



**ELECTRIC
AVIATION**

Section 5

Updated Airspace Change Proposal

5.0 Updated Airspace Change Proposal

We present this updated proposal based on the feedback and having reflected on both the first and second stakeholder engagement periods.

5.1 Feedback sought

We have now received active feedback regarding this Airspace Change Proposal from the following organisations:

We have received positive feedback regarding the proposed routes from:

- BAE Warton
- BAE Systems Submarines
- EDF Energy
- ATC Walney Island
- Blackpool Airport
- Skydive NorthWest/Cark Airfield
- Black Knights Parachuting/Cockerham Airfield
- HEMS including North West and Great North Air Ambulances
- National Police Air Service
- British Nuclear Constabulary
- Bay Search & Rescue
- MOD
- Duchy of Lancaster
- Network Rail
- National Grid
- Westair
- ANT
- Lakes Gliding Club
- Cumbria Soaring Club
- Numerous individual Paragliders
- North West Kite Club
- Lancaster and Morecambe Model Aircraft Club
- North West Balloon and Airship Club
- Multiple GA pilots (non microlight)
- Multiple Commercial Pilots (rotary and fixed wing)
- University Morecambe Bay NHS Foundation Trust
- Lancaster City Council
- Lancashire County Council
- Lancashire Local Enterprise Partnership
- University of Central Lancashire
- Bay Flying Club
- Attitude Airsports
- Numerous individual Microlight pilots operating out of Rossall Field airstrip
- Several local Paramotor pilots

5.2 Proposed routes

The proposed routes are now presented:

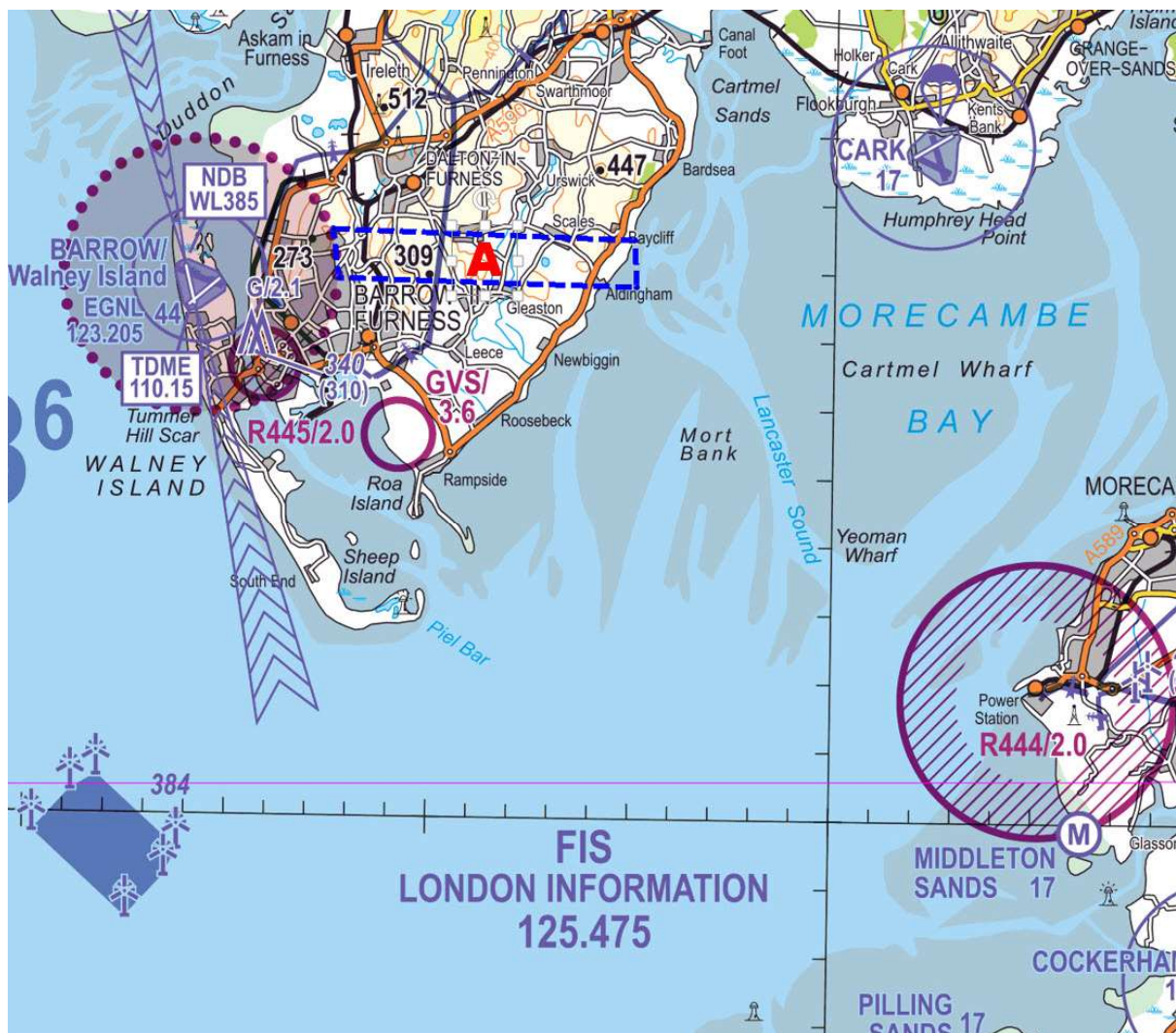
5.2.1 All Routes

The TDA has been segmented into sectors annotated A,B,C,D,E,F,G,T



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

5.2.2 Sector 'A'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

Sector 'A' routes from Furness General Hospital to the Coast.

