

**From:** [REDACTED]  
**To:** [Manston Airport](#); [Manston Airport](#)  
**Cc:** [REDACTED]  
**Subject:** FOR URGENT ATTENTION OF ExA : CAA (ERCD) NOISE CONTOURS  
**Date:** 31 May 2019 17:36:27

---

Dear Sirs

Further to our submission last night, we are now sending via WeTransfer noise contour reports produced by the CAA's Environmental Research and Consultancy Department, (ERCD), showing noise impacts around Manston Airport from 51 to 72 dB(A) in 3 dB steps.

The link to download these files is: <https://we.tl/t-ck8g9QLg9x>

Please do not hesitate to let me know ASAP if there are any problems accessing or opening this file.

We have also included the CAA's technical note and all attachments confirming the brief as per our submission last night.

We would like to draw the ExA's attention to the tables on pages 4 and 5 which show the number of households impacted by each of these scenarios.

As the ExA is aware, the government's Response on UK Airspace Policy in 2017 acknowledged that sensitivity to aircraft noise shows that sensitivity has increased, with significant levels of annoyance in communities now starting at 54 dB as opposed to 57 dB. In communities following the first year of opening a new runway - as will be the case in the event that the DCO is approved - annoyance responses are particularly strong for lower noise levels.

Kind regards  
Jason and Samara Jones-Hall

--

Jason Jones-Hall  
Director  
Five10Twelve

[REDACTED]

[REDACTED] If you have received this message in error, please notify us and remove it from your system.

Five10Twelve is a private limited company incorporated in England and Wales under the name Five10Twelve Ltd, Company No 8412137

## TECHNICAL NOTE:

### Manston Airport – ‘Five10Twelve’ fleet mix noise modelling results

#### Introduction

This technical note summarises the air noise modelling work for Manston Airport carried out by ERCD on behalf of Five10Twelve Ltd. The following forecast contours were generated using the ‘Five10Twelve’ fleet mix scenario:

- Day  $L_{Aeq,16hr}$  (0700-2300 local time), plotted from 51 to 72 dB(A) in 3 dB steps.

The contours have been produced for the following 4 runway modal split cases:

- 100% west;
- 100% east;
- 70% west / 30% east; and
- 30% west / 70% east.

#### Modelling assumptions

The contours have been generated using the latest version of the ANCON noise model (v2.4) and based on the ‘Five10Twelve’ forecast daily traffic data for 100% W and 100% E modes (see **Tables 1 & 2**). Aircraft types with more than one engine variant in the ANCON database were split according to assumptions provided by Five10Twelve Ltd (see **Table 3**).

The proposed departure flight tracks were digitised from the attached ‘Wiggins’ route map. RNAV lateral spread was modelled on all the departure tracks for the Leq contours. All arrivals have been modelled as ‘straight-in’ tracks along the extended runway centreline.

In view of the expected high proportions of freight traffic, proxy average flight profiles of height, speed and thrust were employed from the latest ANCON Stansted database for both departures and arrivals. Aircraft types that were not present in the Stansted database were substituted by Heathrow profiles where possible, and if not available in the Heathrow database, by Gatwick profiles. The flight profiles assume average weights.

The effects of the surrounding topography have been modelled using Meridian 2 Gridded Heights terrain data from Ordnance Survey.

## Results

Contour diagrams are provided for the following cases:

- Day  $L_{Aeq,16hr}$  (0700-2300 local time), runway modal split 100% W;
- Day  $L_{Aeq,16hr}$  (0700-2300 local time), runway modal split 100% E;
- Day  $L_{Aeq,16hr}$  (0700-2300 local time), runway modal split 70% W / 30% E; and
- Day  $L_{Aeq,16hr}$  (0700-2300 local time), runway modal split 30% W / 70% E.

Areas, populations and households within the contours have been estimated using an updated 2018 population database based on the 2011 Census (supplied by CACI Ltd) and are summarised in **Tables 4-7**.

