

**Airspace Change Proposal
Stage 2a**

**London Southend Airport Design
Principle Evaluation - Annex**

London Southend Airport FASI(S)

ACP-2018-90



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Version	Date	Description of Changes
Version 1	09/11/2022	
Version 1.1	03/11/2023	<p>All changes are summarised below;</p> <ul style="list-style-type: none"> • Pie charts removed as deemed unnecessary (question was did the stakeholder agree with the assessment or not – yes/ no answer and provided no useful information). • Two additional options added D23-NE-E and A05-SE-H. • Redefined baselines added as standalone options. • Options that previously contained the baseline amended • All options checked and reassessed against the redefined baseline. • Essex County Council feedback added and addressed from 1st round of engagement. • Extra column added in DPE tables to show the RAG score pre feedback (Initial Eval.) to illustrate where feedback has influenced the changes. • Where the RAG score has changed with no feedback evident – justification provided. • Name of organisation who made each comment added for transparency. • RAG scores and feedback assessments checked for consistency and amended where necessary.

Version	Date	Description of Changes
Version 1.2	03/10/2024	<p>Changes are summarised below;</p> <ul style="list-style-type: none">• Introduction updated.• Assessment criteria included.• Do-minimum DPE added.• Summary sections for each option added.• Round 3 feedback included.• All DPEs reassessed according to new criteria and subsequently amended following stakeholder feedback.• Additional survey feedback included as a final section.

Executive Summary

This document is the Annex to the report titled 'Stage 2A Options Development and Design Principle Evaluation', which can be found on the [ACP Portal](#). It contains the Detailed Design Principle Evaluation for London Southend Airport's (LSA) Future Airspace Implementation (South) FASI(S) Airspace Change Proposal (ACP) Stage 2 and associated stakeholder feedback.

A summarised version of this assessment is contained within the main document, with detailed descriptions of the methodology and process applied.

Abbreviations

ACP	Airspace Change Proposal
AONB	Area Outstanding Natural Beauty
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
BKY	Barkway
BPK	Brookman's Park
CLN	Clacton
CPT	Compton
DA	Danger Area
DET	Detling
DE	Design Envelopes
DP	Design Principle
DPE	Design Principle Evaluation
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
PDP	Preferential Departure Route
RAG	Red, Amber, Green
RNAV	Area Navigation
RNP	Required Navigation Performance
RSPB	The Royal Society of the Protection of Birds
SPA	Special Protection Area
STN	Stansted
VOR	Very High Frequency Omni-Directional Range

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1. Introduction

1.1. Design Principle Assessment

This document is the Annex to the report titled ‘Stage 2A Options Development and Design Principle Evaluation’, which can be found on the [ACP Portal](#). This annex contains a detailed Design Principle Evaluation (DPE) for London Southend Airport’s (LSA’s) Future Airspace Implementation South (FASI)(S) Airspace Change Proposal (ACP).

Each option is assessed against all thirteen Design Principles (DP)¹ and associated stakeholder feedback is provided. A summary of this assessment, and stakeholder feedback, is in section 7 of the Options Development and Design Principle Evaluation document. The methodology is provided in section 6.1.

The following sections present a short summary for each option, followed by the DPE for that option and then show the relevant survey questions, stakeholder responses and LSA responses (in bold). At the beginning of each section there is a reminder of the options presented in Design Envelopes (DE), for example, Figure 1 illustrates options A and B, in addition to the Baseline and Do-Minimum, for northeast departures. Each option, baseline and do-minimum are then presented in tables with the Red, Amber Green (RAG) scores from each evaluation.

In the DPE tables, there are multiple columns indicating the RAG score at various assessment points. Note that tables have different numbers of evaluation/feedback columns, this is because not all options have been through each round of engagement. More details for each individual option can be found in the summary section for the option.

The First evaluation was conducted by the team at Cyrrus and LSA in 2022 and is shown in the column titled ‘Initial Evaluation 2022’, these original options then went through a round of engagement with the stakeholders and their comments and feedback informed the ‘Post Stakeholder Feedback 2022’ score.

More information regarding the rounds of engagement can be found in the Options Development and Design Principle Evaluation (2a) document. The engagements were held as follows:

- First round: 8th of April 2022

¹ See section 6.2.1 of the Options Development and Design Principle Evaluation document for the full list of DPs with descriptions.

- Second round: 26th September 2023
- Third round: 23rd July 2024

In 2023 an internal evaluation was conducted on the redefined baselines which had now become their own standalone options, these evaluations are shown as the 'Initial Evaluation 2023'. Two new options were also introduced in 2023 (D23-NE-E and A05-SE-H), these options went through an initial Evaluation in 2023, and a subsequent round of stakeholder engagement which informed the 'Post Stakeholder Feedback 2023' score.

In 2024 the Baselines were redefined and the assessment criteria for the DPE was re-evaluated. All of the options went through internal reassessment and were scored according to the new assessment criteria, this is shown in the 'New Assessment Criteria 2024' column. The new Do-nothing and Do-minimum options were introduced to stakeholders and their feedback was requested. The updated assessments for the remaining options were also shown to the stakeholders and their feedback informed the final DPE assessment for all of the options which is shown in the final column for all options 'Post Stakeholder Feedback 2024'.

The following table provides an explanation of the assessment criteria for each DP:

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’.	
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’.	
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’.	
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’. Reference to sites of care or education, cultural or historic assets have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.	

DP #	Design Principle		Qualitative Assessment
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’.
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.
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.
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’.
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.

DP #	Design Principle	Qualitative Assessment
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.
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’.
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.
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’.
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. Where an option meets the AMS objective but does not provide any improvement from today then this has been noted in the assessment.
New Criteria	Fully Met: Aligned with the AMS.	Partially Met: Partially aligned with the AMS. Not Met: Not aligned with the 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.
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.

Table 1: DPE Assessment Criteria

2. Departures Runway 05 - Northeast

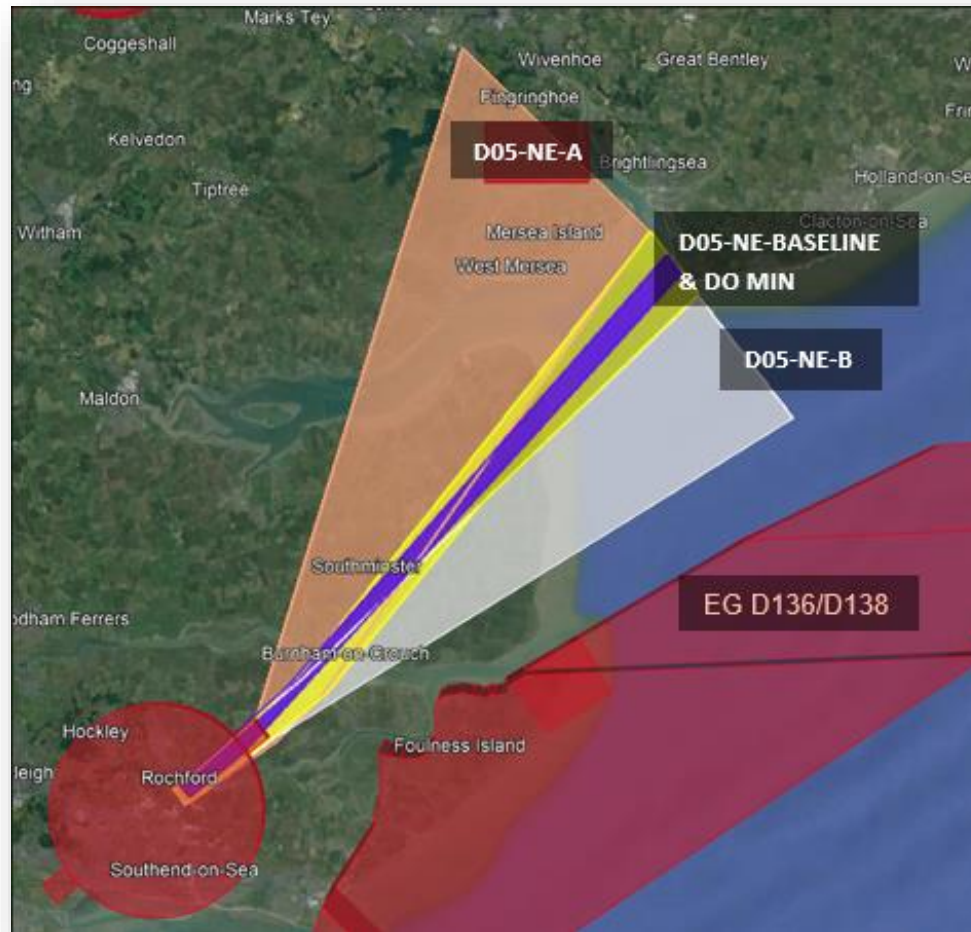


Figure 1: Departure Options Runway 05 - Northeast

2.1. Option D05-NE-BASELINE

2.1.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

Seven of eight responses indicated that the DPs had been applied correctly, the comments in section 2.1.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

2.1.2. Design Principle Evaluation

D05-NE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in Burnham-on-Crouch.			
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.			

D05-NE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
9	Technical Requirements	Assessed as partially met as it does not make full use of the technology available.	Green	Yellow	Yellow
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.	Green	Red	Red
11	Operational Cost	Assessed as partially met as fuel efficiency is optimal however there is some impact on local communities.	Green	Yellow	Yellow
12	AMS Realisation	Assessed as partially met as does not meet the simplification objectives.	Green	Yellow	Yellow
13	PBN	Assessed as not meeting the DP criteria due to currently not utilising PBN.	Green	Red	Red

Table 2: Option D05-NE-BASELINE DP Assessment

2.1.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D05-NE-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight -ECC notes that the Qualitative Assessment – states “assessed as partially met due to the same number of people being overflown as today”. It is recommended that the assessment highlights the key conurbations that would continue to be impacted by the adoption of this flight

path option. Furthermore given that the population density maps will be utilised at the next stage of CAP1616 process, more vague terminology should be utilised. For instance terms such as ‘it is likely that’ or ‘it is assumed.’ As that actual scale is yet to be established.

DP3 – Noise Footprint – Similarly to the comment highlighted above, ECC recommends that the qualitative assessment provides an understanding as to the communities that would continue to be impacted by the adoption of this flight path option.

DP4 – Tranquillity – ECC notes that DP4 now includes reference to ‘education’ as outlined on page 13 of the consultation document. However it is acknowledged that throughout the assessment there is no reference to education or any community and social infrastructure that may be sensitive to noise. ECC’s response dated 5th May 2022 demonstrated that sensitive receptors may include schools, Early Years and Child Care Facilities, facilities for Special Educational Needs, and Residential Care Homes. It should be noted that the noise threshold to avoid a breach on school sites is 55db LAeq (30min). It is unclear from reviewing the assessment as to whether these noise sensitive receptors have been considered and any impacts noted.

DP9 – Technical Requirements – The assessments highlights that this option does ‘not make full use if the technology available’. ECC recommends that more elaboration be given as to whether there are any amendments that may be made to facilitate this, or whether this can be reviewed within the latter stage of the design process.

DP11 – Operational Cost – ECC notes that the assessment highlights there is ‘some impact on local communities’. It is recommended that the assessment highlights the communities/conurbations that may be impacted to aid understanding.’

DP2- We have added the key areas overflown in today’s operation. We have not changed the wording of the assessment as with this option there would be no change from what happens today so there would be no change to the number of people overflown. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’. DP9- The DP has been deemed not to meet the technical requirements DP, if we were to make amendments as suggested that would then make this BASELINE option the DO-MIN option, as the DO-MIN is a refinement of the BASELINE utilising modern technology.

Kent County Council

‘KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

2.2. Option D05-NE-DO MINIMUM

2.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While four of eight responses indicated that the DPs had been applied correctly, the comments in section 2.2.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received focused on integration of the Proposed Design into the en-route network, a request for overflown communities to be identified and cultural/historic sites to be considered as noise sensitive areas.

2.2.2. Design Principle Evaluation

D05-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 over Burnham-on-Crouch.		
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.		

D05-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 3: Option D05-NE-DO MIN DP Assessment

2.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - D05-NE-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Four respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

‘Please explain how the proposed design integrates with the en-route network as it appears to replicate the do-nothing option, yet that option was deemed as not integrating with the en-route network.’

Following the response to the survey from Gatwick Airport, LSA spoke with them and explained how departures are currently handled. It was explained that the Preferential Departure Routes (PDRs) are subject to tactical release in addition to release by the LSA radar Air Traffic Control Officer (ATCO). The procedure was discussed in detail, and it was explained that for some departures a release from TC South and Thames is required, these are en-route sectors², furthermore this requires 3 coordination calls³, when the aircraft is ready at the runway holding point. This process can regularly result in delays, and given LSA’s limited taxiway infrastructure, the delay becomes cumulative to the other aircraft in the departure sequence. With the introduction of an RNAV SID, which integrates with the enroute network, the aim is to reduce the coordination currently required and potentially facilitate free flow⁴ for the departures.⁵

NATS (NERL)

‘DP10: NERL would comment that simply making a SID RNAV would not necessarily equate to free flow on that route.’

LSA is aware that free flow for the departures would not necessarily be available with the introduction of an RNAV SID, however the aim would be to better integrate with the en route network and reduce the coordination currently required with the potential to facilitate free flow.

Essex County Council

² An en-route sector refers to a designated airspace segment in which air traffic controllers manage aircraft flying at cruising altitudes, typically during the middle phase of a flight. These sectors are part of larger flight information regions (FIRs) and are managed by area control centres.

³ A coordination call in air traffic management refers to communication between air traffic controllers, typically from different sectors or control centres, to ensure the smooth and safe handoff of an aircraft as it moves between areas of responsibility.

⁴ Free flow refers to pre-arranged coordination between the airport and en-route sector which means aircraft are able to depart the airport without delay and the need for the tower controller to phone the en-route sector for release (authorisation). This saves time for both the controllers and aircraft and leads to a more expeditious operation.

⁵ More information about the current procedures can be found in the baseline section of the document titled ‘ACP Options Development and Design Principle Evaluation’ which can be found on the ACP Portal.

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP11 – Operational Cost - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.'

DP2- we have added the key areas overflown in today's operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'. DP9- The DP has been deemed not to meet the technical requirements DP, if we were to make amendments as suggested that would then make this BASELINE option the DO-MIN option, as the DO-MIN is a refinement of the BASELINE utilising modern technology.

National Trust

'4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.'

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent County Council

'NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the 'no' response.'

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team



'Not assessed as not relevant to the Kent Downs National Landscape.'

2.3. Option D05-NE-A

2.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

While six respondents agreed that the DPs had been correctly applied in Round 1 of engagement, the comments in section 2.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation or, conversely, the need to disregard other communities and/or sites from consideration. There was also a call for further textual justification of evaluations under various DPs.

2.3.2. Design Principle Evaluation

D05-NE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed being increased. Depending on the placement of final routes, this option could see an increase in people overflowed: 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.				

D05-NE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 4: Option D05-NE-A DP Assessment

2.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 05 - Northeast

Do you think we have correctly applied the Design Principles to swathe D05-NE-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Six respondents agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

'DP2/DP3 swathe appears to include Southminster so should be assessed same as D05-NE-B. Also appears to include Burnham-on-Crouch, which appears larger than Southminster.'

LSA agree and we have included the additional areas in our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

NATS (NERL)

'No; Swathe A indicates that it would overfly the holiday park at Mersea Island, this is incorrectly captured in the table below.'

LSA agree and we have removed Mersea Island from our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

Barling Parish Councillor

'No; the departure D05 NE-A Aircraft should be encouraged to have a maximum gradient of climb, utilising maximum performance, ensuring thrust reduction altitude is at 1500' and acceleration altitude is 3,000' or preferably 4,000 which will then ensure a minimum noise impact on Great Stambbridge, aircraft are then to be kept mid-way between Ashingdon and Canewdon avoiding the major population areas of these villages, and being at the base of London airspace by the river Crouch, reducing the noise footprint at Burnham. How does the current proposal meet (Design principle 9, page 4 of the presentation). DP9. The current actual fully met lines take aircraft over the populated areas of the area which is unnecessary however with the reduction of VOR and increased RNP the requirement to route to CLN will be reduced allowing a more varied departure routing and aircraft to be higher when over local villages.'

This is welcome feedback from our stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No, 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Blackwater Estuary SPA and Ramsar, Essex Estuaries SAC, Colne Estuary SPA and Ramsar, and Dengie SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants’.

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn't changed the RAG score.

Private Pilot

‘No; Looking at runway 05 NE-A DP4 have 5 possible conflict areas, with a bit of tweaking and use of RNP (RNAV) positions the overflight of populated areas 2,3 and the bird sanctuary 5 could be completely avoided, certainly the aircraft could be a lot higher overpopulated areas if departure option 2 described above is stated in the text on the departure routes. Aircraft then don't have to follow the fully met tracks to CLN before turning. TUGPO TRIPO then enroute could be the solution. Overflight of the bird sanctuary at Wallasea could easily be at or above 6,000' if departure option 2 described above would be stated.’

This is welcome feedback from our Stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

NE – A and B – The table provides an amber RAG rating for DP 4 – Tranquillity. It would appear that the A and B routes have been scored because of conflict with a sensitive area. The map and any information outlined in the booklet gives very little detail on the precise nature of the sensitive areas that are analysed beyond the Shoeburyness Danger Area. ECC considers that there are sites that may be considered sensitive areas (e.g. environmentally sensitive, noise sensitive schools, independent living accommodation etc), and these should be clearly identified and understood. Furthermore, the table should provide a brief overview to justify the rating, so that all partners are aware of why a specific rating has been applied. This will assist future review and ensure that the process is clear, logical and transparent for partners.

DP10 – Systemisation - Similarly to the comments set out above the table scores this as amber with ‘possible conflict’ as the justification. In reviewing this table, it is recommended if the justification could provide a clear understanding of the conflict or systemisation issues that may arise, so that all partners are aware.

DP2 – Overflight and DP3 – Noise Footprint – ECC notes that NE – A is scored fully met on the table, while NE- B is scored red. Route A seems to follow a somewhat similar route in close proximity to the airport, and where there are more built-up conurbations within Rochford, Southend and the southern parts of the Maldon district. ECC welcomes further elaboration of the ratings to ensure a full understanding of the scoring.

LSA agree and we have amended our assessment of DP2 and DP3 and provided textual justification across all of the DPs, especially when the RAG score has changed. Further, more detailed, analysis of noise sensitive sites such as schools, independent living accommodation etc. will be conducted at CAP1616 Stage 3 when we have a clearer understanding of where the final tracks may lie.

Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

2.4. Option D05-NE-B

2.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

While seven respondents agreed that the DPs had been correctly applied, the comments in section 2.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation or, conversely, the need to disregard other communities and/or sites from consideration. There was also a call for further textual justification of evaluations under various DPs.

2.4.2. Design Principle Evaluation

D05-NE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Red	Green	Green	Green
3	Noise Footprint	Assessed as fully met as the impact of aircraft noise has the potential to be reduced. (See DP2)	Red	Green	Green	Green
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Yellow	Yellow	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow

D05-NE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 5: Option D05-NE-B DP Assessment

2.4.3. Stakeholder Feedback – Round 1 – 2022

Survey Question

‘DEPARTURES Runway 05 – Northeast.

Do you think we have correctly applied the Design Principles to swathe **D05-NE-B**?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents thought that we had correctly applied the Design Principles.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 swathe includes Burnham-on-Crouch, which appears larger than Southminster, should be considered also.’

LSA agree and we have included the additional areas in our assessment of DP2 and DP3.

NATS (NERL)

‘No; Swathe B indicates that it would not overfly the holiday park at Mersea Island, this is incorrectly captured in the table below:’

LSA agree, and we have removed Mersea Island from our assessment of DP2 and DP3.

Barling Parish Councillor

‘No; the departure DO5 NE-B Aircraft should be encouraged to have a maximum gradient of climb, utilising maximum performance, ensuring thrust reduction altitude is at 1500’ and acceleration altitude is 3,000’ or preferably 4,000 which will then ensure a minimum noise impact on the villages of Great Stambridge Paglesham, improving the importance of safety by ensuring aircraft are significantly above the major hazard of the increased number of birds around the RSPB Wallesea Island area. Not below 4000 on reaching the River Crouch or increase the base of the Southend Class D airspace to allow reduction of the noise footprint at Burnham. How does the current proposal meet DP9. The current actual fully met lines take aircraft over the populated areas of the area, which is unnecessary, however with the reduction of VOR and increased RNP the requirement to route to CLN will be reduced allowing a more varied departure routing and aircraft to be higher when over local villages.’

This is welcome feedback from our stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Essex Estuaries SAC, Colne Estuary SPA and Ramsar, and Dengie SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Private Pilot

‘No; Departure D05 NE B DP2 2 areas DP3 3 areas and DP10 possible conflict 4, this option would be a less noise sensitive option if aircraft were allowed to climb and the use of RNP positions away from built up areas which in modern aircraft technology is easy and these areas could be avoided, and acceleration of aircraft was restricted to above 3500’ and stated in the departure text’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

NE – A and B – The table provides an amber RAG rating for DP 4 – Tranquillity. It would appear that the A and B routes have been scored because of conflict with a sensitive area. The map and any information outlined in the booklet gives very little detail on the precise nature of the sensitive areas that are analysed beyond the Shoeburyness Danger Area. ECC considers that there are sites that may be considered sensitive areas (e.g. environmentally sensitive, noise sensitive schools, independent living accommodation etc.), and these should be clearly identified and understood. Furthermore the table should provide a brief overview to justify the rating, so that all partners are aware of why a specific rating has been applied. This will assist future review and ensure that the process is clear, logical and transparent for partners.

DP10 – Systemisation - Similarly to the comments set out above the table scores this as amber with ‘possible conflict’ as the justification. In reviewing this table, it is recommended if the justification could provide a clear understanding of the conflict or systemisation issues that may arise, so that all partners are aware.

DP2 – Overflight and DP3 – Noise Footprint – ECC notes that NE – A is scored fully met on the table, while NE- B is scored red. Route A seems to follow a somewhat similar route in close proximity to the airport, and where there are more built-up conurbations within Rochford, Southend and the southern parts of the Maldon district. ECC welcomes further elaboration of the ratings to ensure a full understanding of the scoring.

LSA agree and we have amended our assessment of DP2 and DP3 provided textual justification across all of the DPs, especially when the RAG score has changed. Further, more detailed, analysis of noise sensitive sites such as schools, independent living accommodation etc. will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie.

Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

3. Departures Runway 05 – Northwest

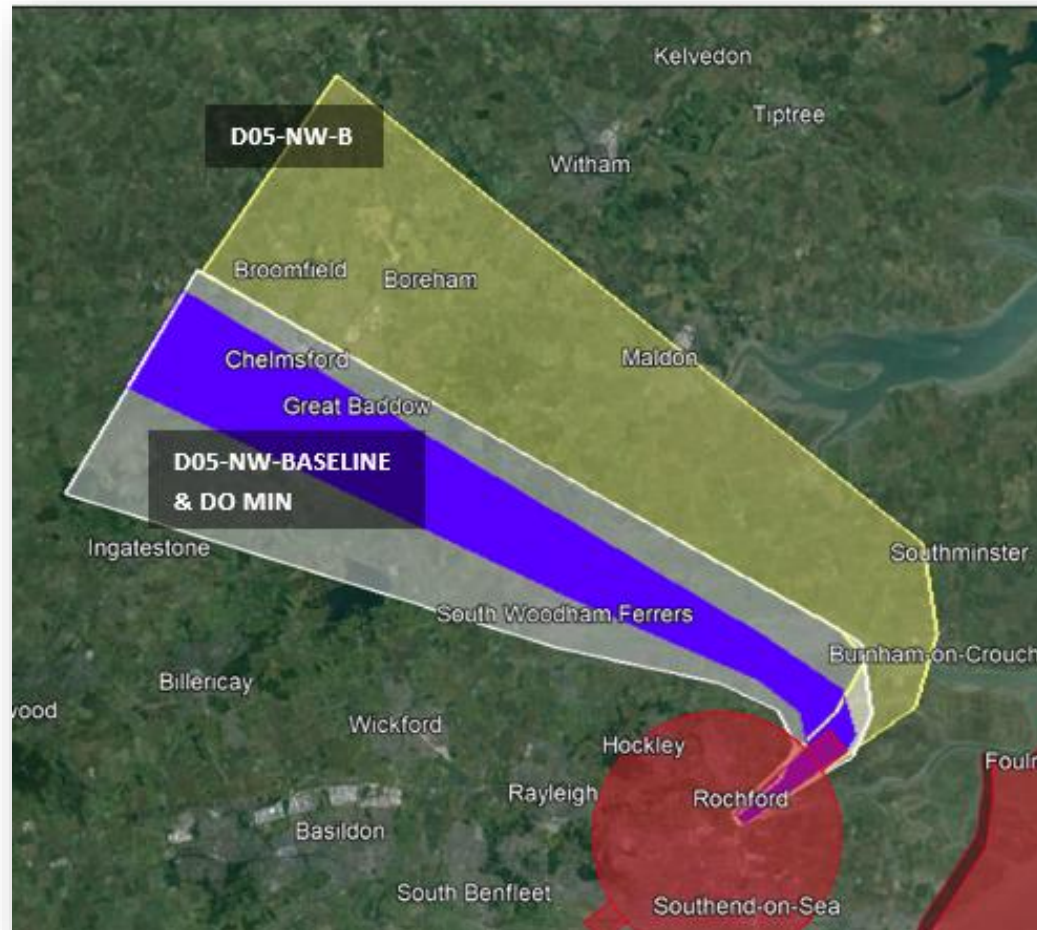


Figure 2: Departure Options Runway 05 - Northwest

3.1. Option **D05-NW-BASELINE (Previously D05-NW-A)**

3.1.1. Summary

This section summarises the engagement undertaken in Round 1, where this option was previously named D05-NW-A. Following the redefinition of the baselines in 2023 and 2024, this option then became our Do-Nothing Baseline and went through further engagement in Round 3. Round 2 engagement was specifically for feedback on some additional options that were introduced.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 3.1.3, below the Table, capture other views expressed and the sponsor’s replies.

In Round 3, six out of eight respondents felt the DPs had been correctly applied. Other views expressed and sponsor’s replies are available in Section 3.1.4.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. This included a call for consideration of sites of future development. There was also a request for further textual justification of evaluations under various DPs.

3.1.2. Design Principle Evaluation

D05-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified as this is today’s current operation and baseline.	Green	Green	Green	Green
2	Overflight	Assessed as partially met as the number of people overflowed is no different than today mainly in South Woodham Ferrers.	Yellow	Green	Yellow	Yellow
3	Noise Footprint	Assessed as partially met as the impact of aircraft noise is no different than today.	Yellow	Green	Yellow	Yellow
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Green	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same as today.	Yellow	Green	Yellow	Yellow

D05-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 6: Option D05-NW-BASELINE DP Assessment

3.1.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe D05-NW-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight responses stated that we had correctly applied the Design Principles.

Other stakeholder feedback with our responses in **BOLD**:

Barling Parish Councillor

‘No; DO5 NWA Aircraft should be encouraged to have a maximum gradient of climb, utilising maximum performance, ensuring thrust reduction altitude is at 1500’ and acceleration altitude is 3,000’ or preferably 4,000 and allowed unrestricted climb to be above 5,000’ by the river crouch, avoiding all built up areas, by at 400’ turning to follow the river roach until clear of Great Stambridge then turning north until above 5000’ and east abeam Canewdon before turning northwest. How does the current proposal meet DP9. The current actual fully met lines take aircraft over the populated areas of the area which is unnecessary however with the reduction of VOR and increased RNP the requirement to route to LAM or BPK will be reduced allowing a more varied departure routing and aircraft to be higher when over local villages.’

This is welcome feedback from our stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Conflict with both current and future London Stansted (STN) departures to the East and South. Level restrictions or Air Traffic Control (ATC) intervention will be required to ensure separation. Potential conflict with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP 12 – AMS Realisation – STN note the highlighted constraint as Shoeburyness Range, however we would expect the location and potential operations of other airports to be noted as either a constraint or a material consideration to align with the AMS. In both cases STN would like to gain an understanding of the altitude to which the swathes extend to and work with SEN to resolve interactions.’

LSA have included London Stansted Airport’s comments in our assessment of DP10, however based on this being our baseline option and no different than today’s operation, the RAG score is assessed as fully met.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Private Pilot

‘D05 NW A is right overhead one of the most densely populated areas around the airport and if projected house building is turned into houses being built will lead to more noise complaints, also with the removal of the VOR LAM, BPK, BKY, CPT in the relative near future this will allow aircraft to be more efficient and produce less CO2 on departure. NWA is less preferred than NWB and NWB could be made more efficient by the use of RNP positions away from Ashingdon, Hockley etc.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that DP2 entitled overflight states that “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”. The analysis of the impact for runway 05 – North-West highlights NW-B as amber due to “different communities, possibly at lower level”. ECC questions the application of DP2, as this justification does not demonstrate whether there has been increase in persons overflown, which is the purpose of the DP2. From the brief justification text, it is considered that the weight to legacy routes is something that is being assessed within DP2, which is not the purpose of DP2. ECC does consider that within the analysis due consideration should be given to legacy routes, and therefore following this exercise a review of the precise wording for the Design Principles may be required prior to advancing to the next stage in the CAP1616 process.

ECC notes that NW-B is scoring DP3 entitled Noise Footprint as amber. The justification wording may be unclear for some partners, but ECC is interpreting this as because flights may be at a lower altitude this may increase the noise footprint, and hence justify the amber scoring.

NW-A scores DP4 as amber while DP4 (tranquillity) for NW-B is fully met. ECC considers that the information presented does not clearly allow for an appreciation of the impact on sensitive areas. Our overarching response highlights some of the sensitive areas that should be considered when reviewing the impact of airspace route changes, and it is welcomed that the justification demonstrates a review of such information and then appropriate RAG score given with a supporting justification.

ECC notes that for both NW- A and NW-B DP10 is scored as amber, and for all partners to readily understand the justification further information is required.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Further, more detailed, analysis of noise sensitive sites such as schools, independent living accommodation etc. will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie.

Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

3.1.4. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D05-NW-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Six respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

‘DP2 – Overflight – Similarly to the comments raised ‘Do Nothing’ Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP5 – Emissions and Air Quality – ECC notes that if DP 10 has been rated red as it does not integrate with en route network, requires deconflicting would this increase the need for tactical coordination and vectoring which may increase fuel burn, and reduce efficiencies. If this is likely then consideration should be given to whether there may be an increase in emissions, and therefore require a review of DP5.’

DP2- we have added the key areas overflown in today’s operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’. DP5 – This is our BASELINE option – today’s operation, so Emissions and Air Quality is Amber by definition “CO2 emissions likely to be the same or similar to today’s operation.”

National Trust

'4 - Tranquillity: As per response to question 7.'

Response to question 7 – '4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.'

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent County Council

'NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the 'no' response.'

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

3.2. Option D05-NW-DO MINIMUM

3.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While five of eight responses indicated that the DPs had been applied correctly, the comments in section 3.2.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflow in the evaluation or, conversely, the need to disregard other communities and/or sites from consideration. There was also a call for further textual justification of evaluations under various DPs.

3.2.2. Design Principle Evaluation

D05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in South Woodham Ferrers.		
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.		

D05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 7: Option D05-NW-DO MIN DP Assessment

3.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D05-NW-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Five respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

'Please provide further detail on how the systemisation DP has been met.'

Following the response to the survey from Gatwick Airport, LSA spoke with them and explained how departures are currently handled. It was explained that the Preferential Departure Routes (PDRs) are subject to tactical release in addition to release by the LSA radar Air Traffic Control Officer (ATCO). The procedure was discussed in detail, and it was explained that for some departures a release from TC South and Thames is required, these are en-route sectors⁶, furthermore this requires 3 coordination calls⁷, when the aircraft is ready at the runway holding point. This process can regularly result in delays, and given LSA's limited taxiway infrastructure, the delay becomes cumulative to the other aircraft in the departure sequence. With the introduction of an RNAV SID, which integrates with the enroute network, the aim is to reduce the coordination currently required and potentially facilitate free flow⁸ for the departures⁹.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – Noted and welcome that the assessment provides context to the airports where there may be future conflict.'

DP2- we have added the key areas overflown in today's operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when

⁶ An en-route sector refers to a designated airspace segment in which air traffic controllers manage aircraft flying at cruising altitudes, typically during the middle phase of a flight. These sectors are part of larger flight information regions (FIRs) and are managed by area control centres.

⁷ A coordination call in air traffic management refers to communication between air traffic controllers, typically from different sectors or control centres, to ensure the smooth and safe handoff of an aircraft as it moves between areas of responsibility.

⁸ Free flow refers to pre-arranged coordination between the airport and en-route sector which means aircraft are able to depart the airport without delay and the need for the tower controller to phone the en-route sector for release (authorisation). This saves time for both the controllers and aircraft and leads to a more expeditious operation.

⁹ More information about the current procedures can be found in the baseline section of the document titled 'ACP Options Development and Design Principle Evaluation' which can be found on the ACP Portal.

assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

National Trust

‘4 - Tranquillity: As per response to question 7.’

Response to question 7 – ‘4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.’

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

3.3. Option D05-NW-B

3.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while six respondents agreed that the DPs had been correctly applied, the comments in section 3.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need for consistency of evaluation across different swathes, drew attention to potential conflict with traffic from another airport (STN) and raised concerns around impacts on SPA and Ramsar sites. There was also a call for further textual justification of evaluations.

3.3.2. Design Principle Evaluation

D05-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Yellow	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)	Yellow	Yellow	Red	Red
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Green	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow

D05-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 8: Option D05-NW-B DP Assessment

3.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe D05-NW-B?

If no, please provide the Design Principle number and reason in the free text 'other' field.

Response

Six responses stated that the Design Principles had been correctly applied.

Other stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

'DP2/DP3 Amber for different communities possibly affected; appears inconsistent with evaluation of D05-NE-A which is fully met even though no/very few tracks currently overfly this area.'

LSA agree and we have amended our assessment of DP2 and DP3, but this hasn't changed the RAG score.

Barling Parish Councillor

'No; Aircraft should be encouraged to have a maximum gradient of climb, utilising maximum performance, ensuring thrust reduction altitude is at 1500' and acceleration altitude is 3,000' or preferably 4,000 which will then ensure a minimum noise impact on the villages of Great Stambridge Paglesham, improving the importance of safety by ensuring aircraft are significantly above the major hazard of the increased number of birds around the RSPB Wallesea Island area. Routing to SABRE or south of SABRE but being above 4000' on reaching the river crouch or increase the base of the Southend Class D airspace to allow reduction of the noise footprint at Burnham. How does the current proposal meet DP9. The current actual fully met lines take aircraft over the populated areas of the area which is unnecessary however with the reduction of VOR and increased RNP the requirement to route to LAM or BPK will be reduced allowing a more varied departure routing and aircraft to be higher when over local village.'

This feedback is welcome from our stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Conflict with both current and future STN departures to the East and South. Level restrictions or ATC intervention will be required to ensure separation. Potential conflict with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP 12 – AMS Realisation - STN note the highlighted constraint as Shoeburyness Range, however we would expect the location and potential operations of other airports to be noted as either a constraint or a material consideration to align with the AMS. In both cases STN would like to gain an understanding of the altitude to which the swathes extend to and work with SEN to resolve interactions.’

LSA agree and we have included the comments in our assessment of DP10 and changed the RAG score from amber to red.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Private Pilot

‘NWB is a better option to NWA especially if aircraft are allowed to climb unrestricted to Flight levels. Which involves coordination with London ATC, with the introduction of LAMP this should be possible.’

This is included in our assessment and reflected in the assessment of the Systemisation DP10, and the RAG score has been changed from amber to red.

Essex County Council

ECC notes that DP2 entitled overflight states that “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”. The analysis of the impact for runway 05 – North-West highlights NW-B as amber due to “different communities, possibly at lower level”. ECC questions the application of DP2, as this

justification does not demonstrate whether there has been increase in persons overflown, which is the purpose of the DP2. From the brief justification text, it is considered that the weight to legacy routes is something that is being assessed within DP2, which is not the purpose of DP2. ECC does consider that within the analysis due consideration should be given to legacy routes, and therefore following this exercise a review of the precise wording for the Design Principles may be required prior to advancing to the next stage in the CAP1616 process.

ECC notes that NW-B is scoring DP3 entitled Noise Footprint as amber. The justification wording may be unclear for some partners, but ECC is interpreting this as because flights may be at a lower altitude this may increase the noise footprint, and hence justify the amber scoring.