It has been sub-divided to allow testing and operations to take place working from the coast to Furness General Hospital. Furness General Hospital sits half under, half outside of Walney Islands ATZ. Working with Walney Island airfield we have established that we will consider all of the hospital site as part of the ATZ and thus will liaise with the airfield through radio communications before entering the site. This sector abuts the ATZ such that if required the RPAS may route and land at the aerodrome. We moved the eastern end of the TDA in a northerly direction to accommodate the North Kite Flying Club, who occasionally NOTAM their activities, although this is predominantly at weekends.

Sector 'A' is a constructed from four points:

54° 8' 33.9" N 3° 12' 28.008" W
54° 8' 27.672" N 3° 4' 57.288" W
54° 7' 46.452" N 3° 4' 52.356" W
54° 7' 51.096" N 3° 12' 18.504" W

Extending up to 709' AMSL
(400' AGL)

5.2.3 Sector 'B'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

Sector 'B' routes from the Cumbrian coast near Aldingham to a central point at the north end of Morecambe Bay. It is one of a number of sectors that are designed to route the RPAS around Morecambe Bay.

Its location south of the parachute drop zone at Cark airfield has been made in agreement with SkyDiveNorthWest, the operators at Cark. It is also designed to allow pilots wishing to land on the beach at Barsdea the airspace to do this. We received

GPS modelling of a typical landing and climb out of a microlight from a microlight pilot landing at Bardsea in a typical south westerly wind and have checked to ensure that the TDA does not infringe with their climb out. We have liaised with Bay Rescue who operate SAR drones at the Easterly end of this sector and have agreed notification protocol should they require access when the TDA is activated.

Sector 'B' is a polygon from four points:

