Airspace Change Proposal Stage 2a

Supplementary Information Document

London Southend Airport Design Principle Evaluation

London Southend Airport FASI(S)

ACP-2018-90

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CPJ-5641-RPT-049

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Executive Summary

This document is the supplementary information document for the Summer 2024 Stage 2 resubmission for London Southend Airport FASI(S) ACP. It contains the design principle evaluations for the options and shows the change in assessment from the old design principle assessment criteria to the new design principle assessment criteria.

This document is not intended to be used in isolation and forms part of the information pack sent to stakeholders in July 2024.

Abbreviations

ACP	Airspace Change Proposal
AONB	Area Outstanding Natural Beauty
ATC	Air Traffic Control
BKY	Barkway
BPK	Brookmans Park
CLN	Clacton
CPT	Compton
DA	Danger Area
DET	Detling
DP	Design Principle
FASI(S)	Future Airspace Implementation South
IFP	Instrument Flight Procedure
LAM	Lambourne
LAMP	London Airspace Management Programme
LSA	London Southend Airport
LTMA	London Terminal Manoeuvring Area
MoD	Ministry of Defence
NERL	NATS (En-route) Ltd
NTK	Noise and Track Keeping
RNAV	Area Navigation
RNP	Required Navigation Performance

RSPB	The Royal Society of the Protection of Birds
SPA	Special Protection Area
VOR	Very High Frequency Omni-Directional Range

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1. Introduction

This document is a Supplementary to the 'stage 2a Baselines and DPE Criteria Change' presentation supplied to stakeholders alongside the online survey.

The aim of this document is to provide stakeholders with the full Design Principle Evaluation (DPE) assessments for all of the options associated with London Southend's Airspace Change Proposal (ACP).

As explained in the presentation document (slides 7 and 8), the DPE criteria has changed due to feedback from the CAA at the last gateway. Consequently, the new criteria have been applied and presented here with the results of the previous post stakeholder feedback from 2022, where relevant.

As the Baseline and Do-Minimum options have not previously undergone a DPE assessment, or received feedback from stakeholders, these options have only the latest (2024) assessment against the new criteria.

Stakeholders have been asked to provide feedback on the Baseline and Do-Minimum options by completing the survey. The survey can be found in the email sent to stakeholders and here.

The options are presented in design envelopes beginning with departures for the Northeast. At the start of each option an image is provided with the baseline, do-minimum and associated options for each design envelope. The DPE for each section then follows with, where relevant, the DPE results from the post stakeholder feedback session in 2022.

2. Design Principle Evaluation Criteria

DP #	Design Principle		Qualitative Assessment
DP1	**Importance of Safety –** The airspace design and its operation must maintain or where possible, enhance current levels of safety.		Initial qualitative assessment to determine any potential safety concerns. A more detailed assessment will be conducted in Stage 2B in the IOA section 'Safety'.
Old Criteria	No safety concerns	Work needed to make safe	Unsafe
New Criteria	**Fully Met:** No safety issues identified.	**Partially Met:** Issues identified that would require a more robust safety argument than today's operation.	**Not Met:** Issues identified that are unlikely to be overcome without prohibitively restrictive safety mitigations.
DP2	**Overflight-**The new procedures should not increase the number of people overflown by aircraft using the Airport and where possible options that provide a level of dispersion should also be considered.		High level qualitative assessment of people overflown, utilising population density maps and identifying new areas affected. A more detailed assessment will be conducted in Stage 2B in the IOA section 'Noise impact on health and quality of life'.
Old Criteria	No different to today or less people overflown	Different not necessarily more	More AND different
New Criteria	**Fully Met:** Limits or has the potential to reduce the number of people overflown.	**Partially Met:** Number of people overflown is broadly similar but could be different communities to today.	**Not Met:** Has the potential to increase the number of people overflown.
DP3	**Noise Footprint –** The design should limit, and where practicable reduce, the impact of noise to stakeholders on the ground and where possible periods of built-in respite should be considered.		Initial high level qualitative assessment of noise impact to stakeholders on the ground (approximately 2000ft and below). A more detailed assessment will be conducted in Stage 2B in the IOA section 'Noise impact on health and quality of life'.
Old Criteria	No different to today or less people overflown	Different not necessarily more	More AND different
New Criteria	**Fully Met:** Limits or has the potential to reduce overall impacts of aircraft noise.	**Partially Met:** Impacts of aircraft noise likely to be broadly similar in terms of the number of people affected, new or different communities may be affected.	**Not Met:** Has the potential to increase the overall impacts of aircraft noise on local communities.
DP4	**Tranquillity -** Where practical, route designs should limit effects upon sensitive areas. These may include cultural or historic assets, tranquil or rural areas, sites of care or education and AONB's.		Initial high level qualitative assessment. A more detailed assessment will be conducted in Stage 2B in the IOA sections 'Tranquillity' and 'Biodiversity'.

DP #	Design Principle		Qualitative Assessment
Old Criteria	No different to today or less people overflown	Different not necessarily more	More AND different
New Criteria	**Fully Met:** Limits effects on Noise Sensitive Areas and does not result in any overflight of a AONB or a NP below 7000ft.	**Partially Met:** May result in overflight of a portion of an AONB or a NP, also may result in overflight of tranquil areas important to local communities such as reservoirs or parks.	**Not Met:** Results in direct and significant overflight of AONBs or NPs and/or various tranquil areas important to local communities.
DP5	**Emissions and Air Quality –** The proposed design should minimise CO2 emissions per flight.		Initial high level qualitative assessment based on track miles. A more detailed assessment will be conducted in Stage 2B in the IOA sections 'Greenhouse gas impact' and 'Fuel burn'.
Old Criteria	No different or less than today	Different and more	Extra track miles - significantly more than baseline
New Criteria	**Fully Met:** Has potential to minimise CO_2 emissions.	**Partially Met:** CO_2 emissions likely to be the same or similar to today's operation.	**Not Met:** Has the potential to increase CO_2 emissions.
DP6	**Operational Requirements –** The new procedures should address the needs of most operators at LSA.		Initial high level qualitative assessment against current and forecast aerodrome users and whether the option will meet their operational requirements in terms of flyability, efficiency and service. This DP will also be assessed more thoroughly in Stage 3 when the options are refined to give more precise routes.
Old Criteria	Fully	Partially	Not Met
New Criteria	**Fully Met:** Meets the operational needs of almost all airport operators.	**Partially Met:** Meets the operational needs of most airport operators.	**Not Met:** Does not meet the operational needs of airport operators.
DP7	**Airspace Dimensions –** The volume and classification of controlled airspace required for LSA should be the minimum necessary to deliver an efficient airspace design, considering the needs of all airspace users.		High level qualitative assessment of the airspace required for each option. A more detailed assessment will be conducted in Stage 2B in the IOA section 'Access'. This DP will also be assessed more thoroughly in Stage 3 when the options are refined to give more precise routes.
Old Criteria	Contained within existing controlled airspace	Would require more controlled airspace- but the minimum necessary	Significant new volume of controlled airspace required (minimum necessary)

