

# Summary of Stakeholder Engagement

# ACP-2023-066

24 November 2023

#### CONFIDENTIAL

# 1. INTRODUCTION

Flylogix are an unmanned aircraft service provider, focused on the offshore energy sector. Flylogix have been contracted to complete methane emission surveys of oil and gas platforms over the Southern North Sea in 2024. These surveys will be achieved by using an unmanned aircraft with a methane sensor fitted to it. The operations will be conducted in a Temporary Danger Area (TDA).

Flylogix have submitted an airspace change request (ACP-2023-066) to establish this TDA. This document is a summary of the stakeholder engagement carried out by Flylogix in relation to this ACP.

# 2. OBJECTIVES OF ENGAGEMENT AND THIS DOCUMENT

Flylogix engaged with aviation stakeholders (airspace users, air navigation service providers and aerodromes) on the safety and operational viability of the proposed TDA with the aim of informing stakeholders and addressing any issues or impact that may arise from the TDA being established.

This document provides a summary of the process, results and any subsequent changes to the proposed TDA.

The supporting document sent to all stakeholders and a record of communications can be found in the appendices.

# 3. LIST OF STAKEHOLDERS

The table below is a list of the stakeholders contacted and reason for their engagement.

Organisation	Reason for including in engagement	
NATS	ANSP	
JRCC	Coastguard body that task SAR helicopters	
Bristow SAR	Operate SAR helicopters	
Offshore Helicopter	Oil and gas helicopter operator in North Sea	
NHV	Oil and gas helicopter operator in North Sea	
СНС	Oil and gas helicopter operator in North Sea	
Bristow	Oil and gas helicopter operator in North Sea	
Airtask	Commercial operator flying over the North Sea	
Babcock Mission Critical Onshore	Helicopter operator	
2Excel aviation	Commercial operator flying over the North Sea	
Unifly	Wind energy helicopter operator in North Sea	



GAA	An independent group and partnership of organisations representing UK General Aviation	
Airspace4All	A joint undertaking between Sports and Recreational Aviation, Military Aviation and Other Aviation stakeholders	
ΑΟΡΑ	Non-profit political organization that advocates for general aviation	
Garton airfield	Private airfield near TDA	
Humberside airport	Commercial airfield where oil and gas helicopters operate	
Norwich airport	Commercial airfield where oil and gas helicopters operate	
Airport Operators Association (AOA)	NATMAC member	
Airfield Operators Group (AOG)	NATMAC member	
Airspace Change Organising Group (ACOG)	NATMAC member	
ARPAS-UK	NATMAC member	
Aviation Environment Federation (AEF)	NATMAC member	
British Airways (BA)	NATMAC member	
BAe Systems	NATMAC member	
British Airline Pilots Association (BALPA)	NATMAC member	
British Airline Pilots Association (BALPA)	NATMAC member	
British Balloon and Airship Club	NATMAC member	
British Business and General Aviation Association (BBGA)	NATMAC member	
British Gliding Association (BGA)	NATMAC member	
British Helicopter Association (BHA)	NATMAC member	
British Hang Gliding and Paragliding Association (BHPA)	NATMAC member	
British Microlight Aircraft Association (BMAA)	NATMAC member	
British Model Flying Association (BMFA)	NATMAC member	
British Skydiving	NATMAC member	
Drone Major	NATMAC member	
Guild of Air Traffic Control Officers (GATCO)	NATMAC member	
Honourable Company of Air Pilots (HCAP)	NATMAC member	
Helicopter Club of Great Britain (HCGB)	NATMAC member	
Heavy Airlines	NATMAC member	
lprosurv	NATMAC member	
Isle of Man CAA	NATMAC member	
Light Aircraft Association (LAA)	NATMAC member	



Low Fare Airlines	NATMAC member
Ministry of Defence - Defence	
Airspace and Air Traffic	NATMAC member
Management (MoD DAATM)	
PPL/IR (Europe)	NATMAC member
UK Airprox Board (UKAB)	NATMAC member
UK Flight Safety Committee (UKFSC)	NATMAC member
United States Air Force Europe (3rd	
Air Force-Directorate of Flying	NATMAC member
(USAFE (3rd AF-DOF))	
Rob Wendes	GA pilot who asked to be involved
Wiking	Wind energy helicopter operator in North Sea

# 4. SUMMARY OF ENGAGEMENT METHODOLOGY AND TIMELINE

The strategy of this engagement is outlined in *Stakeholder engagement strategy ACP-2023-066* and the engagement window ran from 23 October 2023 to 24 November 2023.

