

ACP-2021-006

**ENABLING BVLOS RPAS OPERATIONS FROM KEEVIL
AIRFIELD, WILTSHIRE**

STAGE 3

CONSULTATION DOCUMENT

V1



**Ministry
of Defence**

Responsible Authors of this Document

The Sponsor for this Airspace Change Proposal is the Ministry of Defence and will be managed under Project LOVERIDGE. The project team is drawn from Joint Helicopter Command, specifically the Watchkeeper Force and 47th Regiment Royal Artillery.

Only responsible authors may implement amendments via the Project LOVERIDGE lead. All revisions will be listed and detailed in the table below.

Revision Number	Affected Part	Revised By	Notes
Initial Issue 0.1		Project LOVERIDGE lead	
Issue 0.2	Whole document	Project LOVERIDGE lead	All parts in red, labelling of images/ tables
V1	Whole document	Project LOVERIDGE lead	Additional actions from the CAA post-Gateway

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Glossary of terms

ADS-B	Automatic Dependent Surveillance - Broadcast
ACP	Airspace Change Proposal
AGL	Above Ground Level
AIP	Aeronautical Information Publication
AMSL	Above Mean Sea Level
ATC	Air Traffic Control
BVLOS	Beyond Visual Line Of Sight
CAA	Civil Aviation Authority
CADS	Centralised Aviation Data Service
CAP	Civil Aviation Publication
CAS	Controlled Airspace
DA	Danger Area
DACS	Danger Area Crossing Service
DAAIS	Danger Area Activity Information Service
DAM	Defence Aerodrome Manual
DP	Design Principle
EC	Electronic Conspicuity
EVLOS	Extended Visual Line of Sight
FISO	Flight Information Services Officer
FL	Flight Level
FLARM	'Flight Alarm' – Electronic Conspicuity solution typically utilised by gliders
GA	General Aviation (gliders, light aircraft, private helicopters)
GCS	Ground Control Station
LARS	Lower Airspace Radar Service
NOTAM	Notice to Airmen
MAA	Military Aviation Authority
MAC	Mid-Air Collision
MLAT	Multilateration
MOD	Ministry of Defence
PPR	Prior Permission Request
RA	(1) Regulatory Article (2) Royal Artillery
RPA	Remotely Piloted Aircraft
RPAS	Remotely Piloted Air System
RTS	Release to Service
SoN	Statement of Need
SPTA	Salisbury Plain Training Area
TDA	Temporary Danger Area
UAS	Unmanned/ uncrewed Aircraft System
UAV	Unmanned/ uncrewed Air Vehicle
VLOS	Visual Line of Sight
VRP	Visual Reference Point
WK	Watchkeeper RPAS

Introduction

0.1 This document forms part of Stage 3 of the Airspace Change Proposal ACP-2021-006 and has been prepared in accordance with Civil Aviation Publication (CAP) 1616.

0.2 The aim of this document is to provide Stakeholders with the information that they require in order to fully understand the MOD's proposal to facilitate Beyond Visual Line of Sight (BVLOS) operation of Remotely Piloted Air System (RPAS) from Keevil Airfield, Wiltshire. This document will allow Stakeholders, both local communities as well as national and local aviation stakeholders, to provide feedback on the airspace options as part of consultation.

0.3 **Scope.** The scope of this consultation is limited to the implementation of segregated airspace in order to facilitate take-off and landing from Keevil airfield as well as transit into Salisbury Plain Danger Areas.

0.4 This document provides context to the proposal, including background to the airfield, local airspace and why the MOD is seeking to utilise Keevil to operate RPAS. It also outlines the remaining proposals which have been developed as a result of the Initial and Full Options Appraisal at both Stage 2 and 3. These appraisals are more comprehensive assessments and can be found on the CAA Airspace Change Portal.

0.5 **Statement of Need (SoN).** The Statement of Need was submitted to the CAA at Stage 1. It read as follows:

Approval is sought for a Permanent Airspace Change surrounding Keevil Airfield, a satellite aerodrome of RAF Brize Norton located North West of the Salisbury Plain Danger Areas. In order to comply with current MAA regulation, segregated airspace is required to facilitate Beyond Visual Line of Sight (BVLOS) operation of military Remotely Piloted Air Systems (RPAS) between Keevil and EG D123; the principal operating airspace already utilised for military BVLOS activity. The airspace design must enable military RPAS to remain within segregated airspace at all times. Operating from Keevil allows for essential aircrew and groundcrew training in an environment that is not practicable from other UK locations.

0.6 Several iterations of stakeholder engagement have already been conducted up to this point including engagement on the drafting of design principles and the development of different design options. In conjunction with the Option Appraisals the MOD has developed two airspace options, both centred around the Danger Area airspace construct that it is seeking to consult stakeholders on.

Section 1 – Context

Keevil Airfield Overview

1.1 Keevil Airfield is located to the North West of Salisbury Plain, adjacent to the villages of Keevil and Steeple Ashton. It is situated approximately 2.5NM from the Salisbury Plain Danger Area boundary. Between the airfield and EG D123 are the villages of Edington and Coulston. The larger towns of Westbury and Trowbridge are found to the West of the airfield and Melksham and Devizes to the North and East respectively.

1.2 Keevil is a satellite airfield of RAF Brize Norton and is used by the MOD as a tactical landing zone, drop zone and training area for ground units- primarily playing host to several large exercises¹ per year utilising the airfield to tactically insert ground troops into Salisbury Plain using a variety of air assets. Keevil is also used by RAF Tactical Air Transport aircraft such as the C130 Hercules and A400M Atlas for currency training, particularly at night. Additionally, rotary-wing assets from the Joint Helicopter Command and the Army Aviation Centre, Middle Wallop conduct weekly² technical and tactical training at the airfield.

1.3 The airfield is also home to the Bannerdown Gliding Club who fly a variety of sailplanes and towing aircraft for recreational purposes. They are a member of the Royal Air Force Gliding and Soaring Association. Bannerdown Gliding Club primarily occupy Keevil at weekends³ however play host to a number of gliding competitions throughout the year. The Wessex Model Flying Club also use Keevil for model aircraft flying on an irregular basis. However, during military activities the club utilises a dedicated site 3 miles from Keevil.

1.4 Keevil is listed within the AIP, ENR 5.5 as follows:

KEEVIL, WILTS A circle, 2NM radius, centred at 511851N 0020637W	Upper limit: FL150 Lower limit: SFC	Phone: Opr/User – Various. Brize Norton ATC: 01993- 095521/896814/896804	Airfield used for gliding, free-fall parachuting and heavy supply drops from military Hercules aircraft. Supply drops may take place at any time within 2 NM and below 2000 FT. Hours: Activated by NOTAM.
KEEVIL GLIDER SITE, WILTS (AD) (W & T) 511850N 0020643W	Upper limit: 3000FT Lower limit: SFC	Phone: Bannerdown Gliding Club 01380- 870411	Site elevation: 200 FT AMSL Hours: HJ.

1.5 As described in the AIP the airfield is both a Glider Site and a Drop Zone used for free-fall parachuting and heavy supply drops. The DZ is activated when required by NOTAM up to FL150. The glider site conducts winch launches up to 3,200ft AMSL.

1.6 The Keevil Drop Zone / Glider Site is currently marked on VFR aeronautical charts with the following note:

¹ Typically exercises last 4-5 weeks

² See Ref. A for raw data on typical military use during the week

³ Predominantly Friday pm – Sunday throughout the year

'Keevil Aerodrome is used extensively as a military dropping zone and pilots are advised to avoid the aerodrome at all times by 2NM laterally and 2,000ft vertically.'

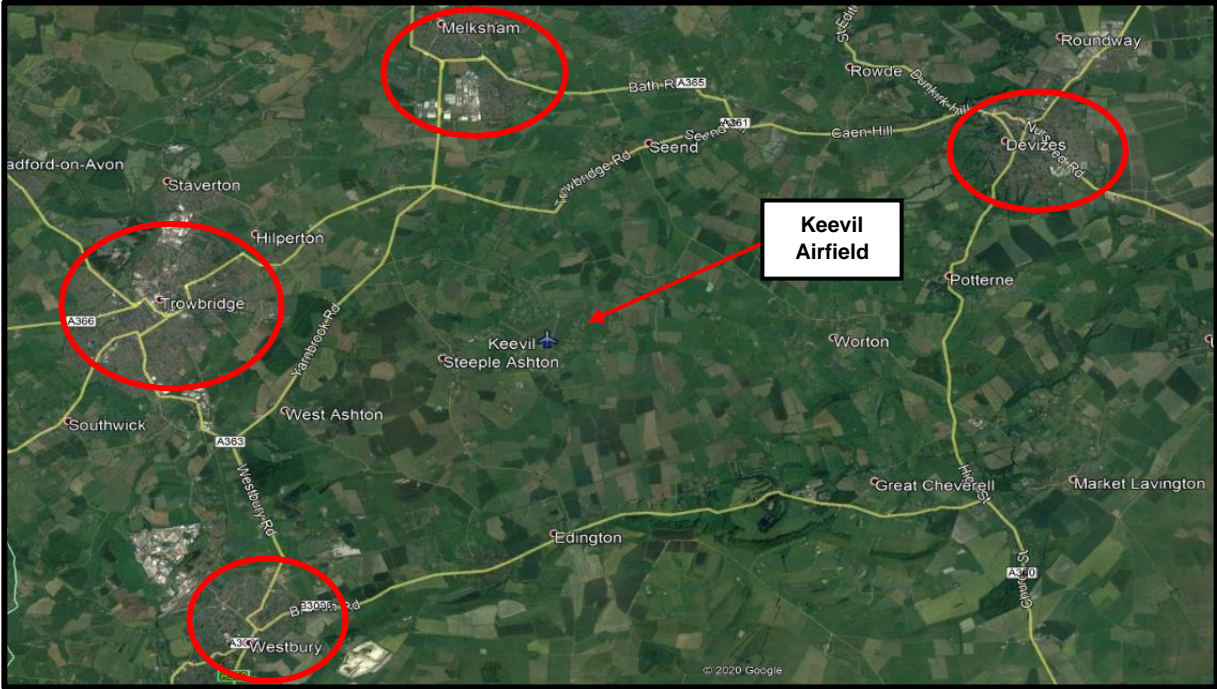


Image 1 - Area in general

Source: Google Earth



Image 2 - Airfield in detail

Source: Google Earth

Local Airspace

1.7 The airfield is situated entirely within Class G airspace. The local airspace is popular with General Aviation (GA) traffic and it is used frequently by aircraft routing around the SPTA Danger Areas and the Bristol Control Area (Class D). The airfield sits approximately 2.5NM North of Salisbury Plain Danger Area 123 and 8NM from the boundary of the Bristol CTA (3,500-FL105).