54° 8' 27.096" N 3° 6' 0.648" W

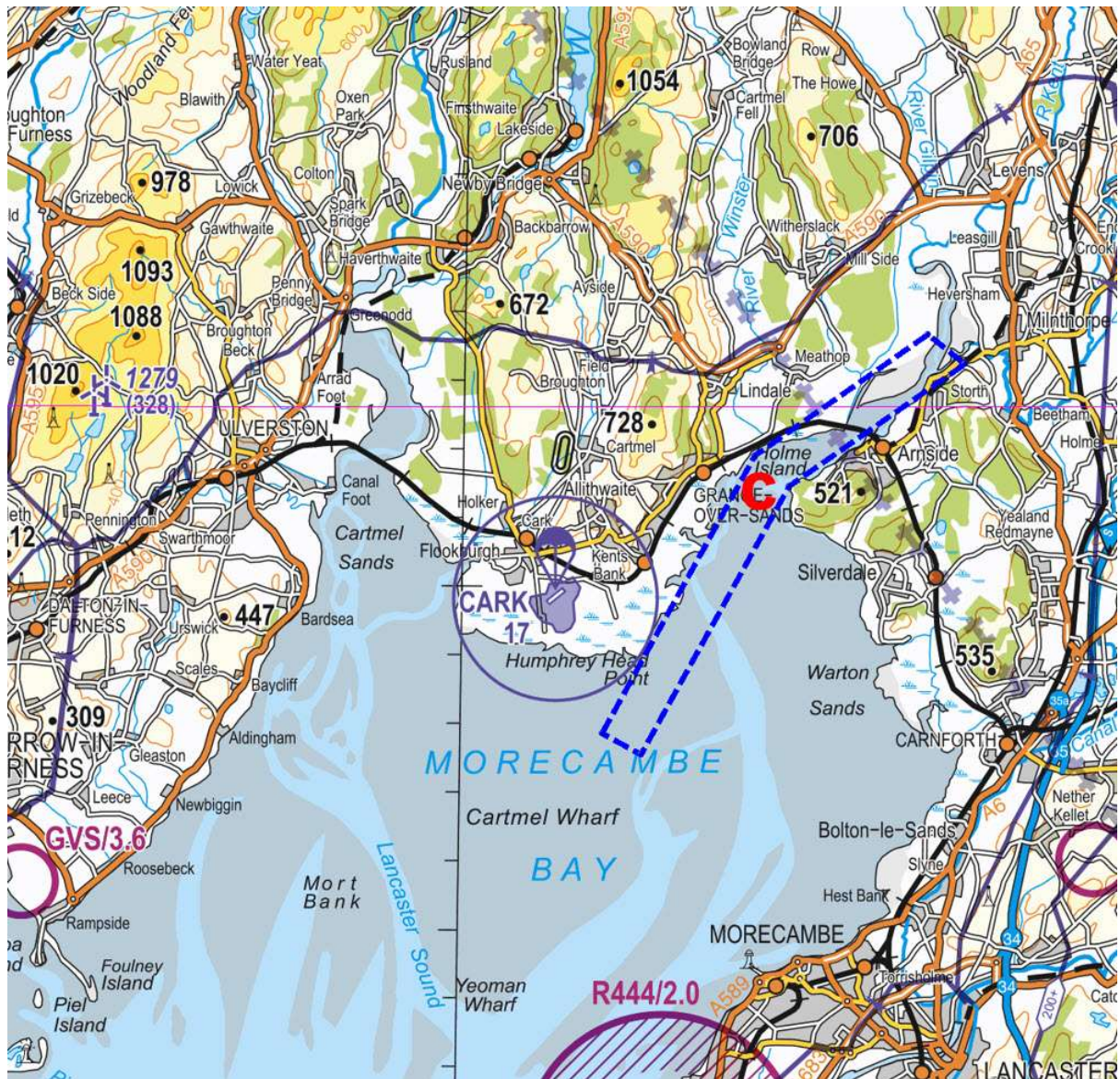
54° 8' 18.96" N 2° 55' 9.408" W

54° 7' 43.212" N 2° 55' 10.812" W

54° 7' 46.632" N 3° 6' 2.34" W

Extending up to 400' AMSL

5.2.4 Sector 'C'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

Sector 'C' routes from the northern end of Morecambe Bay up to Storth in Cumbria. It is designed to allow the RPAS to route from Morecambe Bay following the Kent estuary.

Its design has taken input from the paragliding community who operate from nearby Whitbarrow Scar. We have also taken note of the Osprey site at Foulshore and have routed this sector deliberately to the east to avoid this.

At the eleventh hour we received notification from the BMAA that this sector is located over two potential microlight beach landing sites.

We believe that our flight schedule, coupled with the tides will not present a problem, especially with a DACS service in operation.

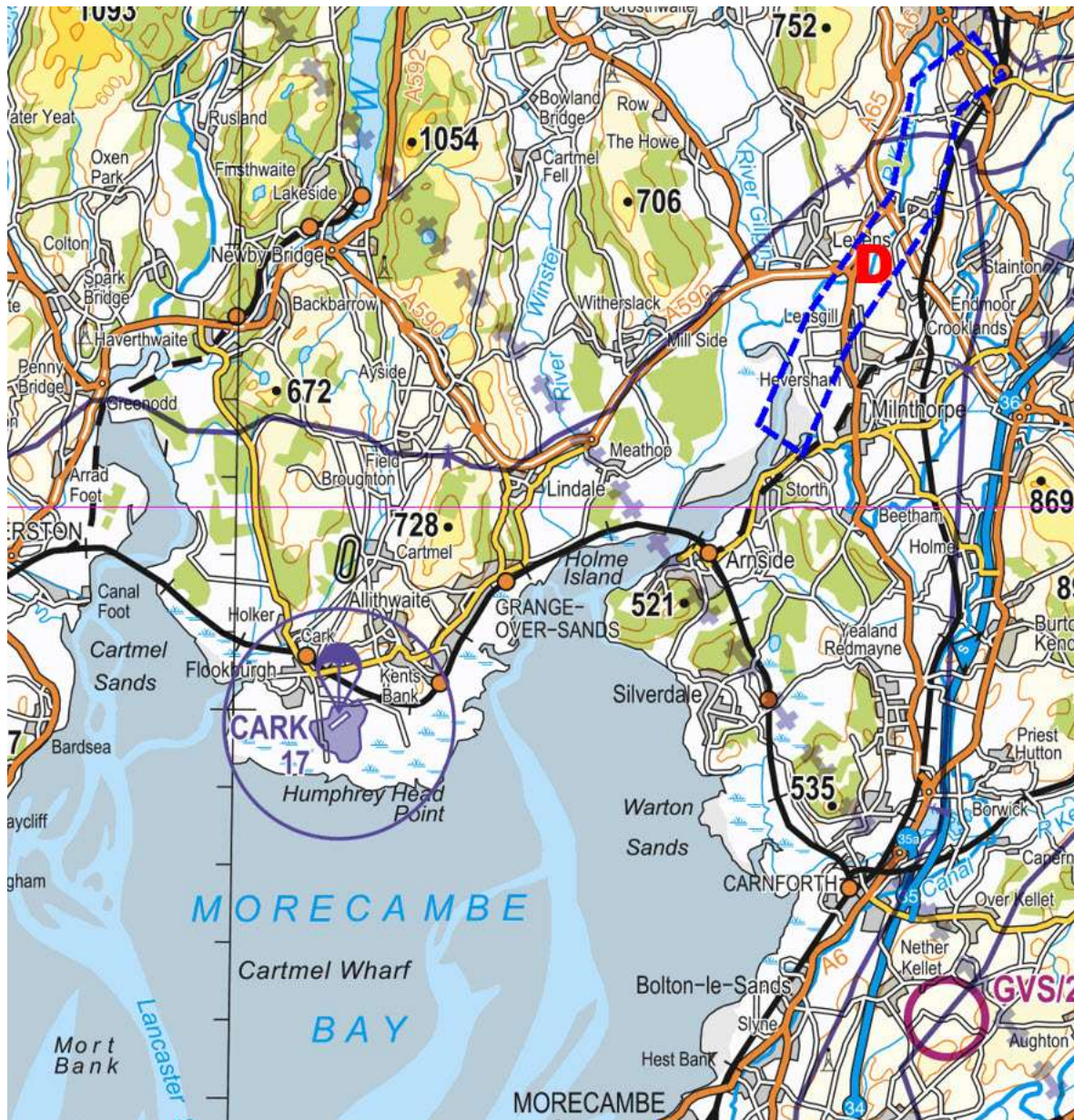
We would refer the reader to section 1.31 with regards landowner permissions for these specific claims by the BMAA with regards such landing sites.

