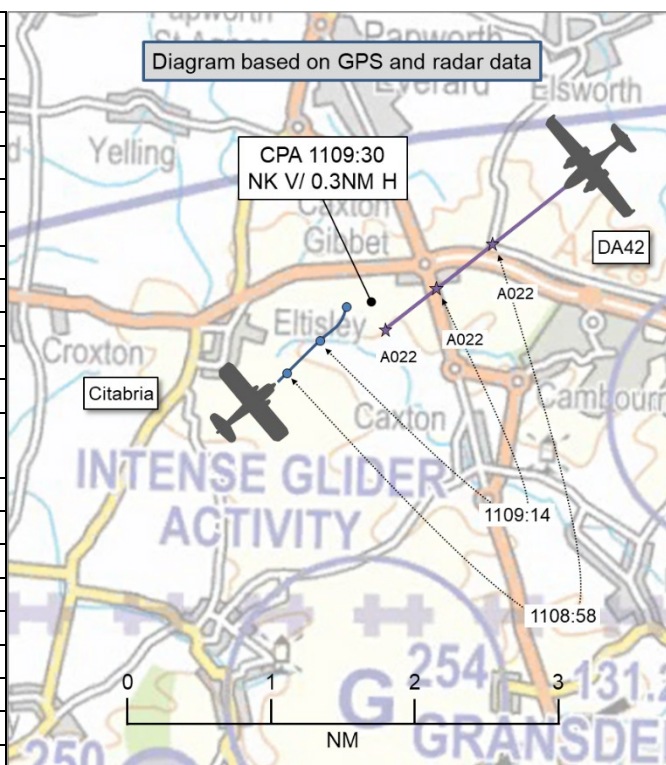


**AIRPROX REPORT No 2023189**

Date: 21 Aug 2023 Time: 1109Z Position: 5213N 00007W Location: 2.5NM N Gransden Lodge

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Citabria	DA42
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Gransden Lodge Traffic	N/A
Altitude/FL	NK	2200ft
Transponder	None <sup>1</sup>	A, C, S+
<b>Reported</b>		
Colours	Red	White, red
Lighting	Beacon	Strobes, nav, landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	NK
Altimeter	QFE	NK
Heading	225°	NK
Speed	NK	120kt
ACAS/TAS	Not fitted	SkyEcho
Alert	N/A	None
<b>Separation at CPA</b>		
Reported	20ft V/100m H	NK V/NK H
Recorded	NK V/0.3NM H	



**THE CITABRIA PILOT** reports that they were one of 8 or 9 glider-towing aircraft operating in the UK Junior Gliding Competition under NOTAM H2211/23. On the third or fourth tow, within 5sec of a glider-release at 2000ft, they started a descending right-turn back to base for the next glider tow when a DA42 flew past left-to-right across their flightpath, slightly higher than co-altitude. An evasive regulation right turn would have brought them into an increased risk of collision, so the immediate reaction was a hard-left bank. They notified the local traffic of the location of the DA42 on the Gransden Lodge frequency (used for the competition launch). Another pilot made a radio call as well and identified the registration of the DA42, but [the Citabria pilot] has been unable to identify the pilot who made that call. At the time of the incident, the competition launch meant that there were well in excess of 40 aircraft in the vicinity of Gransden Lodge.

The pilot assessed the risk of collision as ‘High’.

**THE DA42 PILOT** reports that their route had taken them close to Gransden Lodge glider site. They were aware that gliders would be airborne. They were already below the base of scattered cloud, and when they saw the main group off to their right, they descended even further, and accelerated away. The aircraft in question, [the Citabria], was not seen in the Class G airspace. The pilot of the DA42 reported that they had not been in receipt of an ATS at the time of the Airprox.

**THE CRANFIELD CONTROLLER** reports that they were one of the ATCOs on duty at the time [of the Airprox] and have no knowledge of the event. It was not reported on frequency.

<sup>1</sup> The pilot of the Citabria reported that the transponder fitted to their aircraft had Modes A and C. The Citabria was observed on radar as a primary contact only.

