

# UK AIP KMZ User Guidance

**NATS**

A decorative graphic consisting of two thick orange lines that start from the left edge of the page and curve downwards and then upwards to form a large, stylized loop on the right side of the page.

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# Table of contents

<b>1. Purpose</b>	<b>3</b>
1.1. The purpose of KMZ files	3
<b>2. Limitations</b>	<b>4</b>
2.1. Navigation	4
2.2. Arcs and Circle Geometry	6
2.3. Great Circle Geometry	7
2.4. ATS Route Lateral Limits	7
2.5. Aerodrome Obstacles	8
2.6. Co-ordinate Overlays	9
2.7. Timespan	10
2.8. Coastline Data	11

# 1. Purpose

## 1.1. The purpose of KMZ files

The purpose of the KMZ files is to allow the user to overlay official UK AIP data with a “best fit” visual presentation. The content of the KMZ files are not official representation of the UK AIP data as they are simply examples of the potential usage of datasets.

## 2. Limitations

When converting aeronautical data into the KMZ file structure there are limitations which can result in the original definition being corrupted.

There are also limitations of the visualisation program Google Earth when viewing the data.

The following paragraphs describe these limitations.

### 2.1. Navigation

Once the KMZ has been loaded in Google Earth, all features will be displayed. It is advisable to turn off all layers of the folder at first and select specific features to view. All features are grouped into various subfolders in the 'Places' section in the navigation panel, the features are separated into four main sub-folders – Airspace, Routes, Navaids, and Aerodromes. Within these folders are further sub-folders which separate the features into further groups, e.g. in the example below Airspace is separated into folders of Airspace Type, then further sub-folders of Airspace Class for each Airspace Type.

Different types of feature are displayed in different colours or symbols. To see more details about a feature, click on it in the main window and a pop-up will be displayed with further data as shown below for a runway threshold

▼ Places

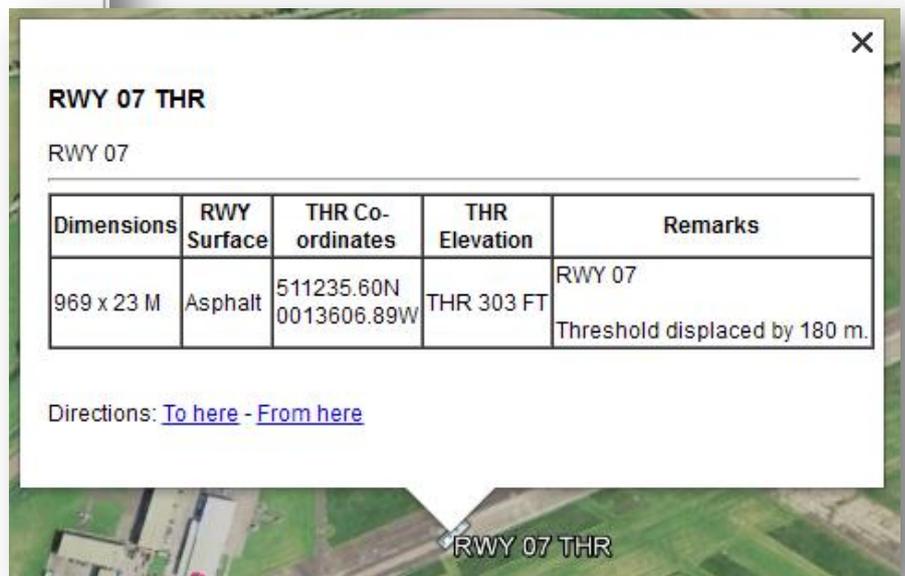
- UK eAIP 3d AIRAC 01-17.kmz  
Created by NATS AIM on 12/01/2017 12:10:17  
using data effective 2017-01-05T01:00:00.000Z.
- Airspace
  - CTA
    - Class A
    - Class C
    - Class D
  - CTR
  - TMA
  - FIR/UIR
  - Danger
  - Restricted
  - Prohibited
  - ATZ/TMZ
  - D-OTHER
- Routes
  - Lower
    - Lower - Lateral
    - Upper
    - Upper - Lateral
  - RNAV
  - RNAV - Lateral
- Nav aids
  - Significant points
  - VOR
  - NDB
  - DME
- Aerodromes
  - ABERDEEN/DYCE - EGPD
    - ABERDEEN/DYCE - EGPD
  - ARP co-ordinates: 571209N
  - Runways
  - ILS
  - Obstacles
  - ALDERNEY - EGJA

**RWY 07 THR**

RWY 07

Dimensions	RWY Surface	THR Co-ordinates	THR Elevation	Remarks
969 x 23 M	Asphalt	511235.60N 0013606.89W	THR 303 FT	RWY 07 Threshold displaced by 180 m.