Sector 'C' is a polygon from six points:

54° 7' 51.744" N 2° 56' 27.6" W
54° 11' 56.256" N 2° 52' 45.516" W
54° 13' 43.5" N 2° 48' 28.836" W
54° 13' 18.12" N 2° 47' 33.792" W
54° 11' 29.904" N 2° 51' 54.432" W
54° 7' 33.492" N 2° 55' 29.316" W

Extending up to 422' amsl (400' agl)

5.2.5 Sector 'D'



NOT FOR NAVIGATIONAL USE

Reproduced with permissions from CAA/Ordnance Survey

Sector 'D' extends from sector 'C' up to Westmoreland General Hospital.

Its route is designed to miss the villages of Levens and Hevensham.

Following input from various paraglider pilots its route has been moved to the east to avoid being a problem to paragliders departing from Brigsteer. It has also been moved to prevent access issues for Kendal Model Flying Club.

It was mooted that this sector may impact microlight pilots routing to Windermere from the south, however at only 400' agl this is unlikely to impact said traffic.

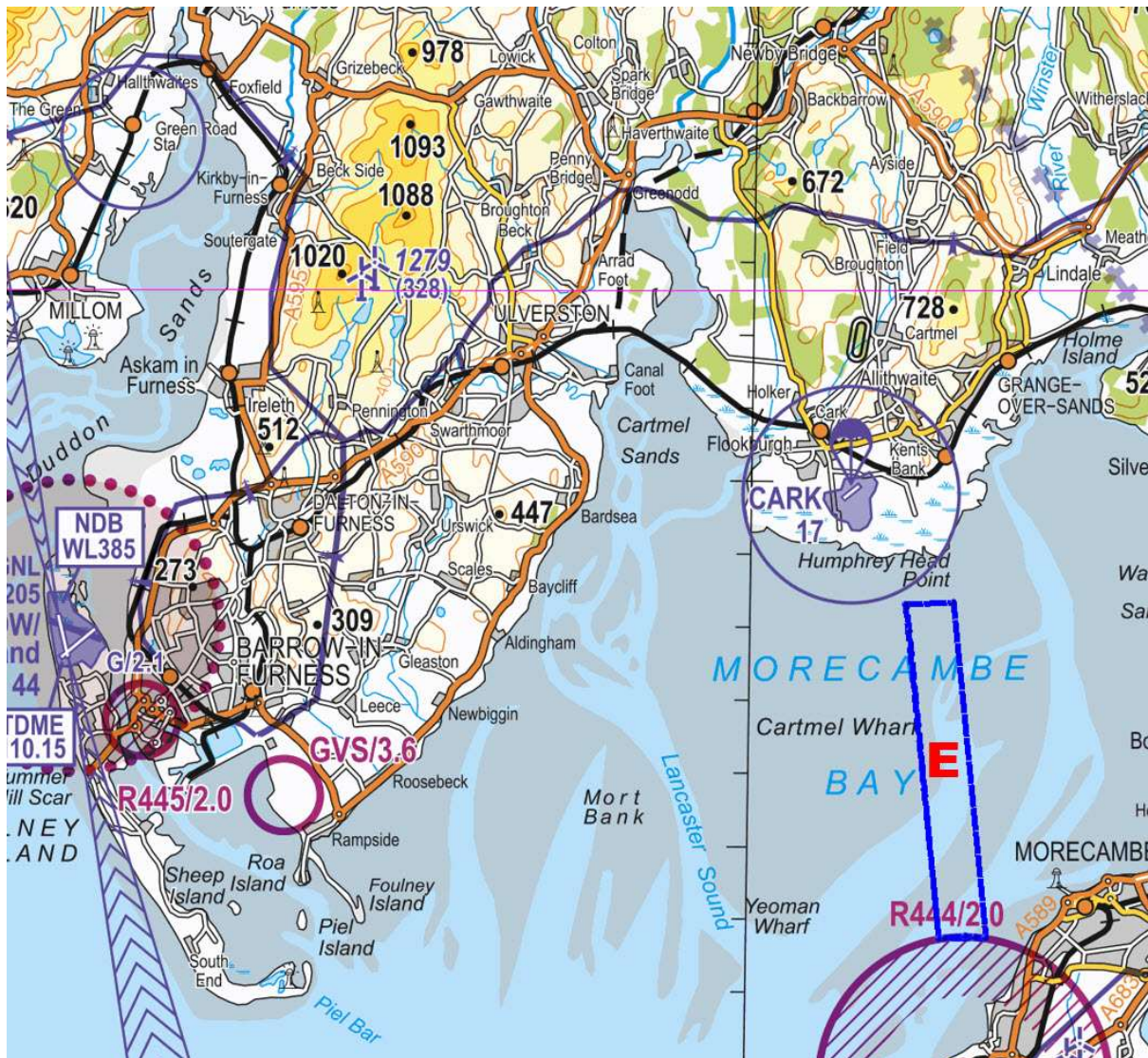
We received a request from the National Trust to avoid overflight of Sizergh castle. Whilst airspace is sovereign and not under the control of the landowner, we have accommodated their request within this sector design.