## Factual Background

A NOTAM describing intense gliding activity at Gransden Lodge:

H2211/23 NOTAMN  
Q) EGTT/QWGLW/IV/M /W /000/075/5211N00007W006  
A) EGTT B) 2308190900 C) 2308271800  
D) 0900-1800  
E) MAJOR GLIDING COMPETITION. INTENSE ACT WI 5NM RADIUS:  
521041N 0000653W (GRANDSDEN LODGE GLIDER SITE, CAMBRIDHESHIRE). UP TO  
75 GLIDERS PLUS TUG ACFT OPR. SEE SEPARATE DAILY NOTAM AND  
GLIDINGTASKS.CO.UK FOR GLIDER ROUTES OUTSIDE THIS AREA. FOR INFO  
07980 306435. OPS CTC 131.280MHZ. 2023-08-0028/AS3.  
F) SFC G) FL075

The weather at Cambridge was recorded as follows:

METAR EGSC 211120Z 21008KT 180V250 9999 FEW030 22/15 Q1023

## Analysis and Investigation

### Cranfield Airport Investigation

SATCO checked Flight Progress Strips (FPS), RT recordings and consulted the ADS-B system under test.

Neither aircraft were displayed on the ADS-B system. On first contact with Cranfield Approach, [the pilot of the DA42] requested a Basic Service, which was agreed, and reported that they were climbing to 2500ft. They changed frequency to Lakenheath at 1031 and reported back on the Cranfield Approach frequency at 1127, where a Basic Service was agreed. The FPS indicate that [the pilot of the Citabria] was not in receipt of a service from Cranfield on this date. An Airprox was not reported on either Cranfield frequency.

### [Flying School] Operations Investigation

The [Flying School] Operations publish a Glider Task Information plan gleaned from gliding clubs and associations whenever there are large glider activities expected, e.g. mass launches, competitions, etc. This is made available in the briefing area for all [company] crews to inspect when planning and briefing their flights. The plan for the day of the incident flight was not retained after being published.

The [pilot of the DA42] acknowledged that they had seen the Glider Task Information plan for the day before their flight. The glider tow and launch area spanned approximately 1.2NM west and north of Gransden Lodge. There were six powered aircraft flying a circular clockwise circuit from, and into, Gransden Lodge. These aircraft either had gliders in tow or had recently released them. A video playback suggested that more gliders were being winch-launched from the airfield. Gliders normally release from their tow or winch launch up to about 2000ft above ground level.

The [pilot of the DA42] tasked their trainee to carry out a practice diversion exercise to a disused airfield west of Gransden Lodge. Their route passed approximately 0.3NM north of the glider launch site, travelling in a south-westerly direction at approximately 1800ft AMSL.

On being asked about flying close to Gransden Lodge at 1800ft above ground level, the [pilot of the DA42] stated that "*there are gliders everywhere we fly, so we have to keep a good lookout*". They underestimated how intense the aircraft activity would be at and around the launch site.

The DA42 crew was not aware of an Airprox event until notified by the UK Airprox Board that a report had been filed by the pilot of one of the powered aircraft. It is not known if the powered aircraft had a glider under tow.

Being a contract employee, the [pilot of the DA42] had not been issued a company iPad and Bluetooth headset, which would have alerted them to ADS-B and [EC device] transmitting aircraft. The same applies to trainees.

Recommendations: 1. Raise risk awareness and provide guidance for avoidance of gliding launch sites for all pilots. 2. Ensure all company aircraft are equipped with electronic conspicuity equipment.

**UKAB Secretariat**

An analysis of the NATS radar replay was undertaken and the DA42 could be positively identified from Mode S data (see Figure 1). The pilot of the glider being towed by the Citabria provided GPS track data for their flight. Although not observed on radar, the location and timings from the GPS track data for the glider (towed by the Citabria until, reportedly, 5sec before CPA) broadly corresponded to a primary-only return seen on radar.

