Site
Pitsford Airfield
Rothwell Airfield
Shenington Airfield
Shotteswell/Banbury Airfield
Sittles Farm Airfield
Snitterfield Gliding Site
Stoke Golding Airfield
Thornborough Grounds Airfield
Turweston Aerodrome

Twycross Airfield
Wharf Farm Airfield
<b>ANSPs</b>
Birmingham ATC
East Midlands ATC
NATS
<b>AVIATION OPERATORS / COMPANIES / PILOTS</b>
Airspeed Aviation Limited (derby Airfield)
Banbury Gliding Club
Bidford Gliding and Flying Club
BIH Onshore (Birmingham Airport)
Derbyshire, Leicestershire & Rutland Air Ambulance (DLRAA)
Derby Aero Club and Flying School
Enstone Flying Club
Go Fly Oxford
Hinton Skydive Centre
Leicestershire Aero Club
National Police Air Service
Shenington Gliding Club
Tatenhill Aviation

The Gliding Centre (Husbands Bosworth Airfield)
The Microlight School Ltd (Fisherwick Microlight Site)
Warwickshire & Northamptonshire Air Ambulance (WNAA)
<b>Coventry Airport Operators</b>
Aeros (Flight training & MRO)
Aerotech Aircraft Maintenance
Almat Flying Academy (Flight training)
Cat3C (Flight training)
Coventry Aeroplane Club (Flight training)
Helioride (Flight training)
Midland Air Training (Flight training)
Patriot Aviation (MRO)
Tenencia Aerospace Design (MRO)
<b>MOD / MILITARY</b>
DAATM-AIRSPACE OPS SO2
DAATM
Defence UAS Capability Development Centre
Military Aviation Authority (MAA)
<b>National Air Traffic Management Advisory Committee (NATMAC) members</b>
Airspace4All
Airport Operators Association (AOA)
Airfield Operators Group (AOG)
Airspace Change Organising Group (ACOG)

Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)
Aviation Environment Federation (AEF)
BAe Systems
British Balloon and Airship Club
British Gliding Association (BGA)
British Helicopter Association (BHA)
British Hang Gliding and Paragliding Association (BHPA)
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCo)
British Model Flying Association (BMFA)
British Skydiving
Drone Major
General Aviation Alliance (GAA)
Guild of Air Traffic Control Officers (GATCO)
Honourable Company of Air Pilots (HCAP)
Helicopter Club of Great Britain (HCGB)
Iprosurv
Light Aircraft Association (LAA)
PPL/IR (Europe)
PPL/IR (Europe)
UK Airprox Board (UKAB)
UK Flight Safety Committee (UKFSC)