Sector 'D' is a polygon from ten points:

54° 13' 44.292" N 2° 48' 30.204" W
54° 15' 9.252" N 2° 47' 29.616" W
54° 16' 44.22" N 2° 45' 38.16" W
54° 18' 12.204" N 2° 45' 11.196" W
54° 18' 47.88" N 2° 43' 53.256" W
54° 18' 17.28" N 2° 43' 12.36" W
54° 17' 50.748" N 2° 44' 10.356" W
54° 16' 30.036" N 2° 44' 38.436" W
54° 14' 51.432" N 2° 46' 30.324" W
54° 13' 21.252" N 2° 47' 31.776" W

Extending up to 680' AMSL (400' AGL)

5.2.6 Sector 'E'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

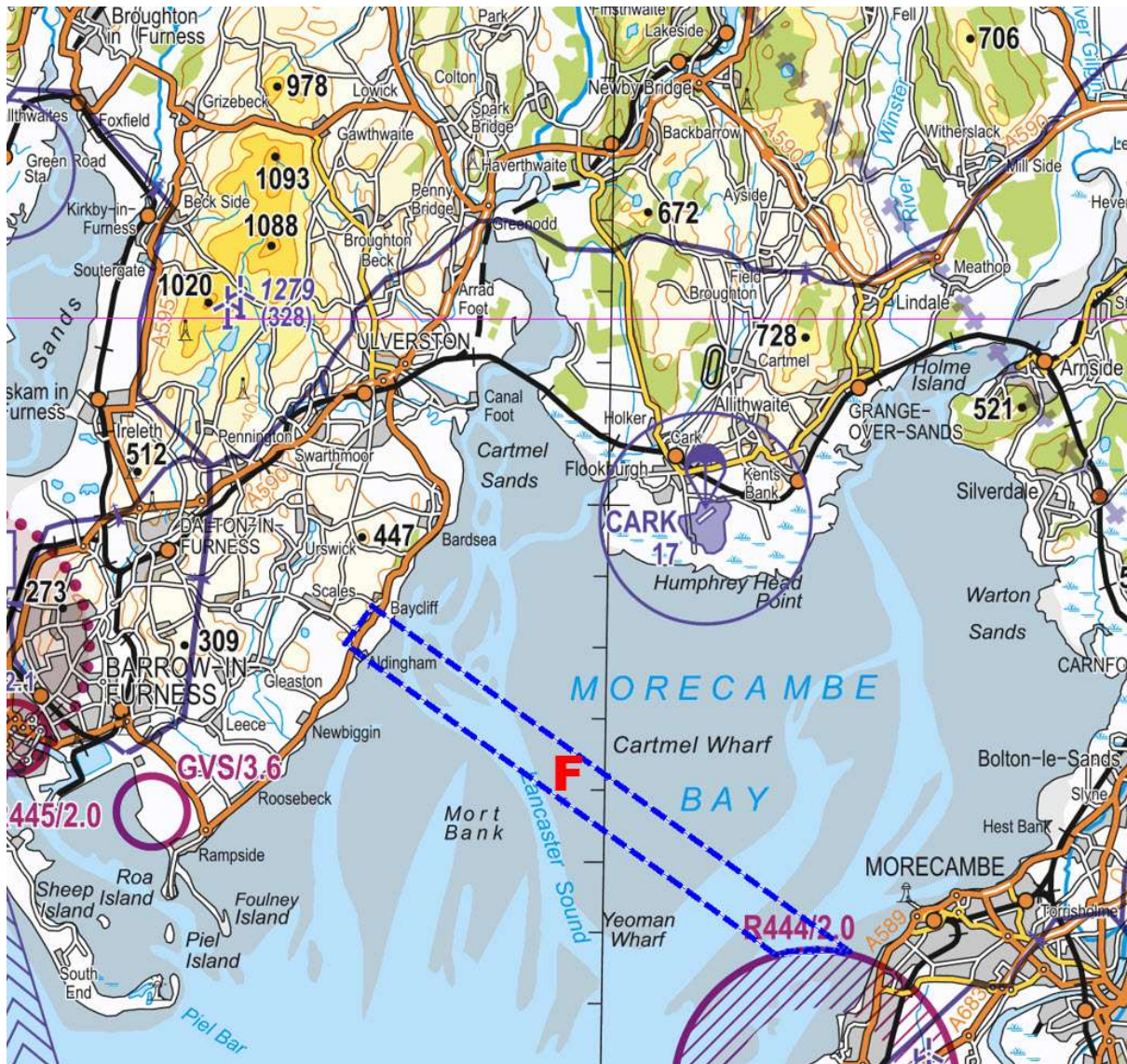
Sector 'E' routes from Cartmel Wharf at the Northern end of Morecambe Bay down to R444, the Heysham Restricted Zone. It is designed to provide a route into R444 for the RPAS when travelling down from Westmorland General Hospital.