ERCD

31/05/2019

**Table 1** Manston 'Five10Twelve' fleet mix average day 100% W traffic

Type	Code	Departure route 1	Departure route 2	RWY 28 arrivals
Airbus A320	A320	1	0	1
Airbus 330-200	A332	1	1	3
Boeing 747-400	B744	1	0	2
Boeing 747-800	B748	1	0	1
Boeing 757-200	B752	1	1	3
Boeing 757-300	B753	1	0	1
Boeing 737-800	B738	6	6	11
Boeing 737-300	B733	2	2	3
Boeing 777-200	B772	3	3	5
ATR72	AT72	3	3	6
Boeing C17 Globemaster III	C17	1	0	1
Fokker 70	F70	1	1	2
Lockheed L-100 Hercules	C130	1	0	1
Single Propeller	SP	15	15	30
Small Twin Piston	STP	4	4	8
Small Twin Turboprop	STT	4	4	8
Executive Jet	EXE3	3	3	6
	<b>Total</b>	<b>49</b>	<b>43</b>	<b>92</b>

**Table 2** Manston 'Five10Twelve' fleet mix average day 100% E traffic

Type	Code	Departure route 3	RWY 10 arrivals
Airbus A320	A320	1	1
Airbus 330-200	A332	3	3
Boeing 747-400	B744	2	2
Boeing 747-800	B748	1	1
Boeing 757-200	B752	3	3
Boeing 757-300	B753	1	1
Boeing 737-800	B738	11	11
Boeing 737-300	B733	3	3
Boeing 777-200	B772	5	5
ATR72	AT72	6	6
Boeing C17 Globemaster III	C17	1	1
Fokker 70	F70	2	2
Lockheed L-100 Hercules	C130	1	1
Single Propeller	SP	30	30
Small Twin Piston	STP	8	8
Small Twin Turboprop	STT	8	8
Executive Jet	EXE3	6	6
	<b>Total</b>	<b>92</b>	<b>92</b>



**Table 3** Manston 'Five10Twelve' fleet mix engine split assumptions

Type	Code	Engine splits
Airbus A320	A320	75% CFM / 25% IAE
Boeing 747-400	B744	30% GE / 60% PW / 10% RR
Boeing 757-200	B752	50% RR / 50% PW
Boeing 777-200	B772	40% GE / 20% PW / 40% RR

**Table 4** Manston 'Five10Twelve' fleet mix average day 100% W Leq contours – estimated areas, populations and households

L <sub>Aeq,16hr</sub> , dB(A)	Area (km <sup>2</sup> )	Population	Households
> 51	31.2	22,000	10,500
> 54	17.4	14,600	6,900
> 57	9.6	8,850	4,050
> 60	5.2	2,350	1,150
> 63	2.7	300	200
> 66	1.4	0	0
> 69	0.8	0	0
> 72	0.4	0	0

Note: Population and household estimates are given to the nearest 50, and based on 2011 Census data updated for 2018, supplied by CACI. © CACI Limited 2018 All Rights Reserved.

**Table 5** Manston 'Five10Twelve' fleet mix average day 100% E Leq contours – estimated areas, populations and households

L <sub>Aeq,16hr</sub> , dB(A)	Area (km <sup>2</sup> )	Population	Households
> 51	34.2	37,400	16,950
> 54	18.0	28,550	13,350
> 57	9.6	17,500	8,250
> 60	5.1	4,550	2,100
> 63	2.6	400	200
> 66	1.4	0	0
> 69	0.8	0	0
> 72	0.4	0	0

Note: Population and household estimates are given to the nearest 50, and based on 2011 Census data updated for 2018, supplied by CACI. © CACI Limited 2018 All Rights Reserved.

**Table 6** Manston 'Five10Twelve' fleet mix average day 70% W / 30% E Leq contours – estimated areas, populations and households

<b>L<sub>Aeq,16hr</sub>, dB(A)</b>	<b>Area (km<sup>2</sup>)</b>	<b>Population</b>	<b>Households</b>
> 51	30.6	28,600	13,400
> 54	17.4	19,200	9,200
> 57	9.4	10,100	4,650
> 60	5.0	2,850	1,350
> 63	2.6	300	200
> 66	1.4	0	0
> 69	0.8	0	0
> 72	0.5	0	0