1.8 A number of small private airstrips, microlight sites and glider sites exist to the North and West of SPTA including the following, all of which are located within 7NM of Keevil:

Brown Shutters Farm	Devizes (Urchfont)
Craysmarsh Farm	Lydeaway Field
Devizes (Coate)	Wadswick

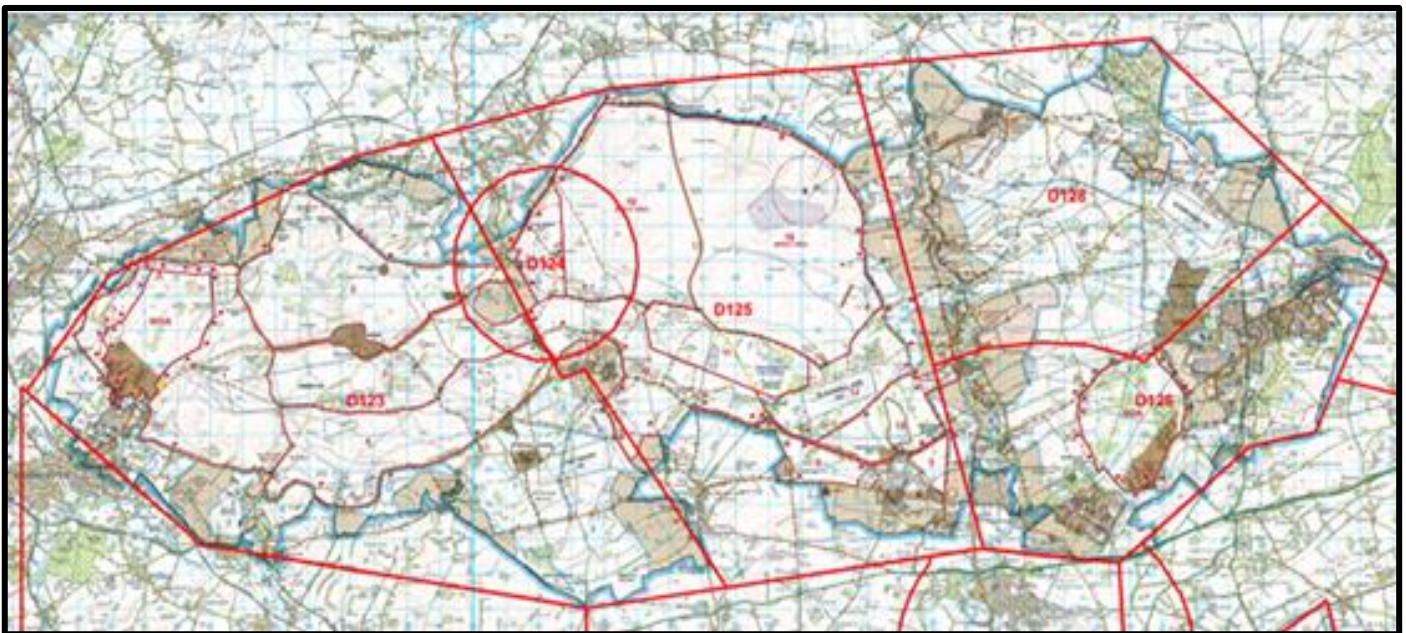


Image 3 – Salisbury Plain Danger Areas.

Source: MOD

ENR 5.1 Extract for Salisbury Plain Danger Areas

Identification and Name Lateral Limits	Upper Limit Lower Limit	Remarks
EG D123 IMBER 511724N 0020107W - 511339N 0015746W - 511348N 0015705W - 511023N 0015325W - 511006N 0015702W - 511106N 0020713W - 511329N 0021149W - 511516N 0020939W - 511705N 0020312W - 511724N 0020107W	Upper limit: 50000 FT ALT Lower limit: SFC	Vertical Limits: Upper Limit: Up to ALT 50000 0615-2359 (0515-2300). Upper Limit: Up to ALT 3000 (OCNL notified up to ALT 50000) 2359-0615 (2300-0515). Activity: Ordnance, Munitions and Explosives / Para Dropping / Unmanned Aircraft System (VLOS/BVLOS) / Electronic/Optical Hazards. Service: DACS: Boscombe Down ATC on 126.700 MHz when open; at other times DAAIS via London Information on 124.750 MHz. Contact: Pre-flight information / Booking: Salisbury Operations, Tel: 01980-674710 or 674730 when open. Remarks: SI 1963/1293, SI 1981/1882.

		<p>Danger Area Authority: DIO. Static data Failed to load data!</p> <p>Hours: H24</p>
<p>EG D124 LAVINGTON</p> <p>A circle, 1.5 NM radius, centred at 511527N 0015812W</p>	<p>Upper limit: UNL Lower limit: SFC</p>	<p>Activity: Ordnance, Munitions and Explosives / Unmanned Aircraft System (VLOS/BVLOS) / Electronic/Optical Hazards.</p> <p>Service: DACS: Boscombe Down ATC on 126.700 MHz when open; at other times DAAIS via London Information on 124.750 MHz.</p> <p>Contact: Pre-flight information / Booking: Salisbury Operations, Tel: 01980-674710.</p> <p>Remarks: SI 1981/1882.</p> <p>Danger Area Authority: DIO.</p> <p>Hours: Activated by NOTAM.</p>
<p>EG D125 LARKHILL</p> <p>511828N 0015004W - 511059N 0014641W - 511023N 0015325W - 511348N 0015705W - 511339N 0015746W - 511724N 0020107W - 511807N 0015635W - 511828N 0015004W</p>	<p>Upper limit: 50000 FT ALT Lower limit: SFC</p>	<p>Vertical Limits: Upper Limit: Up to ALT 50000 0615-2359 (0515-2300). Upper Limit: Up to ALT 3000 (OCNL notified up to ALT 50000) 2359-0615 (2300-0515).</p> <p>Activity: Ordnance, Munitions and Explosives / Para Dropping / Unmanned Aircraft Systems (VLOS/BVLOS) / Electronic/Optical Hazards.</p> <p>Service: DACS: Boscombe Down ATC on 126.700 MHz when open; at other times DAAIS via London Information on 124.750 MHz.</p> <p>Contact: Pre-flight information / Booking: Salisbury Operations, Tel: 01980-674710 or 674730.</p> <p>Remarks: SI 1965/1327, SI 1981/1882.</p> <p>Danger Area Authority: DIO.</p> <p>Hours: H24</p>
<p>EG D126 BULFORD</p> <p>511621N 0013746W - 511525N 0013606W - 511247N 0013759W - 511233N 0013942W - 511044N 0014308W - 511059N 0014641W - 511351N 0014759W thence clockwise by the arc of a circle radius 5 NM centred on 510912N 0014504W to 511354N 0014225W - 511621N 0013746W</p>	<p>Upper limit: 1400 FT ALT Lower limit: SFC</p>	<p>Vertical Limits: OCNL notified to FL 90.</p> <p>Activity: Ordnance, Munitions and Explosives / Para Dropping / Unmanned Aircraft System (VLOS/BVLOS).</p> <p>Service: DACS: Boscombe Down ATC on 126.700 MHz when open; at other times DAAIS via London Information on 124.750 MHz.</p> <p>Contact: Pre-flight information / Booking: Salisbury Operations, Tel: 01980-674710 or 01980-674730 or Boscombe Down ATC, Tel: 01980-663246.</p> <p>Remarks: SI 1970/1282, SI 1981/1882.</p> <p>Danger Area Authority: DIO.</p> <p>Hours: H24</p>
<p>EG D128 EVERLEIGH</p> <p>511852N 0014215W - 511621N 0013746W - 511354N 0014225W thence anti-clockwise by the arc of a circle radius 5 NM centred on 510912N 0014504W to 511351N 0014759W - 511828N 0015004W - 511852N 0014215W</p>	<p>Upper limit: 1400 FT ALT Lower limit: SFC</p>	<p>Vertical Limits: OCNL notified up to ALT 50000.</p> <p>Activity: Ordnance, Munitions and Explosives / Para Dropping / Unmanned Aircraft System (VLOS/BVLOS).</p> <p>Service: DACS: Boscombe Down ATC on 126.700 MHz when open; at other times DAAIS via London Information on 124.750 MHz.</p> <p>Contact: Pre-flight information: Salisbury Operations, Tel: 01980-674710 or 674730.</p> <p>Remarks: SI 1981/1882.</p>

		Danger Area Authority: DIO. Static data Failed to load data! Hours: H24
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1.9 Airspace around Keevil is monitored by several military and civilian radars with overlapping coverage of the region. Additionally, the airspace benefits from several Lower Airspace Radar Services (LARS) which aim to provide advice and information for the safe and efficient conduct of flight in the area.

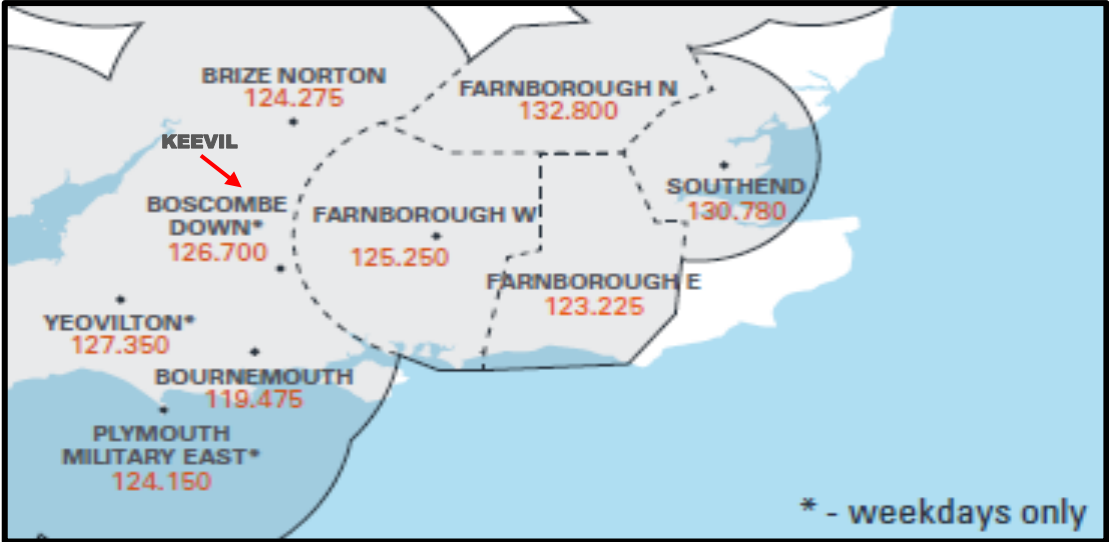


Image 4 - Lower Airspace Radar Service Coverage in Southern England.