NW-A scores DP4 as amber while DP4 (tranquillity) for NW-B is fully met. ECC considers that the information presented does not clearly allow for an appreciation of the impact on sensitive areas. Our overarching response highlights some of the sensitive areas that should be considered when reviewing the impact of airspace route changes, and it is welcomed that the justification demonstrates a review of such information and then appropriate RAG score given with a supporting justification.

ECC notes that for both NW- A and NW-B DP10 is scored as amber, and for all partners to readily understand the justification further information is required.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Further, more detailed, analysis of noise sensitive sites such as schools, independent living accommodation etc. will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie.

Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

4. Departures Runway 05 – South/ Southeast

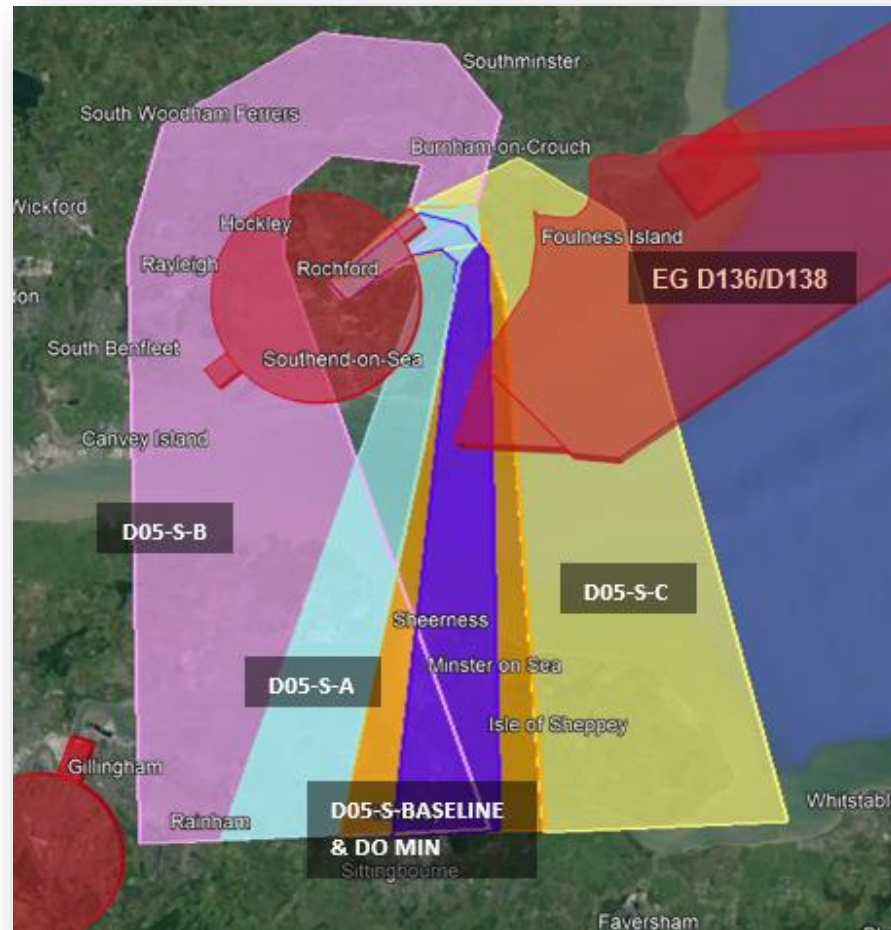


Figure 3: Departure Options Runway 05 - South/ Southeast

4.1. Option D05-S-BASELINE

4.1.1. Summary

This section summarises the feedback received via Round 3 of the engagement programme. The Do-Nothing scenario had not been engaged upon in previous Rounds and is, thus, not included in this summary.

There were ten responses, of which eight agreed that the DPs had been applied correctly. Other views expressed and sponsor responses are listed in section 4.1.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

4.1.2. Design Principle Evaluation

D05-S-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in Shoeburyness and Great Wakering.			
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.			

D05-S-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 9: Option D05-S-BASELINE DP Assessment

4.1.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D05-S-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Eight respondents out of ten agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.'

DP2- we have added the key areas overflown in today's operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

National Trust

'4 - Tranquillity: As per response to question 7.'

Response to question 7 – '4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.'

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

4.2. Option D05-S-DO MINIMUM

4.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While eight out of ten respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 4.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

4.2.2. Design Principle Evaluation

D05-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in Shoeburyness and Great Wakering.		
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.		

D05-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 10: Option D05-S-DO MIN DP Assessment

4.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - D05-S-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Eight respondents out of ten agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

‘DP2 – Overflight – Similarly to the comments raised ‘Do Nothing’ Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

DP2- we have added the key areas overflown in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

National Trust

‘4 - Tranquillity: As per response to question 7.’

Response to question 7 – ‘4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.’

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

4.3. Option D05-S-A

4.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 4.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. There was also a call for further textual justification of evaluations under some DPs.

4.3.2. Design Principle Evaluation

D05-S-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

D05-S-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 confictions 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 11: Option D05-S-A DP Assessment

4.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

'DEPARTURES Runway 05 – South/ Southeast.

Do you think we have correctly applied the Design Principles to swathe D05-S-A?

If no, please provide the Design Principle number and reason in the free text 'other' field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘No; DP1 & DP6: Swathe A partially overlapping DA, would be limited availability;’

After redefining the parameters of Option A following the Stage 2 rework to redefine the baseline, this option’s eastern edge is now further to the west and does not overlap the Shoeburyness DAs.

Barling Parish Councillor

‘No; departures runway 05 South/ Southeast D05-S-A DP 2 Over flight DP 3 Noise DP 4 Tranquillity: No use of the DA has been made on the departures, as can be seen from the fully met lines on page 20. This leads to noise complaints from the residents of Shoeburyness, Barling, Little Wakering and Great Wakering. When the DA is not open, aircraft should be routed through the DA, on departure Passing 400’ turn right follow the river Roach until past Potton Creek then right turn TANET then on course DVR. When the DA is active, allowance should be made for the aircraft to depart through the DA, the aircraft depart on a schedule, liaison between Air Traffic and the DA management shouldn’t be difficult to co-ordinate the movements. Route aircraft further east and higher to avoid the towns.’

This is welcome feedback from our stakeholder, however the detail given at this stage of the process is more in depth than the current assessment we are carrying out. Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Benfleet, and Southend Marshes SPA and Ramsar site, and Thames Estuary & Marshes SPA and Ramsar site and Medway Estuary SPA and Ramsar site, the Swale SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, and this has changed the RAG score from fully met to amber.

Private Pilot

'05 S B used to be the only departure procedure for runway 05, which was replaced by 05 S A few years ago with aircraft departing 05 and flying over the villages of Stonebridge, Little and Great Wakering Barling Shoeburyness in the climb but restricted on altitude by London ATC both S A and S B should be replaced by S C avoids flying over the population and wildlife areas therefore making the departures safer, but would involve coordination with the military DA authorities, as there will be scheduled services using this route pre planning of their activities wouldn't be an issue avoiding the departure times of aircraft.'

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for Runway 05 – South/South-East there are three possible options S- A, S-B and S-C. It is appreciated that there are a few Design Principles DP4, DP5, DP6, DP10, DP11 and DP13 that for some or all airspace route options have been scored amber and in one case red. In reviewing the information that is set out ECC questions whether the assessment has been consistent in the application of whether the benefits of continuous climb and the aircraft reaching its cruising altitude quicker have been consistently applied. ECC acknowledges that where an aircraft can operate continuous climb procedures and reach a cruise altitude quicker the flight can reach the most fuel-efficient conditions. It would therefore be appreciated if the analysis could provide some justification as to whether additional track miles may/may not facilitate the ability for the aircraft to engage in continuous climb and possibly reduce a stepped climb which would increase fuel usage. Furthermore ECC questions whether there may be options for using alternate routes for this option and facilitate respite options for the local communities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed, specifically DP11 relates to this feedback. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

4.4. Option D05-S-B

4.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 4.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. In addition, clarification was sought in relation to a single RAG score (which was subsequently amended). There was also a call for further textual justification of evaluations under various DPs.

4.4.2. Design Principle Evaluation

D05-S-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Green	Yellow	Yellow	Yellow
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)	Green	Yellow	Yellow	Yellow
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.	Red	Red	Red	Red
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.	Yellow	Yellow	Red	Red

D05-S-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
6	Operational Requirements	Assessed as being partially met due to adding track miles, reducing operational efficiency.	Yellow	Yellow	Yellow	Yellow
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green
8	Airspace Complexity	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	Green	Green	Green	Green
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.	Green	Green	Green	Green
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.	Yellow	Green	Yellow	Yellow
11	Operational Cost	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	Red	Yellow	Red	Red
12	AMS Realisation	Assessed as partially met as does not meet all of the environmental sustainability, simplification and improving efficiency objectives.	Green	Green	Yellow	Yellow
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.	Green	Green	Yellow	Yellow

Table 12: Option D05-S-B DP Assessment

4.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 05 – South/ Southeast.

Do you think we have correctly applied the Design Principles to swathe D05-S-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Southend City Council

‘Not completely clear why B gets a red on DP11 though I think that probably a greater swing round and back-maybe worth explaining more’.

LSA agree and we have amended our assessment of DP11 and changed the RAG score from red to amber.

Barling Parish Councillor

‘No; Departures runway 05 South /Southeast D05 B DP2 Over flight DP3 Noise DP4 Tranquillity Route aircraft to the north of all villages before they turn south towards DET ensuring they route to the east of Ashingdon to the South of Fambridge at or above 4,000’ towards Rawreth above 5,000’ and between North Benfleet and Bowers Gifford above 6,000’’.

These comments will be considered further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Benfleet, and Southend Marshes SPA and Ramsar site, Foulness SPA and Ramsar and Thames Estuary & Marshes SPA and Ramsar, Outer Thames Estuary SPA and Medway Estuary SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted’.

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Private Pilot

'05 S B used to be the only departure procedure for runway 05, which was replaced by 05 S A few years ago with aircraft departing 05 and flying over the villages of Stonebridge, Little and Great Wakering Barling Shoeburyness in the climb but restricted on altitude by London ATC both S A and S B should be replaced by S C avoids flying over the population and wildlife areas therefore making the departures safer, but would involve coordination with the military DA authorities, as there will be scheduled services using this route pre planning of their activities wouldn't be an issue avoiding the departure times of aircraft.'

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for Runway 05 – South/South-East there are three possible options S- A, S-B and S-C. It is appreciated that there are a few Design Principles DP4, DP5, DP6, DP10, DP11 and DP13 that for some or all airspace route options have been scored amber and in one case red. In reviewing the information that is set out ECC questions whether the assessment has been consistent in the application of whether the benefits of continuous climb and the aircraft reaching its cruising altitude quicker have been consistently applied. ECC acknowledges that where an aircraft can operate continuous climb procedures and reach a cruise altitude quicker the flight can reach the most fuel-efficient conditions. It would therefore be appreciated if the analysis could provide some justification as to whether additional track miles may/may not facilitate the ability for the aircraft to engage in continuous climb and possibly reduce a stepped climb which would increase fuel usage. Furthermore ECC questions whether there may be options for using alternate routes for this option and facilitate respite options for the local communities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed, specifically DP11 relates to this feedback. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

4.5. Option D05-S-C

4.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 4.5.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. There were also comments about overflight of the Danger Area which resulted in the relevant RAG score being changed from fully met to amber. There was also a call for further textual justification of evaluations under various DPs.

4.5.2. Design Principle Evaluation

D05-S-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed 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 partially met as additional work would need to be done for this option to meet the Operational Requirements DP due to its transit through the DA.				

D05-S-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 13: Option D05-S-C DP Assessment

4.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 05 – South/ Southeast.

Do you think we have correctly applied the Design Principles to swathe D05-S-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Private Pilot

Need to guide traffic away from Danger Zone, which makes C pretty undesirable.

Addressed in assessment of DP1 and DP6 changing the RAG score from fully met to amber.

NATS (NERL)

‘No; DP1 & DP6: Swathe C completely overlapping the DA which is frequently active’.

LSA agree, and we have amended our assessment of DP1 and DP6 changing the RAG score from fully met to amber.

Barling Parish Councillor

‘No; Departures runway 05 South /Southeast D05 C DP2 Over flight DP3 Noise DP4 Tranquillity. This could be adopted if the initial routings kept the aircraft along the river Crouch to Potton creek keeping them away from overflying the towns of Southend, Shoeburyness Great and Little Wakering and Barling or ensuring the aircraft fly not below 6000’ over these areas. Utilisation/ coordination of the DA/ other air traffic control agencies would have to be more proactive and should be easy to co -ordinate allowing aircraft unrestricted climb to their cruise altitude.’ Where applicable we have addressed and included these comments in the assessment.

These comments will be considered further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, Foulness SPA and Ramsar and Thames Estuary & Marshes SPA and Ramsar, Outer Thames Estuary SPA and the Swale SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, and this has changed the RAG score from fully met to amber.

Private Pilot

‘05 S B used to be the only departure procedure for runway 05, which was replaced by 05 S A few years ago with aircraft departing 05 and flying over the villages of Stonebridge, Little and Great Wakering Barling Shoeburyness in the climb but restricted on altitude by London ATC both S A and S B should be replaced by S C avoids flying over the population and wildlife areas therefore making the departures safer, but would involve coordination with the military DA authorities, as there will be scheduled services using this route pre planning of their activities wouldn’t be an issue avoiding the departure times of aircraft.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for Runway 05 – South/Southeast there are three possible options S- A, S-B and S-C. It is appreciated that there are a few Design Principles DP4, Dp5, DP6, DP10, DP11 and DP13 that for some or all airspace route options have been scored amber and in one case red. In reviewing the information that is set out ECC questions whether the assessment has been consistent in the application of whether the benefits of continuous climb and the aircraft reaching its cruising altitude quicker have been consistently applied. ECC acknowledges that where an aircraft can operate continuous climb procedures and reach a cruise altitude quicker the flight can reach the most fuel-efficient conditions. It would therefore be appreciated if the analysis could provide some justification as to whether additional track miles may/may not facilitate the ability for the aircraft to engage in continuous climb and possibly reduce a stepped climb which would increase fuel usage. Furthermore ECC questions whether there may be options for using alternate routes for this option and facilitate respite options for the local communities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed, specifically DP11 relates to this feedback. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

5. Departures Runway 23 – Northeast

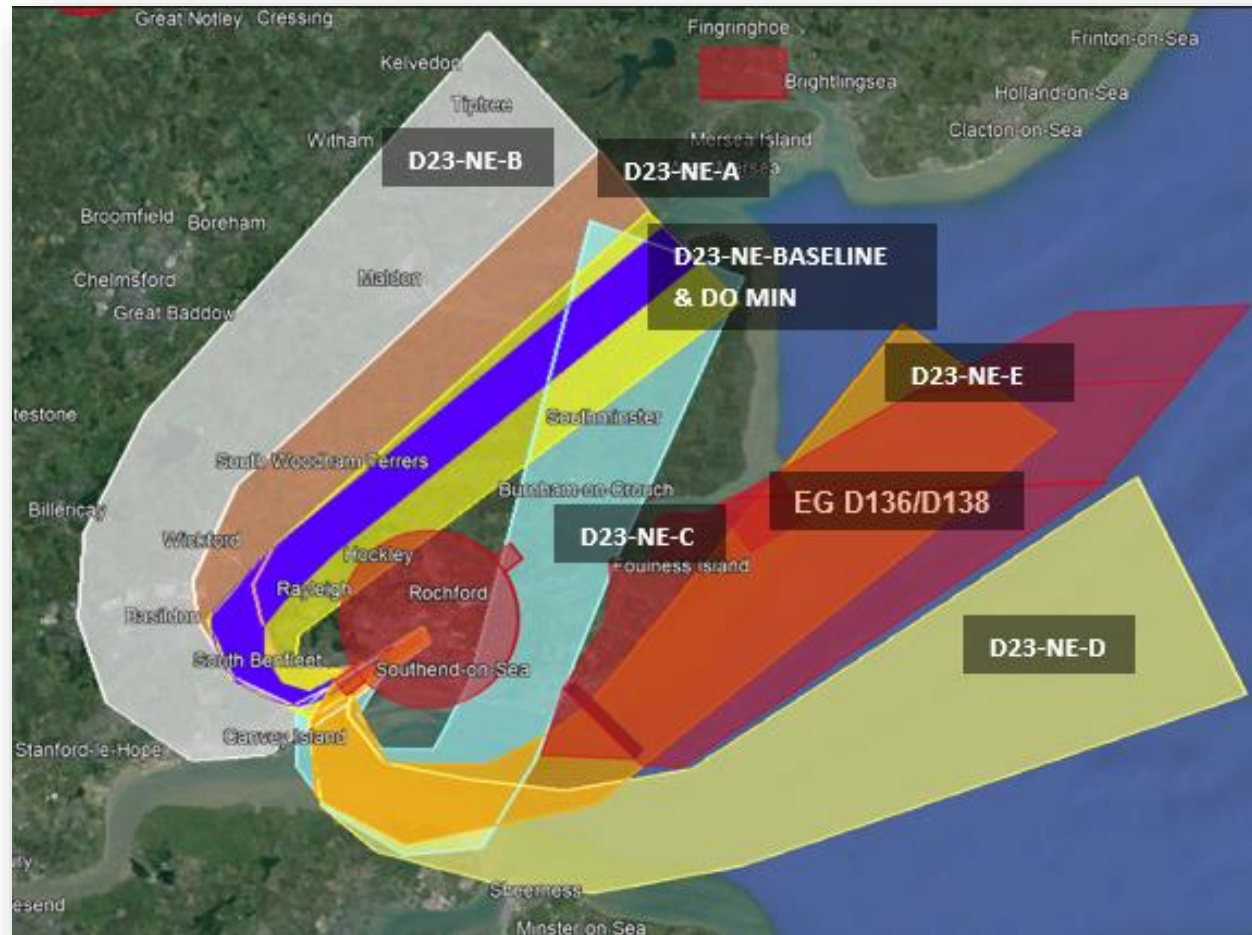


Figure 4: Departure Options Runway 23 - Northeast

5.1. Option D23-NE-BASELINE

5.1.1. Summary

This section summarises the feedback received via Round 3 of the engagement programme. The Do-Nothing scenario had not been engaged upon in previous Rounds and is, thus, not included in this summary.

There were eight responses, of which six agreed that the DPs had been applied correctly. Other views expressed and sponsor responses are listed in section 5.1.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. There was also a call for further textual justification of evaluations under various DPs.

5.1.2. Design Principle Evaluation

D23-NE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is no different than today mainly in Leigh-on-Sea and Benfleet.			
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.			