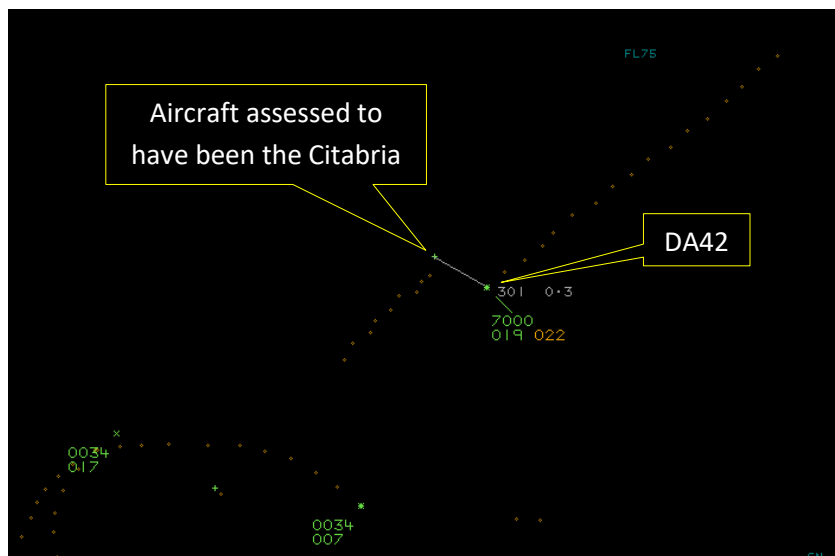


Figure 1 – CPA at 1109:30

Although there existed some lateral displacement between the GPS track and the radar track, the primary-only return was assessed to have been the Citabria (see Figure 2).

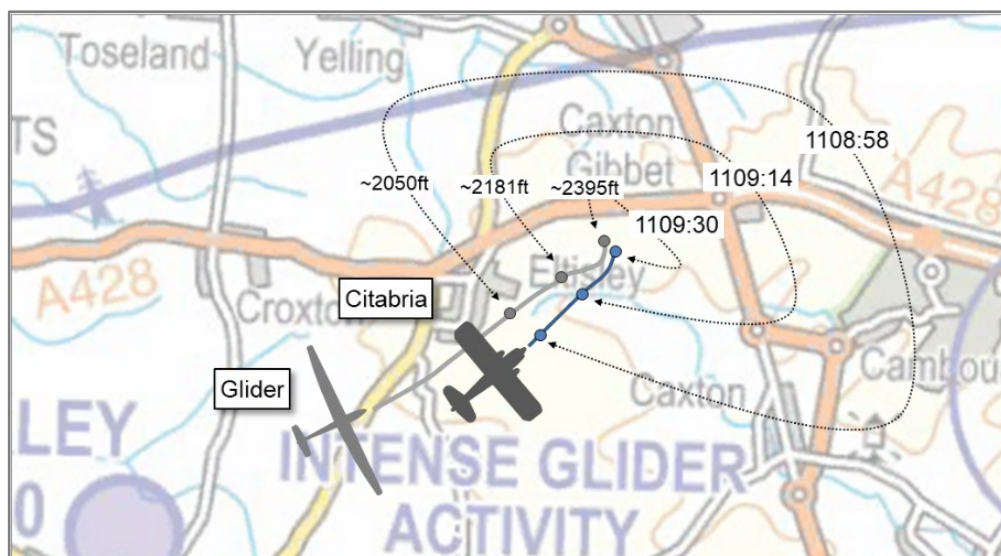


Figure 2 – The GPS track of the glider combined with the radar track of the Citabria

It was by combining the separate data sources that the diagram was constructed and the horizontal separation at CPA determined. The vertical separation at CPA could not be determined. The Citabria and DA42 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>2</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>3</sup>

## Comments

### AOPA

Many gliders may be launched in a short period of time during competitions which, individually, can be difficult to see. The pilot of the DA42 commented that “*there are gliders everywhere we fly, so we have to keep a good lookout*”. A common standard of EC would assist with mid-air collision avoidance.

### BGA

NOTAM H2211/23 was published to warn other airspace users of particularly intense activity in the vicinity of Gransden Lodge airfield during a national gliding competition on the 19<sup>th</sup> to 27<sup>th</sup> August 2023 (inclusive). On each of these days with appropriate weather, approximately 50 gliders were launched by aerotow from Gransden Lodge during a one-hour window, typically in the late morning. Non-competition launches were also conducted by both winch and aerotow outside these times, with the maximum winch launch altitude of 3300ft AMSL notified in UK AIP ENR 5.5 and on CAA VFR charts.