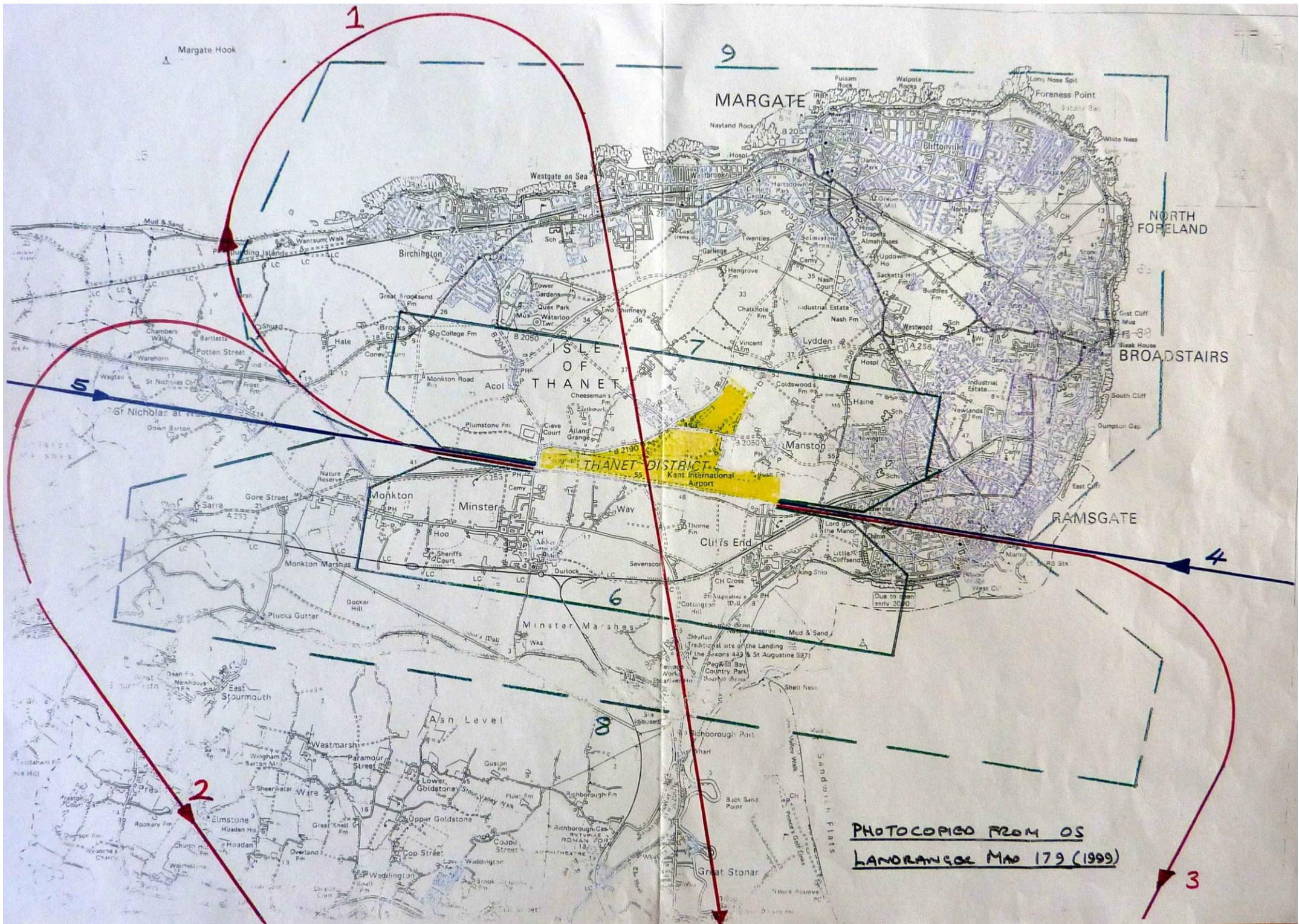
Note: Population and household estimates are given to the nearest 50, and based on 2011 Census data updated for 2018, supplied by CACI. © CACI Limited 2018 All Rights Reserved

**Table 7** Manston 'Five10Twelve' fleet mix average day 30% W / 70% E Leq contours – estimated areas, populations and households

<b>L<sub>Aeq,16hr</sub>, dB(A)</b>	<b>Area (km<sup>2</sup>)</b>	<b>Population</b>	<b>Households</b>
> 51	31.7	34,550	15,800
> 54	17.5	24,950	11,800
> 57	9.5	14,050	6,500
> 60	5.0	3,900	1,800
> 63	2.6	400	200
> 66	1.4	0	0
> 69	0.8	0	0
> 72	0.5	0	0

Note: Population and household estimates are given to the nearest 50, and based on 2011 Census data updated for 2018, supplied by CACI. © CACI Limited 2018 All Rights Reserved





MARGATE

NORTH FORELAND

BROADSTAIRS

RAMSGATE

ISLE OF THANET

THANET DISTRICT  
Kent International Airport

PHOTOCOPIED FROM OS  
LANDRANGER MAP 179 (1999)



 WIGGINS	 LONDON - MANSTON AIRPORT	Kent International Airport plc Trading As LONDON MANSTON AIRPORT PO Box 500, Manston, Kent CT12 5BP Tel: 01843 823198 Fax: 01843 823570
--	---	---