D23-NE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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, such as London Stansted Airport, 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 14: Option D23-NE-BASELINE DP Assessment

5.1.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D23-NE-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Six respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.'

DP2- we have added the key areas overflown in today's operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'. DP10 – London Stansted Airport listed.

National Trust

'4 - Tranquillity: As per response to question 7.'

Response to question 7 – '4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.'

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent County Council

'NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the 'no' response.'

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

5.2. Option D23-NE-DO MINIMUM

5.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While four out of eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 5.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. A statement was also made to clarify the feasibility of free flow needing deconfliction.

5.2.2. Design Principle Evaluation

D23-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed are broadly similar although more consolidated mainly in Leigh-on-Sea and Benfleet.		
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.		

D23-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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-DO MIN DP Assessment

5.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - D23-NE-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Four respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

'Same as previous questions.'

Response to previous question – 'Again, please describe how the integration with the en-route network has been achieved.'

Following the response to the survey from Gatwick Airport, LSA spoke with them and explained how departures are currently handled. It was explained that the Preferential Departure Routes (PDRs) are subject to tactical release in addition to release by the LSA radar Air Traffic Control Officer (ATCO). The procedure was discussed in detail, and it was explained that for some departures a release from TC South and Thames is required, these are en-route sectors¹⁰, furthermore this requires 3 coordination calls¹¹, when the aircraft is ready at the runway holding point. This process can regularly result in delays, and given LSA's limited taxiway infrastructure, the delay becomes cumulative to the other aircraft in the departure sequence. With the introduction of an RNAV SID, which integrates with the enroute network, the aim is to reduce the coordination currently required and potentially facilitate free flow¹² for the departures¹³.

NATS (NERL)

'DP10: Introduction of an RNAV route does not necessarily equate to free flow on that route. Deconfliction with other routes (arriving traffic, adjacent airport routes) will be required.'

LSA is aware that free flow for the departures would not necessarily be available with the introduction of an RNAV SID, however the aim would be to better integrate with the en route network and reduce the coordination currently required with the potential to facilitate free flow.

Essex County Council

¹⁰ An en-route sector refers to a designated airspace segment in which air traffic controllers manage aircraft flying at cruising altitudes, typically during the middle phase of a flight. These sectors are part of larger flight information regions (FIRs) and are managed by area control centres.

¹¹ A coordination call in air traffic management refers to communication between air traffic controllers, typically from different sectors or control centres, to ensure the smooth and safe handoff of an aircraft as it moves between areas of responsibility.

¹² Free flow refers to pre-arranged coordination between the airport and en-route sector which means aircraft are able to depart the airport without delay and the need for the tower controller to phone the en-route sector for release (authorisation). This saves time for both the controllers and aircraft and leads to a more expeditious operation.

¹³ More information about the current procedures can be found in the baseline section of the document titled 'ACP Options Development and Design Principle Evaluation' which can be found on the ACP Portal.

‘DP2 – Overflight – Similarly to the comments raised ‘Do Nothing’ Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

DP2- we have added the key areas overflown in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

National Trust

‘4 - Tranquillity: As per response to question 7.’

Response to question 7 – ‘4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.’

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

5.4. Option D23-NE-A

5.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while nine respondents agreed that the DPs had been correctly applied, the comments in section 5.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. For clarity, it was felt that there was a need for further textual justification of evaluations under various DPs.

5.4.2. Design Principle Evaluation

D23-NE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

D23-NE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 16: Option D23-NE-A DP Assessment

5.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northeast.

Do you think we have correctly applied the Design Principles to swathe D23-NE-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Nine respondents stated that we had correctly applied the Design Principles.

Stakeholder feedback with our responses in **BOLD**.

Barling Parish Councillor

‘No; Departures 23 Northeast D23 NE A DP2 Over flight DP3 Noise DP4 Tranquillity procedure to be re written to ensure the aircraft are 1,000’ higher at the point before they turn and change acceleration altitude to 4000.’

These comments will be considered further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Natural England

‘No;3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Crouch & Roach Estuaries SPA and Ramsar site, Blackwater Estuary SPA and Ramsar, Essex Estuaries SAC which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4. Due to this option being similar to the baseline, the decision was made to alter the RAG score to reflect the assessment criteria.

Private Pilot

‘Allow aircraft to climb efficiently gaining the most altitude whilst covering the shortest distance across the ground. Using departure procedure 2 and removing altitude restrictions or allowing aircraft to turn north abeam Tesco and keep within 1.5 nm of the threshold heading North but East of Hockley avoiding the populated areas would be advantageous and can be achieved by RNP positions.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for NE-B, DP2 (Overflight) is scored as amber and it states in the text ‘potential increase in overflight of Canvey Island and Basildon (at a higher level)’, it also states for DP13 (PBN) that it is amber due to ‘increased potential for step climb’. ECC questions whether the ability to achieve a higher altitude would not allow for continuous climb, and the reason for traffic being held down. It is assumed that this is due to

conflict with traffic from London City Airport and other London airports within the area. Clarification is sought to ensure that all partners fully appreciate the conflicts and the implications for achieving more efficient flight procedures.

ECC notes that for DP2 only NE-B is scoring amber, whilst it states that aircraft may be at a higher level, it is unclear how this route option scores amber due to noise experience within Canvey Island and Basildon and the others are fully met. Further justification and information is required to ensure partners are fully mindful of the conflicts and issues.

ECC notes that DP5 (emissions and air quality) scores NE-B amber and NE-D red. It is assumed the variation in red and amber scoring is to reflect the larger swathe for NE-D. It is recommended that there is an appreciation as to whether utilising these or other routes would enable the aircraft to adopt continuous climb procedures, achieving a more efficient cruise altitude and minimising fuel burn. ECC notes that DP11 for NE-D is scored a red clarification is sought as to whether consideration has been given to the opportunity for continuous climb and the implications this would have to optimise fuel efficiency.

ECC notes that NE-C is scored amber for DP7 (airspace dimensions) due to conflict with the IFP Danger Area, ECC considers that there may still be operational used for this route as it may provide respite opportunities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

5.5. Option D23-NE-B

5.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 5.5.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. There was also a comment around possible conflict with traffic from another airport (STN).

5.5.2. Design Principle Evaluation

D23-NE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

D23-NE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 17: Option D23-NE-B DP Assessment

5.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northeast.

Do you think we have correctly applied the Design Principles to swathe D23-NE-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Barling Parish Councillor

‘No; Departures’ 23 Northeast D23-NE- B DP2 Over flight DP3 Noise DP 4 Tranquillity procedure to be re written to ensure the aircraft are 1,000’ higher at the point before they turn and change acceleration altitude to 4000’ ensure the aircraft climb straight ahead to 4000’ or 3 nm before turning right then between Canvey Island and South Benfleet then North bound when passing 5000’ or bowers Gifford follow the A130 northbound.’

These comments will be considered further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

MAG (London Stansted Airport)

‘DP10 - Systemisation. There appears to be no interaction with STN traffic below 7,000ft but the wider turn of this swathe creates a greater chance of interaction with future STN departures to the East within the network (compared to swathes A, C and D).’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, and this has changed the RAG score from fully met to amber.

Private Pilot

‘Allow aircraft to climb efficiently gaining the most altitude whilst covering the shortest distance across the ground. Using departure procedure 2 and removing altitude restrictions or allowing aircraft to turn North abeam Tesco and keep within 1.5 nm of the threshold heading north but east of Hockley avoiding the populated areas would be advantageous and can be achieved by RNP positions.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for NE-B, DP2 (Overflight) is scored as amber and it states in the text 'potential increase in overflight of Canvey Island and Basildon (at a higher level)', it also states for DP13 (PBN) that it is amber due to 'increased potential for step climb'. ECC questions whether the ability to achieve a higher altitude would not allow for continuous climb, and the reason for traffic being held down. It is assumed that this is due to conflict with traffic from London City Airport and other London airports within the area. Clarification is sought to ensure that all partners fully appreciate the conflicts and the implications for achieving more efficient flight procedures.

ECC notes that for DP2 only NE-B is scoring amber, whilst it states that aircraft may be at a higher level, it is unclear how this route option scores amber due to noise experience within Canvey Island and Basildon and the others are fully met. Further justification and information is required to ensure partners are fully mindful of the conflicts and issues.

ECC notes that DP5 (emissions and air quality) scores NE-B amber and NE-D red. It is assumed the variation in red and amber scoring is to reflect the larger swathe for NE-D. It is recommended that there is an appreciation as to whether utilising these or other routes would enable the aircraft to adopt continuous climb procedures, achieving a more efficient cruise altitude and minimising fuel burn. ECC notes that DP11 for NE-D is scored a red clarification is sought as to whether consideration has been given to the opportunity for continuous climb and the implications this would have to optimise fuel efficiency.

ECC notes that NE-C is scored amber for DP7 (airspace dimensions) due to conflict with the IFP Danger Area, ECC considers that there may still be operational used for this route as it may provide respite opportunities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex A of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

5.6. Option D23-NE-C

5.6.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 5.6.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. There were also concerns expressed about flying near the Danger Area (DA) and additional track miles associated with this option. There was also a call for further textual justification of evaluations under various DPs.

5.6.2. Design Principle Evaluation

D23-NE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.	Yellow	Yellow	Yellow	Yellow
2	Overflight	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.	Green	Yellow	Yellow	Yellow
3	Noise Footprint	Assessed as partially met as the impact of aircraft noise is no different than today.	Green	Yellow	Yellow	Yellow
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Yellow	Yellow	Yellow	Yellow
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.	Green	Yellow	Red	Red
6	Operational Requirements	Assessed as being partially met due to adding track miles, reducing operational efficiency.	Green	Green	Yellow	Yellow

D23-NE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 18: Option D23-NE-C DP Assessment

5.6.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northeast.

Do you think we have correctly applied the Design Principles to swathe D23-NE-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Private Pilot

‘No; A nightmare to fly with the DA on one side and EGMC on the other.’

LSA agree and this is reflected in our assessment of DP1, although this hasn’t changed the RAG score.

NATS (NERL)

‘No; Swathe C would also have additional track miles.’

LSA agree and we have amended our assessment of DP5 and DP11 and changed the RAG score from fully met to amber.

Barling Parish Councillor

‘No; departure’s 23 Northeast D23-NE- C DP 2 Over flight DP 3 Noise DP 4 Tranquillity this would also lead to further distance aircraft to fly, than Option B or D.’

LSA agree, and we have amended our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Crouch and Roach Estuaries SPA and Ramsar site, Blackwater Estuary SPA and Ramsar, Essex Estuaries SAC, Thames Estuary and Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Private Pilot

‘Allow aircraft to climb efficiently gaining the most altitude whilst covering the shortest distance across the ground. Using departure procedure 2 and removing altitude restrictions or allowing aircraft to turn North abeam Tesco and keep within 1.5 nm of the threshold heading north but east of Hockley avoiding the populated areas would be advantageous and can be achieved by RNP positions.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for NE-B, DP2 (Overflight) is scored as amber and it states in the text ‘potential increase in overflight of Canvey Island and Basildon (at a higher level)’, it also states for DP13 (PBN) that it is amber due to ‘increased potential for step climb’. ECC questions whether the ability to achieve a higher altitude would not allow for continuous climb, and the reason for traffic being held down. It is assumed that this is due to conflict with traffic from London City Airport and other London airports within the area. Clarification is sought to ensure that all partners fully appreciate the conflicts and the implications for achieving more efficient flight procedures.

ECC notes that for DP2 only NE-B is scoring amber, whilst it states that aircraft may be at a higher level, it is unclear how this route option scores amber due to noise experience within Canvey Island and Basildon and the others are fully met. Further justification and information is required to ensure partners are fully mindful of the conflicts and issues.

ECC notes that DP5 (emissions and air quality) scores NE-B amber and NE-D red. It is assumed the variation in red and amber scoring is to reflect the larger swathe for NE-D. It is recommended that there is an appreciation as to whether utilising these or other routes would enable the aircraft to adopt continuous climb procedures, achieving a more efficient cruise altitude and minimising fuel burn. ECC notes that DP11 for NE-D is scored a red clarification is sought as to whether consideration has been given to the opportunity for continuous climb and the implications this would have to optimise fuel efficiency.

ECC notes that NE-C is scored amber for DP7 (airspace dimensions) due to conflict with the IFP Danger Area, ECC considers that there may still be operational used for this route as it may provide respite opportunities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex A of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

5.7. Option D23-NE-D

5.7.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 5.7.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. There was also concern expressed about potential interaction with another airport’s (LCY) traffic (DP10 RAG score subsequently changed from fully met to amber).

5.7.2. Design Principle Evaluation

D23-NE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

D23-NE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 19: Option D23-NE-D DP Assessment

5.7.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northeast.

Do you think we have correctly applied the Design Principles to swathe D23-NE-D?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven responses agreed that we had correctly applied the Design Principles.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

‘DP1/DP7/DP9 If D23-NE-C are Amber for IFP protection areas, would that not also apply to this option?’

D23-NE-C was Assessed as partially met for the IFP protection areas due to the tightness of the turn inside the DA. This option does not have the same constraints, so it was assessed and remains fully met.

NATS (NERL)

‘No; Swathe D interacts with the current London City Point merge.’

LSA agree and we have amended our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Outer Thames Estuary SPA and Medway Estuary SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘Other option would be for the aircraft to depart and turn South and East allow aircraft to climb efficiently gaining the most altitude whilst covering the shortest distance across the ground. Using departure procedure 2 and removing altitude restrictions or allowing aircraft to turn when abeam Tesco and keep climbing avoiding the populated areas would be advantageous and can be achieved by RNP positions.’

Where applicable we have addressed and included these comments in the assessment. Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC notes that for NE-B, DP2 (Overflight) is scored as amber and it states in the text 'potential increase in overflight of Canvey Island and Basildon (at a higher level)', it also states for DP13 (PBN) that it is amber due to 'increased potential for step climb'. ECC questions whether the ability to achieve a higher altitude would not allow for continuous climb, and the reason for traffic being held down. It is assumed that this is due to conflict with traffic from London City Airport and other London airports within the area. Clarification is sought to ensure that all partners fully appreciate the conflicts and the implications for achieving more efficient flight procedures.

ECC notes that for DP2 only NE-B is scoring amber, whilst it states that aircraft may be at a higher level, it is unclear how this route option scores amber due to noise experience within Canvey Island and Basildon and the others are fully met. Further justification and information is required to ensure partners are fully mindful of the conflicts and issues.

ECC notes that DP5 (emissions and air quality) scores NE-B amber and NE-D red. It is assumed the variation in red and amber scoring is to reflect the larger swathe for NE-D. It is recommended that there is an appreciation as to whether utilising these or other routes would enable the aircraft to adopt continuous climb procedures, achieving a more efficient cruise altitude and minimising fuel burn. ECC notes that DP11 for NE-D is scored a red clarification is sought as to whether consideration has been given to the opportunity for continuous climb and the implications this would have to optimise fuel efficiency.

ECC notes that NE-C is scored amber for DP7 (airspace dimensions) due to conflict with the IFP Danger Area, ECC considers that there may still be operational used for this route as it may provide respite opportunities.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex A of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

5.8. Option D23-NE-E

5.8.1. Summary

This section summarises the feedback received during Round 2 of engagement where this option was introduced as an additional option. There is no feedback from Round 1 as this option had not been considered prior to 2023. Round 3 focused on the Do Nothing and Do Minimum options.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. There was a number of comments around overflight and operation across the Danger Area for which responses have been made below. Some of the comments resulted in changes to RAG scores for various DPs.

5.8.2. Design Principle Evaluation

D23-NE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2023	Post Stakeholder Feedback 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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.	Yellow	Yellow	Yellow	Yellow
2	Overflight	Assessed as fully met as the number of people overflowed has the potential to be reduced.	Green	Green	Green	Green
3	Noise Footprint	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.	Green	Green	Green	Green
4	Tranquillity	Assessed as not met due to direct and significant overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites	Yellow	Red	Red	Red
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.	Red	Yellow	Red	Red
6	Operational Requirements	Assessed as being partially met due to adding track miles, reducing operational efficiency.	Green	Green	Yellow	Yellow
7	Airspace Dimensions	Assessed as partially met as an increase in controlled airspace may be required.	Yellow	Yellow	Yellow	Yellow

D23-NE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2023	Post Stakeholder Feedback 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 20: Option D23-NE-E DP Assessment

5.8.3. Stakeholder Feedback – Round 2 - 2023

Stakeholder feedback with our responses in **BOLD**.

Southend City Council

‘It would be helpful to understand the hours when this option may be feasible and the likely noise levels/height of flight. Also the views of MoD and QinetiQ as consultees.’

‘Criteria 2-Overflight-Though probably better overall than Option C in terms of overflight this would bring flights over the East Beach area, impacting parts of the Garrison development, beach users (not residential but important to the economy) and especially the Park Home owners behind each beach which are poorly insulated.

Criteria 4-Tranquility-This would tangibly increase the area of environmental designation overflown, including areas off Foulness that are pretty quiet at present (except when the guns go off!) We would want to understand why this this is given less weight (is yellow rather than red) than Criteria 5 and 11 (distance flown)'

LSA have amended the description and RAG score of DP4 to reflect Southend City Council's comments. For DP2 - Overflight, which is assessed as fully met, the Evaluation Criteria states 'No different than today or less people overflown' which is correct when related to the baseline so the original assessment stands.

Essex County Council

'Welcome an appreciation of when this revised route may be used, and if there are restrictions on use how useful it may as a potential route to provide some communities with respite? An understanding of the noise exposure would be appreciated.'

We are still early on in the development of all of our options and are exploring potential respite routes for outside the DAs published operating hours.

'Criteria 5 - Emissions and Air Quality - Query whether the increase in track miles is dependent on the precise location that the airline is flying to? Unsure whether this warrants a red indicating significant issue. I would welcome clarification on this.

The change in track miles is against the baseline and this option would be an increase from that.

Criteria 8 Airspace Complexity - I note the explanatory qualitative assessment, but the outcome remains fully met. This is inconsistent with the criteria 7 and the interaction with the Shoeburyness Danger Area. The Assessment needs to evaluate in a consistent and logical manner. Criteria 7 and 8 should be consistent in their assessment.

Criteria 11 - Operational Cost - see comments for criteria 5.'

LSA agree with Essex County Council's comments and have amended the assessment of DP5 and changed the RAG score from red to amber, DP8 and DP11.

NATS (En-route) Limited (NERL)

'If the operation of this route were subject to co-ordination between Southend and the range operator, robust safety assurance would be required for NERL. Procedures could be established for use of this area when the range is inactive. NERL considers this to be a possible respite option.'