Directions: [To here](#) - [From here](#)



## 2.2. Arcs and Circle Geometry

Google earth is unable to plot circle or curve/arc geometry, therefore all airspace geometry containing arcs or circles is plotted by splitting the vertex into a large number of small lines along the vertex. An example of this can be seen in below as a side-on view of a circle geometry.

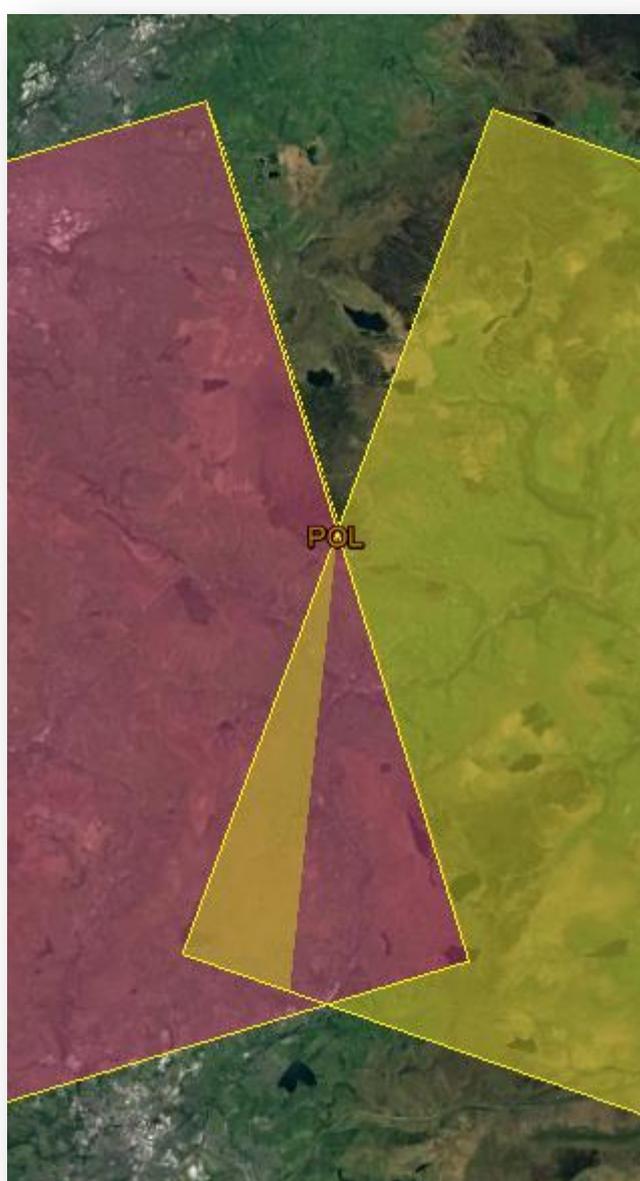


### 2.3. Great Circle Geometry

It is not possible to plot 3d polygon vertices as great circles in Google Earth, therefore a 2d file has been provided to show a more accurate representation of features with great circle geometries, in which all lines are clamped to ground.