Engagement Methodology

Flylogix has completed BVLOS UA flights over the North Sea since 2019, including operations in the Southern North Sea, and engaged with other air users when planning and completing these operations. This prior engagement provided a provisional audience list. This was used as a starting point for the engagement and additional stakeholders were identified through inspecting aviation charts to look for local airfields, discussion with the CAA and consideration of the NATMAC list of organisations/stakeholders.

Once a list of stakeholders was compiled, the approach was to engage directly with individuals at the organisations by email.

All stakeholders were sent an email (Appendix 1) with an attachment (Appendix 2) on 23 October 2023. Furthermore those stakeholders who had not replied were sent a chaser email to remind them and advise them that their comments were still welcome.

These emails are included in Appendix 2

It was felt that the stakeholder engagement window was proportionate to the complexity, scale and duration of the TDA sought. The TDA is situated predominantly over the water, with a DACS to support access to the airspace when the RPAS system is not utilising the TDA segments and there a limited number of flights (max 15) which will limit the number of the activations required. Given the nature of the operations it is felt that the TDA design and operations are limited in that nature of the stakeholders affected and also the complexity of the ACP is minimal enabling a scaled engagement window.

#### 4.1 Stakeholders who have not been informed of operations

In line with the Stakeholder Engagement plan Local Residents were not engaged for the following reasons



- i. The airspace design does not impact the how the UA will operate at Hollym, where it will fly VLOS before heading over the sea.
- ii. The airfield is adjacent to the coast and the UA will not overfly any land outside the airfield.
- iii. The unmanned aircraft will be at 800ft when operating over land. At this altitude it creates little noise and measures less than 45dBA at a cruising altitude of 400ft causing no discernible change to background noise (based on Flylogix testing).

### 5. SUMMARY OF FEEDBACK

#### 5.1 Stakeholders who replied with feedback or objections

There were six stakeholders who replied with feedback, comments or objections. They were

- 1. UKFSC
- 2. Bristow Search and Rescue
- 3. UNI-FLY UK
- 4. 2EXCEL Aviation
- 5. Rob Wendes

#### 5.1.1 UKFSC

The UKFSC commented that they understood the rationale for the proposal and had no objections to it. They provided comment that they would suggest a single TDA with additional spurs. They also commented that they thought that the volume of airspace, especially with regards to 4nm width to be greater than necessary for the platform.

An email response was sent, included in the stakeholder feedback raw data to confirm that the comments raised had been discussed with the Flylogix team and also Anglia Radar who would be providing the DACS. It was reiterated that the TDA design was based on the Flylogix TDA design policy and had been based on previous iteration of the TDA design of the same location and dimensions which had worked well in terms of activation, promulgation and flexibility in terms of activating only what is necessary. The geographical constraints were also highlighted as well was the limitations regarding the dimensions of the airspace.

#### Actions taken/to be taken following feedback

- No change to proposed TDA design
- The stakeholder was invited to discuss further if the response did not meet their needs or address their comments.

#### 5.1.2 Bristow Search and Rescue

Bristow Search and Rescue had no objections to the proposal but sought clarification as to the process should they require access in the event of a SAR mission.

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An email response was sent to confirm that Anglia Radar will be providing the DACS for the area of operations. Anglia Radar will provide a contact number to JRCC-AR so that arrangements can be made for the required crossing/entry into the TDA. FlyLogix have operated with Anglia Radar previously and have established procedures in the event that emergency access is required. It was agreed that there would be continual liaison between the stakeholder and Anglia Radar to ensure that the lines of communication and necessary contact numbers are in place in good time prior to the operations in Mar 24.

Bristow replied to the email to confirm that they were supportive of this approach.

#### Actions taken/to be taken following feedback

- No change to proposed TDA design
- Flylogix to ensure that the appropriate contact details are in place between Bristow, Flylogix and Anglia Radar prior to operations commencing.

#### 5.1.3 UNI-FLY and CHC

UNI-FLY operate within a similar area and commented that segments A and B would be of concern as they fall adjacent to low level routings that they use to operate around Humber Coastal Wind Farm. The stakeholder requested that Flylogix operate from a location further north. CHC provided comment – which was formulated with UNI-FLY also in the address bar that they would need to cross the TDA between 1500' and 3000' and highlighted that they fly to Cygnus from Norwich. They asked whether Anglia Radar was able to deconflict from the Flylogix operations as they have previously been unable to gain a clearance from NATS. The correspondence stated that they believed that this was due to NATS being unable to verify the transponder code.