On this particular day, competition launches began at 1057, with 47 gliders aerotowed by 9 tow-planes over a period of 52 minutes until the last one took off at 1149 (i.e. an average of one departure every 67 seconds). All contestants released from tow at 2250ft AMSL to the north of Gransden Lodge (and inside the area covered by NOTAM H2211/23), after which their tow-plane immediately returned to the airfield for the next tow. Once off-tow, gliders initially remained in the vicinity (although not necessarily inside the NOTAM'd area), using thermal lift to maintain an operating altitude of approximately 1800-3000ft AMSL. Once all 47 competition gliders were in the air, contestants chose individually when to start the first leg of the day's racing task, in this case from Caxton Gibbet roundabout north-west to Alconbury, setting off no earlier than 1207.

The red markers in Figure 3 show the positions of the 15 competition gliders in the air at the time of the Airprox (1109:30), based on data from the secure GPS loggers carried by each contestant. These gliders' altitudes range from 720ft AMSL (while on tow) to 3050ft AMSL (i.e. soaring near cloudbase). At this time there were also six tow-planes flying in the NOTAM'd area between Gransden Lodge airfield and Caxton Gibbet at altitudes up to 2300ft AMSL; they are not shown in Figure 3. The blue marker shows the location of the Airprox.

The DA42 operator is to be commended for ensuring its pilots are aware of relevant gliding activity. Launch operations for every major UK gliding competition are each notified via a NOTAM similar to H2211/23, giving both a telephone number and VHF radio channel where more information will be available each day, including detailed launch timings and the route that contestants will follow after starting their task. This route is also published via a separate daily NOTAM, although because of weather dependencies, this cannot be submitted to the NOTAM office before the morning of the day in question. Daily competition tasks are also published on the <https://glidingtasks.co.uk> website. As an example, here's how the 21st August 2023 task was listed:

<https://glidingtasks.co.uk/tasks/gransden/date/2023-08-21/>

The DA42 operator is also to be commended for equipping its aircraft with a TAS compatible with the electronic conspicuity equipment fitted to almost all UK gliders. If the DA42 pilot and/or trainee

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<sup>2</sup> (UK) SERA.3205 Proximity.

<sup>3</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.



had been in possession of the necessary iPad and headset, it's very likely that they would have received adequate EC warning from several of the 20 suitably-equipped gliders and tow-planes flying within the NOTAM'd area at the time of CPA.