### 2.4. ATS Route Lateral Limits

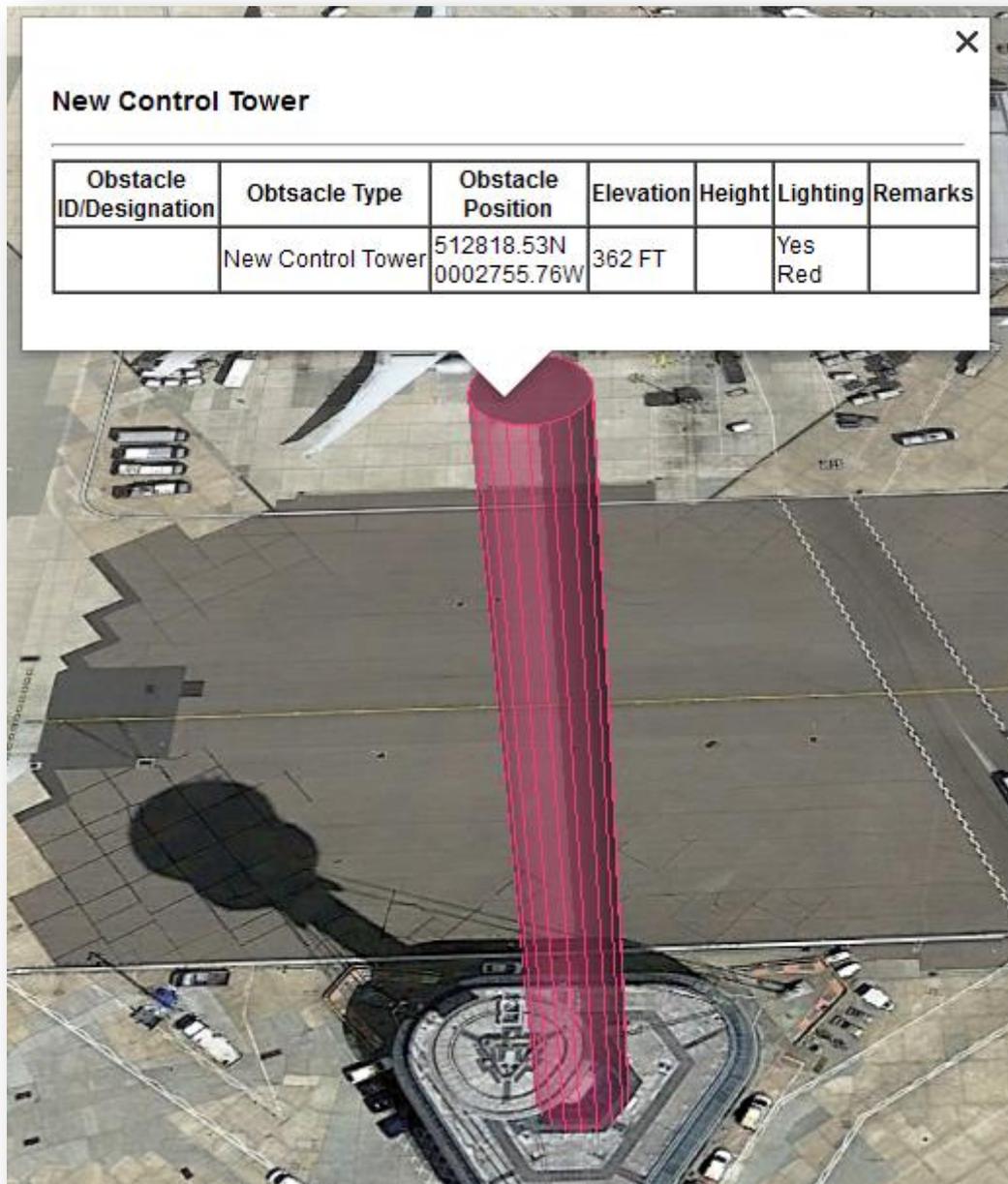
The folders containing lateral limits of routes is only a calculated estimate of a routes lateral limits, and is by no means an accurate portrayal of the route. The lateral limits are represented by calculating the position of the 4 corners of the segment; each point is offset 90° perpendicular to the centreline and half the segment width away. This representation can be particularly inaccurate at turning points, as illustrated in Figure 2 below.