DP #	Design Principle		Qualitative Assessment
New Criteria	**Fully Met:** Allows for either a reduction in the volume of CAS required or does not require any additional CAS.	**Partially Met:** May require more controlled airspace but the minimum necessary.	**Not Met:** Significant additional volumes of CAS are required to contain the proposed option.
DP8	**Airspace Complexity –** The airspace design should seek to reduce complexity and bottlenecks in controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.		High level qualitative assessment on the airspace complexity of the swathe. Further assessment will be conducted in Stage 2B in the IOA section 'Capacity/resilience'.
Old Criteria	No worse or different to today	Potential for more complexity	Marked increase in complexity
New Criteria	**Fully Met:** Does not result in a complex CTA/CTR configuration with numerous different base levels likely to lead to inadvertent CAS penetrations.	**Partially Met:** Results in changes to the CAS configuration that may cause other aviators some minor challenges.	**Not Met:** Results in a highly complex CAS configuration.
DP9	**Technical Requirements –** The design shall be fully compliant with PANS-OPS and UK CAA criteria to meet the technical capability requirements of aircraft using the airport.		High level qualitative assessment of whether the options meet the technical requirements of all airspace users including aircraft types, equipment and performance. This DP will also be assessed more thoroughly in Stage 3 when the options are refined to give more precise routes.
Old Criteria	Fully	Partially	Not Met
New Criteria	**Fully Met:** Meets the technical requirements of almost all airport operators.	**Partially Met:** Meets the technical requirements of most airport operators.	**Not Met:** Does not meet the technical requirements of airport operators.
DP10	**Systemisation –** The arrival transitions and departure procedures shall be deconflicted and integrate with the en-route network, as per the FASI(S) programme, and in the case of the arrival transitions shall integrate with the Instrument Approach Procedures (IAPs) reducing the requirement for tactical coordination.		Initial high level qualitative assessment of the systemisation potential of the swathe. Further assessment will be conducted in Stage 2B in the IOA section 'Capacity/resilience'.
Old Criteria	No current conflicts	Possibility of resolvable conflicts	Unable to be separated from other interdependent airports current procedures
New Criteria	**Fully Met:** Integrates with the en-route network and is likely to reduce the need for tactical coordination and vectoring within the CTA/CTR.	**Partially Met:** Integrates with the en-route network but may not reduce the need for tactical coordination and vectoring within the CTA/CTR.	**Not Met:** Does not integrate with the en-route network and will not decrease the need for tactical coordination and vectoring within the CTA/CTR.

DP #	Design Principle		Qualitative Assessment
DP11	**Operational Cost –** Provided it does not have an adverse impact of community disturbance, procedures should be designed to optimise fuel efficiency.		Assessed similarly to DP5 - Emissions and Air Quality, more track miles will incur more fuel cost. Initial high level qualitative assessment. Further assessment relating to this DP will be conducted in Stage 2B in the IOA section 'Fuel burn'.
Old Criteria	No different or less than today	Different and more	Extra track miles, significantly more than baseline
New Criteria	**Fully Met:** Fuel efficiency is optimal without an adverse impact on local communities.	**Partially Met:** Fuel efficiency is optimal however there is some impact on local communities.	**Not Met:** Fuel efficiency not optimised.
DP12	**AMS Realisation –** This ACP must serve to further, and not conflict with, the realisation of the AMS.		Initial high level qualitative assessment on whether the swathe aligns with the strategic objectives of the AMS (see below for summary of AMS objectives)
Old Criteria	Fully	Partially	Not Met
New Criteria	**Fully Met:** Aligned with the AMS.	**Partially Met:** Partially aligned with the AMS.	**Not Met:** Not aligned AMS.
DP13	**PBN –** The new procedures should capitalise on as many of the potential benefits of PBN implementation as are practicable.		Initial high level qualitative assessment on whether the options for routes will utilise PBN and its benefits, e.g. simplifying route integration, more direct routes and less track mileage.
Old Criteria	Fully	Partially	Not Met
New Criteria	**Fully Met:** Fully compliant with the latest navigational standards.	**Partially Met:** Some PBN benefits utilised but potential to not be fully compliant.	**Not Met:** PBN not utilised.

Airspace Modernisation Strategy (AMS) Key Objectives.

DP12 AMS Realisation is assessed against the four AMS strategic objectives: Safety, Integration, Simplification and Environment[1]. These are summarised below:

- **Safety:** Maintaining and where possible improve the levels of safety, this objective has priority over all other 'ends' to be achieved.

[1] More information about the AMS strategy CAP1711 can be found on the CAA website.

- **Integration of diverse users**: wherever possible satisfy the requirements of operators and owners of all classes of aircraft, including the accommodation of existing users (such as commercial, General Aviation, military, taking into account interests of national security) and new or rapidly developing users (such as remotely piloted aircraft systems, advanced air mobility, spacecraft, high-altitude platform systems).

- **Simplification,** reducing complexity and improving efficiency: Consistent with the safe operation of aircraft, airspace modernisation should wherever possible secure the most efficient use of airspace and the expeditious flow of traffic, accommodating new demand and improving system resilience to the benefit of airspace users, thus improving choice and value for money for consumers.

- **Environmental sustainability**: Environmental sustainability will be an overarching principle applied through all airspace modernisation activities. Modernisation should deliver the Government's key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance and, in doing so will take account of the interests of all stakeholders affected by the use of airspace.

The Government's key environmental objectives[2] with regards to the AMS and air navigation are as follows:

- *Limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise;*
- *Ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions; and*
- *Minimise local air quality emissions and in particular, ensure that the UK complies with its international obligations on air quality.*

[2] See DfT Air Navigation Guidance 2017, pg. 8 and/or Environmental Assessment Requirements and Guidance for Airspace Change Proposals CAP 1616i, pg. 8.

3. Departures Runway 05 - Northeast

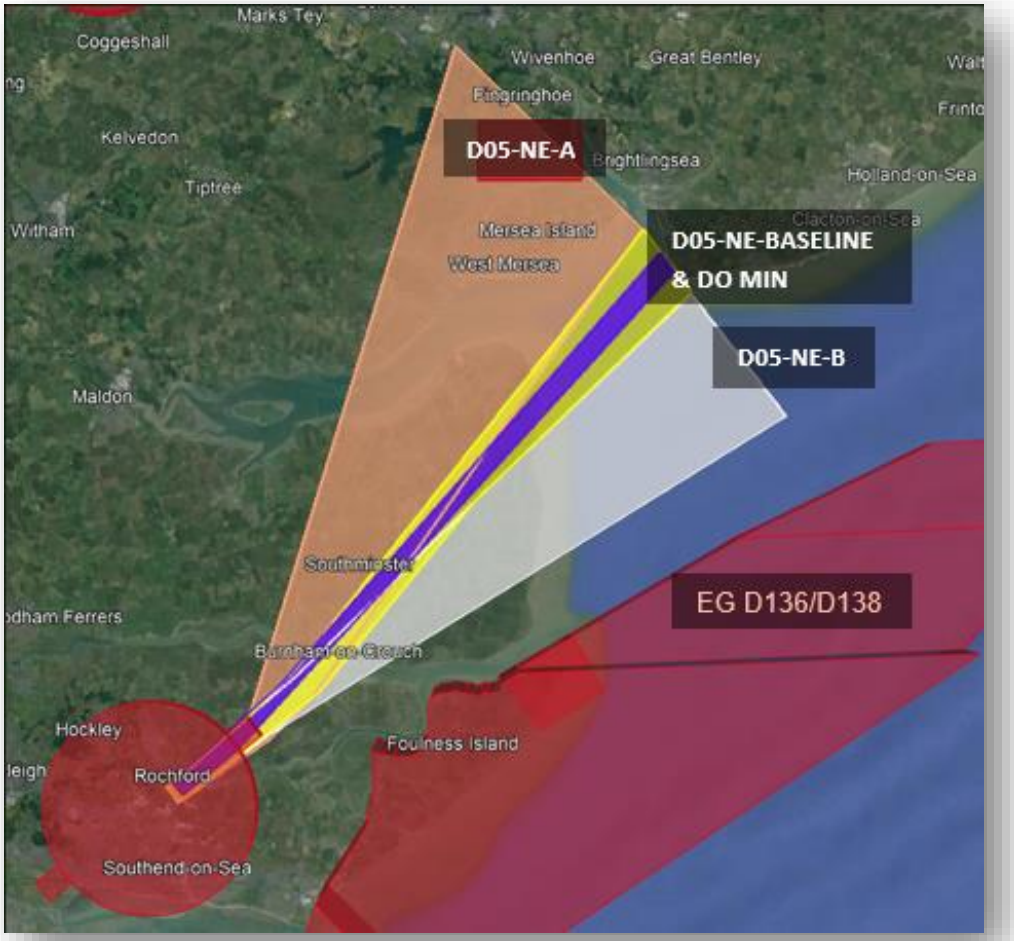

Figure 1: Departure Options Runway 05 - Northeast

3.1. Option **D05-NE-BASELINE**

D05-NE-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met due to the same number of people being overflown as today.	
3	**Noise Footprint**	Assessed as partially met as the number of people overflown is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 1: Option D05-NE-BASELINE DP Assessment