## ROUTE MAP

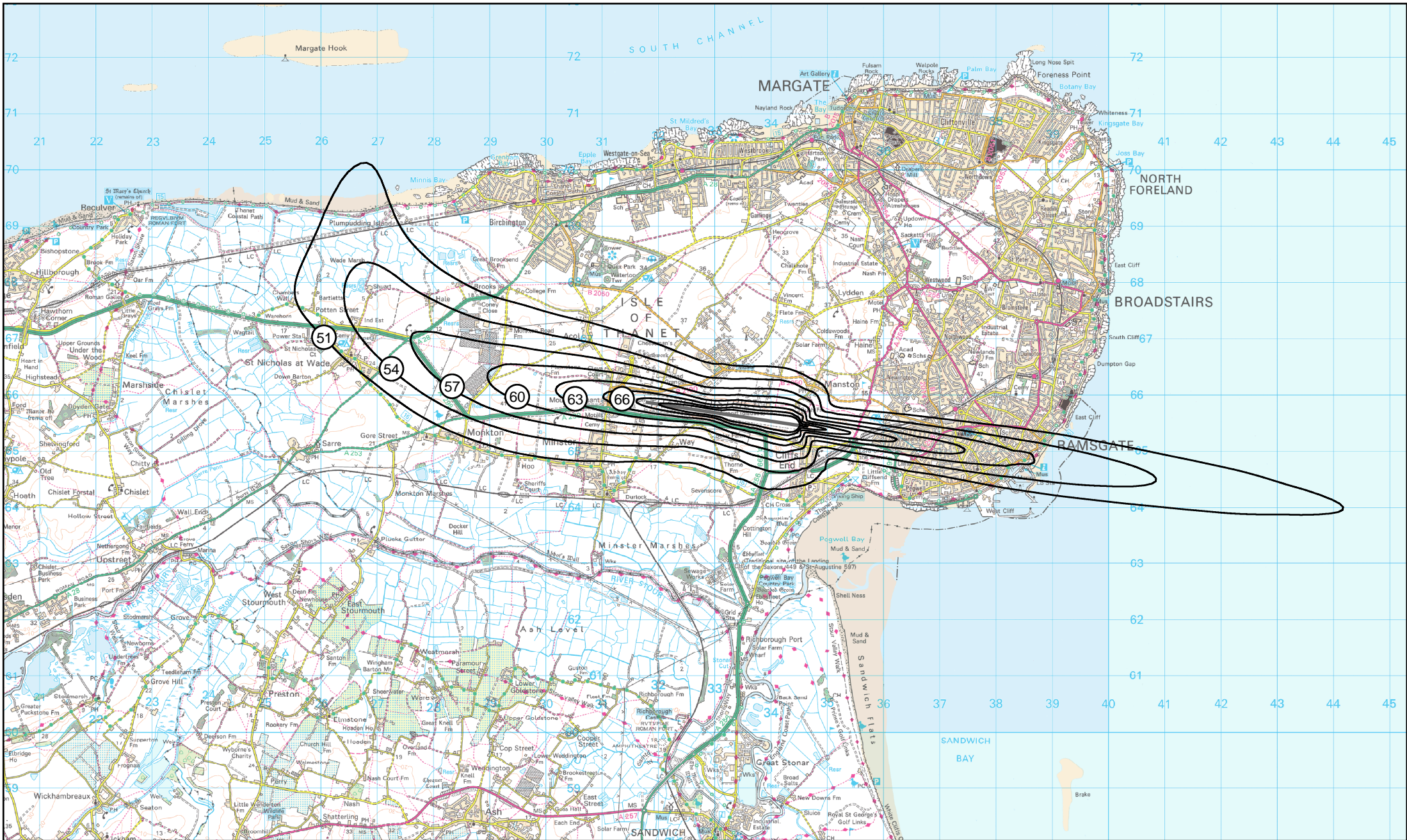
### Key

1. Standard instrument departure from runway 28.
2. Alternative instrument departure from runway 28.
3. Standard instrument departure from runway 10.
4. Standard arrival route for runway 28.
5. Standard arrival route for runway 10.
6. Standard visual circuit for both runways flown by light aircraft at 1000 ft above ground level.
7. Alternative visual circuit for both runways flown by light aircraft at 1000 ft above ground level.
8. Standard visual circuit for both runways 10 and 28 flown by large aircraft at 1500 ft above ground level.
9. Alternative visual circuit for both runways 10 and 28 flown by large aircraft at 1500 ft.