Discussions took place with Anglia Radar who confirmed that they would be able to provide a crossing service (should it be necessary as the altitude of the TDA is 1300') so long as the RPAS has vacated the necessary segment and it is safe to do so. The routing with regards to UNI-FLY and the Humber Costal Wind Farm is not part of a formal agreement but has developed as common practice. It is believed that the expected conditions that would require the operations of this particular flow would be the times that Flylgoix would not be able to fly due to weather limitations. The information confirming the DACS was passed to the stakeholders and they were reminded that the activity will be promulgated in advance by NOTAM in order to aid planning.

Further opportunity to discuss was offered to the stakeholder to discuss.

#### Actions taken/to be taken following feedback

- No change to proposed TDA design
- Flylogix will continue to liaise with UNI-FLY and CHC and Anglia Radar regarding the promulgation of planning flying activity to deconflict where possible and/or necessary and Anglia Radar will provide a DACS where appropriate should access to the airspace become necessary.

#### 5.1.4 2Excel Aviation

2Excel confirmed that there would be no impact to their operations but sought clarification for notification for changes to planned activity or leaving the area should there be a conflicting SAR event. A response was sent to confirm that in the event of SAR activity in the area liaison between Anglia

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Radar and Flylogix will take place and Flylogix will vacate the required area as a matter of priority. The contact details will be publish via the AIC and the details for Anglia Radar will be promulgated on the NOTAM also. Should there be a change to any planned activity that had been promulgated via NOTAM, that NOTAM will be cancelled and further details promulgated accordingly.

Further opportunity to discuss was offered should the stakeholder wish.

#### Actions taken/to be taken following feedback

• No change to proposed TDA design

#### 5.1.5 Rob Wendes

Mr. Wendes is a GA pilot based in Surrey who asked to be included in the ACP Engagement. He filed an objection to the proposed TDA. The full correspondence is included in Appendix to this document.

The points raised by Mr Wendes were

- 1. No safety case presented and it does not lend itself to creating a safety argument around integration.
- 2. TDA is a barrier to other aircraft who are flying low in the area
- 3. UAVs should not be operated within a Danger Area as no data can be gathered to determine the stage it will be integrated with GA and at what stage airspace will revert to Class G.
- 4. Further emails were received after the initial telephone conversation with the stakeholder (see below for details of this) where a number of NOTAMs were provided as examples of BLVOS flights with visual observers were taking place and that Flylogix should be adopting this approach for their operations.

#### **Response/Actions following feedback**

- 1. The stakeholder was offered a telephone which they accepted in order to discuss their concerns. Email confirmation of the conversation was sent to the stakeholder for their approval, following confirmation from Anglia Radar that they would provide a DACS, and a copy of which is found in the appendix to this document but is summarised here:
  - a. Mr Wendes does not object to the use case and requirement of Flylogix to conduct the flights, it was the fact that these would be taking place within a TDA that he did not agree with.
  - b. Mr Wendes felt that there should be the opportunity to trial airborne visual observers to negate the need for segregation (discussion had taken place in the phone call around the practicalities of employing visual observers given the nature of the Flylogix operations).
  - c. Whilst the regulatory requirements for a TDA to enable BVLOS operations were necessary the ACP would be asking for a TDA to facilitate the same. Flylogix would be committed to moving towards more integrated parameters when the regulatory framework allowed. Mr Wendes is not wholly supporting of TMZ or mandatory EC as it is felt that it is not inclusive to all airspace users.
  - d. With regards to the safety case, this is contained within the Operating Safety Case that Flylogix has submitted to the CAA and the operations for the air system, the approval of the airspace and the DACS in support would all be subject to robust regulatory approval.



- 2. In a previous ACP Flylogix have hosted Mr Wendes at our offices and shown him the aircraft, ground control station and explained our operations. This was again offered and Mr Wendes has stated that he would take Flylogix up on the offer when in the area.
- 3. There is currently no certification or Acceptable Means of Compliance in the UK for UA of the size of Flylogix's aircraft, flying BVLOS. So, it is not possible to certify the aircraft.

Mr Wendes provided a final email urging the argument that a change of mindset is required with regards to integration of BVLOS.