3.2. Option **D05-NE-DO MINIMUM**

D05-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 2: Option D05-NE-Do Min DP Assessment

3.3. Option **D05-NE-A**

D05-NE-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased. Depending on the placement of final routes, this option could see an increase in people overflown: the overflight of built-up areas including Southminster, Parkdean Holiday Park, Mersea Island, Burnham-on-Crouch. This would be an increase from today's operation, which sees traffic route down the middle of D05-NE-A and D05-NE-B. A level of dispersion would mean overflights are shared across areas.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedure meets the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 3: Option D05-NE-A DP Assessment

3.4. Option **D05-NE-B**

D05-NE-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced Depending on the placement of final routes, this option could see a reduction in people overflown. Overflight of built-up areas – Southminster and Burnham-on-Crouch.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced. (See DP2)		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 4: Option D05-NE-B DP Assessment

4. Departures Runway 05 – Northwest

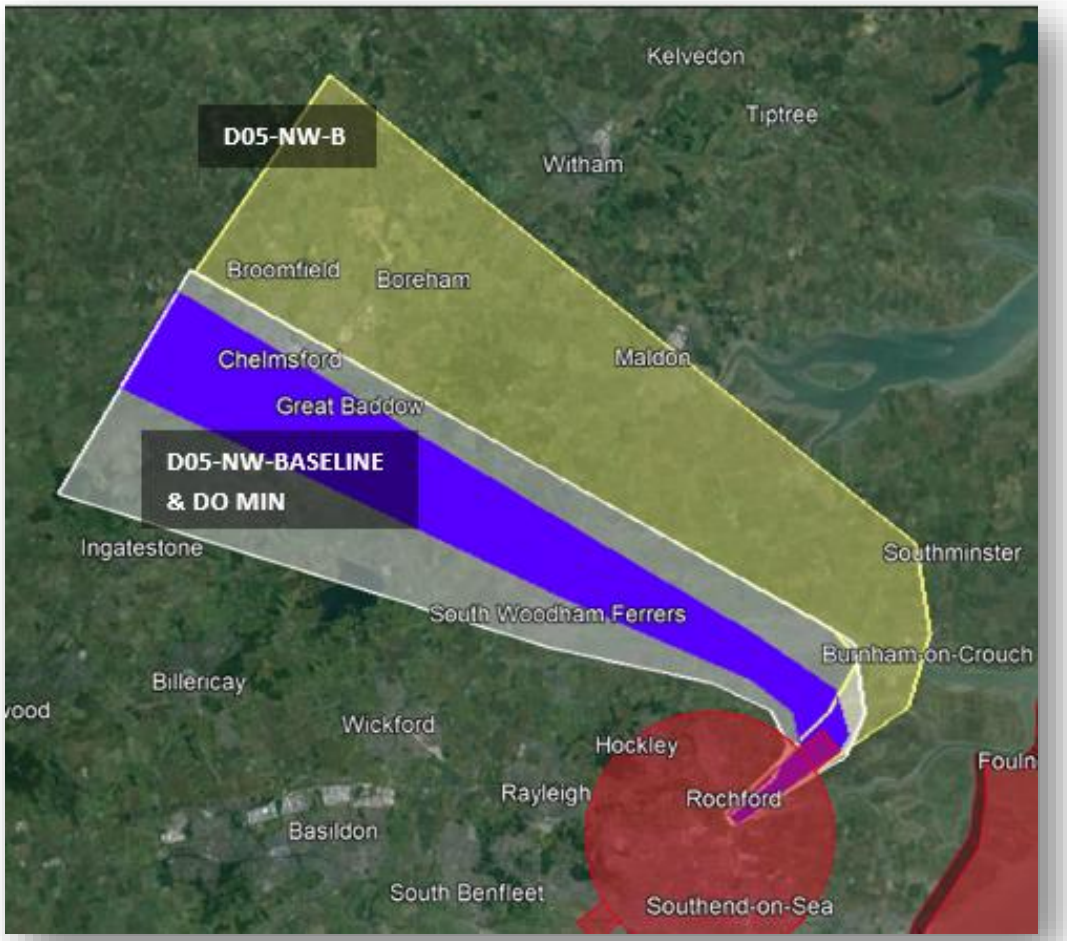

Figure 2: Departure Options Runway 05 - Northwest

4.1. Option **D05-NW-BASELINE**

D05-NW-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedure meets the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet all of the simplification objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 5: Option D05-NW-BASELINE DP Assessment

4.2. Option **D05-NW-DO MINIMUM**

D05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedure meets the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.. Possible conflict with LSA arrival swathes A05-NW-C & A05-NW-B. Conflict with both current and future London Stansted departures to the East & South.	
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 6: Option D05-NW-Do Min DP Assessment

4.3. Option **D05-NW-B**

D05-NW-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased. Potential increase in overflight of built-up areas - Burnham-on-Crouch, for example.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Potential conflict with LSA arrival swathes A05-NW-C & A05-NW-B. Conflict with both current and future London Stansted departures to the East & South.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 7: Option D05-NW-B DP Assessment

5. Departures Runway 05 – South/ Southeast

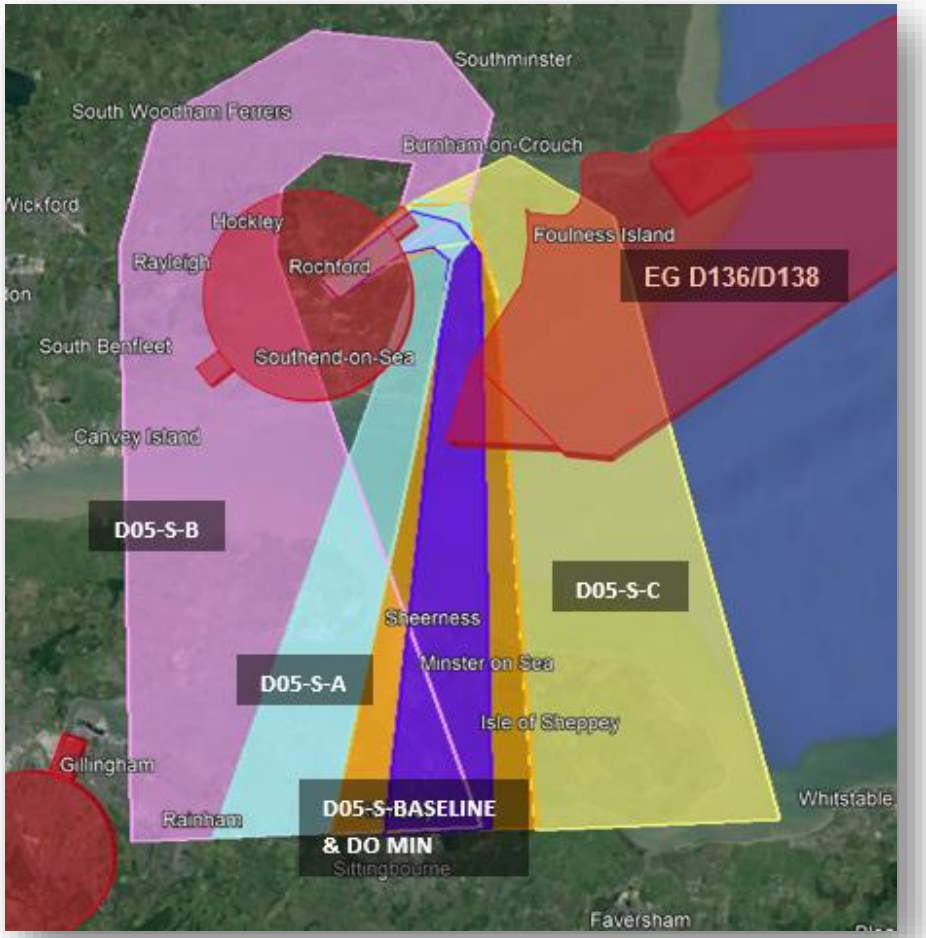

Figure 3: Departure Options Runway 05 - South/ Southeast

5.1. Option **D05-S-BASELINE**

D05-S-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are over 7000 ft at this point.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedure meets the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 8: Option D05-S-BASELINE DP Assessment