### Notes

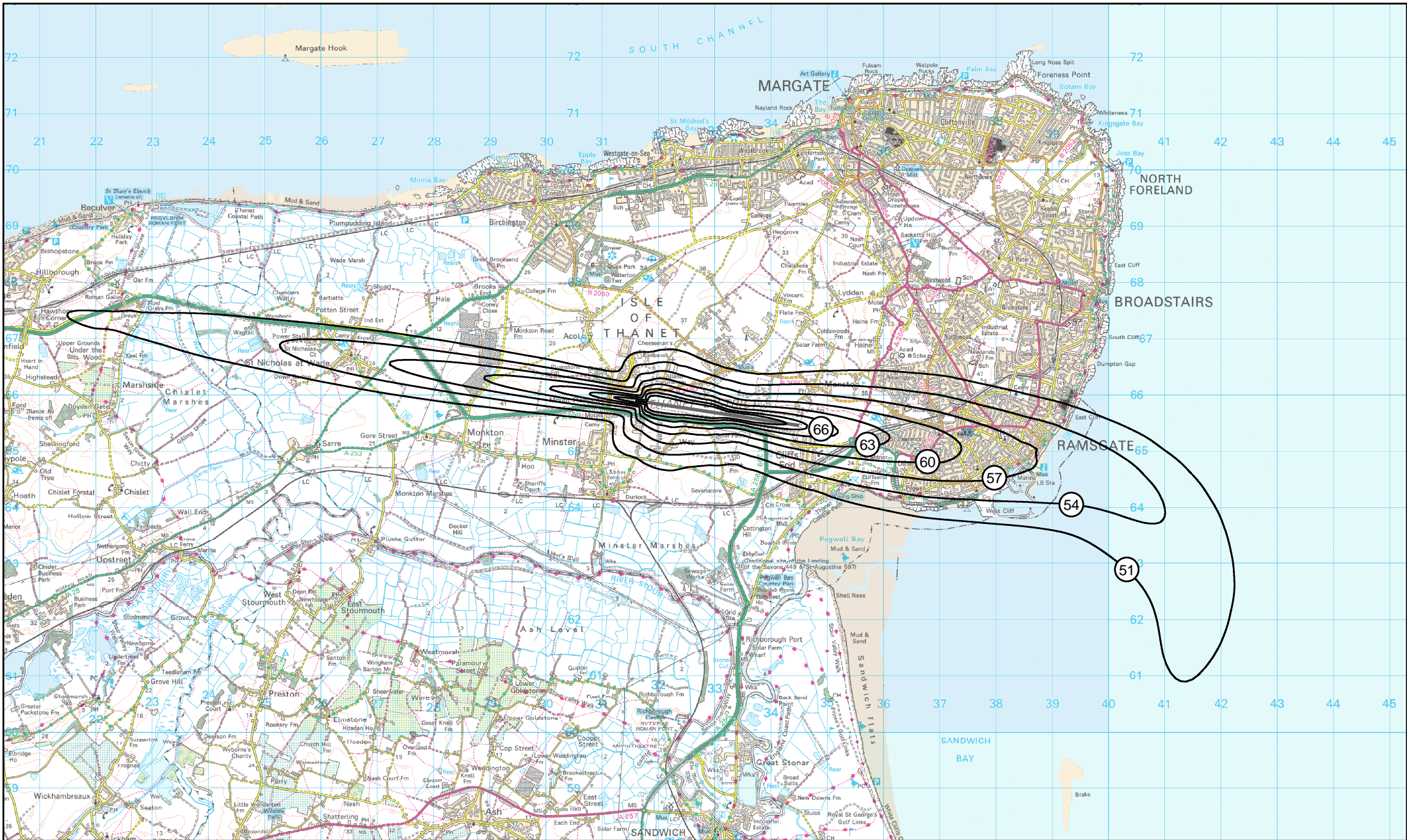
- i) This information is provided as a courtesy only.
- ii) These routes are indicative not definitive and the information is provided on this understanding.
- iii) These routes may vary depending upon a number of factors including weather, and air traffic control requirements.
- iv) These routes may be changed or developed as the Airport develops.
- v) Noise travels. Aircraft noise may be audible several miles away from these indicative routes.