Source: CAP1535 The Skyway Code

Local Aviation Stakeholders

1.10 The Wiltshire Air Ambulance operates from a private site in the village of Semington, 2.5 miles to the North of the airfield and operate 24hrs a day, 7 days a week.

1.11 The Avon Hang Gliding and Paragliding Club routinely use Westbury White Horse as a launch site. This is approximately 3.5 miles South West of the airfield and marked on military Low Flying Charts.

1.12 The Bath, Wilts and North Dorset Gliding Club based at The Park, Warminster conduct local cross-country and soaring activities towards the West of Salisbury Plain Training Area and across towards Keevil. Additionally, due to the nature of cross-country gliding there are a variety of clubs not local to the area with an interest in this ACP due to their use of Keevil as a turning feature and diversion airfield.

Remotely Piloted Air Systems

1.13 Remotely Piloted Aircraft are defined as ‘any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board⁴’. A Remotely Piloted Air System refers to the complete system required to operate a remotely piloted aircraft and usually includes a Ground Control Station (location to

⁴ CAP 722 para 1.1.2

operate the aircraft), datalinks to the aircraft and any other associated ground equipment. RPAS can also be referred to as UAS, UAV or 'drones'.

1.14 [RA 1600](#) – 'Remotely Piloted Air Systems' is a military regulation that categorises RPAS into either the Open, Specified or Certified category. According to aircraft category aircraft can be operating according to different operating procedures. Chapter 2 of CAP 722 outlines the three operating principles of RPAS. They are:

- a. **Visual Line of Sight (VLOS).** VLOS means that the remote pilot must be able to clearly see the unmanned aircraft and the surrounding airspace at all times while it is airborne.
- b. **Extended Visual Line of Sight (EVLOS).** In some cases, the requirement for the remote pilot to maintain direct visual contact with the unmanned aircraft can be addressed via other non-technical 'visual observation' methods or procedures while still achieving the key responsibilities of avoiding collisions. EVLOS operations may only be conducted within the Specific category.
- c. **Beyond Visual Line of Sight (BVLOS).** Operation of an unmanned aircraft beyond a distance where the remote pilot is able to respond to or avoid other airspace users by direct visual means (i.e. the remote pilot's observation of the unmanned aircraft) is considered to be a BVLOS operation. This is the means by which Certified RPAS will be operated between Keevil and Salisbury Plain.

1.15 Current civil and military regulation⁵ dictates that RPAS operating BVLOS within UK airspace without a certified Detect and Avoid capability must operate within segregated airspace. This is typically satisfied through operating within Danger Areas. The Air Navigation Order (ANO), which can be accessed [here](#) defines a Danger Area as:

'a defined portion of airspace which has been notified as such within which activities dangerous to the flight of aircraft may take place or exist at such times as may be notified'

1.16 The primary military RPAS operating from Keevil will be the Watchkeeper (WK). Operated exclusively by 47th Regiment Royal Artillery Watchkeeper initially entered service with the British Army in 2014. Subsequent system upgrades saw the most recent variant of the Watchkeeper receive its Release to Service certification in April 2019. The role of WK is to provide tactical level imagery and intelligence to commanders in the land environment. WK was the first UK remotely piloted aircraft to be fully air-worthiness certified to the same standards as a crewed military aircraft.

⁵ CAP 722 and RA 2320



1.17 Based on the Hermes 450 aircraft, which flew over 86,000 hours in Iraq and Afghanistan, WK includes an improved sensor-payload suite and flew operationally towards the end of combat operations in Afghanistan. Since then it has flown in the UK from MOD Boscombe Down, on operations from Lydd (London Ashford) Airport,

Kent and most recently from Keevil for a 3 month trial. WK has deployed overseas to RAF Ascension Island and RAF Akrotiri, Cyprus. It also continues to be flown from West Wales Airport under a Military Permit To Fly (MPTF) for Test and Evaluation purposes.

1.18 The aircraft has a 14-16 hour airborne endurance and is equipped with an Electro-Optical Infra-Red payload, Synthetic Aperture Radar and a laser sub-system. With a range of 150km line of sight it is operated from a Ground Control Station by a crew of 3 and is equipped with VHF/UHF radios allowing aircrew, air traffic control and other aircraft to communicate directly on the appropriate channel. Electronic conspicuity is provided by a Mode S transponder with ADS-B Out. It has an automated radar-based system for take-off and landing, akin to a deployable Instrument Landing System, with an INS/GPS backup.

Why Keevil?

1.19 In Spring 2021 47th Regiment Royal Artillery successfully operated Watchkeeper from Keevil on a 3-month trial utilising a Temporary Danger Area⁶. Keevil was initially selected as a live flying location for WK in order to provide greater flying output than other appropriate Defence aerodromes are able to deliver. Additionally, Keevil provides a location that can test austere deployment procedures and offer a more realistic training environment whilst maintaining direct links into Salisbury Plain to support wider Field Army exercises.

1.20 Due to the exercise's success it is now the intent to operate from Keevil more regularly. It is not the intent for the MOD to use the airfield for RPAS year-round, rather to use Keevil for exercises to enable integration opportunities, conceptual development and force generation of pilots and ground crew.

1.21 Due to its asphalt runways and minimum amount of other airfield users, Keevil offers substantial improvements to training outputs compared with other live flying locations and will allow the MOD to significantly accelerate wider RPAS conceptual development due to the increased opportunities to integrate with wider Army and Defence exercises. Alternative locations like Boscombe Down, Upavon, Netheravon or Deptford Down have been discounted either due to its existing operations or runway limitations.

⁶ ACP-2020-047

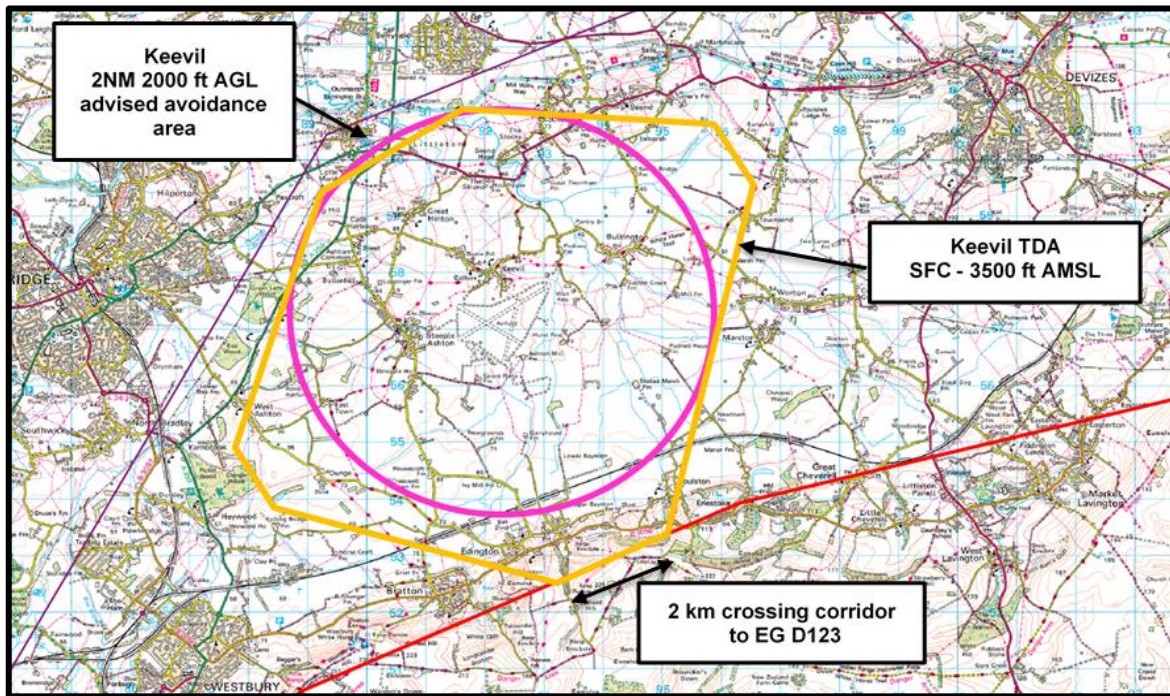


Image 5 - MOD Temporary Danger Area – Spring / Summer 2021

1.22 Image 5 shows the Temporary Danger Area design that was used in 2021. The TDA was designed in order to facilitate take-off, landing and transit into SPTA for all runway orientations as well as emergency procedures. The design options taken forward will not resemble the TDA above. It has been decided that RPAS operations will be conducted utilising the main runway only therefore allowing some design options to minimise airspace North of the airfield.

1.23 Whilst the airspace designs to be proposed in Section 2 will be different, many of the operating procedures adopted for the exercise will be taken forward as best practice.

Summary of Anticipated Activity Levels

1.24 Whilst it is not the intent to operate year-round or on a permanent basis it is anticipated that the airfield (and thereby the airspace) will be predominately used between May- September (although current levels of fixed-wing and rotary activity will continue throughout the year). A Danger Area will not be permanently established, rather notified active by NOTAM for the least amount of time required.

1.25 The airfield will be utilised predominantly during the working week only (Monday-Thursday between the hours of 0830-1730 and 0830 and 1430 on a Friday). Normal operations will see 1-2 RPAS airfield movement per day.