#### 5.2 Stakeholders who replied but had no feedback or objections

The following stakeholders replied saying they had no feedback on the TDA design or ACP. The full correspondence is included in Appendix 3.2

- 1. NATS
- 2. NHV
- 3. Norwich Airport
- 4. BALPA
- 5. Babcock Mission Critical Onshore
- 6. JRCC
- 7. Airfield Operators Group
- 8. BHPA
- 9. DAATM
- 10. British Gliding Association
- 11. ARPAS UK

#### 5.3 Stakeholders where no reply received

The remaining stakeholders did provide any feedback. In addition to the initial email requesting feedback and sending the Engagement Material, reminders were sent to those who had not yet replied on close of engagement with an opportunity for them to comment outside the engagement window should they so wish.

This communication is included in Appendix 1 and Appendix 2

# 6. CONCLUSION AND CHANGES

#### 6.1 Notification and procedures

Flylogix will complete the actions below

• Flylogix will UNI-FLY and CHC in advance of operations to share the programme of work.



- Flylogix will liaise with Anglia Radar for confirmation of contact details prior to operations and ensure that all stakeholders identified above who require the same are furnished with the information.
- Flylogix will contact Anglia Radar by telephone or email to confirm they can provide a Danger Area Crossing Service before issuing a NOTAM to activate the TDA.

#### 6.2 Impact on flight paths below 7000ft and over inhabited areas

There will be little to no impact on the flight path or volume of air traffic flying below 7000ft over inhabited areas. This is due to the following reasons:

- 1. The TDA adjacent to the shore is established from surface to 1,000ft. Therefore, the majority of aircraft below 7,000ft can fly over the TDA. The volume of traffic in the operating area is mostly comprised of commercial traffic flying offshore, with some GA following the coast:
- 2. The TDA does not extend over the land and therefore minimises impact on inhabited areas.
- 3. The unmanned aircraft will be at 800ft when operating over land. At this altitude it creates little noise and measures less than 45dBA at a cruising altitude of 400ft causing no discernible change to background noise (based on Flylogix testing).

# 6.3 Collection and monitoring of feedback and complaints while the TDA is active

It shall be the responsibility of Flylogix to gather all feedback received when the TDA is in place. All stakeholders in this document have the contact details for Flylogix and there will be contact details for Flylogix in the AIC notifying the TDA and on the NOTAM.

Once the operation is complete and the TDA ended, any feedback collected during this period shall be compiled into a summary report and forwarded to the CAA for review.



# APPENDIX 1 ENGAGEMENT EMAILS

#### 23 October to all stakeholders Stakeholder Engagement Flylogix ACP 2023-066

20231023 Stakeholder Material ACP 2023-066.pdf v 669 KB

Dear Stakeholder,

I am writing on behalf of Flylogix, an Unmanned Aircraft (UA) service provider, who are focused on the offshore energy sector. Flylogix are seeking to conduct up to 10 UAS flights in the Southern North Sea from the beginning of Mar 24. As is currently required, the operations will take place in a Temporary Danger Area (TDA) complex and in order to establish this airspace Flylogix have submitted an airspace change proposal (ACP), which can be found here <u>ACP - 2023 - 066</u> to establish this piece of temporary airspace.

You are being contacted as you have been identified as a stakeholder within this ACP and we are keen to get feedback on any safety or operational impact of the proposed TDA. Please find attached a short document containing further detail of the ACP and the proposed operations, including dimensions and locations of the proposed piece of airspace.

Your feedback is importance to us and will form part of the final submission and shared with the CAA.

We would be grateful if you could please provide any comments by the 20<sup>th</sup> November 2023, including confirmation of no impact or alternatively please feel free to request a call or virtual meeting by return to discus the matter further.

We very much look forward to hearing from you.

Yours sincerely



#### 22 November to those who had not replied

FW: Stakeholder Engagement Flylogix ACP 2023-066

20231023 Stakeholder Material ACP 2023-066.pdf 669 KB

Good morning

I'm writing further to my email last month asking for stakeholder feedback for the ACP proposal below by Flylogix.

The stakeholder window has now closed but I wanted to give a final opportunity for any comments prior to submission.

Please do let me know if you have any thoughts or wish to discuss further.

Kind regards,

On behalf of Flylogix Holdings Ltd



# 1. INTRODUCTION

Flylogix are an Unmanned Aircraft (UA) service provider, focused on the offshore energy sector. Flylogix have been contracted for up to 10 UAS flights in the Southern North Sea from beginning of Mar 24.