5.2. Option **D05-S-DO MINIMUM**

D05-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 9: Option D05-S-Do Min DP Assessment

5.3. Option **D05-S-A**

D05-S-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as only being partially met due to the implications on certain operators and aircraft type that may be unable or reluctant to accept the very tight right turn out to remain clear of the DA.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Possible conflictions with LSA arrival swathes A05-SE-F and A05-SE-E. Possible confliction with London City Airport's procedures.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability and simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 10: Option D05-S-A DP Assessment

5.4. Option **D05-S-B**

D05-S-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected. Burnham-on Crouch and Creeksea continue to be affected by overflight of aircraft <2000ft, however new areas of Rayleigh, Hockley and Hadleigh will also be overflown.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected. (see DP2)		
4	**Tranquillity**	Assessed as not met due to direct and significant overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as not met due to the significant increase in track miles meaning this option has the potential to increase CO2 emissions.		
6	**Operational Requirements**	Assessed as being partially met due to adding track miles, reducing operational efficiency.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Possible conflict with arrival swathe A05-SE-G. Possible conflict with London City Airport, however, the assumption is, due to the wrap around and additional track miles, traffic will be above the London City arrivals.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, simplification and improving efficiency objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 11: Option D05-S-B DP Assessment

5.5. Option **D05-S-C**

D05-S-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Additional work would need to be done for this option to meet the Operational Requirements DP due to its transit through the DA.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.. Possible conflict with A05-SE-F & A05-SE-E. Possible conflict with London City procedures. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA).		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety and simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace		

Table 12: Option D05-S-C DP Assessment

6. Departures Runway 23 – Northeast

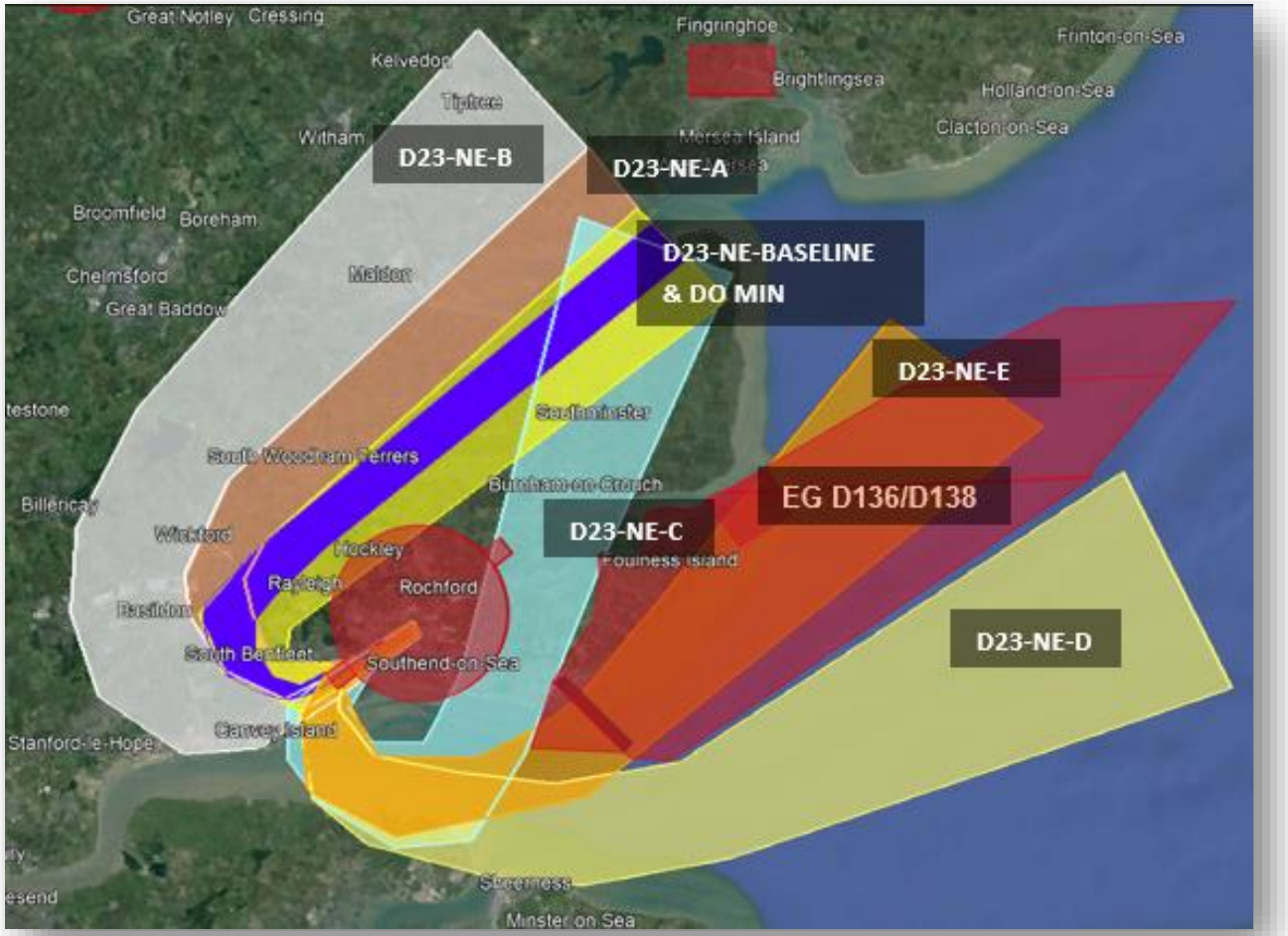

Figure 4: Departure Options Runway 23 - Northeast

6.1. Option **D23-NE-BASELINE**

D23-NE-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 13: Option D23-NE-BASELINE DP Assessment

6.2. Option **D23-NE-DO MINIMUM**

D23-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 14: Option D23-NE-Do Min DP Assessment

6.3. Option **D23-NE-A**

D23-NE-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 15: Option D23-NE-A DP Assessment

6.4. Option **D23-NE-B**

D23-NE-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected. Potential increase in overflight of Canvey Island and Basildon, although at a higher level.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today. Potential increase in overflight of Canvey Island and Basildon, although at higher level.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Potential interaction with London Stansted traffic, this swathe also moves departures closer to the LTMA and London City traffic.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, reducing complexity and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 16: Option D23-NE-B DP Assessment

6.5. Option **D23-NE-C**

D23-NE-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met due to the potential for IFP protection areas to fall within the Shoeburyness DA, this option would require a more robust safety argument than today.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as not met due to the increase in track miles meaning this option has the potential to increase CO2 emissions.		
6	**Operational Requirements**	Assessed as being partially met due to adding track miles, reducing operational efficiency.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures. This option keeps traffic away from the LTMA and associated traffic.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability and improving efficiency objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 17: Option D23-NE-C DP Assessment

6.6. Option **D23-NE-D**

D23-NE-D	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced due to the swathe being mainly over the estuary.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as not met due to the significant increase in track miles meaning this option has the potential to increase CO2 emissions.		
6	**Operational Requirements**	Assessed as being partially met due to adding track miles, reducing operational efficiency.		
7	**Airspace Dimensions**	Assessed as not met as significant additional controlled airspace would be required to contain the option.		
8	**Airspace Complexity**	Assessed as partially met as will result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Potential conflict with the current London City point merge.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, simplification, reducing complexity or improving efficiency objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 18: Option D23-NE-D DP Assessment