'DP8 NERL considers that this should be raised to Amber.'

LSA agree and have amended the assessment of DP8 and changed the RAG score from fully met to amber.

British Gliding Association

'Unfortunately, these swathe illustrations and text do not provide us with enough information to understand the impact on our operations. We need to see detail of horizontal and vertical limits of proposed controlled airspace.'

'The only recognition that the designs need to take into consideration the safety and utility needs of those operating outside controlled airspace refers to avoiding 'bottlenecks' in uncontrolled airspace. The Design Principles are entirely self-serving.'

LSA thanks British Gliding Association for their feedback at this stage, however we are still early on in the development of all of our options and further details and clarity on horizontal and vertical limits will be addressed during Stage 3.

St Lawrence Airstrip

'No impact on my operations'

London Biggin Hill Airport

'No Concerns'

Defence Airspace & Air Traffic Management'

'There have been concerns expressed by those responsible for Shoeburyness range that the proposed options routing through the range might limit MoD activities within. The MoD standfast that in the event of the new routes being approved, standing range activities should take priority

and the new routes should only be available when the range is entirely inactive. However, the MoD recognises the requirement for FUA, so in the event of the routes being selected for progression in the ACP then a robust LOA would need to be agreed between Southend Airport and the Range, to ensure MoD activities are not compromised and that traffic routes through the area in a safe manner. The MoD would welcome an open discussion between all relevant parties to discuss the proposal, if deemed required.'

LSA notes the concerns of the MoD and Shoeburyness range, we are still early on in the development of all of our options and are exploring options that may offer potential respite routes for outside the DAs published operating hours. Any progression and development of routes within this swathe would be progressed in full consultation of the MoD and Shoeburyness range.

Seawing Flying Club

'No problems with this option'

Seawing & Private Pilot

'By using option e increases the noise profile of aircraft arriving and departing which allow aircraft to come Close to land when the bird strike factor increases, also with the extra building in the Shoeburyness Wakering Barling areas will increase the number of noise complains keep the aircraft over the sea, as aviation moves to net zero carbon fuels pollution won't be an issue'

'D23-ne-e Dpe1: Consideration of the increased building of private houses in the Shoeburyness Wakering areas must be taken into account for catastrophic failure of an aircraft - there have been 2 examples of this at Southend in the last 39 years so keep the flight paths over water as much as possible and minimise fatalities.

Dpe2: Departures and Arrivals should be variable for both ends of the runway. But over water/ industrial/ farmland as much as possible to reduce the noise footprint not forgetting the current increased building in Shoeburyness and Wakering and the proposed Dpe3 by keeping the aircraft over the danger area and sea reduces the noise footprint by turning aircraft over the land by turning aircraft over land will increase the number of noise complaints.

Dpe4: Tranquillity disturbed by the aircraft that depart and arrive over land rather than over the sea for the pre covid years was really annoying however post covid noise levels have decreased due to reduced movements, which has restored tranquillity - as the Airport hopefully gets back to normal levels of operation keeping everything in the danger area and over the sea reduces the noise footprint.

Dpe7 & 8: Keeping the current and expected increase in traffic over the sea will keep the Airspace clear of general aviation/para gliders and therefore safer in avoidance of mid-air collisions and a reduction in airspace infringements which have been on the increase.

Dpe11, 12 & 13: By keeping the Arrivals and Departures away from land complies with all these on cost reduction- on go around from an airprox or infringement costs a lot more than arrival and departure over sea does also allows direct routing to the PBN points and for LAMP.'

For DP2 -Overflight, which is assessed as fully met, the Evaluation Criteria states 'No different than today or less people overflown' which is correct when related to the baseline so the original assessment stands. We have considered the remaining comments however they have not altered our assessment of the associated DPs.

Heathrow

'The Feedback we provided to the original Stage 2A engagement remains valid and Heathrow has no further comments to add in regard to this additional option.'

Private Pilot

'D23-NE-E looks sensible but unnecessary from a flying perspective. Delta and Alpha look sufficient.'

'DE23-NE-E looks better than other options from a noise perspective, being mostly over water.'

Barling Airfield

'No impact to Barling.'

General Aviation Alliance

'It is impossible to provide a meaningful response when presented with swathes and stating that "This option would require an increase in controlled airspace." But not including any details of what that increase would, or might, consist of.'

LSA thanks General Aviation Alliance for their feedback at this stage, however we are still early on in the development of all of our options and further details and clarity on horizontal and vertical limits will be addressed during Stage 3.

Rochester Airport

‘It is another option with potential drawbacks.’

RSPB

‘London Southend Airport - Stage 2 Rework Additional Swathes, London Southend Airport FASI(S) ACP.’

ACP-2018-9.

Thank you for the opportunity to respond to the early stage of this consultation. Having a look at the Proposed Departures and Arrivals Swathe, the RSPB has some serious concerns, and the following comments relate to all options provided in the consultation. The proposed swathe follows the coast from Shoebury heading north-east along the coast and the undisturbed mudflats at Wakering Stairs and Foulness Island to its most north-easterly point; many birds including Dark-bellied Brent Goose Branta Bernicla feed in this area along with tens of thousands of waders and wildfowl. This whole area is of critical importance for waterbirds as it is one of the least disturbed areas of mudflats in the Thames due to it being within the MoD firing range boundary, therefore heavily used by birds. The Mudflats within Southend Council’s jurisdiction are unfortunately not in peak condition and effectively sterilised due to excessive and uncontrolled recreational disturbance. If the Airport were then to potentially take aircraft over the MoD ‘refuge’ mudflat described above, this would be a further nail in the coffin for this designated area and its internationally important population of wildfowl and waders.

Regarding disturbance/‘tranquillity’, the consultation document states:

DPE - D23-NE-E

Benfleet and Southend Marshes SPA, Thames Estuary & Marshes SPA, Outer Thames Estuary SPA and Medway Estuary SPA and Ramsar site, could all see an increase in disturbance (page 14).

DPE – A05-SE-H

Benfleet and Southend Marshes SPA, Thames Estuary and Marshes SPA, Medway Estuary and Marshes SPA, The Swale SPA, Stodmarsh SPA, Thanet Coast & Sandwich Bay SPA; all fall within the confines of this swathe. Further work would need to be done to establish the impact should this option be carried forward (page 19).

Arrivals options E and H also pass over sensitive regions and our comments in this feedback should be considered to refer to those options as well.

We also reiterate these concerns for the extremely important waterbird habitats south of the Thames, in Kent. Overall, the whole area is extensively designated internationally and nationally, particularly as Special Protection Areas (SPA), Sites of Special Scientific interest (SSSI) and Ramsar sites. It is also being considered as a potential UNESCO World Heritage Site particularly for its migratory and wintering birds: The East Atlantic Flyway <https://www.rspb.org.uk/our-work/rspb-news/rspb-news-stories/east-coast-wetlands/>.

Given the potential for serious harm to protected waterbird assemblages from the proposed swathes over a large protected area, both as standalone impacts and in-combination impacts with other pressures such as recreational disturbance, we would need to see detailed analysis of variables and modelling of impacts for departures and arrivals. These include but are not restricted to:

- Height and frequency of planes over protected areas.
- Noise output at pertinent heights, with different aircraft and in different weather conditions.
- Comparison of the effect of expected events on birdlife with known effects from elsewhere.

In summary, the RSPB would need to see clear evidence that the new swathes would not be detrimental to the sensitive designated sites and functionally linked land across the Essex and Kent coasts and their associated waterbird assemblages.

Thank you.'

LSA agrees with the RSPBs comments and has amended the RAG score of DP4 from amber to red to reflect this.

ACC Member

'Given the context of "we are still early in the CAP1616 process and this engagement is not a consultation on final routes, but an assessment of high-level concepts against the Design Principles you helped us develop" I am overall happy to accept the proposed two new swathes albeit "E" does seem to have some increased pollution risk due to extra flight mileage but would this impact Southend given prevailing westerlies?'

DP5 covers the concerns raised in this comment and has been Assessed as partially met for that reason.



London Stansted Airport

'No further comment on additional swathes'

6. Departures Runway 23 – Northwest



Figure 5: Departure Options Runway 23 - Northwest

6.1. Option D23-NW-BASELINE (Previously D23-NW-C)

6.1.1. Summary

This section summarises the engagement undertaken in Round 1, where this option was previously named D23-NW-C. Following the redefinition of the Baselines in 2023 and 2024, this option then became our Do-Nothing Baseline and went through further engagement in Round 3. Round 2 engagement was specifically for feedback on some additional options that were introduced.

In Round 1, while six respondents agreed that the DPs had been correctly applied, the comments in section 6.1.3, below the Table, capture other views expressed and the sponsor’s replies.

In Round 3, seven out of eight respondents felt the DPs had been correctly applied. Other views expressed and sponsor’s replies are available in Section 6.1.4

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. In addition, there were concerns raised around conflict with STN flights and queries around overflight, noise footprint and tranquillity DPs.

6.1.2. Design Principle Evaluation

D23-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in Leigh-on-Sea, Benfleet and Wickford.				
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.				

D23-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 21: Option D23-NW-BASELINE DP Assessment

6.1.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northwest.

Do you think we have correctly applied the Design Principles to swathe D23-NW-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Six respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Conflict with both current and future STN Departures to the South. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL although less than Option B. DP12 – AMS Realisation - Design options within this Swathe interact with STN South Departures options.’

LSA have included London Stansted’s comments our assessment of DP10, however due to this being our baseline ‘Do-minimum’ option and true of today’s operation the RAG score remains fully met.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Essex County Council

ECC Notes that NW-C is the swathe that replicates current operations the most, therefore the red scoring for DP2 (overflight) and DP3 (noise footprint) is questioned, it states that there will be an increase in overflight. ECC also welcomes information on which of these three options would facilitate continuous climb procedures. It is noted that NW-C has an increased likelihood of a stepped climb procedures.

ECC notes the amber rating for DP4 (tranquillity) for NW-B and similarly to other airspace change proposals welcomes further information on the sensitive areas and locations that have been reviewed as part of this analysis.

LSA agree and have amended the assessment of DP2 and DP3 based on this being our baseline 'Do-minimum' option and true of today's operation. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

6.1.4. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D23-NW-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.

DP11 – Operational Cost - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP2- we have added the key areas overflowed in today's operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent County Council

'NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the 'no' response.'

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

6.2. Option D23-NW-DO MINIMUM

6.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While six out of eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 6.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

6.2.2. Design Principle Evaluation

D23-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is broadly similar although more consolidated mainly in Leigh-on-Sea, Benfleet and Wickford.		
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.		

D23-NE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 22: Option D23-NE-DO MIN DP Assessment

6.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - D23-NW-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Six respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

'As per previous.'

Response to previous question – ‘Again, please describe how the integration with the en-route network has been achieved.’

Following the response to the survey from Gatwick Airport, LSA spoke with them and explained how departures are currently handled. It was explained that the Preferential Departure Routes (PDRs) are subject to tactical release in addition to release by the LSA radar Air Traffic Control Officer (ATCO). The procedure was discussed in detail, and it was explained that for some departures a release from TC South and Thames is required, these are en-route sectors¹⁴, furthermore this requires 3 coordination calls¹⁵, when the aircraft is ready at the runway holding point. This process can regularly result in delays, and given LSA’s limited taxiway infrastructure, the delay becomes cumulative to the other aircraft in the departure sequence. With the introduction of an RNAV SID, which integrates with the enroute network, the aim is to reduce the coordination currently required and potentially facilitate free flow¹⁶ for the departures¹⁷.

Essex County Council

‘DP2 – Overflight – Similarly to the comments raised ‘Do Nothing’ Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

¹⁴ An en-route sector refers to a designated airspace segment in which air traffic controllers manage aircraft flying at cruising altitudes, typically during the middle phase of a flight. These sectors are part of larger flight information regions (FIRs) and are managed by area control centres.

¹⁵ A coordination call in air traffic management refers to communication between air traffic controllers, typically from different sectors or control centres, to ensure the smooth and safe handoff of an aircraft as it moves between areas of responsibility.

¹⁶ Free flow refers to pre-arranged coordination between the airport and en-route sector which means aircraft are able to depart the airport without delay and the need for the tower controller to phone the en-route sector for release (authorisation). This saves time for both the controllers and aircraft and leads to a more expeditious operation.

¹⁷ More information about the current procedures can be found in the baseline section of the document titled ‘ACP Options Development and Design Principle Evaluation’ which can be found on the ACP Portal.

DP2- we have added the key areas overflowed in today's operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent County Council

'NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the 'no' response.'

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

6.3. Option D23-NW-A

6.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 6.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. In addition, there were concerns expressed about conflict with STN traffic.

6.3.2. Design Principle Evaluation

D23-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Red	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased.	Red	Yellow	Red	Red
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Green	Yellow	Yellow
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.	Yellow	Yellow	Red	Red
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

D23-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 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 23: Option D23-NW-A DP Assessment

6.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northwest.

Do you think we have correctly applied the Design Principles to swathe D23-NW-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 and Rayleigh.’

LSA agree and we have included Rayleigh in our assessment of DP2 and DP3.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential conflict with both current and future STN departures to the East. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 – AMS Realisation - Design options within this swathe will interact with STN East departures options. However, Option A presents the best potential to deconflict with STN operations. As above, there may also be an interaction depending on the development of the arrivals structure within this area.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

6.4. Option D23-NW-B

6.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 6.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. Other comments related to newly overflowed communities, additional track miles and proximity to STN, LCY and London Terminal Manoeuvring Area (LTMA) traffic.

6.4.2. Design Principle Evaluation

D23-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed 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.				

D23-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 24: Option D23-NW-B DP Assessment

6.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – Northwest.

Do you think we have correctly applied the Design Principles to swathe D23-NW-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘No; Newly overflown communities, additional track miles and in closer proximity to London City/LTMA traffic.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to red.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Conflict with both current and future STN Departures to the South. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 – AMS Realisation - Design options within this swathe interact with STN South Departures options. Option B presents the greatest chance of interaction with future STN arrivals structures (based on current conversations with NERL).’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to red.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score.

Essex County Council

ECC Notes that NW-C is the swathe that replicates current operations the most, therefore the red scoring for DP2 (overflight) and DP3 (noise footprint) is questioned, it states that there will be an increase in overflight. ECC also welcomes information on which of these three options would facilitate continuous climb procedures. It is noted that NW-C has an increased likelihood of a stepped climb procedures.

ECC notes the amber rating for DP4 (tranquillity) for NW-B and similarly to other airspace change proposals welcomes further information on the sensitive areas and locations that have been reviewed as part of this analysis.

LSA have assessed DP4 in relation to sites of environmental sensitivity. More detailed analysis of noise sensitive sites such as schools, independent living accommodation etc. will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

7. Departures Runway 23 – South/Southeast

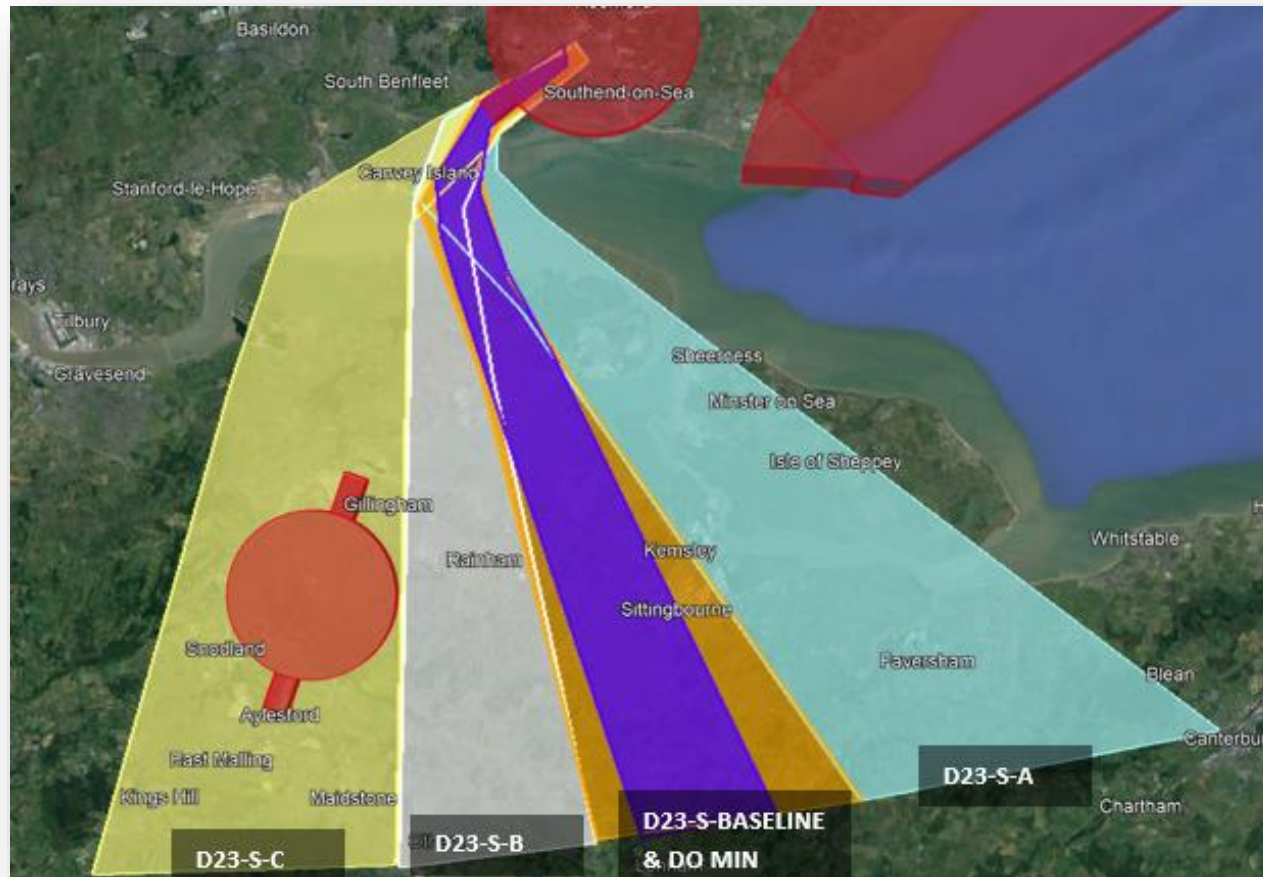


Figure 6: Departure Options Runway 23 - South/ Southeast

7.1. Option D23-S-BASELINE

7.1.1. Summary

This section summarises the feedback received via Round 3 of the engagement programme. The Do-Nothing scenario had not been engaged upon in previous rounds and is, thus, not included in this summary.