The operations will be conducted in a Temporary Danger Area (TDA) complex. Flylogix have begun an airspace change request (ACP-2023-66) to establish this TDA.

# 2. OBJECTIVES OF ENGAGEMENT AND THIS DOCUMENT

In line with the CAP1616 Flylogix are engaging with aviation stakeholders to get feedback on the safety and operational impact of the proposed TDA. This engagement will occur between 23<sup>rd</sup> October 23 to 20<sup>th</sup> November 23 and all feedback will be shared with the CAA as part of the final TDA submission.

This document has been sent to the following stakeholders for feedback. More stakeholders may be contacted as Flylogix becomes aware of them and please inform us of any stakeholders who should be added to the engagement

- ANSP NATS (Anglia Radar)
- Oil and Gas helicopter operators CHC, NHV, Bristow, Babcock
- SAR JRCC, Bristow SAR
- Commercial operators working in area Airtask, 2Excel Aviation, Babcock Mission Critical Services Onshore, Unifly
- General Aviation Airspace4All, General Aviation Alliance, AOPA
- MOD DAATM
- Aerodromes Norwich Airport, Humberside Airport, Garton airfield
- The members of NATMAC

# 3. TYPE OF OPERATION

The operations are unmanned BVLOS flights conducted within a TDA. The purpose of the flights is to conduct methane surveys of offshore oil and gas platforms

The UA will transit at an altitude of 500ft or 800ft AMSL While conducting methane surveys around an asset, the UA will operate between 150ft and 600ft AMSL.



# 4. UNMANNED AIRCRAFT CHARACTERISTICS



#### 6.4 Figure 1 - The FX2 type UAS

The UA is a single propeller, fixed wing aircraft. The characteristics of the UA are summarised below:

Characteristic	Value
Туре	Fixed wing, single engine, tractor propeller
Wingspan	3.48m
Length	2.74m
МТОМ	52.1 kg

Flylogix is in the process of securing exemptions from the CAA for these operations. As part of the Operational Safety Case (OSC) submitted to the CAA, the following operating limitations will apply:



FX 2 Series Operational Limitations			
Visibility	VFR Day ONLY – 5Km Visibility		
Cloud base	VFR – Clear of Cloud, ground in sight.		
Weather	Day VMC, No Lightning Forecast or observed in the TDA, No Snow		
Temperature	Above 0 degrees C and below 40	Above 0 degrees C and below 40 degrees C. Below the freezing layer (FMet105)	
Windspeed ToL Site	Headwind <25Kts Crosswind Limit 10Kts Hard		
Windspeed at Asset	He	Headwind <30Kts	
Rain/Snow	>1.5mm of rain per hour. No Snow.		
90 Degree Crosswind <10Kts, Including Gusts Based on Aviation Forecast (METAR) and Local Unofficial Met (GCS Davis Wx system)			
Headwind <25Kts			



The UA will be fitted with ADS-B in and out and a Mode-S transponder. If the transponder is non-functioning, the mission will be cancelled/aborted.

# 5. TDA

#### 5.1 **Design Principals**

To limit the impact of the TDA complex on other air users, Flylogix applies the following design principals:

- Minimise the volume of airspace, including both footprint and altitude
  - $\circ$   $\,$  Where required this means multiple smaller TDAs rather than a single large TDA  $\,$
- Minimise, and if possible, avoid the TDA covering land and the coast. To facilitate this the UA is operated from the coast and flown Visual Line of Sight for take-off and landing entering the TDA before going BVLOS over the water
- Avoid areas where other aircraft operate below 1,500ft for example airfields and HTZs
- Segment each TDA to simplify any Danger Area Crossing Service
- Only activate the TDA for the period of the flight

#### 5.2 **Proposed Design**

The proposed design is for 2 TDAs, to allow operations to be conducted in the Cygnus and Ravensprun fields. Only one TDA will be activated at a time.









Figure 2 - Proposed TDAyyy with 3 segments A to C - All segments surface to 1,300ft AMSL



- Full coordinates for the proposed TDA complex are in the Appendix
- The TDA will be in place from 5<sup>th</sup> March 2024 to 3 June 2024 (notification will be given if this changes in the final submission) and will be cancelled before this date if all operations are completed.
- Flylogix is in discussion with Anglia Radar (NATS) to provide a Danger Area Crossing Service during the periods the TDA is active. The frequency for the service will be published on the NOTAM and in the AIC along with Flylogix contact details.
- Flylogix will be available for direct contact by telephone before and during operations if additional information is required

#### 5.3 TDA Design Rationale

We want to minimise the impact the TDA has on other air users. The following is a summary of the considerations made when designing the proposed TDA and rationale for its features.