6.7. Option **D23-NE-E**

D23-NE-E	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as not met due to direct and significant overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites		
5	**Emissions and Air Quality**	Assessed as not met due to the increase in track miles meaning this option has the potential to increase CO2 emissions.		
6	**Operational Requirements**	Assessed as being partially met due to adding track miles, reducing operational efficiency.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Potential conflict with the current London City point merge. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA).		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as not met as fails to achieve any of the AMS objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 19: Option D23-NE-E DP Assessment

7. Departures Runway 23 – Northwest

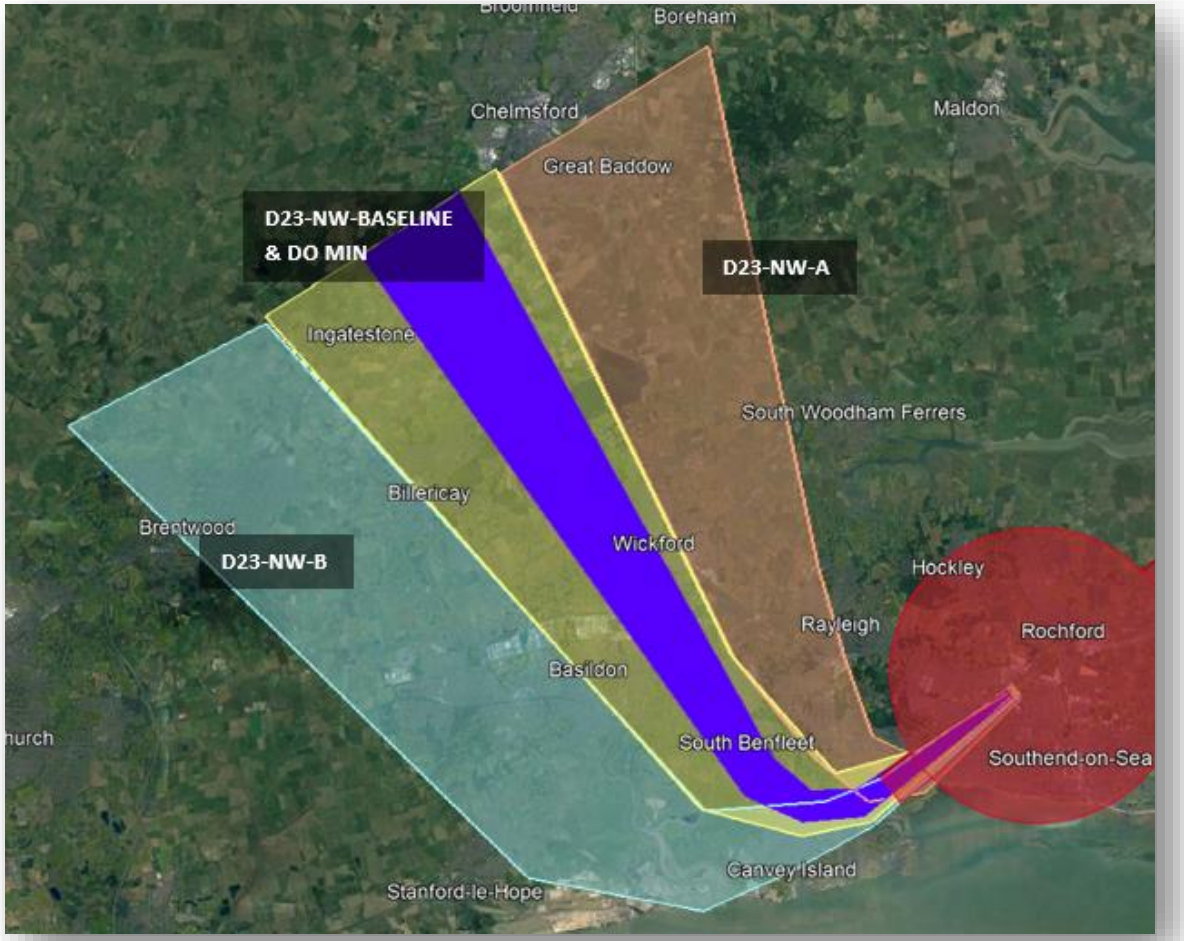

Figure 5: Departure Options Runway 23 - Northwest

7.1. Option **D23-NW-BASELINE/D23-NW-C**

D23-NW-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objective. Additionally, does not improve the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 20: Option D23-NW-BASELINE DP Assessment

7.2. Option **D23-NW-DO MINIMUM**

D23-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 21: Option D23-NE-Do Min DP Assessment

7.3. Option **D23-NW-A**

D23-NW-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased. This option could see a potential increase in overflight of Hadleigh and Rayleigh.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as not met. This option could see a tight turn at low level which could mean a potential increase in CO2 emissions.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Potential conflict with both current and future London Stansted departures to the East, however this would be the preferable option for London Stansted.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability or simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 22: Option D23-NW-A DP Assessment

7.4. Option **D23-NW-B**

D23-NW-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, as there are no established procedures, and may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures.. Closer proximity to LTMA traffic, increased potential for conflict with both current and future London Stansted departures to the South.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification or reducing complexity objectives. Additionally, no improvement is expected for some of the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 23: Option D23-NW-B DP Assessment