There were ten responses, of which nine agreed that the DPs had been applied correctly. Other views of one stakeholder were expressed and sponsor responses are listed in section 7.1.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

7.1.2. Design Principle Evaluation

D23-S-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is no different than today mainly in Leigh-on-Sea and Canvey Island.			
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.			

D23-S-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 25: Option D23-S-BASELINE DP Assessment

7.1.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - D23-S-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Nine respondents out of ten agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

DP2- we have added the key areas overflown in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

7.2. Option D23-S-DO MINIMUM

7.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous rounds had not included Do Nothing and Do Minimum as options.

While seven out of ten respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 7.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. There was also one comment on the proposed option not equating to free flow.

7.2.2. Design Principle Evaluation

D23-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 mainly in Leigh-on-Sea and Canvey Island.		
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.		

D23-S-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 26: Option D23-S-DO MIN DP Assessment

7.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - D23-S-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of ten agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

'Please explain DP 10.'

Following the response to the survey from Gatwick Airport, LSA spoke with them and explained how departures are currently handled. It was explained that the Preferential Departure Routes (PDRs) are subject to tactical release in addition to release by the LSA radar Air Traffic Control Officer (ATCO). The procedure was discussed in detail, and it was explained that for some departures a release from TC South and Thames is required, these are en-route sectors¹⁸, furthermore this requires 3 coordination calls¹⁹, when the aircraft is ready at the runway holding point. This process can regularly result in delays, and given LSA's limited taxiway infrastructure, the delay becomes cumulative to the other aircraft in the departure sequence. With the introduction of an RNAV SID, which integrates with the enroute network, the aim is to reduce the coordination currently required and potentially facilitate free flow²⁰ for the departures²¹.

NATS (NERL)

'DP10: Introduction of an RNAV route does not necessarily equate to free flow on that route. Deconfliction with other routes (arriving traffic, adjacent airport routes) will be required.'

LSA is aware that free flow for the departures would not necessarily be available with the introduction of an RNAV SID, however the aim would be to better integrate with the en route network and reduce the coordination currently required with the potential to facilitate free flow.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.'

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.'

¹⁸ An en-route sector refers to a designated airspace segment in which air traffic controllers manage aircraft flying at cruising altitudes, typically during the middle phase of a flight. These sectors are part of larger flight information regions (FIRs) and are managed by area control centres.

¹⁹ A coordination call in air traffic management refers to communication between air traffic controllers, typically from different sectors or control centres, to ensure the smooth and safe handoff of an aircraft as it moves between areas of responsibility.

²⁰ Free flow refers to pre-arranged coordination between the airport and en-route sector which means aircraft are able to depart the airport without delay and the need for the tower controller to phone the en-route sector for release (authorisation). This saves time for both the controllers and aircraft and leads to a more expeditious operation.

²¹ More information about the current procedures can be found in the baseline section of the document titled 'ACP Options Development and Design Principle Evaluation' which can be found on the ACP Portal.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too..’

DP2- we have added the key areas overflowed in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

7.3. Option D23-S-A

7.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while six respondents agreed that the DPs had been correctly applied, the comments in section 7.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concerns were also expressed around overflight of an Area Outstanding Natural Beauty (AONB), potential increase in overflight of different communities, potential increase in noise impact and conflict with another airport’s (LCY) traffic.

7.3.2. Design Principle Evaluation

D23-S-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

D23-S-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 27: Option D23-S-A DP Assessment

7.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – South/Southeast.

Do you think we have correctly applied the Design Principles to swathe D23-S-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Six responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘All three options overfly the Kent Downs AONB impacting on its tranquillity (DP4), although we note that the current scenario involves overflying of the AONB. Option C would appear to affect a smaller area of the designated land.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 given shift in number of tracks from current track picture, should these DPs not be at least amber (same as D05-NW-B potential increase for different communities).’

LSA agree and we have amended our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; Potential for more noise disruption in Swathe A and likely to interact with the current London City Point Merge not captured’.

LSA agree and have included NATS comments in our assessment of DP4 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary SPA and Ramsar site and the Swale SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

7.4. Option D23-S-B

7.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 7.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation, including an AONB.

7.4.2. Design Principle Evaluation

D23-S-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Yellow	Green	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)	Yellow	Green	Red	Red
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.	Green	Green	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

D23-S-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 28:Option D23-S-B DP Assessment

7.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – South/Southeast.

Do you think we have correctly applied the Design Principles to swathe D23-S-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘All three options overfly the Kent Downs AONB impacting on its tranquillity (DP4), although we note that the current scenario involves overflying of the AONB. Option C would appear to affect a smaller area of the designated land.’

LSA agree and we have amended our assessment of DP4 to include Kent Downs AONB, although this option is no different to the current tracks and our baseline so there would be no significant increase, and this hasn’t changed the RAG score.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, although this option is no different to the current tracks and our baseline so there would be no significant increase, and this hasn’t changed the RAG score.

7.5. Option D23-S-C

7.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 7.5.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation, including an AONB.

7.5.2. Design Principle Evaluation

D23-S-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
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.	Red	Red	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased. (see DP2)	Red	Red	Red	Red
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.	Green	Yellow	Red	Red
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as partially met as an increase in controlled airspace may be required.	Green	Yellow	Yellow	Yellow

D23-S-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 29: Option D23-S-C DP Assessment

7.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘DEPARTURES Runway 23 – South/Southeast.

Do you think we have correctly applied the Design Principles to swathe D23-S-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘All three options overfly the Kent Downs AONB impacting on its tranquillity (DP4), although we note that the current scenario involves overflying of the AONB. Option C would appear to affect a smaller area of the designated land.’

LSA agree and we have amended our assessment of DP4 to include Kent Downs AONB, although this option would overfly a smaller portion than the baseline so there would be no significant increase, and this hasn’t changed the RAG score.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘Allow aircraft maximum rate of climb.’

Further in the ACP process, at Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

8. Arrivals Runway 05 – Northwest



Figure 7: Arrival Options Runway 05 - Northwest

8.1. Option A05-NW-BASELINE

This section summarises the feedback received via Round 3 of the engagement programme. The Do-Nothing scenario had not been engaged upon in previous Rounds and is, thus, not included in this summary.

There were eight responses, of which seven agreed that the DPs had been applied correctly. Other views expressed and sponsor responses are listed in section 8.1.2, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

8.1.1. Design Principle Evaluation

A05-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green
2	Overflight	Assessed as partially met as the number of people overflowed is no different than today mainly in Leigh-on-Sea, Benfleet and Wickford.	Yellow	Yellow	Yellow
3	Noise Footprint	Assessed as partially met as the impact of aircraft noise is no different than today.	Yellow	Yellow	Yellow
4	Tranquillity	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.	Green	Green	Green
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same as today.	Yellow	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green
8	Airspace Complexity	Assessed as fully met as it should not result in a complex airspace configuration with numerous different base levels.	Green	Green	Green
9	Technical Requirements	Assessed as partially met as it does not make full use of the technology available.	Green	Yellow	Yellow

A05-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
10	Systemisation	Assessed as partially met as integrates with the en-route network but requires deconfliction with neighbouring airport routes.	Red	Yellow	Yellow
11	Operational Cost	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	Red	Red	Red
12	AMS Realisation	Assessed as partially met as does not meet the simplification objectives. Additionally, no improvement is expected for the environmental sustainability objectives.	Red	Yellow	Yellow
13	PBN	Assessed as not meeting the DP criteria due to currently not utilising PBN.	Red	Red	Red

Table 30: Option A05-NW-BASELINE DP Assessment

8.1.2. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - A05-NW-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.’

DP2- we have added the key areas overflown in today’s operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

8.2. Option A05-NW-DO MINIMUM

8.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While seven out of eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 8.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

8.2.2. Design Principle Evaluation

A05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is broadly similar although more consolidated mainly in Leigh-on-Sea, Benfleet and Wickford.		
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.		

A05-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 31: Option A05-NW-DO MIN DP Assessment

8.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - A05-NW-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option. ’

DP2- we have added the key areas overflowed in today’s operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

8.3. Option A05-NW-A

8.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 8.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to increased overflight and noise, conflicts with LCY and STN traffic and an increase in track miles.

8.3.2. Design Principle Evaluation

A05-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflown being increased (over eastern Basildon).	Yellow	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)	Yellow	Yellow	Red	Red
4	Tranquillity	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.	Green	Green	Green	Green
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

A05-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 32: Option A05-NW-A DP Assessment

8.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A05-NW-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 very few existing arrival tracks in this area so likely increase for both DPs’

LSA agree and have assessed DP2 and DP3 as amber as per the Evaluation Criteria. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

NATS (NERL)

‘No; DP8 and DP10: Interacts with Stansted and London City traffic. Network connectivity would increase complexity if more than one of these routes was chosen.’

LSA agree and we have included the additional comments in our assessment of DP10 (and changed the RAG score from fully met to red) and DP8 (however this hasn’t changed the RAG score).

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential for multiple interactions with both current and future STN Departures to the East and South. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP 12 - AMS Realisation - Potential for multiple interactions with STN Departures to East, Northeast, Southeast and South. Evaluation for A05-NW-A, and A05-NW-D design options do not account for proximity to STN/LTMA operations.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to red.

Essex County Council

In reviewing the analysis of the arrival airspace route options for Runway 05 North-West, ECC notes that DP11 (operational cost) demonstrates that this swathe would result in extra track miles. Whilst this may be an issue, ECC would welcome understanding the option that would facilitate continuous descent and whether this may offset any issues associated with additional track miles, as it would facilitate more environmentally optimal flying conditions. ECC is mindful that the adoption of continuous decent procedures can reduce the need for additional fuel use by a

stepped landing, therefore increasing fuel efficiency and also reducing noise associated with less use of engine power to maintain certain altitudes on the stepped landing procedures.

Further, more detailed, analysis of potential for continuous climb and descent profiles will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

8.4. Option A05-NW-B

8.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 8.4.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to increased overflight and noise, conflicts with STN traffic and increased complexity of network connectivity and increase in track miles.

8.4.2. Design Principle Evaluation

A05-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflown being increased (over eastern Basildon).	Yellow	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased. (See DP2)	Yellow	Yellow	Red	Red
4	Tranquillity	Assessed as fully met as there is no overflight of any AONBs, NPs or noise sensitive areas.	Green	Green	Green	Green
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

A05-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 33: Option A05-NW-B DP Assessment

8.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A05-NW-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston)

‘DP2/DP3 very few existing arrival tracks in this area so likely increase for both DPs.’

LSA agree and have assessed DP2 and DP3 as amber as per the Evaluation Criteria. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

NATS (NERL)

‘DP8 and DP10: Network connectivity would increase complexity if more than one of these routes was chosen.’

LSA agree and we have included NATS comments in our assessment of DP8 and DP10, however this hasn’t changed the RAG score.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential for multiple interactions with both current and future STN Departures to the East. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 - AMS Realisation - Potential for multiple interactions with STN departures to the East. However, the Eastern edge of this swathe provides for significantly reduced interaction. Evaluation for A05-NW-A, and A05-NW-D design options do not account for proximity to STN/LTMA operations.’

LSA agree and we have included London Stansted Airports comments in our assessment of DP10, however this hasn’t changed the RAG score.

Essex County Council

In reviewing the analysis of the Arrival airspace route options for Runway 05 North-West, ECC notes that DP11 (operational cost) demonstrates that this swathe would result in extra track miles. Whilst this may be an issue, ECC would welcome understanding the option that would facilitate continuous descent and whether this may offset any issues associated with additional track miles, as it would facilitate more environmentally optimal flying conditions. ECC is mindful that the adoption of continuous decent procedures can reduce the need for additional fuel use by a stepped landing, therefore increasing fuel efficiency and also reducing noise associated with less use of engine power to maintain certain altitudes on the stepped landing procedures.

Further, more detailed, analysis of potential for continuous climb and descent profiles will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

8.5. Option A05-NW-C

8.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 8.5.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. Other comments expressed concern about increased number of track miles and the complexity of network connectivity associated with this option.

8.5.2. Design Principle Evaluation

A05-NW-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed 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.				

A05-NW-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 34: Option A05-NW-C DP Assessment

8.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A05-NW-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘No; DP8 and DP10: Interacts with SS and LC traffic. Network connectivity would increase complexity if more than one of these routes was chosen.’

LSA agree and we have included NATS comments in our assessment of DP8 and DP10, however this hasn’t changed the RAG score.

Natural England

‘No; 3,4,5 – Flight path is over Blackwater Estuary SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score (the baseline currently overflies these areas).

Essex County Council

In reviewing the analysis of the arrival airspace route options for Runway 05 North-West, ECC notes that DP11 (operational cost) demonstrates that this swathe would result in extra track miles. Whilst this may be an issue, ECC would welcome understanding the option that would facilitate continuous descent and whether this may offset any issues associated with additional track miles, as it would facilitate more environmentally optimal flying conditions. ECC is mindful that the adoption of continuous decent procedures can reduce the need for additional fuel use by a stepped landing, therefore increasing fuel efficiency and also reducing noise associated with less use of engine power to maintain certain altitudes on the stepped landing procedures.

Further, more detailed, analysis of potential for continuous climb and descent profiles will be conducted at Stage 3 when we have a clearer understanding of where the final tracks may lie. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

8.6. Option A05-NW-D

8.6.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while five respondents agreed that the DPs had been correctly applied, the comments in section 8.6.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Other comments expressed concern about increases in overflights and noise impacts, the complexity of network connectivity, track miles and conflicts with STN traffic.

8.6.2. Design Principle Evaluation

A05-NW-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflown being increased.	Green	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased.	Green	Yellow	Red	Red
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Yellow	Yellow	Yellow
5	Emissions and Air Quality	Assessed as fully met as the more direct route has the potential to reduce CO2 emissions.	Green	Green	Green	Green
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green

A05-NW-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 35: Option A05-NW-D DP Assessment

8.6.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A05-NW-D?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Five respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Southend City Council

‘Would there be increased impacts on Canvey Island re Principles 2 and 3.’

LSA agree and we have included the additional areas in our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 very few existing arrival tracks in this area so likely increase for both DPs.’

LSA agree and we have included the comments in our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; DP8 and DP10: Network connectivity would increase complexity if more than one of these routes was chosen.’

LSA agree and we have included the additional comments in our assessment of DP8 and changed the RAG score from fully met to amber and the RAG score for DP10 has changed from fully met to red.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential for multiple interactions with both current and future STN Departures to the East. Level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 - AMS Realisation - Potential for multiple interactions with STN departures to the East. However, the Eastern edge of this swathe provides for significantly reduced interaction. Evaluation for A05-NW-A, and A05-NW-D design options do not account for proximity to STN/LTMA operations.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to red.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Essex County Council

In reviewing the analysis of the Arrival airspace route options for Runway 05 Northwest, ECC notes that DP11 (operational cost) demonstrates that this swathe would result in extra track miles. Whilst this may be an issue, ECC would welcome understanding the option that would facilitate continuous descent and whether this may offset any issues associated with additional track miles, as it would facilitate more environmentally optimal flying conditions. ECC is mindful that the adoption of continuous decent procedures can reduce the need for additional fuel use by a stepped landing, therefore increasing fuel efficiency and also reducing noise associated with less use of engine power to maintain certain altitudes on the stepped landing procedures.

Further, more detailed, analysis of potential for continuous climb and descent profiles will be conducted at CAP1616 Stage 3 when we have a clearer understanding of where the final tracks may lie. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

9. Arrivals Runway 05 – South & East

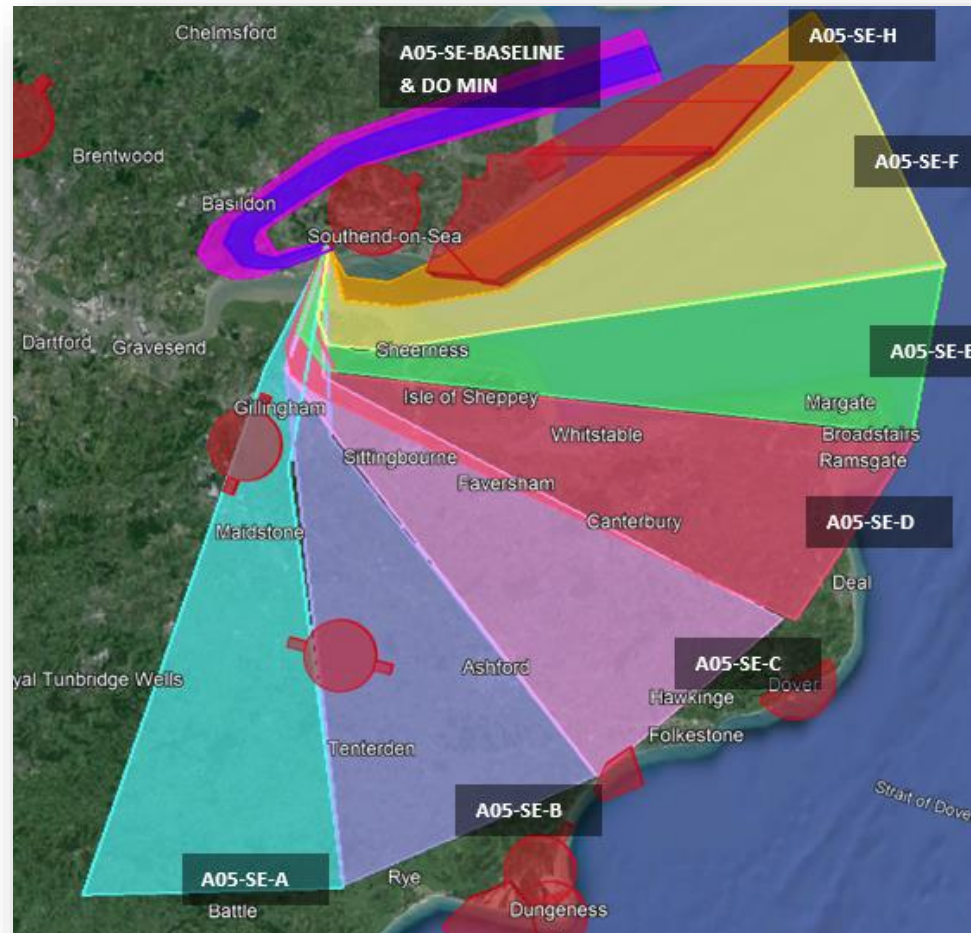


Figure 8: Arrival Options Runway 05 - South & East

9.1. Option **A05-SE-BASELINE (Previously A05-SE-G)**

9.1.1. Summary

This section summarises the engagement undertaken in Round 1, where this option was previously named A05-SE-G. Following the redefinition of the Baselines in 2023 and 2024, this option then became our Do-Nothing Baseline and went through further engagement in Round 3. Round 2 engagement was specifically for feedback on some additional options that were introduced.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 9.1.3, below the Table.