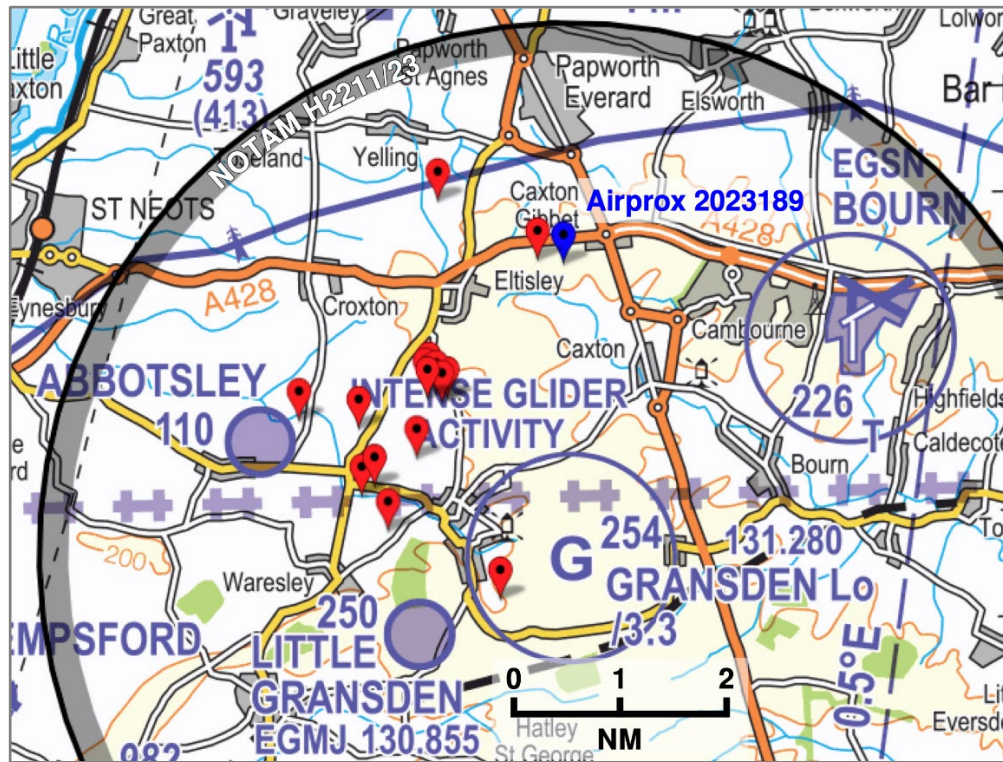


Figure 3 - Locations of the 15 launched competition gliders at the time of CPA

## Summary

An Airprox was reported when a Citabria and a DA42 flew into proximity 2.5NM north of Gransden Lodge at 1109Z on Monday 21<sup>st</sup> August 2023. Both pilots were operating under VFR in VMC, the Citabria pilot listening-out on the Gransden Lodge frequency and the DA42 pilot not in receipt of an ATS.

## PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data, a report from the air traffic controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the actions of the pilot of the Citabria. A member with particular knowledge of gliding operations explained that a national gliding competition had been underway, and that a NOTAM had been in place for intense gliding activity within a 5NM radius of Gransden Lodge. The member was aware that 21 competition-related aircraft (gliders and associated tow-aircraft) had been within the NOTAM'd area at the time of CPA. It was also explained that a subsequent NOTAM, one that would have provided details of the routing of the gliding competition on the day in question, had been prepared but had not been issued.

Members noted that a primary-only contact had been observed on the NATS radar replay and, by combining the GPS track and altitude data from the glider that had been towed by the Citabria (which had been released in the seconds before CPA) it was assessed that the Citabria had been at approximately 2200ft. Members noted that this seemed to have been in accordance with their understanding that all competition gliders launched by aerotow that day had been released at 2250ft.

In consideration of the matter of the EC equipment fitted to the Citabria, members noted that the transponder had appeared to have been non-functional and that there had not been an additional EC device in use. Members agreed that the pilot of the Citabria had not had situational awareness of the presence of the DA42 (CF4). Members next discussed the avoiding action that the pilot of the Citabria had taken once the DA42 had been visually acquired. Noting that the description of the avoiding action suggested that some urgency had been necessary, members agreed that the DA42 had been sighted late (CF5). Surmising that the pilot of the Citabria had been under an operational pressure to return to Gransden Lodge swiftly once they had released the glider, one member wondered whether the Citabria pilot had performed an adequate lookout when commencing their right turn.

Members turned their attention to the actions of the pilot of the DA42. It was noted that they had been aware that gliders would be in the area of their planned route. Notwithstanding the active NOTAM that had provided a caution of intense gliding activity within 5NM of Gransden Lodge, members noted that the VFR chart for the area is also marked with a similar caution. The discussion turned to the EC equipment fitted to the DA42. Members noted that, whilst the equipment itself had been compatible with the most popular EC device typically fitted to gliders, and may have provided an alert to the multitude of gliders in the area that day, the pilot of the DA42 had not been in possession of a headset or iPad that would have presented the alert for them to have noticed. Members were puzzled, firstly that the pilot of the DA42 had not sought to have taken such equipment with them on the flight and, secondly, in the knowledge that they might encounter glider traffic without an electronic means to have been alerted to their proximity, that they had planned their route to pass so close to a particularly active gliding site. Members felt that the pre-flight planning and preparation for their flight had been not fully considered the implications of the NOTAM'd glider competition (CF2). Additionally, members noted that the pilot of the DA42 had not contacted Gransden Lodge to transmit their intention to transit through the area, nor had they been in receipt of a FIS from an appropriate service provider (CF1). Further, members were in agreement that the pilot of the DA42, in their role as an instructor, had not demonstrated appropriate flight planning practices to their student (CF3).

Members agreed that the pilot of the DA42 had held generic situational awareness of the presence of gliders (CF4), and it was noted that they had sighted a group of gliders in the vicinity. However, it was agreed that the DA42 pilot had not sighted the Citabria (CF6).