8. Departures Runway 23 – South/Southeast

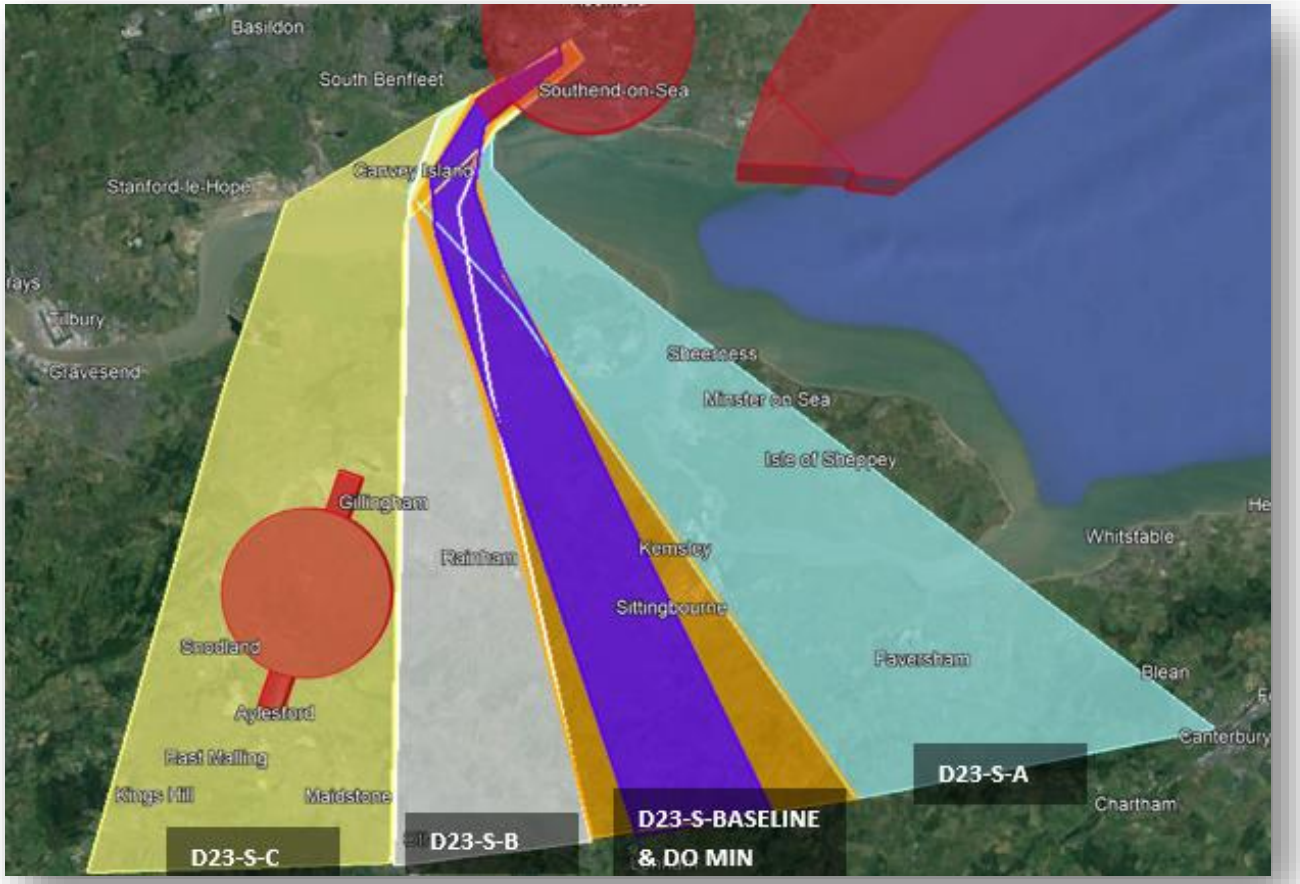

Figure 6: Departure Options Runway 23 - South/ Southeast

8.1. Option **D23-S-BASELINE**

D23-S-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are over 7000 ft at this point.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network, requires deconfliction with neighbouring airport routes and does not facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objective. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 24: Option D23-S-BASELINE DP Assessment

8.2. Option **D23-S-DO MINIMUM**

D23-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 25: Option D23-S-Do Min DP Assessment

8.3. Option **D23-S-A**

D23-S-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. Possible conflict with LSA arrival swathes A23-SE-E & A23-SE-F. This option could also conflict with the London City point merge.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 26: Option D23-S-A DP Assessment

8.4. Option **D23-S-B**

D23-S-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased. Depending on position of final track there is a potential increase in overflight of Rainham & Hempstead.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network and may facilitate free flow on departures.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 27:Option D23-S-B DP Assessment

8.5. Option **D23-S-C**

D23-S-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased Potential increase in overflight of different areas, for example - Canvey Island, Gillingham & Rochester.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (see DP2)		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites. Aircraft will fly over the Kent Downs AONB, however are expected to be over 7000 ft at this point.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network and would require deconfliction with neighbouring airport routes in order to facilitate free flow on departures. This option would move the departures for this runway and direction closer to LTMA 1 and London Gatwick Airport's traffic.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, simplification, reducing complexity or improving efficiency objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 28: Option D23-S-C DP Assessment

9. Arrivals Runway 05 – Northwest

Figure 7: Arrival Options Runway 05 - Northwest

9.1. Option **A05-NW-BASELINE**

A05-NW-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but requires deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 29: Option A05-NW-BASELINE DP Assessment

9.2. Option **A05-NW-DO MINIMUM**

A05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification and improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 30: Option A05-NW-Do Min DP Assessment

9.3. Option **A05-NW-A**

A05-NW-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased (over eastern Basildon).		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)		
4	**Tranquillity**	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network and may require deconfliction with neighbouring airport routes. Potential interactions with London Stansted and London City traffic. Network connectivity could increase complexity.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, reducing complexity and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 31: Option A05-NW-A DP Assessment

9.4. Option **A05-NW-B**

A05-NW-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased (over eastern Basildon).		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)		
4	**Tranquillity**	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Possible conflict with London Southend departure swathes D05-NW-A and D05-NW-B. Potential for multiple interactions with both current and future London Stansted departures to the East.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, reducing complexity and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 32: Option A05-NW-B DP Assessment

9.5. Option **A05-NW-C**

A05-NW-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as not met due to the increase in track miles meaning this option has the potential to increase CO2 emissions.		
6	**Operational Requirements**	Assessed as being partially met due to adding track miles, reducing operational efficiency.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes... Possible conflict with London Southend departure swathes D05-NW-A and D05-NW-B. Potential for multiple interactions with both current and future London Stansted departures to the East.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability, improving efficiency and simplification objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 33: Option A05-NW-C DP Assessment

9.6. Option **A05-NW-D**

A05-NW-D	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as fully met as the more direct route has the potential to reduce CO2 emissions.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network and may require deconfliction with neighbouring airport routes.. Potential for multiple interactions with both current and future London Stansted departures to the East. Network connectivity could increase complexity.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 34: Option A05-NW-D DP Assessment

10. Arrivals Runway 05 – South & East

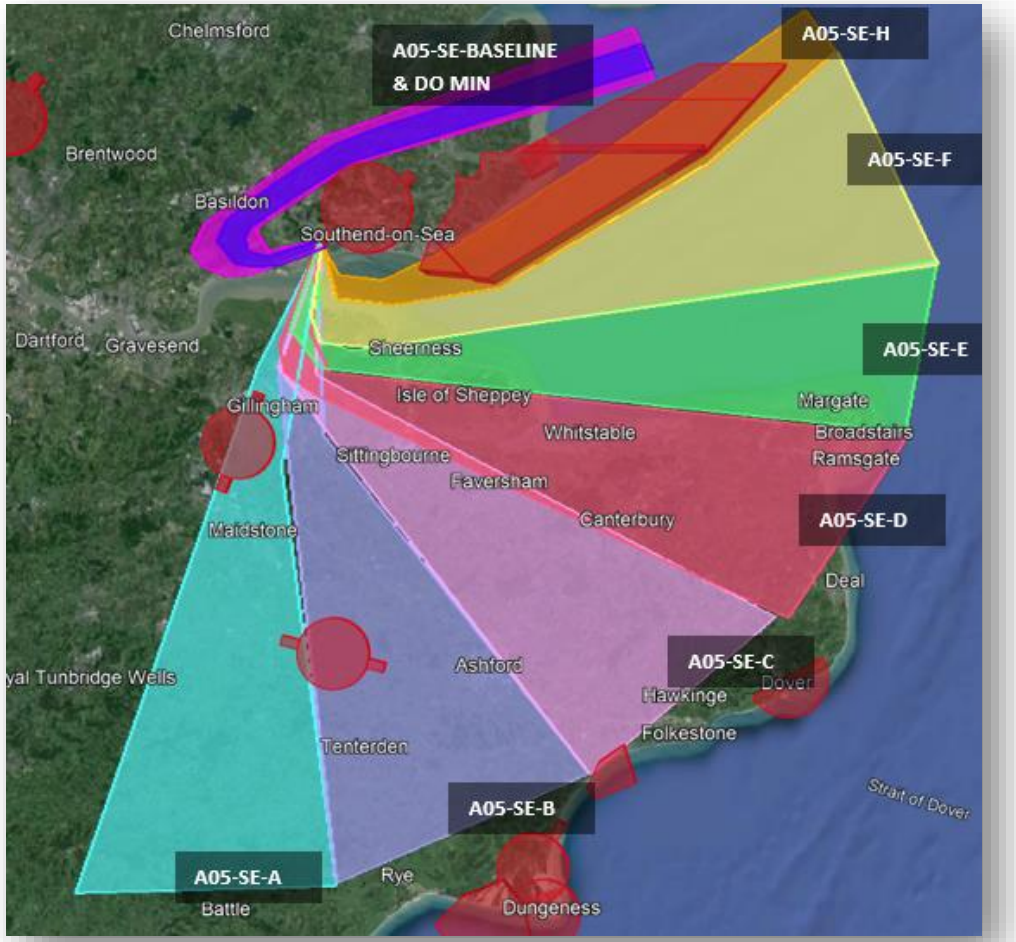

Figure 8: Arrival Options Runway 05 - South & East

10.1. Option **A05-SE-BASELINE/A05-SE-G**

A05-SE-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but requires deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as partially met as, on balance, fuel efficiency is not optimised due to the indirect route if arriving from the south however if arriving from the east the route is more direct so on balance	
12	**AMS Realisation**	Assessed as partially met as does not meet the improving efficiency and simplification objectives. Additionally, does not improve the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 35: Option A05-SE-BASELINE DP Assessment