1.26 It is anticipated that the Danger Area would be activated for 3-6 weeks at a time (excluding weekends). Activity will predominantly take place in the morning, to depart into Salisbury Plain, and in late afternoon, during recovery. Some circuits may be required for currency purposes 2-3 times per week for no more than 1 hour at a time.

Section 2 – Proposed Options

Design Principles

2.1 At Stage 1 the Sponsor, with feedback from Stakeholders, established a set of Design Principles in which to guide the airspace design options. The design principles agreed at the Stage 1 Gateway are as follows:

DP	Design Principle	Priority
A	Provide a safe environment for all airspace users	1
B	Provide sufficient airspace to meet all reasonable technical requirements for the Watchkeeper RPAS platform that are required to facilitate safe access to and from SPTA and usage of Keevil Airfield.	2
C	Minimise the impact to other airspace users, both in terms of activation and volume of airspace required.	3
D	Make the airspace as accessible as possible to all types of air user.	4
E	Use standard airspace structure where possible (conformity, simplicity and safety).	5
F	Minimise the impact of operating noise to local residents	6

2.2 As a result of the assessments undertaken to date both remaining airspace design options (Options 2 and 3) are Danger Areas. Until the Stage 2 Gateway the Sponsor assessed whether the use of the extant DZ and VFR navigation warning (Option 1) would provide adequate segregation for RPAS. However, the CAA provided the following response post-Gateway:

“Based on the information available to the CAA at this time, the CAA is concerned that the option to use ‘existing airspace structures’ being considered by the Sponsor may not achieve the segregation required to support BVLOS operations from Keevil”.

2.3 The Sponsor has therefore discontinued the development of Option 1 and will now seek a Danger Area. The remaining design options will retain their original option numbers in order to minimise confusion and allow stakeholders to revisit appraisals conducted during earlier stages in the airspace change process.

Operating Principles

2.4 The following operating principles are common to both remaining airspace design options⁷:

- a. The Danger Area would only be activated by NOTAM when required. During exercise periods activities on Friday will typically conclude by 1400hrs in order to offer greater access to local air users, in particular the local Gliding Club. Should operation at night or the weekend be required this will be published further in advance.

⁷ The establishment of Danger Areas and the provision of DACS/DAAIS can be found in the CAA Policy Statement on the Establishment of Danger Areas [here](#) (Jul 20).

- b. The Danger Area would be kept active for the duration of the RPAS sortie (in order to facilitate early recovery or emergency situations) but will be available for use by other air users as soon as RPAS have established in SPTA. The take-off and landing phases of a typical Watchkeeper sortie will last no longer than 15 minutes. A Danger Area Crossing Service from Boscombe ATC may be utilised by aircraft in order to efficiently utilise the airspace whilst RPAS are operating within SPTA.
- c. Keevil will remain an uncontrolled airfield and WK departures and recoveries will be locally managed. The SAFETYCOM frequency (135.480 MHz) will be utilised to provide additional situational awareness for transiting aircraft. SAFETYCOM can be used throughout the UK by any aircraft operating in the vicinity of an aerodrome without a dedicated A/G frequency.
- d. There must be a guarantee of HEMS access at all times. A Letter of Agreement with Wiltshire Air Ambulance must be drafted to ensure procedural deconfliction allows unimpeded access during emergency responses.
- e. **Frequency of flights.** It is anticipated that RPAS will operate from Keevil predominantly between the months of May and September, usually for 3-6 weeks at a time. It is not currently the intent to operate on an enduring basis nor will routine weekend or evening activity be conducted. Normal operation will see one RPAS operated per day from Keevil.
- f. **Hours of operation.** Routinely the MOD will utilise the airspace between the hours of 0830 – 1730 Monday- Thursday and 0830 – 1430 on a Friday. However, only a short time will actually be spent within the airspace itself with the majority of the sortie spent within Salisbury Plain.

Emergency Procedures

- 2.5 Telephone links must be established between the aircrew in the Ground Control Station at Keevil and Boscombe Down ATC prior to operation in order to mitigate against air-air communications failure.
- 2.6 In the event that emergency access is required into the Danger Area when notified as active such as transit by the Wiltshire Air Ambulance, or a manned aircraft in distress, Boscombe Down ATC will coordinate. Additionally, local agreements between the Wiltshire Air Ambulance and the MOD (including Salisbury Plain Air Ops and Boscombe Down ATC) will ensure procedural access to the airspace at all times, regardless of activity status. Robust communications will be established throughout any exercise period between the airfield Ops team and the Air Ambulance in Semington.
- 2.7 Should a civilian aircraft in distress be required to land at Keevil whilst the Danger Area is active they will be prioritised over all other activity and safe access managed locally with Boscombe Down ATC and/or the Keevil SAFETYCOM.

Option 2 – Danger Area (simple design)

2.8 This option focusses primarily on the design principle of simplicity. The proposed vertical dimension for the purpose of enabling impact assessments of both Danger Area designs would be SFC-3,500ft AMSL⁸. Laterally the airspace will not exceed 3NM from the centre of the main runway.

2.9 **Design 1 Summary.** Design 1 is the most efficient design in Option 2 as it uses the least amount of airspace to the North of the airfield than the Drop Zone currently does. This aims to reduce the funnelling effect of aircraft between SPTA and Bristol CTA.



Image 6 – Option 2, Design 1 Source: CAA VFR 1:250k Chart, sheet 7

Pros	Cons
Allows the shape to be as small as possible to the North to mitigate against funnelling	Wider (East-West) than the current DZ, (approximately 9 km from the most eastern to the most western edge)
Allows aircraft routing around to utilise surface navigation features such as roads (A350) and towns (Trowbridge and Melksham)	Does not facilitate VFR navigation using railway line between Keevil and D123 if air users are unable to obtain a crossing service
Reduced impact on hang gliders operating from Westbury White Horse	
Minimises effect on Wiltshire Air Ambulance operations North, East or West	
Only marginally (300ft) higher than current Glider Site winch launch altitude	

⁸ Based on the previous TDA, but the final altitude will only be determined post- consultation

Wide 'entry point' into SPTA to facilitate noise abatement procedures for the villages of Coulston, Edington and Erlestoke	
Allows for RPAS recoveries in all operating circumstances	