Concluding their discussion, and in determination of risk, some members suggested that, whilst safety had been degraded, the avoiding action taken by the pilot of the Citabria, and the resulting separation between the aircraft, had been sufficient that there had been no risk of collision. Other members proffered that the inadequate planning of the instructional sortie by the pilot of the DA42, that they had not anticipated the intensity of aerial activity in the area and that they had not sighted the Citabria, had eroded safety margins to such an extent that a genuine risk of collision had existed (CF7). The latter view prevailed and the Board assigned Risk Category B to this event.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2023189				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
1	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
3	Human Factors	• Mentoring	Events involving the mentoring of an individual	

4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• See and Avoid				
5	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
• Outcome Events				
7	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Safety Barrier Assessment<sup>4</sup>

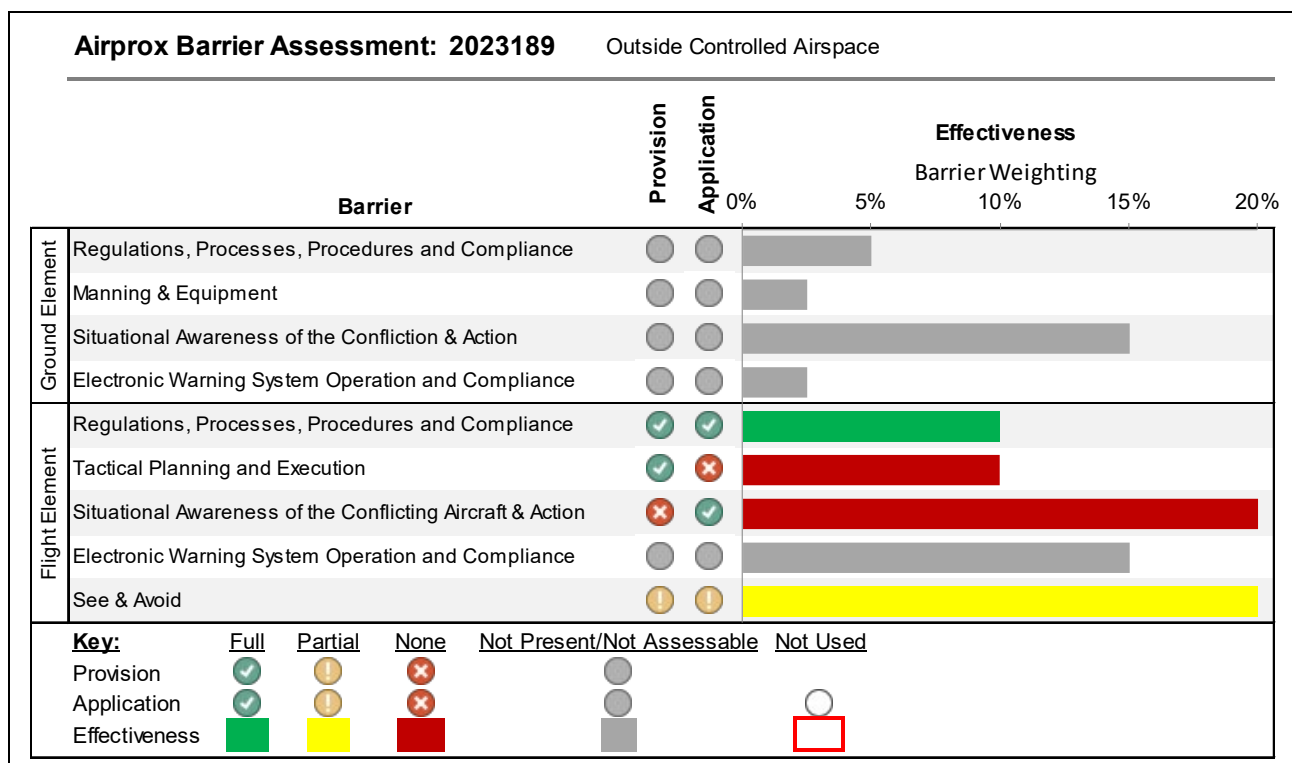
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **ineffective** because the pilot of the DA42 had transited through an area of intense glider activity and had not transmitted their intentions on the Gransden Lodge Traffic frequency.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the pilot of the Citabria had not had situational awareness of the presence of the DA42.

**See and Avoid** were assessed as **partially effective** because the pilot of the Citabria had sighted the DA42 late.



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).