## 2.5. Aerodrome Obstacles

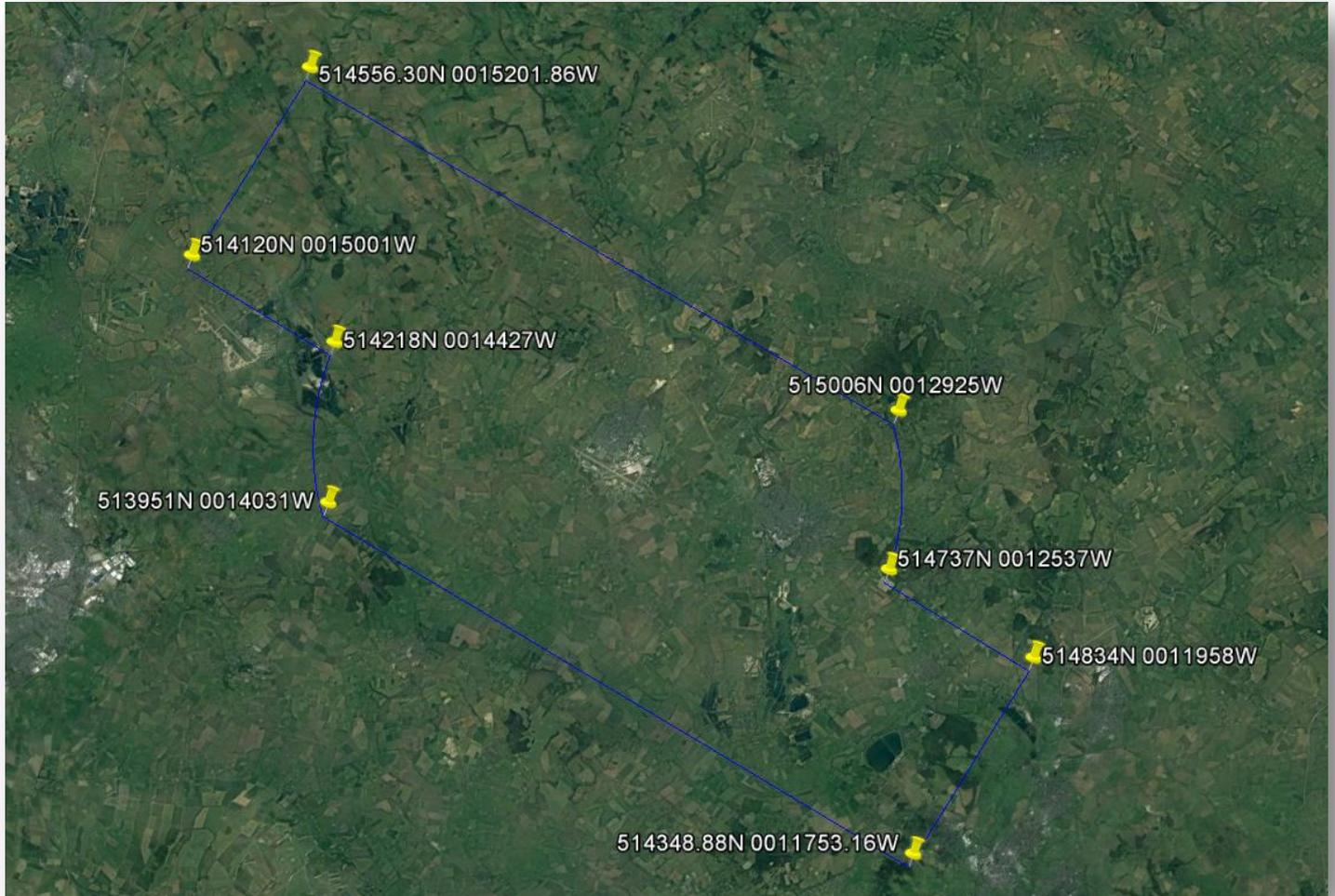
Aerodrome obstacles are represented as cylinders, with a 5 metre radius around the co-ordinate. An example can be seen below in Figure 3.

There is a known issue in Google Earth, which on occasions when loading the KMZ files can show all obstacles as having a much greater height than in reality. It is clear when this error has occurred as all obstacles will be shown as the same height. A common fix for this bug is to restart Google Earth and attempt to re-load the file.



## 2.6. Co-ordinate Overlays

The 2D KMZ file contains an additional folder called 'Airspace – co-ordinate overlays'. By selecting airspace features within this folder, the 2D polygon of airspace will be shown, with the co-ordinates of each vertex shown as pins.



## 2.7. Timespan

All eAIP KMZ files have a timespan coded into the file which specifies the duration of the AIRAC. This enables the user to load multiple AIRAC KMZ files into Google Earth, and navigate between them using the time slider (picture below) to view changes between AIRACs.



To ensure the correct time span is being viewed, please ensure the crescent symbol is dragged next to the pointer, otherwise a range of AIRACs may be shown at once:



## 2.8. Coastline Data

For some airspace features, part of the geometry is constructed using coastline data. Due to file size limitations, airspace which does not have a lower limit of 'surface' does not include this coastline data; instead the style of the vertex is shown differently to indicate where it is intended to follow the coastline.

An example is shown below for 'Navigational Flying Training – South West Approaches', which can be found under Airspace - D-OTHER – Exercise. Where the airspace is intended to follow the coastline, this is shown as a green vertex rather than blue which can be seen in the left hand image of the 3d file. The image on the right hand side shows the full geometry from the 2d file (highlighted in pink for clarity).