Sector 'E' is a polygon from four points:

- 54° 8' 18.924" N 2° 56' 20.4" W
- 54° 8' 21.192" N 2° 55' 13.656" W
- 54° 3' 45.756" N 2° 54' 22.824" W
- 54° 3' 44.928" N 2° 55' 29.064" W

Extending up to 400' AMSL (400'AGL)

5.2.7 Sector 'F'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

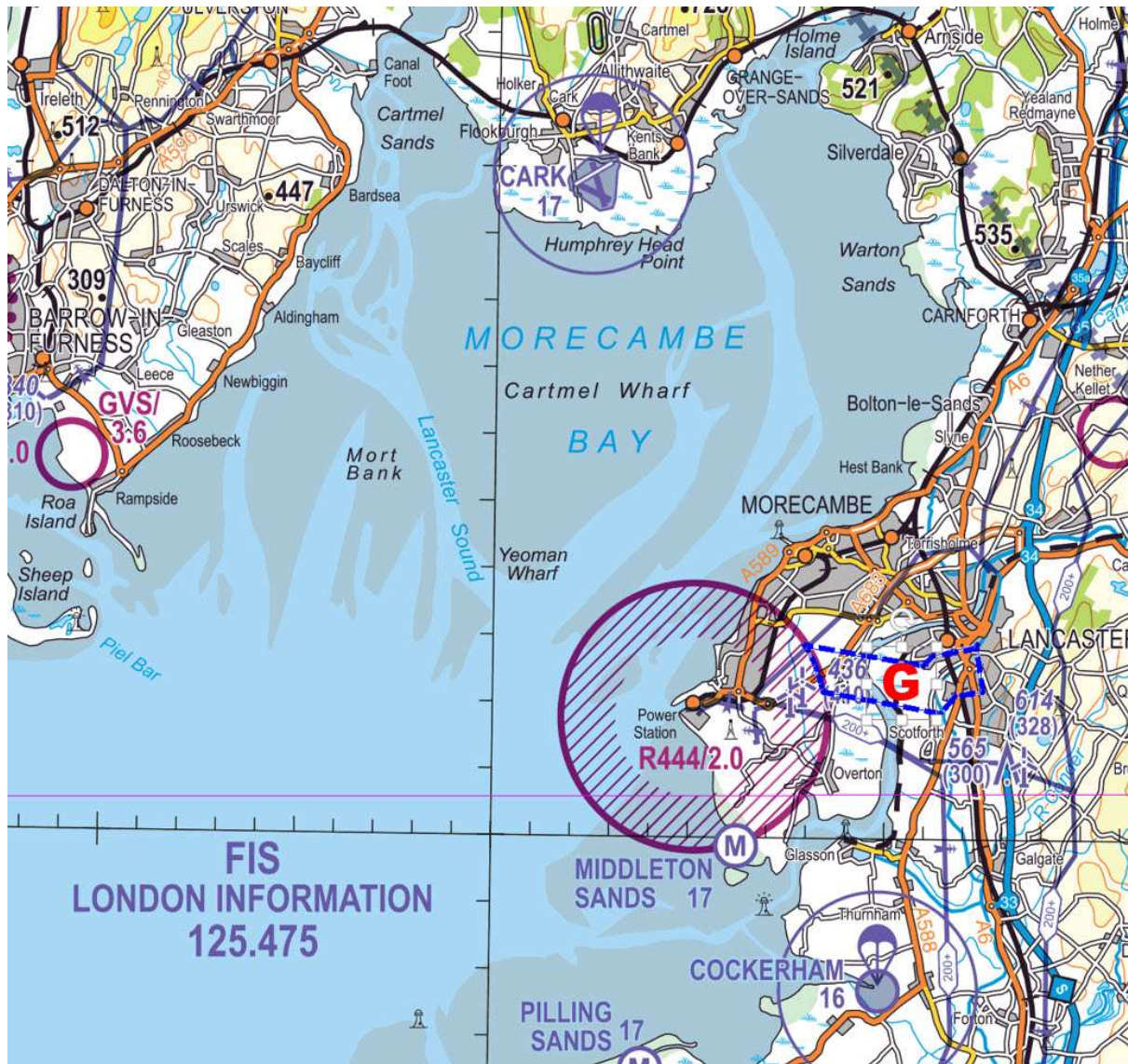
Sector 'F' is a route from the Cumbrian coast over to the R444 restricted zone. All at sea level the sector presents little limitations to other airspace users.