10.2. Option **A05-SE-DO MINIMUM**

A05-SE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as fully met as integrates with the en-route network.	
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	
12	**AMS Realisation**	Assessed as partially met as does not meet the improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives..	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 36: Option A05-SE-Do Min DP Assessment

10.3. Option **A05-SE-A**

A05-SE-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased (Maidstone).		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased.		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as not met as does not integrate with the en-route network and may require deconfliction with neighbouring airport routes. Potential interaction with London City traffic and London Gatwick airport current procedures and potential for more interactions with LTMA traffic.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability and simplification objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 37: Option A05-SE-A DP Assessment

10.4. Option **A05-SE-B**

A05-SE-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. Potential interaction with London City traffic.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not achieve the simplification and environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 38: Option A05-SE-B DP Assessment

10.5. Option **A05-SE-C**

A05-SE-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. Tactically achieved in today's operation but only when deconflicted from LTMA departing traffic to the SE. This swathe may be suitable if arrivals were underneath the London City point merge.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not achieve the simplification and all environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 39: Option A05-SE-C DP Assessment

10.6. Option **A05-SE-D**

A05-SE-D	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as not met due to overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as fully met as the more direct route has the potential to reduce CO2 emissions.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. This swathe may be suitable if arrivals were underneath the London City point merge.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet the improving efficiency objectives or all environmental sustainability objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 40: Option A05-SE-D DP Assessment

10.7. Option **A05-SE-E**

A05-SE-E	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as fully met as has a more direct route than today and therefore has the potential to reduce CO2 emissions.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification, reducing complexity and improving efficiency objectives. Additionally, does not improve the environmental sustainability objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 41: Option A05-SE-E DP Assessment

10.8. Option **A05-SE-F**

A05-SE-F	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the east but increase CO2 emissions if arriving from the south.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as fully met as integrates with the en-route network..		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification, reducing complexity, environmental sustainability or improving efficiency objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 42: Option A05-SE-F DP Assessment

10.9. Option **A05-SE-H**

A05-SE-H	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as not met due to direct and significant overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA) and the London City Point Merge.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, simplification, environmental sustainability or improving efficiency objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 43: Option A05-SE-H DP Assessment

11. Arrivals Runway 23 – Northwest

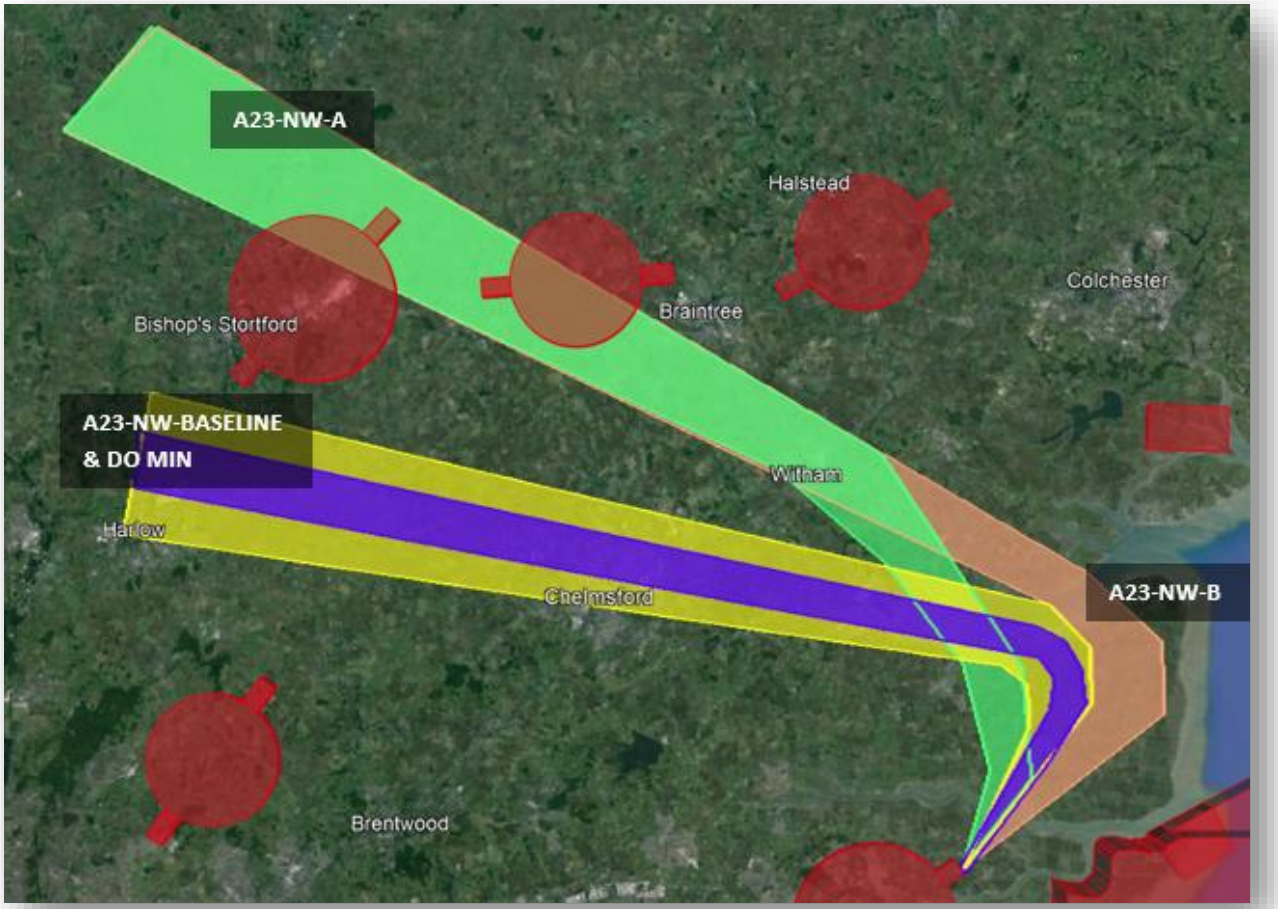

Figure 9: Arrival Options Runway 23 - Northwest

11.1. Option **A23-NW-BASELINE**

A23-NW-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification objective. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 44: Option A23-NW-BASELINE DP Assessment

11.2. Option **A23-NW-DO MINIMUM**

A23-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as partially met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.	
12	**AMS Realisation**	Assessed as fully met although there is no improvement expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 45: Option A23-NW-Do Min DP Assessment

11.3. Option **A23-NW-A**

A23-NW-A	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. Would need to be deconflicted from London Stansted and London City traffic.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 46: Option A23-NW-A DP Assessment

11.4. Option **A23-NW-B**

A23-NW-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.		
2	**Overflight**	Assessed as not met due to the number of people overflown being increased.		
3	**Noise Footprint**	Assessed as not met as the impact of aircraft noise on local communities may be increased.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same or similar as today.		
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. Would need to be deconflicted from London Stansted and London City traffic.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 47: Option A23-NW-B DP Assessment