#### 5.3.1 Airfield

Hollym was selected due to the following characteristics:

- Situated on the coast, minimising the travel of the UA over land and therefore minimising risk to those on the ground
- A private airfield with relatively little traffic

#### 5.3.2 Inshore segments

The inshore segments of both TDAs (Segment A) have been designed to

- Not cover the coast to allow other aircraft to coast follow
- Avoid the windfarm off the coast

#### 5.3.3 Offshore segments

The consideration for the offshore segments was

- The nominal width of these segments is 4 nautical miles. This has been selected to minimise the volume of the TDA whilst providing a 2-mile-wide corridor for manoeuvring and a mile buffer zone each side
- The shape of these segments avoids all 3<sup>rd</sup> party offshore structures/assets and their HTZs to minimise impact on helicopter operations in the Southern North Sea
- The sections around the il and gas platforms has been designed to cover only those platforms



being inspected.

### 6. PLANNING AND NOTIFICATION

Flights will be between 1.5 hours and 5 hours long. The TDA will be activated 15 minutes before take-off and end up to 4 hours after the last scheduled landing time. This contingency will be determined by weather forecast and by the uncertainty in helicopter flights and other operations at these facilities. If the UA lands before the end of the TDA activation, Flylogix will inform ATC and request of the CAA that the NOTAM is cancelled.

There are ten flights planned and flights will be predominately conducted at weekends (although some flights may take place midweek subject to traffic) and times when there is less oil and gas helicopter traffic. Flylogix may conduct multiple flights in a single day.

To activate the TDA, a NOTAM will be published at least 24 hours in advance of planned flights detailing activations times. If UA activity is cancelled for whatever reason, we will request the NOTAM is cancelled.

If direct notification is required in addition to the NOTAM publication, please make note of this in your feedback.

# 7. YOUR FEEDBACK

The CAA require evidence of engagement with other air users as part of the airspace change request process. We would therefore value your feedback close of business 20<sup>th</sup> November 2023 so that we can include this in our submission to the CAA. This feedback can be submitted in the following ways:

- 1. An email to <u>lucy@blackswansl.com</u> detailing any recommended changes to the TDA to improve safety or reduce impact on you or alternatively notifying that you are happy with the proposal.
- Setting up a call with us to give your feedback. We will take minutes of the call and get your approval of these minutes before submitting them to the CAA. Email <u>lucy@blackswansl.com</u> to do this.

Where possible, if feedback could be sent before the end of the engagement period this would be greatly appreciated. This affords Flylogix more time to work with you on any recommended changes to the TDA and collate your responses into a summary report for the CAA. Flylogix will send periodic reminders during engagement if no response has been received. If no response is received before the end of the engagement it will be assumed that you had no feedback.



# APPENDIX 1 TDA COORDINATES

TDAXXX		
Identification and Lateral Limits	Upper Limit/Lower Limit	
TDA XXXA	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N534630 E0001850		
N534334 E0002552		
N534124 E0000510		
N534442 E0000112		
N534630 E0001850		
TDA XXXB	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N540412 E0001120		
N540238 E0001818		
N534334 E0002552		
N534630 E0001850		
N540412 E0001120		
TDA XXXC	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N543322 E0012523		
N542935 E0012743		
N540238 E0001818		
N540412 E0001120		
N543322 E0012523		
TDA XXXD	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N543947 E0022024		
N543108 E0022432		
N542935 E0012743		
N543322 E0012523		
N543947 E0022024		



TDAYYY		
Identification and Lateral Limits	Upper Limit/Lower Limit	
ΤDΑ ΥΥΥΑ	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N534749 E0003256		
N534428 E0003719		
N534124 E0000510		
N534442 E0000112		
N534749 E0003256		
TDA YYYB	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N535422 E0004641		
N535422 E0005830		
N534428 E0003719		
N534749 E0003256		
N535422 E0004641		
TDA YYYC	Lower Limit: SFC	
Straight lines joining successively the following points:	Upper Limit: 1300FT AMSL	
N540646 E0003108		
N540820 E0011026		
N535422 E0011026		
N535422 E0003108		
N540646 E0003108		