In Round 3, seven of nine respondents felt that the DPs had been correctly applied. Other comments and sponsor responses are available in Section 9.1.4.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

9.1.2. Design Principle Evaluation

A05-SE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	Green	Green	Green	Green
2	Overflight	Assessed as partially met as the number of people overflown is no different than today mainly in Leigh-on Sea and Canvey Island.	Yellow	Green	Yellow	Yellow
3	Noise Footprint	Assessed as partially met as the impact of aircraft noise is no different than today.	Yellow	Green	Yellow	Yellow
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Green	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same as today.	Yellow	Green	Yellow	Yellow

A05-SE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 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 36: Option A05-SE-BASELINE DP Assessment

9.1.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-G?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Private Pilot

‘No; Very convoluted to fly and takes the aircraft into areas of training.’

Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks commensurate with controlled airspace containment.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar, and Dengie SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4. However, based on this being our baseline ‘Do-minimum’ option and true of today’s operation the RAG score hasn’t been changed.

9.1.4. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - A05-SE-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of nine agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.'

DP2- we have added the key areas overflown in today's operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

National Trust

'4 - Tranquillity: As per response to question 7.'

Response to question 7 – '4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.'

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

9.2. Option A05-SE-DO MINIMUM

9.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

While seven out of nine respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 9.2.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

9.2.2. Design Principle Evaluation

A05-SE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is no different than today mainly in Leigh-on Sea and Canvey Island.		
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 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.		

A05-SE-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 reduce the need for tactical coordination.		
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, does not improve 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 37: Option A05-SE-DO MIN DP Assessment

9.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - A05-SE-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of nine agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.’

DP2- we have added the key areas overflown in today’s operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

National Trust

‘4 - Tranquillity: As per response to question 7.’

Response to question 7 – ‘4 - Tranquillity: it is understood that sites of cultural heritage value are also identified as being noise sensitive areas and therefore Rayleigh Mount (5.5km north west of London Southend Airport) which is a Scheduled Ancient Monument (SAM) should be assessed in respect of frequency of overflights at this location.’

Whilst the DP4 lists sites of cultural or historic assets, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

9.3. Option A05-SE-A

9.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 9.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about the need for deconfliction of traffic.

9.3.2. Design Principle Evaluation

A05-SE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflown being increased (Maidstone).	Green	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased.	Green	Yellow	Red	Red
4	Tranquillity	Assessed as not met due to significant overflight of Kent Downs AONB, High Weald AONB and overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Yellow	Red	Red
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.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

A05-SE-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 38: Option A05-SE-A DP Assessment

9.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘No; Options A, B, and C would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; Tactically achieved in today’s operation but only when deconflicted from LTMA departing traffic to the SE.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to red.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB and High Weald AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘Arrivals allow aircraft a constant 500’ 1000’ descent rate which will keep engine power at a minimum and slow down, so they are 180kts at 10 miles slowing to 160kts then from 4nm free speed which is best for noise and fuel burn.’

Further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

9.4. Option A05-SE-B

9.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, the comments in section 9.3.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about the need for deconfliction of traffic.

9.4.2. Design Principle Evaluation

A05-SE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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, High Weald 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.				

A05-SE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 39: Option A05-SE-B DP Assessment

9.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘No; Options A, B, and C would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an Amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; Tactically achieved in today’s operation but only when deconflicted from LTMA departing traffic to the SE’.

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary & Marshes SPA and Ramsar site and Dungeness and Romney Marsh SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB and High Weald AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

9.5. Option A05-SE-C

9.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, the comments in section 9.5.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about the need for deconfliction of traffic.

9.5.2. Design Principle Evaluation

A05-SE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A05-SE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 40: Option A05-SE-C DP Assessment

9.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

'ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-C?

If no, please provide the Design Principle number and reason in the free text 'other' field.

Response

Eight respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘No; Options A, B, and C would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

NATS (NERL)

‘Yes; Tactically achieved in today’s operation but only when deconflicted from LTMA departing traffic to the SE. Swathe C may be suitable if arrivals were underneath the LC point merge.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted’.

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

9.6. Option A05-SE-D

9.6.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while nine respondents agreed that the DPs had been correctly applied, the comments in section 9.6.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

9.6.2. Design Principle Evaluation

A05-SE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A05-SE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 41: Option A05-SE-D DP Assessment

9.6.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-D?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Nine respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘Yes; Swathe D may be suitable if arrivals were underneath the LC point merge.’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary & Marshes SPA and Ramsar, The Swale SPA and Ramsar site, Stodmarsh SPA and Ramsar site and Thanet Coast and Sandwich Bay SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

9.7. Option A05-SE-E

9.7.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while nine respondents agreed that the DPs had been correctly applied, the comments in section 9.6.3, below the Table capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

9.7.2. Design Principle Evaluation

A05-SE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A05-SE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 42: Option A05-SE-E DP Assessment

9.7.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-E?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Nine respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Natural England

'No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary and Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar. The Swale SPA and Ramsar site, Outer Thames Estuary SPA, Thanet Coast SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential.

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

9.8. Option A05-SE-F

9.8.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while nine respondents agreed that the DPs had been correctly applied, the comments in section 9.8.3, below the Table, capture other views expressed and the sponsor’s replies.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

9.8.2. Design Principle Evaluation

A05-SE-F	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A05-SE-F	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 43: Option A05-SE-F DP Assessment

9.8.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 05 - South and East.

Do you think we have correctly applied the Design Principles to swathe A05-SE-F?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Nine respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Natural England

'No; 3,4,5 – Flight path is over Benfleet and Southend Marshes SPA and Ramsar site, Thames Estuary & Marshes SPA and Ramsar, Medway Estuary and Marshes SPA and Ramsar, Outer Thames Estuary SPA which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.'

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

9.9. Option A05-SE-H

9.9.1. Summary

This section summarises the feedback received during Round 2 of engagement where this option was introduced as an additional option. There is no feedback from Round 1 as this option had not been considered prior to 2023. Round 3 focused on the Do Nothing and Do Minimum options.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about overflight of the Danger Area in relation to a number of themes.

9.9.2. Design Principle Evaluation

A05-SE-H	Design Principle	Qualitative Assessment	Initial Evaluation 2023	Post Stakeholder Feedback 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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.	Yellow	Yellow	Yellow	Yellow
2	Overflight	Assessed as fully met as the number of people overflown has the potential to be reduced.	Green	Green	Green	Green
3	Noise Footprint	Assessed as fully met as the impact of aircraft noise has the potential to be reduced.	Green	Green	Green	Green
4	Tranquillity	Assessed as not met due to direct and significant overflight of sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Yellow	Red	Red	Red
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as partially met as an increase in controlled airspace may be required.	Yellow	Yellow	Yellow	Yellow

A05-SE-H	Design Principle	Qualitative Assessment	Initial Evaluation 2023	Post Stakeholder Feedback 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
8	Airspace Complexity	Assessed as partially met as may result in changes to the controlled airspace configuration, transiting the DAs.	Yellow	Yellow	Yellow	Yellow
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.	Green	Green	Green	Green
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.	Yellow	Yellow	Yellow	Yellow
11	Operational Cost	Assessed as not met as fuel efficiency is not optimised due to the indirect route.	Yellow	Green	Red	Red
12	AMS Realisation	Assessed as partially met as does not meet all of the safety, simplification, environmental sustainability or improving efficiency objectives.	Green	Green	Yellow	Yellow
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.	Green	Green	Yellow	Yellow

Table 44: Option A05-SE-H DP Assessment

9.9.3. Stakeholder Feedback – Round 2 - 2023

Stakeholder feedback with our responses in **BOLD**.

Southend City Council

‘It would be helpful to understand the heights and noise levels compared to departures (i.e. if noise is less and level of flight higher).

Any relationship to A23-SE-B?’

‘Do categories 5 and 11 perform better than in the Departures option because the variance from the current track is much less than departures?’

Yes, this would be a correct assumption.

Further detailed analysis of noise and flight profile will be conducted at CAP1616 Stage 3 when we have a clearer understanding of where the final tracks may lie.

Essex County Council

‘Welcome an appreciation of when this revised route may be used, and if there are restrictions on use how useful it may as a potential route to provide some communities with respite? An understanding of the noise exposure would be appreciated.’

We are still early on in the development of all of our options and are exploring options that may offer potential respite routes for outside the DAs published operating hours.

‘Criteria 5 - Emissions and Air Quality - See comments on the previous route (Query whether the increase in track miles is dependent on the precise location that the airline is flying to? Unsure whether this warrants a red indicating significant issue. I would welcome clarification on this) and note that this evaluation has the outcome as fully met. Need to ensure the method of assessment is consistent in the conclusions ascertained.

‘Criteria 5 - Emissions and Air Quality - Query whether the increase in track miles is dependent on the precise location that the airline is flying to? Unsure whether this warrants a red indicating significant issue. I would welcome clarification on this.

The change in track miles is against the baseline and this option would have minimal difference to that baseline.

Criteria 11 - Operational Cost - Note that whilst criteria 5 has an outcome of fully met, the outcome for the matter of additional track miles is amber for operational cost. It would appear that the assessment is not consistent.’

LSA have amended our assessment of DP11 to reflect the comments.

NATS (NERL)

‘If the operation of this route were subject to co-ordination between Southend and the Range Operator, robust safety assurance would be required for NERL. Procedures could be established for use of this area when the range is inactive. NERL considers this to be a possible respite option.’

‘DP8 & DP10 NERL considers that these should include a reference to the interaction with the London City Point Merge.’

LSA agree and have included NATS comments in our assessment of DP8 and DP10, although this has not changed the RAG score.

British Gliding Association

‘Unfortunately these swathe illustrations and text do not provide us with enough information to understand the impact on our operations. We need to see detail of horizontal and vertical limits of proposed controlled airspace. This illustration demonstrates how removed from its original intent Stage 2 of CAP1616 has become - the Options effectively include the entire SE corner of England.’

‘The only recognition that the Designs need to take into consideration the safety and utility needs of those operating outside controlled airspace refers to avoiding 'bottlenecks' in uncontrolled airspace. The Design Principles are entirely self-serving.’

LSA thanks British Gliding Association for their feedback at this stage, however we are still early on in the development of all of our options and further details and clarity on horizontal and vertical limits will be addressed during CAP1616 Stage 3.

St Lawrence Airstrip

‘No impact on my operations’

London Biggin Hill Airport

‘We have no concerns over option H, but will be interested in the development of Options A and B’

Defence Airspace & Air Traffic Management’

‘There have been concerns expressed by those responsible for Shoeburyness range that the proposed options routing through the range might limit MoD activities within. The MoD standfast that in the event of the new routes being approved, standing range activities should take priority and the New routes should only be available when the range is entirely inactive. However, the MoD recognises the requirement for FUA, so in the

event of the routes being selected for progression in the ACP then a robust LOA would need to be agreed between Southend Airport and the Range, to ensure MoD activities are not compromised and that traffic routes through the area in a safe manner. The MoD would welcome an open discussion between all relevant parties to discuss the proposal, if deemed required.'

LSA notes the concerns of the MoD and Shoeburyness range, we are still early on in the development of all of our options and are exploring options that may offer potential respite routes for outside the DAs published operating hours. Any progression and development of routes within this Swathe would be progressed in full consultation of the MoD and Shoeburyness range.

Seawing Flying Club

'No problems with this option'

Seawing and Private Pilot

'No need for option g or h due to the noise increase- fuel pollution isn't an issue as aircraft transition to net zero fuel- however noise polluting will increase and points 1,2, 3,4,6,7, 8,9,10,11,13 would all be affected'

'Most of the points for doe a05seh would be brought into conflict as per the previous answer , there is no operational cost benefit'

Further, more detailed, analysis of noise and flight profile and cost benefit will be conducted at CAP1616 Stage 3 when we have a clearer understanding of where the final tracks may lie. We have considered the remaining comments however they have not altered our assessment of the associated DPs.

Heathrow

'The feedback we provided to the original Stage 2A Engagement remains valid and Heathrow has no further comments to add in regard to this additional option.'

Private Pilot

'A05-SE-H looks like a good incremental option which will in some circumstances reduce fuel burn.'

Barling Airfield

'No impact to Barling.'

General Aviation Alliance

'It is impossible to provide a meaningful response when presented with swathes and stating that "This option would require an increase in controlled airspace." but not including any details of what that increase would, or might, consist of.'

LSA thanks General Aviation Alliance for their feedback at this stage, however we are still early on in the development of all of our options and further details and clarity on horizontal and vertical limits will be addressed during CAP1616 Stage 3.

Rochester Airport

'As mentioned above, it's another option with the added drawbacks with the Firing Range.'

RSPB

'London Southend Airport - Stage 2 Rework Additional swathes, London Southend Airport FASI(S) ACP.'

ACP-2018-9

Thank you for the opportunity to respond to the early stage of this consultation. Having a look at the Proposed departures and arrivals swathe, the RSPB has some serious concerns, and the following comments relate to all options provided in the consultation. The Proposed swathe follows the coast from Shoebury heading Northeast along the coast and the undisturbed mudflats at Wakering Stairs and Foulness Island to its most north-easterly point; many birds including Dark-bellied Brent Goose *Branta bernicla* feed in this area along with tens of thousands of waders and wildfowl. This whole area is of critical importance for waterbirds as it is one of the least disturbed areas of mudflats in the Thames due to it being within the MoD firing range boundary, therefore heavily used by birds. The mudflats within Southend Council's jurisdiction are unfortunately not in peak condition and effectively sterilised due to excessive and uncontrolled recreational disturbance. If the Airport were then to potentially take aircraft over the MoD 'refuge' mudflat described above, this would be a further nail in the coffin for this designated area and its internationally important population of wildfowl and waders.

Regarding disturbance/'tranquillity', the consultation document states:

DPE - D23-NE-E

Benfleet and Southend Marshes SPA, Thames Estuary & Marshes SPA, Outer Thames Estuary SPA and Medway Estuary SPA and Ramsar site, could all see an increase in disturbance (page 14).

DPE – A05-SE-H

Benfleet and Southend Marshes SPA, Thames Estuary and Marshes SPA, Medway Estuary and Marshes SPA, The Swale SPA, Stodmarsh SPA, Thanet Coast & Sandwich Bay SPA; all fall within the confines of this swathe. Further work would need to be done to establish the impact should this option be carried forward (page 19).

Arrivals Options E and H also pass over sensitive regions and our comments in this feedback should be considered to refer to those options as well.

We also reiterate these concerns for the extremely important waterbird habitats south of the Thames, in Kent. Overall, the whole area is extensively designated internationally and nationally, particularly as Special Protection Areas (SPA), Sites of Special Scientific interest (SSSI) and Ramsar sites. It is also being considered as a potential UNESCO World Heritage Site particularly for its migratory and wintering birds: The East Atlantic Flyway <https://www.rspb.org.uk/our-work/rspb-news/rspb-news-stories/east-coast-wetlands/>.

Given the potential for serious harm to protected waterbird assemblages from the proposed swathes over a large, protected area, both as standalone impacts and in-combination impacts with other pressures such as recreational disturbance, we would need to see detailed analysis of variables and modelling of impacts for departures and arrivals. These include but are not restricted to:

- Height and frequency of planes over protected areas.
- Noise output at pertinent heights, with different aircraft and in different weather conditions.
- Comparison of the effect of expected events on birdlife with known effects from elsewhere.

In summary, the RSPB would need to see clear evidence that the new swathes would not be detrimental to the sensitive designated sites and functionally linked land across the Essex and Kent coasts and their associated waterbird assemblages.

Thank you.'

LSA agrees with the RSPBs comments and has amended the RAG score of DP4 to reflect this from amber to red.

ACC Member

'Given the context of "we are still early in the CAP1616 process, and this engagement is not a consultation on final routes, but an assessment of high-level concepts against the Design Principles you helped us develop" I am overall happy to accept the proposed two new swathes albeit "E" does seem to have some increased pollution risk due to extra flight mileage but would this impact Southend given prevailing westerlies?'

London Stansted Airport

'No further comment on additional swathes.'