12. Arrivals Runway 23 – South & East

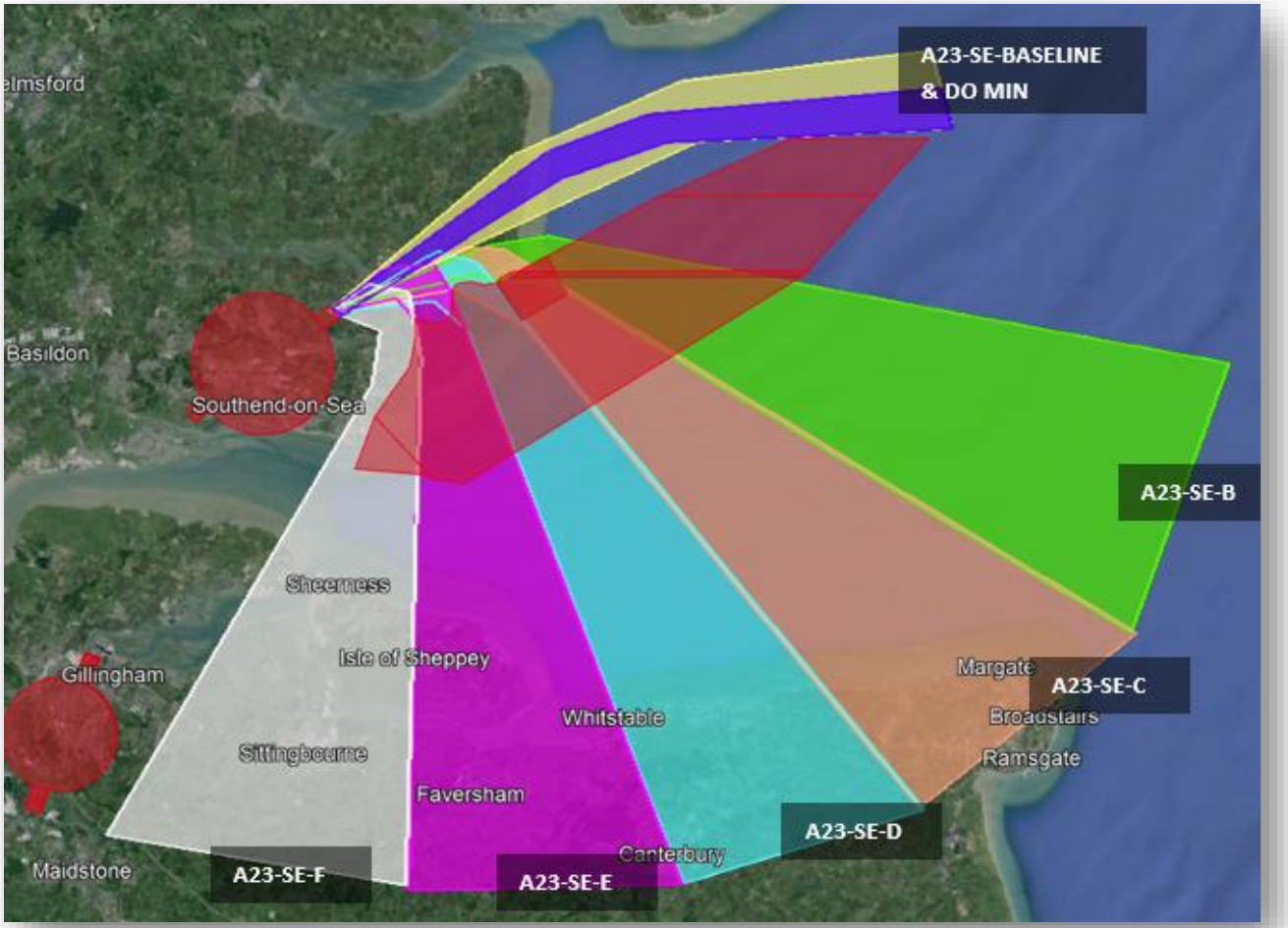

Figure 10: Arrival Options Runway 23 - South & East

12.1. Option **A23-SE-BASELINE/A23-SE-A**

A23-SE-BASELINE	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	
2	**Overflight**	Assessed as partially met as the number of people overflown is no different than today.	
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise is no different than today.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be the same as today.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as partially met as it does not make full use of the technology available.	
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.	
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	
12	**AMS Realisation**	Assessed as partially met as does not meet the simplification or improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as not meeting the DP criteria due to currently not utilising PBN.	

Table 48: Option A23-SE-BASELINE Assessment

12.2. Option **A23-SE-DO MINIMUM**

A23-SE- DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as fully met as no safety issues identified.	
2	**Overflight**	Assessed as fully met as the number of people overflown is broadly similar although more consolidated.	
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise is broadly similar although more consolidated.	
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	
5	**Emissions and Air Quality**	Assessed as partially met as emissions will be broadly similar although more consolidated.	
6	**Operational Requirements**	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.	
8	**Airspace Complexity**	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.	
10	**Systemisation**	Assessed as fully met as integrates with the en-route network..	
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	
12	**AMS Realisation**	Assessed as partially met as does not meet the improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.	

Table 49: Option A23-SE-Do Min DP Assessment

12.3. Option **A23-SE-B**

A23-SE-B	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as fully met as the number of people overflown has the potential to be reduced.		
3	**Noise Footprint**	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the east but increase CO2 emissions if arriving from the south.		
6	**Operational Requirements**	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA) and the London City Point Merge.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, simplification, reducing complexity and improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 50: Option A23-SE-B DP Assessment

12.4. Option **A23-SE-C**

A23-SE-C	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as fully met as the more direct route has the potential to reduce CO2 emissions.		
6	**Operational Requirements**	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability. RAG score amended post stakeholder feedback.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport, the route would only be used when the DA is not active.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA) and the London City Point Merge.		
11	**Operational Cost**	Assessed as not met as fuel efficiency is not optimised due to the indirect route.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, simplification, reducing complexity and improving efficiency objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as partially met as this design should capitalise on the benefits of PBN, enhancing navigational adherence but does not make airspace usage more efficient.		

Table 51: Option A23-SE-C DP Assessment

12.5. Option **A23-SE-D**

A23-SE-D	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes.. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA).		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, reducing complexity and simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 52: Option A23-SE-D DP Assessment

12.6. Option **A23-SE-E**

A23-SE-E	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The entire swathe routes through the Shoeburyness Danger Areas (DA). This option could be used as a potential respite route for when the DAs are inactive.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability.		
7	**Airspace Dimensions**	Assessed as partially met as an increase in controlled airspace may be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA) and conflicts with LTMA departures.		
11	**Operational Cost**	Assessed as fully met as fuel efficiency is optimal without an adverse impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, reduced complexity and simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 53: Option A23-SE-E DP Assessment

12.7. Option **A23-SE-F**

A23-SE-F	Design Principle	Qualitative Assessment	Post Stakeholder Feedback 2022	New Criteria Assessment 2024
1	**Importance of Safety**	Assessed as partially met as additional safety work would need to be done to make this a viable option. The majority of the swathe routes through the Shoeburyness DA. This option could be used as a potential respite route for when the DA are inactive, or a potential route missing the DA confines, subject to IFP design requirements.		
2	**Overflight**	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.		
3	**Noise Footprint**	Assessed as partially met as the impact of aircraft noise may be similar in terms of the number of people affected, but new or different communities may be affected.		
4	**Tranquillity**	Assessed as not met due to significant overflight of Kent Downs AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.		
5	**Emissions and Air Quality**	Assessed as partially met. The more direct route has the potential to reduce CO2 emissions if arriving from the south but increase CO2 emissions if arriving from the east.		
6	**Operational Requirements**	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability. RAG score amended post stakeholder feedback.		
7	**Airspace Dimensions**	Assessed as fully met as no new volume of controlled airspace would be required.		
8	**Airspace Complexity**	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.		
9	**Technical Requirements**	Assessed as being fully met due to the design being fully compliant with PANS-OPS and UK CAA criteria meeting the technical capability requirements of all aircraft using the airport.		
10	**Systemisation**	Assessed as partially met as integrates with the en-route network but may require deconfliction with neighbouring airport routes. Potential increase in complexity due to interaction with the Shoeburyness Danger Areas (DA) and conflicts with LTMA departures.		
11	**Operational Cost**	Assessed as partially met as fuel efficiency is optimal however there may be some impact on local communities.		
12	**AMS Realisation**	Assessed as partially met as does not meet all of the safety, reduced complexity and simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.		
13	**PBN**	Assessed as fully met as this design shall capitalise on the benefits of PBN, enhancing navigational adherence and introducing a more efficient use of the airspace.		

Table 54: Option A23-SE-F DP Assessment

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