MANSTON AIRPORT  
'Five10Twelve' Fleet Mix - Forecast Average Day  $L_{Aeq,16hr}$  51-72 dB(A) Contours  
Runway Modal Split 100% W





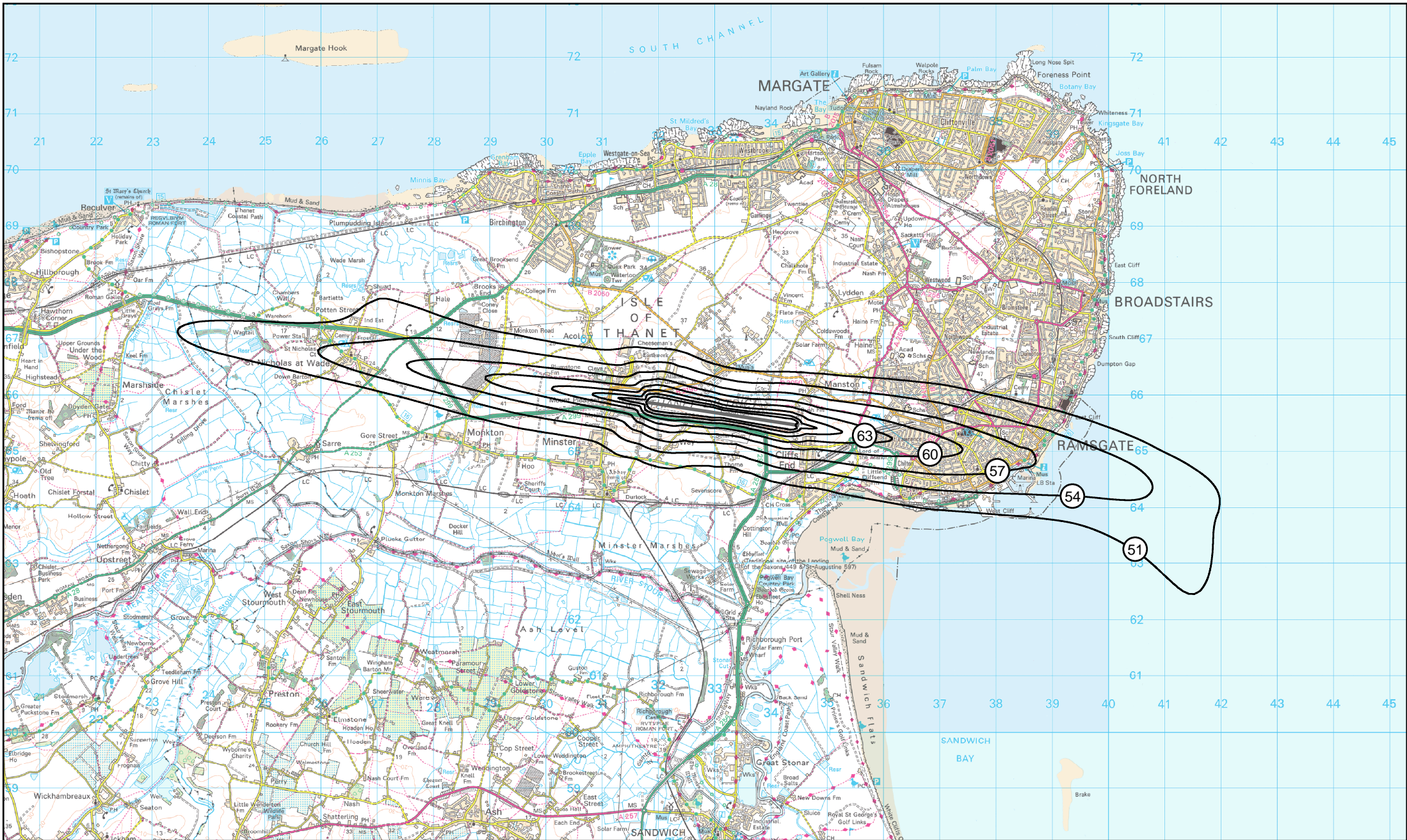
MANSTON AIRPORT  
'Five10Twelve' Fleet Mix - Forecast Average Day  $L_{Aeq,16hr}$  51-72 dB(A) Contours  
Runway Modal Split 100% E





MANSTON AIRPORT  
**'Five10Twelve' Fleet Mix - Forecast Average Day  $L_{Aeq,16hr}$  51-72 dB(A) Contours**  
 Runway Modal Split 70% W / 30% E





MANSTON AIRPORT  
**'Five10Twelve' Fleet Mix - Forecast Average Day  $L_{Aeq,16hr}$  51-72 dB(A) Contours**  
 Runway Modal Split 30% W / 70% E