A polygon from four points:

54° 3' 44.928" N 2° 54' 3.816" W
54° 3' 42.048" N 2° 55' 49.872" W
54° 7' 59.124" N 3° 6' 14.472" W
54° 8' 30.948" N 3° 5' 36.636" W

Extending up to 400' AMSL (400' AGL)

5.2.8 Sector 'G'



NOT FOR NAVIGATIONAL USE

Reproduced with permissions from CAA/Ordnance Survey

Sector 'G' is the route from Lancaster Royal Infirmary to R444. It has been designed to overfly the minimum number of buildings when routing from the hospital out to Morecambe Bay and to follow the Canal out to open fields.

The route stays north of the main National Grid pylons and uses them as a form of protection from low flying aircraft travelling south to north, east of R444.

Keeping the route away from the M6 was advised by Barry Light from Moss Edge Flying Field next to Rossall Field, south of Cockerham parachute centre. The M6 forming a natural route for aircraft operating North/South who wish to not overfly the bay.

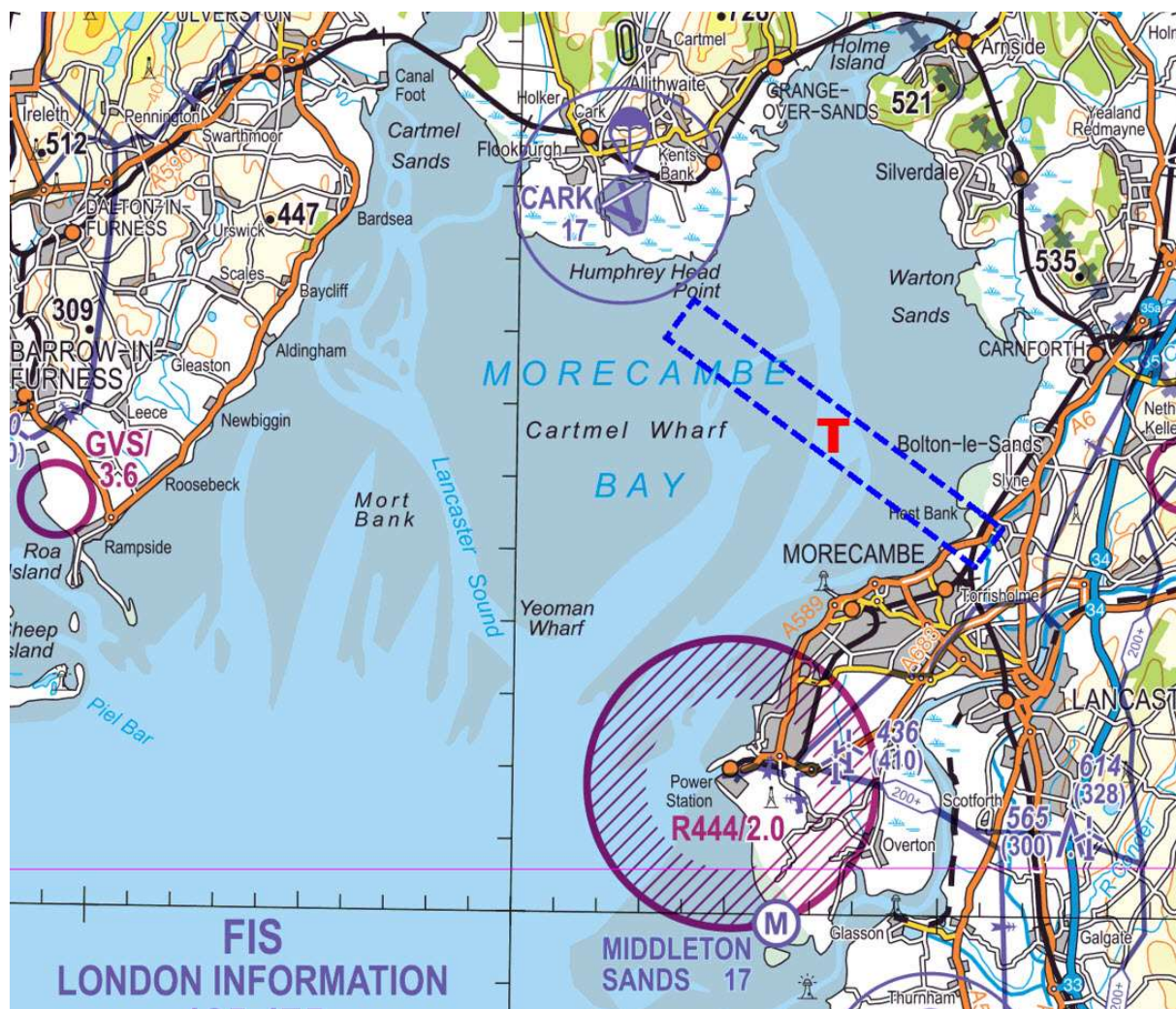
The route has also taken into consideration the activities of military rotary traffic who often NOTAM operations out of Halton Barracks to the North East of Lancaster City.