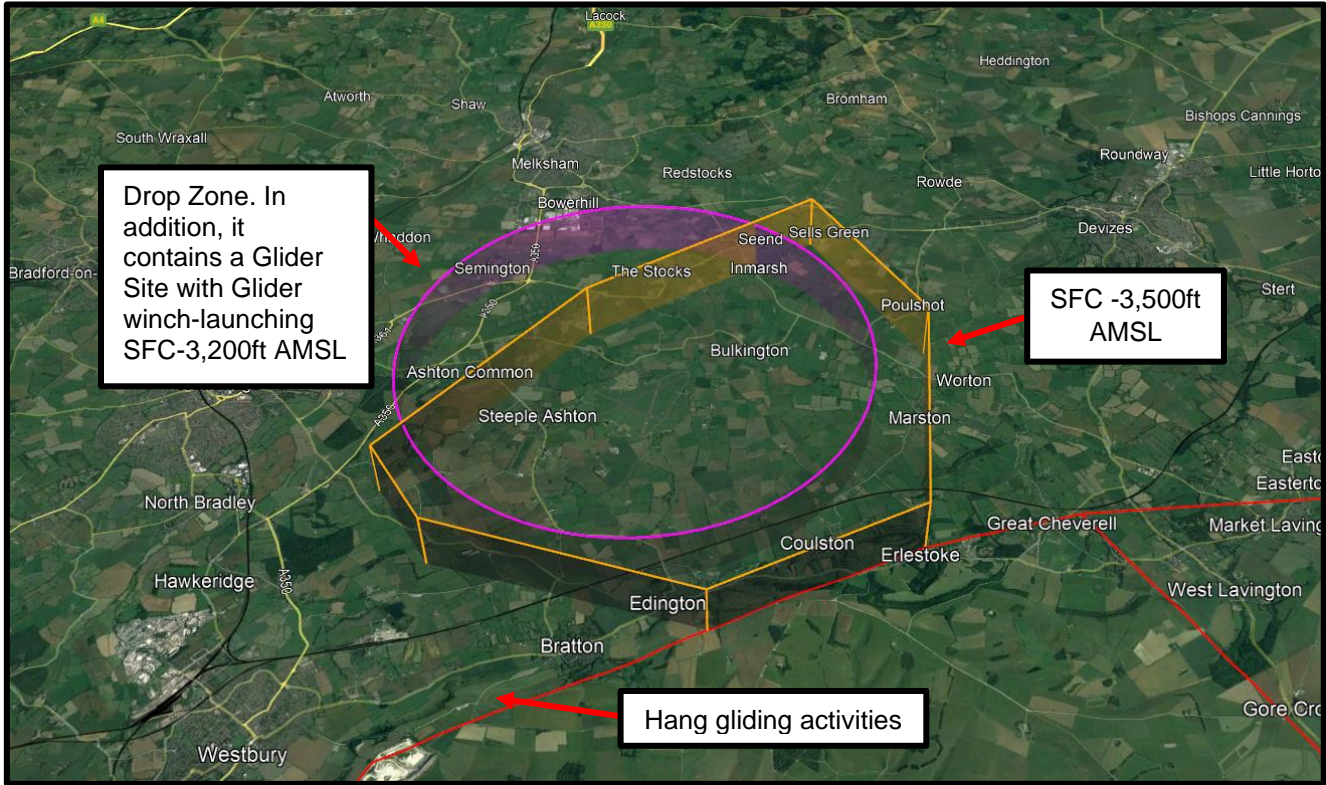


Image 7 – Option 2, Design 1 vs Drop Zone Source: Google Earth

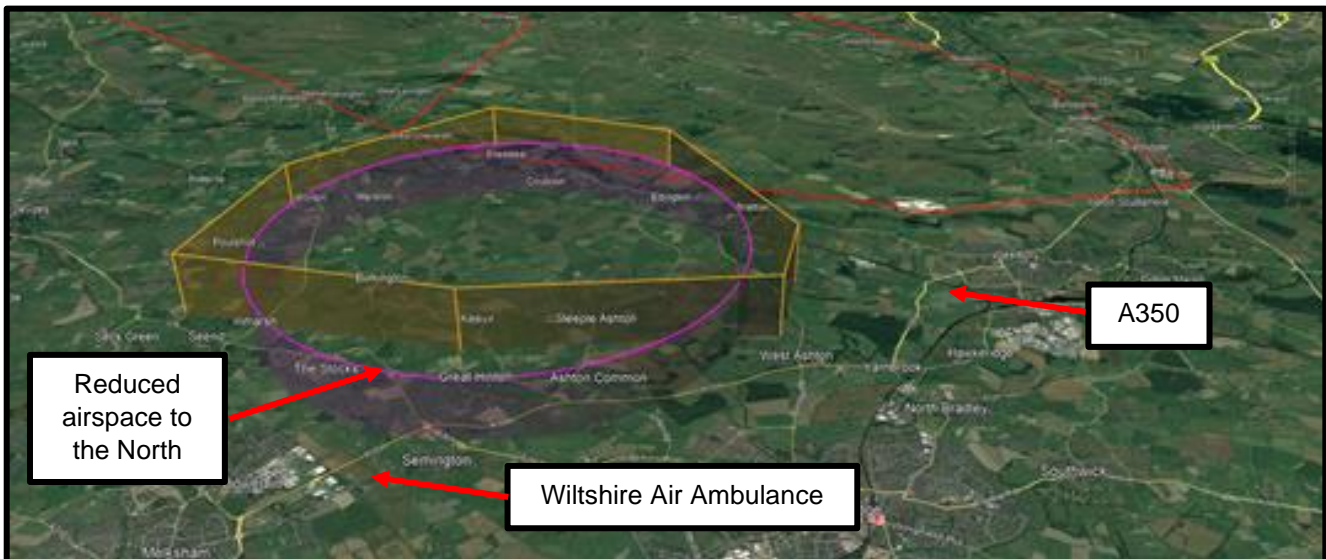


Image 8 – Option 2, Design 1 vs Drop Zone Source: Google Earth

2.10 **Design 2.** Design 2 prioritises simplicity over reducing the airspace size to as small as possible. The shape would be a circle (2.5NM) with the centrepoint offset to the South of the main runway.

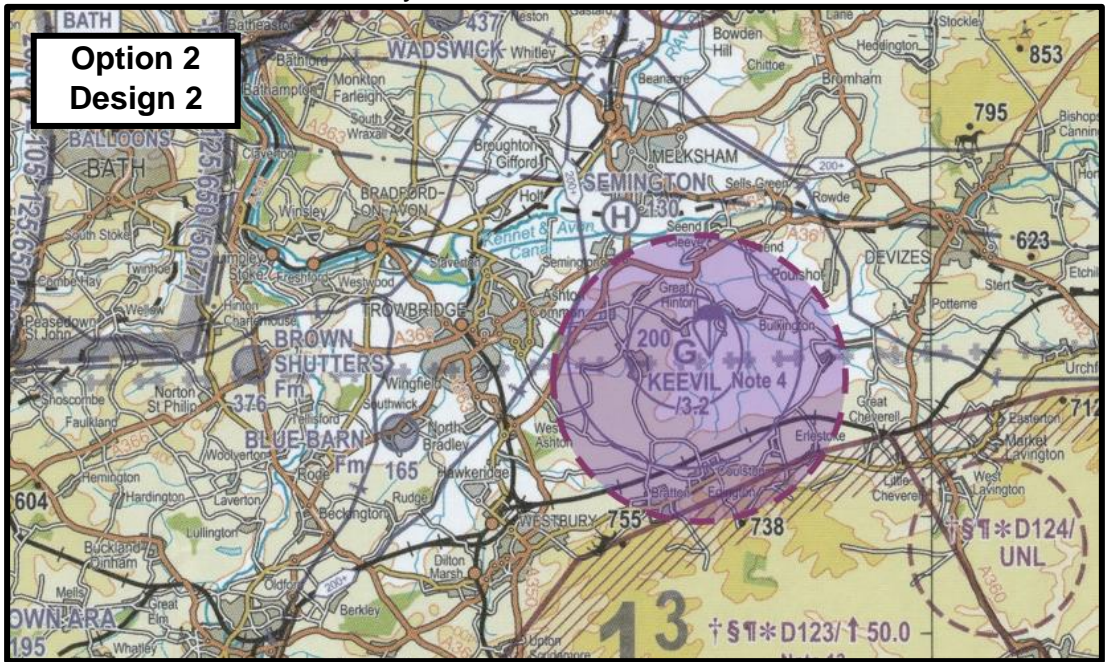


Image 9 – Option 2, Design 2

Source: CAA VFR 1:250k Chart, sheet 7

Pros	Cons
Simple design, easy to plot manually if air users do not utilise electronic flight planning software	Does not facilitate VFR navigation using railway line between Keevil and D123 if air users are unable to obtain a crossing service
Only marginally (300ft) higher than current Glider Site winch launch altitude	Greater encroachment on hang glider activities from Westbury White Horse
Airspace to the North is no different to the current DZ.	Does not allow VFR navigation using A350
Wide 'entry point' into SPTA to facilitate noise abatement procedures for the villages of Coulston, Edington and Erlestoke	

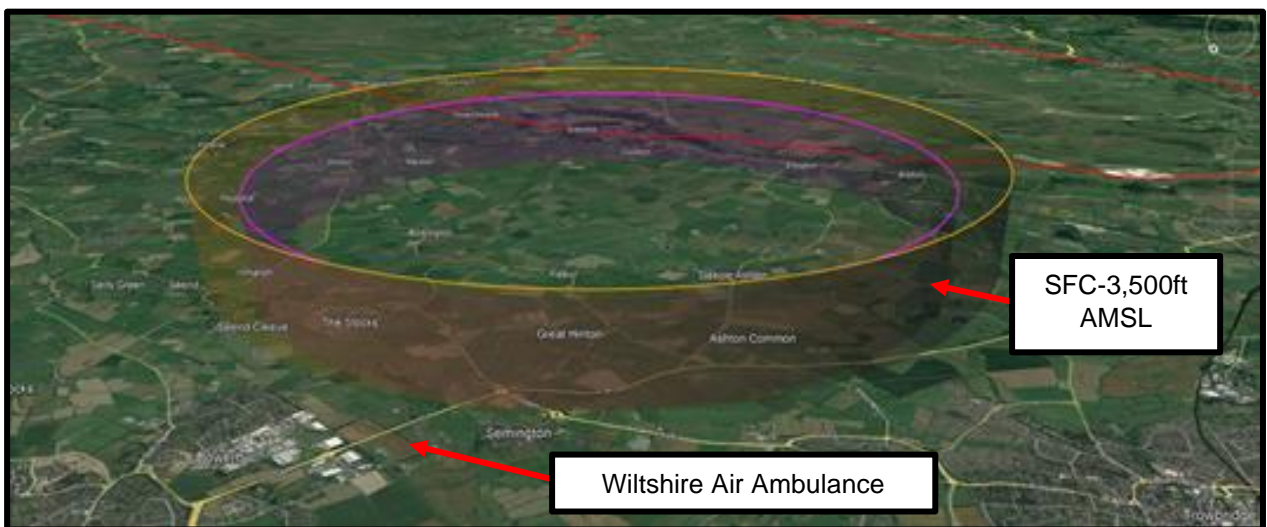


Image 10 – Option 2, Design 2 vs Drop Zone

Source: Google Earth

Option 3 – Danger Area (multi-sectored design)

2.11 Option 3 focusses on a Danger Area with multiple sectors, primarily to attempt to use the parameters of existing airspace. It may also provide an opportunity to allow aircraft following the railway line between Keevil and D123 to transit below a ‘hanging airspace’ transit corridor.

2.12 **Design 1.** The ‘airfield Danger Area’ would be the lateral dimensions of the Keevil DZ (2NM) extending vertically SFC - 3,500 ft AMSL with a ‘transit corridor’ or Stub 1,500-3,500ft AMSL.

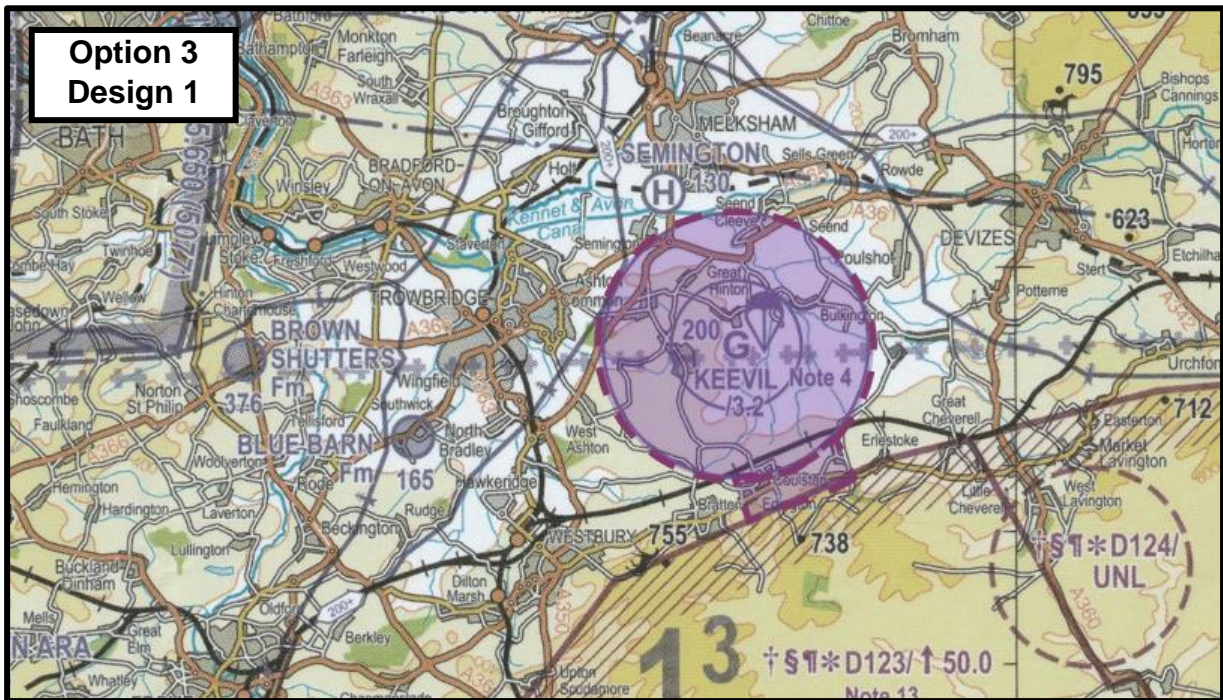


Image 11 – Option 3, Design 1

Source: CAA VFR 1:250k Chart, sheet 7

Pros	Cons
Facilitates transit between Keevil and SPTA for low-flying aircraft using the railway line 1,500-3,500ft AMSL	More complex design, requiring two separate airspace structures (and two NOTAMs to activate)
Only marginally (300ft) higher than current Glider Site winch launch altitude	Potential to increase risk of airspace infringement
Airspace to the North is no different to the current DZ.	Potential to increase risk of airprox if the majority of aircraft choose to use the gap underneath the DA “STUB”
Wide ‘entry point’ into SPTA to facilitate noise abatement procedures for the villages of Coulston, Edington and Erlestoke	Does not provide full system capability of RPAS in some emergency scenarios