Sector 'G' is a polygon from eight points:

- 54° 2' 54.348" N 2° 47' 37.68" W
- 54° 2' 12.012" N 2° 47' 27.456" W
- 54° 2' 7.944" N 2° 48' 10.584" W
- 54° 1' 52.464" N 2° 48' 31.752" W
- 54° 2' 10.176" N 2° 51' 31.644" W
- 54° 2' 50.1" N 2° 51' 58.752" W
- 54° 2' 34.512" N 2° 48' 58.932" W
- 54° 2' 43.908" N 2° 48' 46.044" W

Extending up to 615' AMSL (400' AGL)

5.2.9 Sector 'T'



NOT FOR NAVIGATIONAL USE
Reproduced with permissions from CAA/Ordnance Survey

Sector 'T' is a test area, designed to allow flight testing and communication tests with the associated ATC units. It enables the RPAS to fly and test procedures both aviation and healthcare out to sea and back.

Its location has been designed to permit microlight aircraft wishing to land at Red Bank Farm to do so and to climb out with enough airspace to miss the TDA.

It is a polygon created from four points located at:

54° 8' 29.004" N 2° 55' 50.376" W

54° 5' 21.228" N 2° 48' 29.88" W

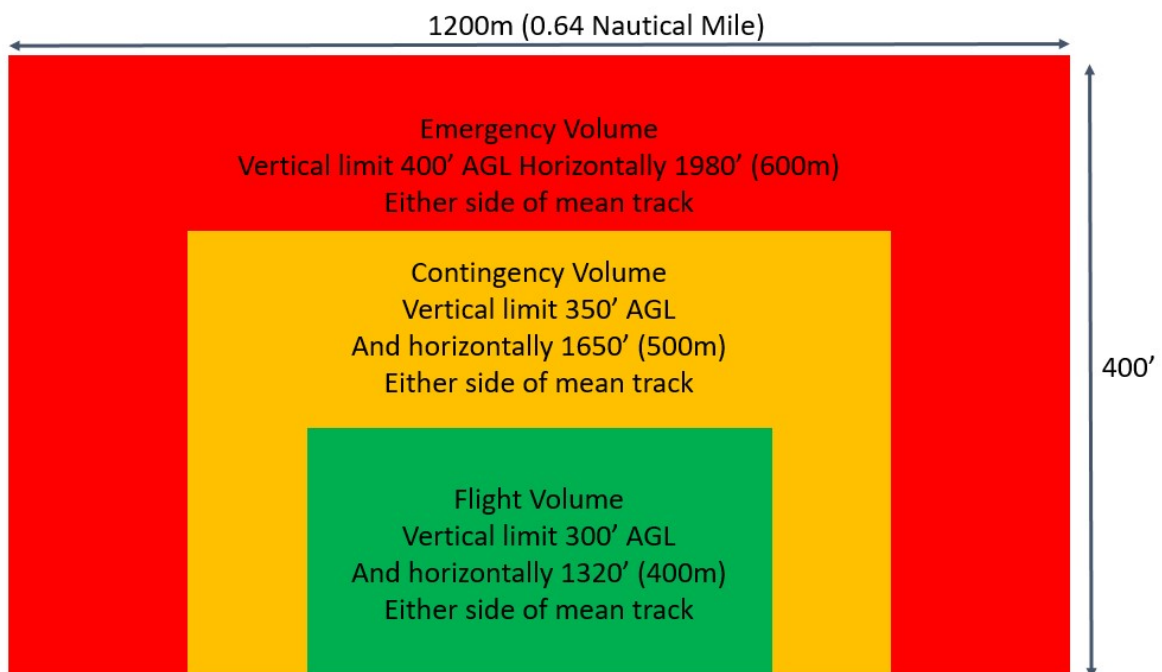
54° 4' 48.612" N 2° 49' 9.012" W

54° 7' 55.524" N 2° 56' 29.58" W

Extending up to 400' AMSL (400' AGL)

5.3 Flight Volumes

The flight volume for the TDA is as shown below:



5.4 Flight Schedule Considerations

Working with the various airspace users, we have taken on-board their thoughts with regards our hours of operations, along with analysis of NHS operations.

We have been asked to operate as close to midday as possible, by the North West Balloon and Airship Club as this will have the least impact on their commercial operations and we will try and accommodate this. This is particularly important to the balloon pilots with regards the operations within sector 'D'

The BMAA have cited several beach landing sites, which obviously are only available when the tide is out. It is not our place to comment on the legality of such landings. We will however, consider the tides activities when looking at our flight schedule and try wherever possible to fly at times such that the tide means that beach landings are not possible.

For the 90 day TDA, it is our intention to operate a schedule similar to that listed below:

Weeks 1 & 2 Test Zone T active for flight and communication tests

Week 3 Zones T,B,A active for Furness General Test

Week 4 Zones T,C,D active for Westmorland General Test

Week 5 Zones A,B,C,D active for Furness to Westmorland Test

Week 6 Zones T,E,F,A active for R444 Test

Week 7 Zone G active for Lancaster Royal Infirmary to R444 Test

Week 8 Zones G,F,A active for Lancaster Royal Infirmary to Furness General Tests

Weeks 9-12 Zones A,B,C,D,E,F,G active for month long full flight campaign

The TDA will only be active between 9am to 5pm, Monday to Friday only.