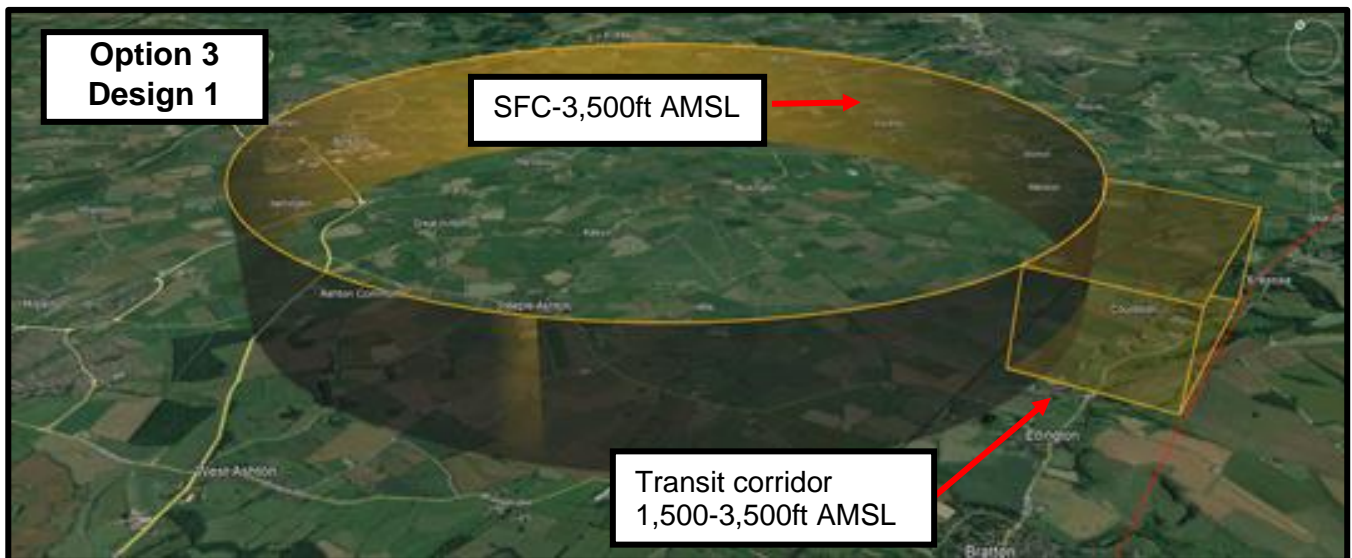


Image 12 – Option 3, Design 1

Source: Google Earth

2.13 **Design 2.** The ‘airfield Danger Area’ would be the lateral dimensions (2NM radius) of the Keevil DZ but with some of the northern sector of the airspace cut off to minimise encroachment towards Trowbridge and Melksham. Vertical dimensions remain SFC-3,500 AMSL with a ‘transit corridor’ or Stub 1,500-3,500ft AMSL.

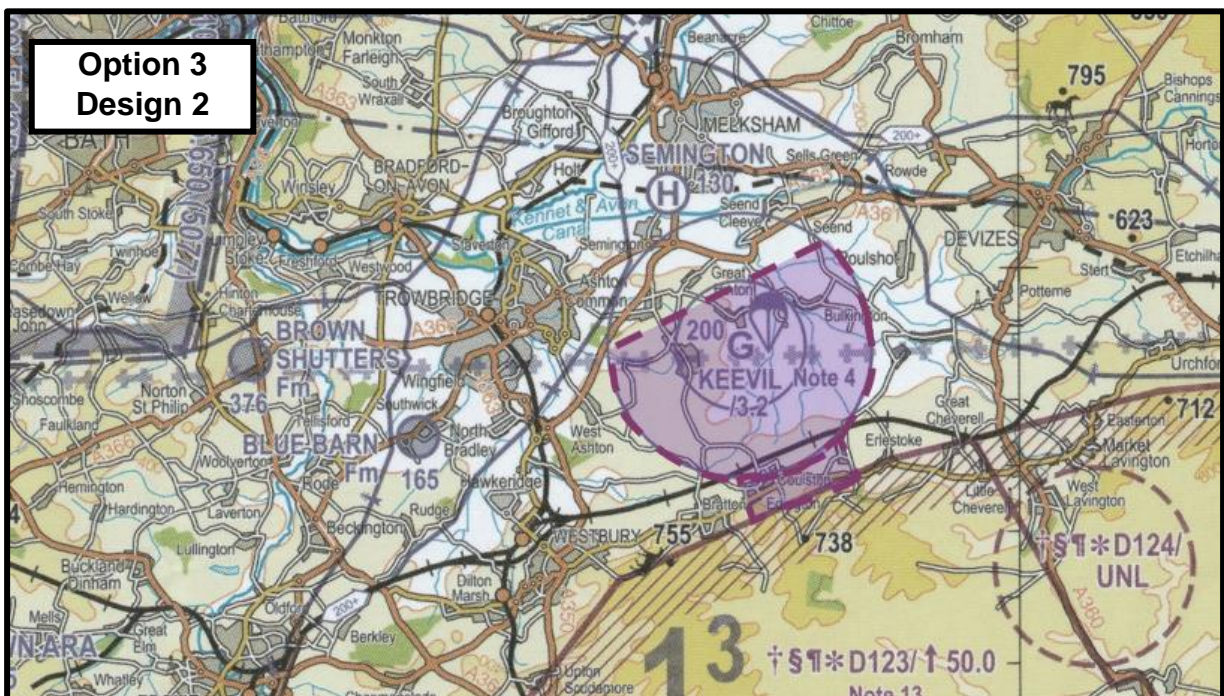


Image 13 – Option 3, Design 2

Source: CAA VFR 1:250k Chart, Sheet 7

Pros	Cons
Facilitates transit between Keevil and SPTA for low-flying aircraft using the railway line 1,500-3,500ft AMSL	More complex design, requiring two separate airspace structures (and two NOTAMs to activate)
Only marginally (300ft) higher than current Glider Site winch launch altitude	Potential to increase risk of airspace infringement

<p>Airspace to the North is currently less than the current DZ</p>	<p>Potential to increase risk of airprox if the majority of aircraft choose to use the gap underneath the DA "STUB"</p>
<p>Wide 'entry point' into SPTA to facilitate noise abatement procedures for the villages of Coulston, Edington and Erlestoke</p>	<p>Does not provide full system capability of RPAS in some emergency scenarios</p>

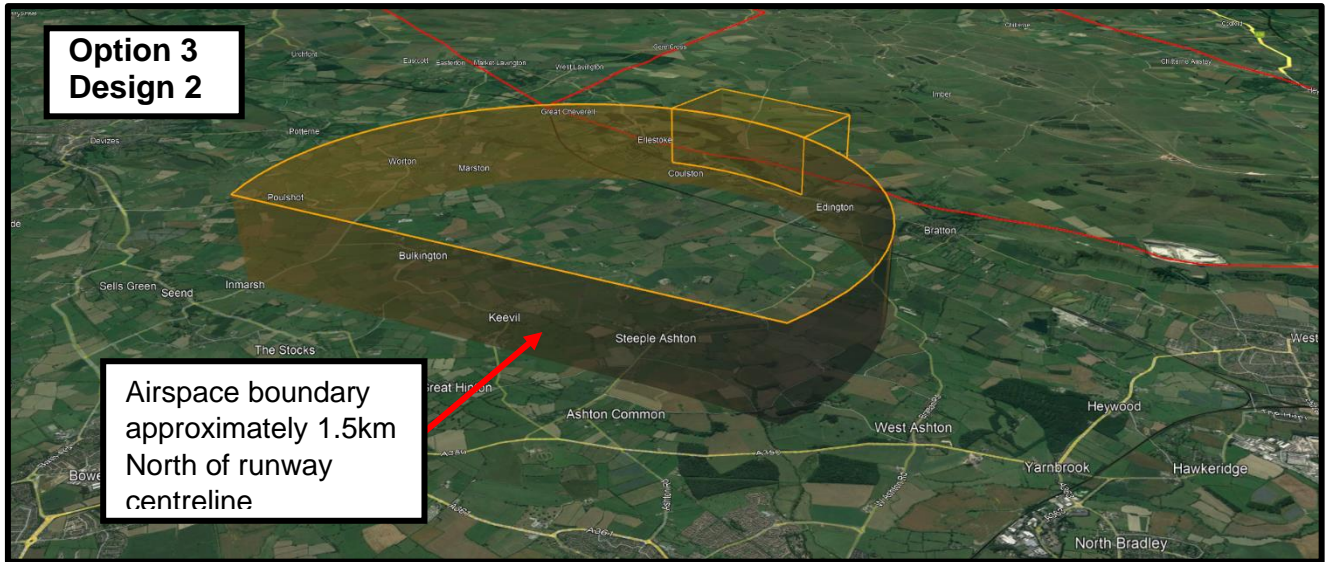


Image 14 – Option 3, Design 2

Source: Google Earth

Section 3 – Effect of Proposed Options

Effect on Local Communities

3.1 The graphic below represents aircraft movements over Keevil over a mid-week period (4-8th April 2022) and highlights the behaviour of aircraft operating between the surface and 4,000ft AMSL. It indicates that the majority of aircraft operating in the Keevil vicinity is avoiding the DZ laterally. Some military helicopters can be seen operating at Keevil Airfield. It is noted that some aircraft operating in this area would not have transponded, and thus would not be displayed in this image. For more information regarding the Electronic Conspicuity flight traces, please see Reference A.

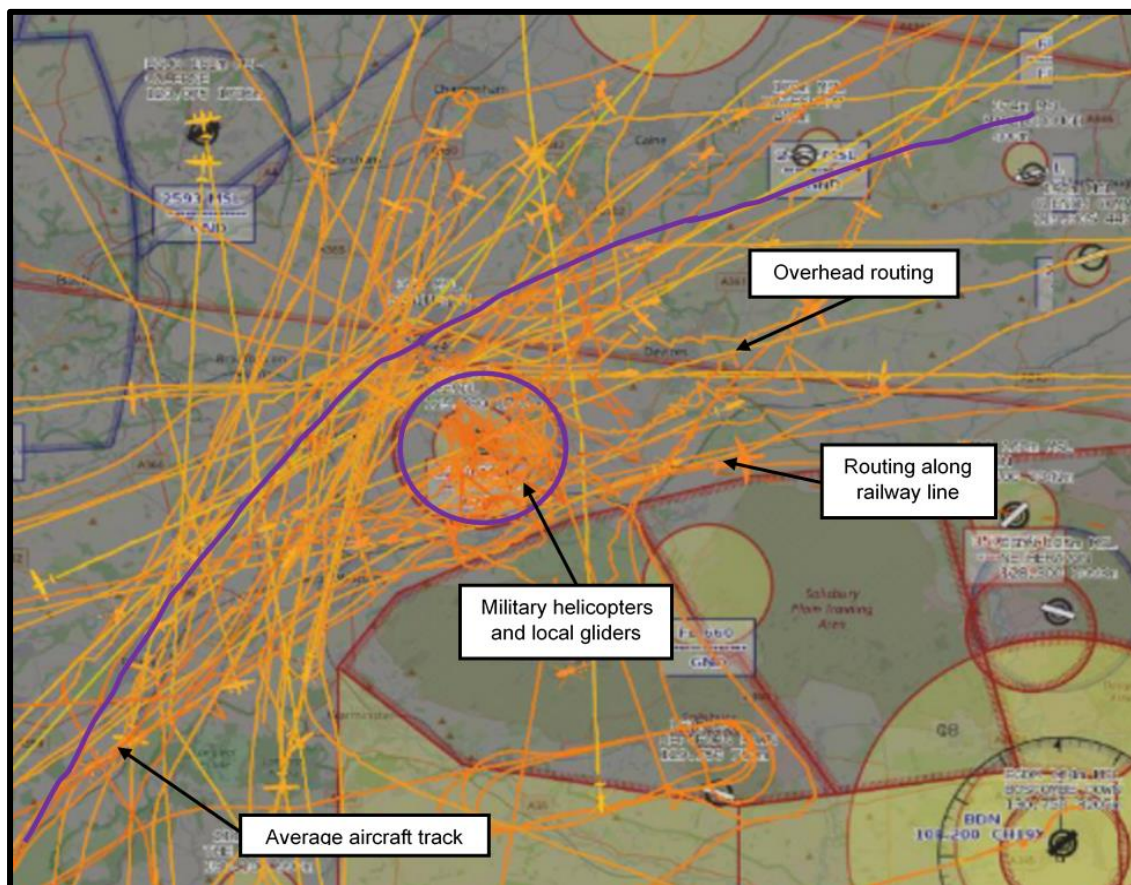


Image 15 – Electronic Conspicuity data

Source: globe.adsbexchange.com

3.2 It has been concluded in the Full Options Appraisal and Environmental Assessments at Stage 2 and 3 that there will be no change to noise or air pollution for local communities as a result of this airspace change. There would be no increase in the volume of commercial or general air traffic, neither would new airspace cause significant changes to the current tracks taken by transiting aircraft.

3.3 Additionally, the airspace design options in Section 2 are all able to facilitate Design Principle F 'minimise the impact of operating noise to local residents' as the proposed entry point into Salisbury Plain has been widened compared with the Temporary Danger Area in 2021 thereby allowing multiple transit routes to minimise noise.

3.4 The Full Options Appraisal can be found on the [HERE](#).

Effect on Aviation Stakeholders

3.5 The image below highlights the usage of the airspace by General Aviation in Class G airspace and has not been filtered to represent the trends at lowest altitudes as with the ADS-B traces above.

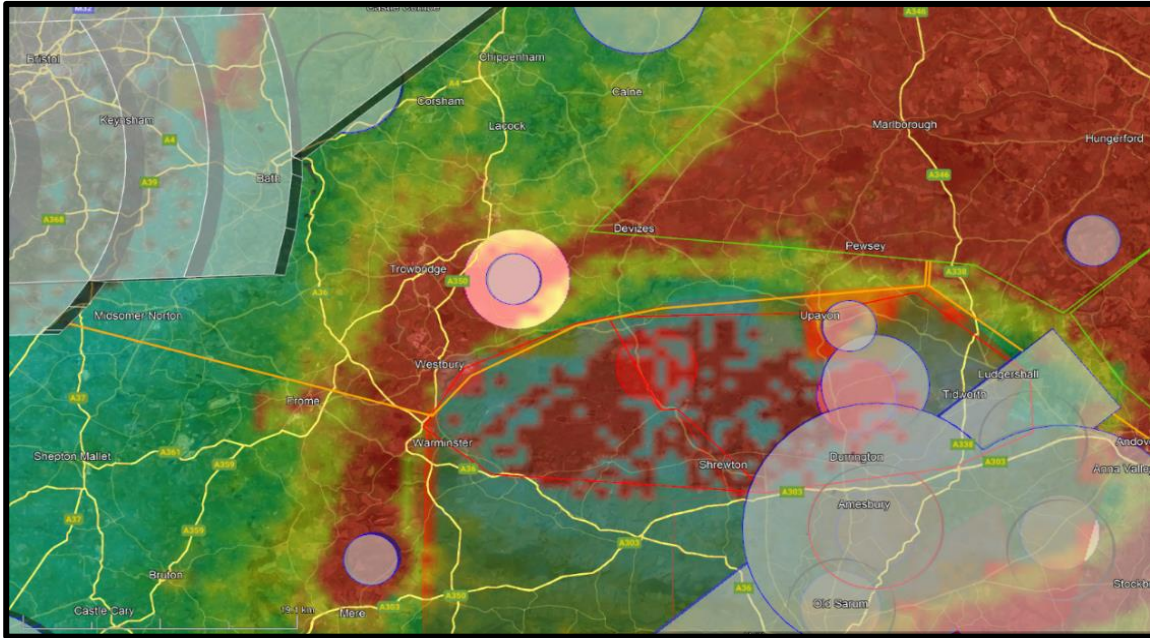


Image 16 – VFR Significant Areas in General. Source: FASVIG, Google Earth

3.6 **Gliders.** There will be an effect on some gliding activity from sites such as The Park, Upavon and Rivar Hill. Keevil is a well-known and well-used site for cross-country gliding activity. Whilst the proposed Danger Areas only extend 300ft higher than the current winch-launch altitude at Keevil it is noted that not all gliders operating in the area will be radio equipped and therefore will be impacted if wishing to use Keevil as a turning feature below 3,500ft whilst the airspace is active.

3.7 **Hang gliders.** The Avon Hang Gliding and Paragliding Club operate from Westbury White Horse near Bratton (towards the South West corner of the proposed airspace). Some designs will encroach on their traditional operating areas more than others.

3.8 **Emergency Services (Wiltshire Air Ambulance/ NPAS).** The ACP is most likely to affect the Wiltshire Air Ambulance due to its proximity of Keevil to their operating base in Semington.

3.9 **Powered aircraft.** Light aircraft operate from a variety of local private strips (grass and tarmac) and the nearest flying schools are at Thruxton and Compton Abbas. It is assessed that, whilst the Salisbury Plain Danger Areas do currently have an effect on GA in the South West of England, the introduction of the Keevil Danger Area (only activated by NOTAM and 3,500ft AMSL) will have little to no effect on current GA behaviour.

3.10 Commercial air traffic (National Grid, pipeline inspection). From the ADS-B traces the Sponsor has determined that the most likely impacted commercial air traffic would be low flying helicopters conducting pipeline and wire inspections. Although these types of flights are very infrequent in the Keevil area, these operations are mostly planned with their activity published on the Centralised Aviation Data Service (CADS). This tool assist in flight planning and notifies the pilots of potential conflicting aircraft (if they are also using the CADS tool) they may expect on their sortie. It is assessed that commercial operators, if access to the DA is required, will request a DACS as they will be radio and EC equipped.

3.11 Other Airspace Change Proposals in the area. It is assessed that the Bristol Airport Airspace Change Proposal (ACP-2018-55) will not be affected by this ACP.

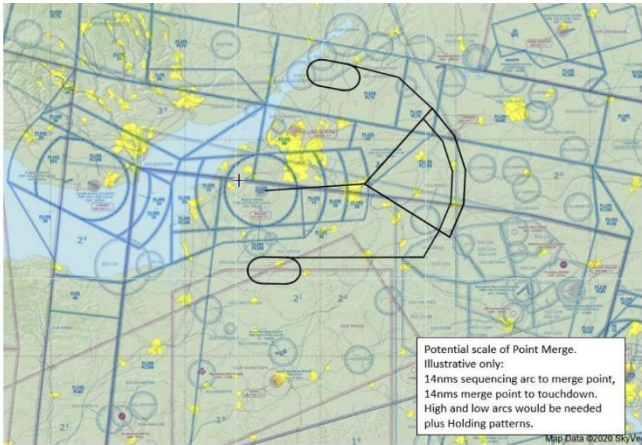


Figure 9: Bristol Airport Point Merge Option

The most relevant option proposal from the Bristol Airport ACP would be the Route Merge Option on RW27, which should not be affected due to the aircraft on their proposed route being no lower than 7000ft AMSL as they route overhead Keevil.

To date, Bristol Airport has not raised any concerns regarding the impact of this ACP on their proposed routes.

Image 17 – Bristol ACP RW 27 Merge Option
Source: Bristol ACP-2018-55

3.12 Impact mitigation

- a. The Sponsor will routinely plan activity around normal weekday working hours of Boscombe Down ATC. This is normally 08:30 – 17:30. Additionally, weekend and night flying will be infrequent thereby minimising disruption to the majority of recreational flying as well as noise pollution to the local communities.
- b. With the exception of the proposed new Danger Area itself, military RPAS will only use existing Danger Areas already established for the purpose of military training.
- c. A Danger Area Crossing Service will be available to pilots unable to climb above or route around the North of the proposed Keevil Danger. This aims to mitigate against the funnelling effect of GA traffic overhead Trowbridge and Melksham and in some cases, improve traffic flow.
- d. All activity will be NOTAM'd as far in advance as possible. A duty number will be available during exercise periods to allow local air users, particularly the gliding clubs and local private strips to understand what and when activity is due to take place.

e. All RPAS activity will be planned on CADS in order to assist operators such as the Pipeline and National Grid inspections, National Police Air Service and Wiltshire Air Ambulance. If commercial activities are required to be conducted within the Danger Area commercial operators may contact the airfield to discuss deconfliction arrangements.

f. A Letter of Agreement will be sought with the Wilshire Air Ambulance to ensure RPAS activity does not impede on HEMS operations. This will include the requirement for two-way communication between the Ops Room at Keevil and Semington as well as provide procedural deconfliction measures to eliminate the risk of MAC even if RPAS are operating within the Keevil DA.

g. A Letter of Agreement may be created with the Avon Hang Gliding and Paragliding Club to ensure continued safe hang gliding from Westbury White Horse.

h. A Letter of Agreement with Wessex Model Flying Club may be created, as was signed in Spring 2021 during the Temporary Danger Area establishment.

3.13 Future Intent. As described in Section 1, segregated airspace is currently required in order to facilitate essential military training from Keevil. However, as either technology improves (with sense and avoid allowing flight outside of segregated airspace) or regulation around the operation of RPAS in UK airspace evolves, it is recognised that there may not be an enduring requirement for a Danger Area. To that end the MOD will commit to a review of the segregated airspace requirement every year. When the airspace is no longer required the MOD will request to remove the airspace.

Reversal Statement

3.14 As per CAP 1616⁹ the Sponsor must provide a reversal statement to articulate the actions of the Sponsor if the airspace change does not achieve its objectives post-implementation.

3.15 As the Sponsor is seeking a Danger Area that will be activated by NOTAM, should the airspace not achieve its intended aims the MOD will not activate the Danger Area, thereby not causing any impact to air users. Subsequent actions will see the MOD seeking an airspace re-design (requiring the Sponsor to conduct another airspace change) or request removal from the AIP.

Environmental Effects

3.16 Environmental assessments on the consequential effect of the MOD's operations have been conducted at both Stage 2 and 3 of this airspace change process.

3.17 In summary, it has been assessed that all design options proposed will have a negligible impact on the following:

⁹ CAP 1616 p.155

a. Noise pollution for local residents as there would be no change to the quantity, type or behaviour of other aircraft operating in the area.

Note- the impact of military aircraft has not been factored into this assessment but is mitigated by noise abatement procedures which will be developed during Consultation.

b. Air pollution/ CO2 emissions in the local area due to there either being no change to the current situation (or possibly a slight reduction if aircraft are required to fly slightly higher).

c. Tranquillity and biodiversity as there will be no negative impact on wildlife as a result of noise or light pollution. Bird scarers may be used prior to aircraft departing (similar to those used by farmers) in order to reduce the risk of a bird strike on take-off.

3.18 The full Environmental Impact Assessment can be found on the CAA Airspace Portal [HERE](#).

Section 4 – Consultation Process

Consultation Duration

4.1 The Sponsor is conducting a full 3-month consultation commencing on **Wednesday 1st June** and finishing on **Wednesday 24th August**. This is to ensure all stakeholders who wish to provide feedback have sufficient time to do so. It also factors in the Queen’s Platinum Jubilee weekend and the busy summer holiday period. It is assessed that this is sufficient time for all stakeholders and organisations to provide comment.

4.2 Additionally, physical and virtual events will be held throughout the consultation window to allow stakeholders the opportunity to ask the Sponsor questions relating to the proposal. Specific events will be held aimed at both local communities and aviation stakeholders. The following events are planned:

- a. ACP roadshows are due to be held at the Steeple Ashton Village Hall, Church Street, Steeple Ashton, Wiltshire, BA14 6EW on Friday 17th June and Tuesday 19th July. These will be drop-in events aimed primarily at local community stakeholders. Further details to be promulgated both online and in local publications.
- b. Virtual meetings aimed primarily at aviation stakeholders are planned to be held on the following dates:
 - Wednesday 15th June (1400hrs)
 - Tuesday 28th June (1830hrs)
 - Thursday 21st July (1830hrs)

If you wish to attend a virtual meeting, the Microsoft TEAMS link will be advertised on the [Citizens Space portal](#) closer to the time.

- c. ACP open day held at Horne Barracks, Larkhill, Wiltshire, SP4 8QE on Wednesday 29th June. If you wish to attend this open day please follow the instructions for this event on the [Citizens Space portal](#). This event is limited to 60 places and will be offered on a first-come first-served basis.

What is being asked?

4.3 The purpose of this consultation period is to provide an opportunity for all stakeholders to comment on the proposed airspace design options. This feedback will be collated and analysed by the Sponsor and help to shape the final proposal that will be submitted to the CAA.

4.4 The key themes that the Sponsor is seeking to answer through consultation include, but is not limited to, the following:

- a. The preferred airspace option to achieve airspace segregation
- b. The perceived effect of this proposal (positive or negative)
- c. Key concerns for stakeholders
- d. Mitigating factors that could be employed to minimise impact

How to respond

4.5 In accordance with CAP 1616 this consultation will be undertaken through electronic communication and it is therefore requested that stakeholders wishing to provide feedback do so through the Citizen Space online portal.

4.6 The link to the Citizen Space portal can be found [HERE](#). A response form, along with all consultation documentation can be found on Citizen Space. Additionally, all documentation so far can be found on the [CAA airspace change portal](#).

4.7 If stakeholders are unable to respond electronically hard copies of the feedback form found at Annex A may be submitted to:

FAO Project LOVERIDGE lead
Regimental Operations Officer
47th Regiment Royal Artillery
Horne Barracks
LARKHILL
Wiltshire
SP4 8QE

4.8 All written responses will be subsequently uploaded to the CAA airspace change portal. Additionally, stakeholders requiring hard copies of any consultation material can request this by emailing 47RA-Project-LOVERIDGE@mod.gov.uk or writing to the address above. Hard copies will then be posted.

4.9 Alternatively, stakeholders may complete the form at Annex A electronically and submit their responses via email to 47RA-Project-LOVERIDGE@mod.gov.uk.

Next Steps

4.10 Consultation responses will be collated and assessed throughout the consultation period. Once the consultation period has closed the Sponsor will analyse and categorise all responses received and a consultation report published articulating the categorisation process, articulate issues raised and how they have been resolved. Finally, it will confirm the final option to be submitted to the CAA or what additional amendments are to be made to the chosen design as a result of consultation feedback. The Sponsor will then upload the document to the Portal once the CAA has confirmed that no further consultation is required.

4.11 Throughout Stage 3 the MOD will review the AIP entries and chart note for Keevil to ensure they accurately reflect the level and nature of activity that occurs at the airfield. Any amendments to the AIP entry for Keevil will be confirmed in the formal proposal in Stage 4.

4.12 The Sponsor will continue the ACP process in accordance with the timeline agreed, submitting all required documentation in Stage 4A and 4B in order to allow the CAA to conduct the DECIDE gateway for February 2023.

Annex A – Consultation Feedback Form Hard Copy

1 What is your name?

Name *(Required)*

2 Are you responding as an individual or do you represent an organisation?

(Required)

Please select only one item

- I am responding as an individual
 I represent an organisation

Organisation

3 What is your email address?

If you enter your email address then you will automatically receive an acknowledgement email when you submit your response.

Email

4 What best describes your association with this airspace change proposal?

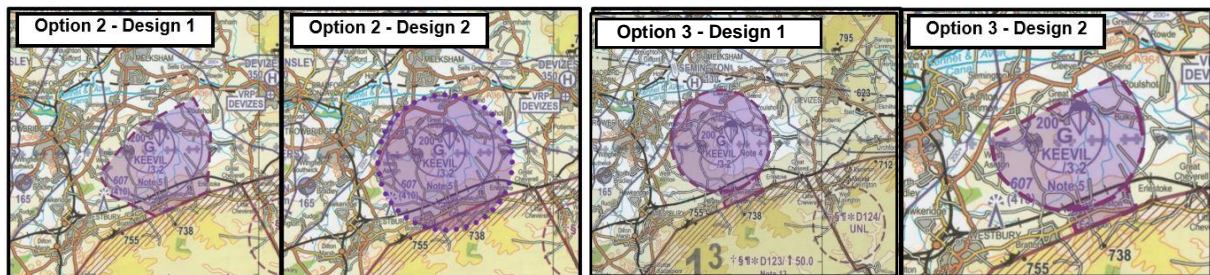
(Required)

Please select only one item

- Local community stakeholder
 Aviation stakeholder
 NATMAC organisation

Airspace Design Options

This section seeks feedback on the airspace design options that have been put forward in the consultation documentation.



5 Which airspace design option do you prefer?

(Required)

Please select only one item

- Option 2 (simple) – Design 1
 Option 2 (simple) – Design 2
 Option 3 (multi-sector) – Design 1
 Option 3 (multi-sector) – Design 2

6 Please rank the airspace designs options in order (from 1 being the preferred to 4 being the least preferred):

<i>(Required)</i>	1	2	3	4
Option 2 (simple) – Design 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Option 2 (simple) – Design 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Option 3 (multi-sector) – Design 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Option 3 (multi-sector) – Design 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7 Are there any other airspace design options you think the MOD should consider?

(Required)

Please select only one item

- Yes (please specify)
 No

8 Whilst ensuring that essential military activity can be achieved, the MOD is keen to reduce the impact of its operations on other airspace users. Are there any design amendments or potential mitigations that could be used to achieve this?

9 Are there any other general considerations that you would like the MOD to factor in to mitigate against the impact on local communities?

10 The MOD would like your permission to publish your consultation response. Please indicate your preference:

(Required)

Please select only one item

- Publish response
 Publish response anonymously (this will remove personal identifiers such as name and organisation)