10. Arrivals Runway 23 – Northwest

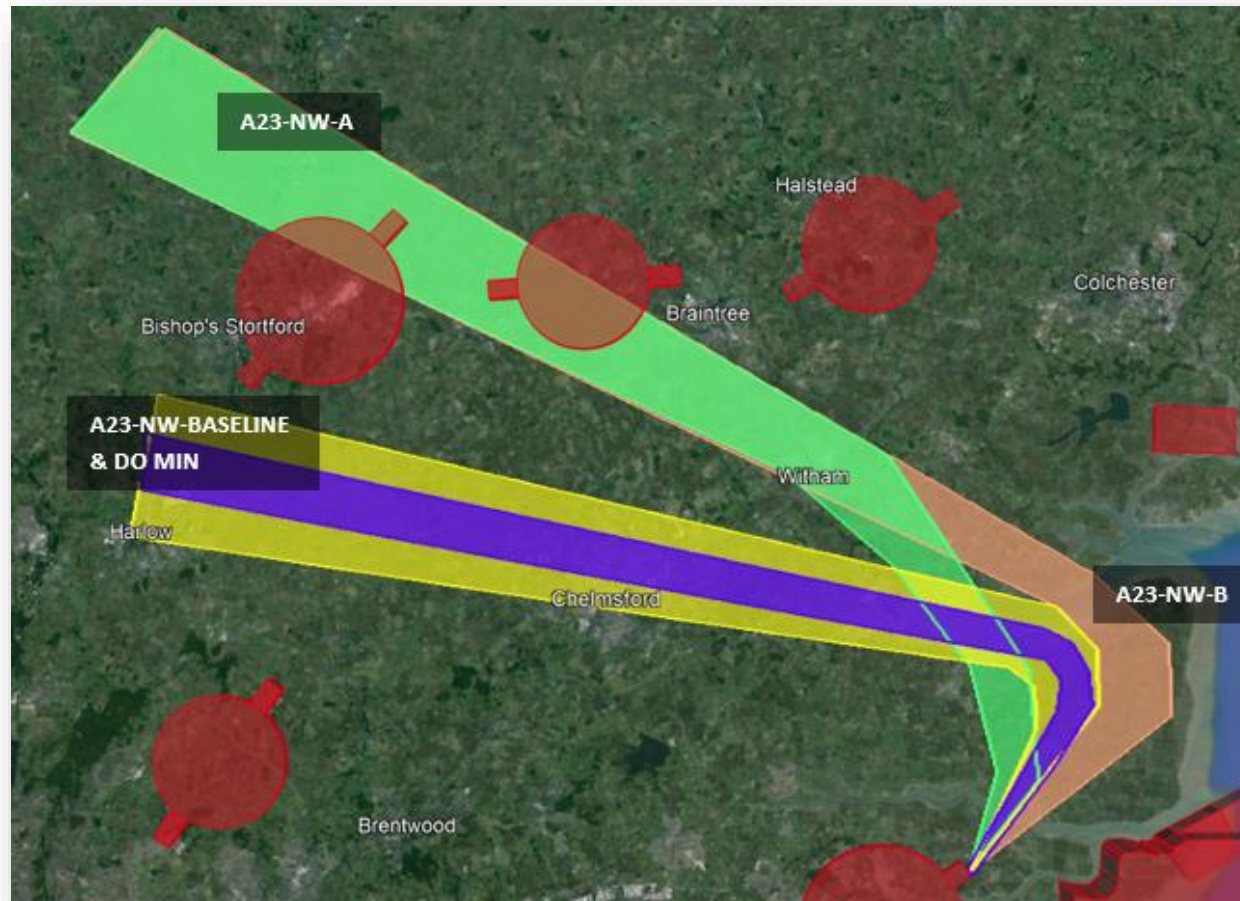


Figure 9: Arrival Options Runway 23 - Northwest

10.1. Option A23-NW-BASELINE

10.1.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

In Round 3, seven of eight respondents felt that the DPs had been correctly applied. Other comments and sponsor responses are available in Section 10.1.3, below the table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

10.1.2. Design Principle Evaluation

A23-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is no different than today mainly in Southminster and Burnham-on-Crouch.			
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.			

A23-NW-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2023	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 45: Option A23-NW-BASELINE DP Assessment

10.1.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - A23-NW-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

DP2- we have added the key areas overflowed in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

10.2. Option A23-NW-DO MINIMUM

10.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous Rounds had not included Do Nothing and Do Minimum as options.

In this Round 3, seven of eight respondents felt that the DPs had been correctly applied. Other comments and sponsor responses are available in Section 10.2.3.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

10.2.2. Design Principle Evaluation

A23-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is broadly similar although more consolidated mainly in Southminster and Burnham-on-Crouch.		
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.		

A23-NW-DO MIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 46: Option A23-NW-DO MIN DP Assessment

10.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - A23-NW-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Seven respondents out of eight agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.

DP11 – Operational Cost - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.’

DP2- we have added the key areas overflowed in today’s operation. DP3/DP11 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent County Council

‘NOTE: KCC has not evaluated this option as it does not affect Kent. Please disregard the ‘no’ response.’

Respondent numbers amended to reflect KCC comment.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

10.3. Option A23-NW-A

10.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while six respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 10.3.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. Concern was also expressed about the need for deconfliction of traffic from STN and LCY, and the potential for increased noise impact.

10.3.2. Design Principle Evaluation

A23-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflowed being increased.	Green	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased.	Green	Yellow	Red	Red
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Yellow	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green
7	Airspace Dimensions	Assessed as fully met as no new volume of controlled airspace would be required.	Green	Green	Green	Green

A23-NW-A	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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-A DP Assessment

10.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A23-NW-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Six respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 no/very few current arrival tracks further out in this Swathe so potential to increase noise impact.’

LSA agree and we have amended our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

NATS (NERL)

‘DP8 & DP10: Would need to be deconflicted from Stansted and London City. Are you looking for dedicated arrival routes for each runway?’

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential for interactions with both current and future STN Departures to the East. Depending on the altitude in the vicinity of Braintree, level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 - AMS Realisation - Potential for multiple interactions with STN Departures to East particularly from runway 22 at STN’

LSA agree and we have included NATS comments in our assessment of DP8 and DP10, this hasn’t changed the RAG score for DP8 and the RAG score for DP10 has changed from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Blackwater Estuary SPA and Ramsar, Essex Estuaries SAC which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Essex County Council

ECC recommends that consideration is given to how previous air traffic routes have been assessed to ensure that the sensitive areas for DP4 (Tranquillity) are considered in a consistent manner.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled 'ACP Options Development and Design Principle Evaluation' and can be found on the ACP Portal.

10.4. Option A23-NW-B

10.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while five respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 10.4.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about the need for deconfliction of traffic to from STN and LCY and about an increase in noise impact.

10.4.2. Design Principle Evaluation

A23-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified.	Green	Green	Green	Green
2	Overflight	Assessed as not met due to the number of people overflown being increased.	Green	Yellow	Red	Red
3	Noise Footprint	Assessed as not met as the impact of aircraft noise on local communities may be increased.	Green	Yellow	Red	Red
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Yellow	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same or similar as today.	Green	Green	Yellow	Yellow
6	Operational Requirements	Assessed as fully met as the procedures meet the operational needs of almost all airport operators.	Green	Green	Green	Green

A23-NW-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 48: Option A23-NW-B DP Assessment

10.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 – Northwest.

Do you think we have correctly applied the Design Principles to swathe A23-NW-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Five respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Southend City Council

‘Principle 4-Would there be some impact on the Dengie peninsula so should this be yellow?’

LSA agree and we have amended our assessment of DP4 and changed the RAG score from fully met to amber.

Riveroak Strategic Partners (Manston Airport)

‘DP2/DP3 no/very few current arrival tracks further out in this swathe so potential to increase noise impact.’

LSA agree and we have amended our assessment of DP2 and DP3 and changed the RAG score from fully met to amber.

NATS (NERL)

‘DP8 & DP10: Would need to be deconflicted from Stansted and London City. Are you looking for dedicated arrival routes for each runway?’

LSA agree and we have included NATS comments in our assessment of DP8 and DP10, this hasn’t changed the RAG score for DP8 but has changed the RAG score from fully met to amber for DP10.

MAG (London Stansted Airport)

‘No; DP10 - Systemisation. Potential for interactions with both current and future STN Departures to the East. Depending on the altitude in the vicinity of Braintree, level restrictions or ATC intervention may be required to ensure separation. There is also potential interaction with future STN Arrivals depending on position and type of the agreed holding facility with NERL. DP12 - AMS Realisation - Potential for multiple interactions with STN Departures to East particularly from runway 22 at STN’.

LSA agree and we have included the additional comments in our assessment of DP10 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch and Roach Estuaries SPA and Ramsar site, Blackwater Estuary SPA and Ramsar, Essex Estuaries SAC which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Essex County Council

ECC recommends that consideration is given to how previous air traffic routes have been assessed to ensure that the sensitive areas for DP4 (Tranquillity) are considered in a consistent manner.

LSA have provided textual justification across all of the DPs, especially when the RAG score has changed. Additionally, since the engagement we have developed standardised evaluation criteria to ensure consistency across all of the DPs and Options. This can be found in Annex E of the document titled ‘ACP Options Development and Design Principle Evaluation’ and can be found on the ACP Portal.

11. Arrivals Runway 23 – South & East

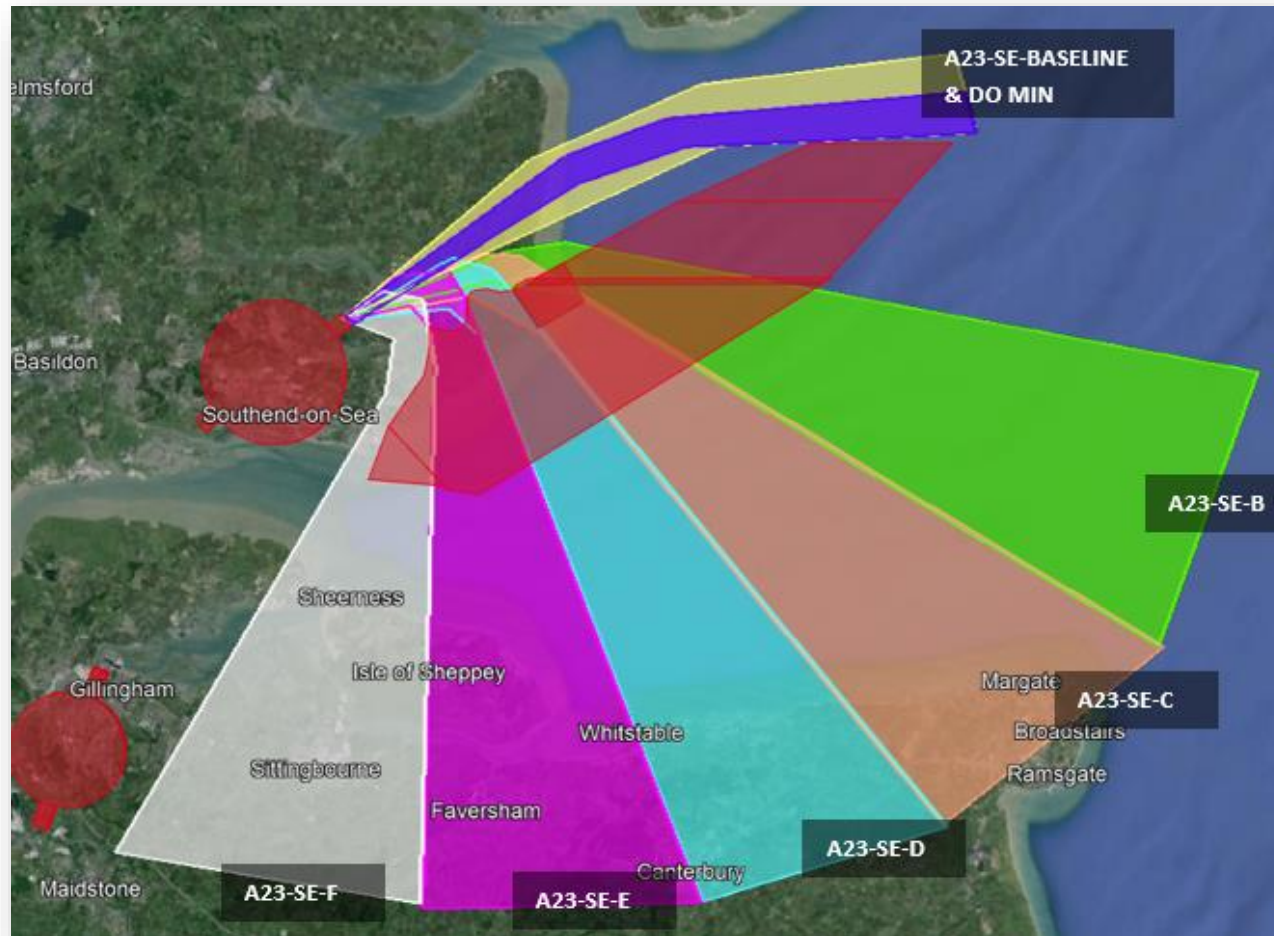


Figure 10: Arrival Options Runway 23 - South & East

11.1. Option **A23-SE-BASELINE (Previously A23-SE-A)**

11.1.1. Summary

This section summarises the engagement undertaken in Round 1, where this option was previously named A23-SE-A. Following the redefinition of the Baselines in 2023 and 2024, this option then became our Do-Nothing Baseline and went through further engagement in Round 3. Round 2 engagement was specifically for feedback on some additional options that were introduced.

In Round 1, while nine respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.1.3, below the Table.

In Round 3, eight of nine respondents felt that the DPs had been correctly applied. Other comments and sponsor responses are available in section 11.1.4.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation.

11.1.2. Design Principle Evaluation

A23-SE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
1	Importance of Safety	Assessed as fully met as no safety issues identified as this is today's current operation and baseline.	Green	Green	Green	Green
2	Overflight	Assessed as partially met as the number of people overflown is no different than today mainly in Burnham-on-Crouch.	Yellow	Green	Yellow	Yellow
3	Noise Footprint	Assessed as partially met as the impact of aircraft noise is no different than today.	Yellow	Green	Yellow	Yellow
4	Tranquillity	Assessed as partially met due to the potential overflight of some sensitive areas, such as SPAs, SACs, SSSIs or Ramsar sites.	Green	Green	Yellow	Yellow
5	Emissions and Air Quality	Assessed as partially met as emissions will be the same as today.	Yellow	Green	Yellow	Yellow

A23-SE-BASELINE	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 49: Option A23-SE-BASELINE Assessment

11.1.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-A?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Nine responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4, but this hasn’t changed the RAG score (based on this being our baseline ‘Do-minimum’ option and true of today’s operation).

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

11.1.4. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Nothing' Option - A23-SE-BASELINE against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Eight respondents out of nine agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Essex County Council

‘DP2 – Overflight – Similarly to the comments raised ‘Do Nothing’ Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.

DP3 – Noise Footprint – See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP4 – Tranquillity - See comments from Do Nothing’ Option – DO5-NE-BASELINE as they remain applicable for this flight option too.

DP10 – Systemisation – To aid understanding and ensure consistency it is recommended that the assessment highlights airports where there may be possible conflict with the adoption of this option.’

DP2- we have added the key areas overflown in today’s operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the ‘swathe approach’ covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - ‘lines on the map’.

Kent Downs National Landscape Team

‘Not assessed as not relevant to the Kent Downs National Landscape.’

11.2. Option A23-SE-DO MINIMUM

11.2.1. Summary

This section summarises the feedback from engagement that took place in Round 3 which focused on the Do Nothing and Do Minimum options. Previous rounds had not included Do Nothing and Do Minimum as options.

Six out of nine respondents agreed that the DPs had been applied correctly. Other feedback comments are provided in section 11.2.3 below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation.

11.2.2. Design Principle Evaluation

A23-SE-DO MINMIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed is broadly similar although more consolidated mainly in Burnham-on-Crouch.		
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.		

A23-SE-DO MINMIN	Design Principle	Qualitative Assessment	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 50: Option A23-SE-DO MIN DP Assessment

11.2.3. Stakeholder Feedback – Round 3 – 2024

Survey Question

Have we correctly evaluated the 'Do-Minimum' Option - A23-SE-DO MIN against the Design Principles?

If no please provide the Design Principle number and your reason.

Response

Six respondents out of nine agreed that the Design Principles had been correctly applied. Other responses are shown below:

Stakeholder feedback with our responses in **BOLD**.

Gatwick Airport Limited

'Please elaborate DP 10'

Where the current Do-Nothing baseline is already integrated with the en-route network the Do-Minimum is expected to be an enhancement of this option, reducing the need for coordination and enhancing the network integration.

NATS (NERL)

'Given that the Southend arriving aircraft route to the low level GEGMU hold, NERL considers that the route from GEGMU to the airfield is very direct, it is hard to see how the route beyond GEGMU could be improved.'

The assumption here is that aircraft will continue to route to the GEGMU hold, for aircraft arriving from the South, routing to GEGMU before turning for the airfield is not the most direct route.

Essex County Council

'DP2 – Overflight – Similarly to the comments raised 'Do Nothing' Option – DO5-NE-BASELINE, ECC considers that the assessment should highlight the communities/main conurbations that would continue to be impacted by the adoption of this flight path option.'

DP3 – Noise Footprint – See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.'

DP4 – Tranquillity - See comments from Do Nothing' Option – DO5-NE-BASELINE as they remain applicable for this flight option too.'

DP2- we have added the key areas overflown in today's operation. DP3 – These communities have been listed in DP2. DP4-Whilst the DP lists sites of care or education, they have not been included at this stage due to the 'swathe approach' covering too large an area to be useful when assessing individual sites– these will be fully assessed later in the options appraisal stages when the swathes are refined to more precise routes - 'lines on the map'.

Kent Downs National Landscape Team

'Not assessed as not relevant to the Kent Downs National Landscape.'

11.3. Option A23-SE-B

11.3.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.3.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about overflight of the Danger Area.

11.3.2. Design Principle Evaluation

A23-SE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A23-SE-B	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 51: Option A23-SE-B DP Assessment

11.3.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-B?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘No; DP1 & DP6: Swathe C completely overlapping the DA which is frequently active and will limit availability.’

LSA agree and we have included the additional comments in our assessment of DP1 and DP6 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar, Foulness SPA and Ramsar site, Outer Thames Estuary SPA which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

11.4. Option A23-SE-C

11.4.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while eight respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.4.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about overflight of the Danger Area.

11.4.2. Design Principle Evaluation

A23-SE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.				

A23-SE-C	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 52: Option A23-SE-C DP Assessment

11.4.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-C?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Eight responses agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

NATS (NERL)

‘No; DP1 & DP6: Swathe C completely overlapping the DA which is frequently active and will limit availability.’

LSA agree and we have included the additional comments in our assessment of DP1 and DP6 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar, Foulness SPA and Ramsar site, Outer Thames Estuary SPA and Thanet Coast SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

11.5. Option A23-SE-D

11.5.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.5.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. Concern was also expressed about overflight of the Danger Area.

11.5.2. Design Principle Evaluation

A23-SE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed 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.				

A23-SE-D	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 53: Option A23-SE-D DP Assessment

11.5.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

'ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-D?

If no, please provide the Design Principle number and reason in the free text 'other' field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘No; Options D, E, and F would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; DP1 & DP6: Swathe D completely overlapping the DA which is frequently active and will limit availability.’

LSA agree and we have included the additional comments in our assessment of DP1 and DP6 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar, Foulness SPA and Ramsar site, Outer Thames Estuary SPA, Stodmarsh SPA and Ramsar site and Thanet Coast SPA and Ramsar site which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

Arrivals 23 via e and f over the built-up areas and flying level isn’t a good plan, re design these to avoid the built-up areas isn’t difficult

Should this option be progressed further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

11.6. Option A23-SE-E

11.6.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while seven respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.6.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflown in the evaluation. Concern was also expressed about LTMA traffic and overflight of the Danger Area.

11.6.2. Design Principle Evaluation

A23-SE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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.	Green	Yellow	Yellow	Yellow
2	Overflight	Assessed as partially met as the number of people overflown are broadly similar but new or different communities may be affected.	Green	Green	Yellow	Yellow
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.	Green	Green	Yellow	Yellow
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.	Green	Yellow	Red	Red
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.	Yellow	Green	Yellow	Yellow
6	Operational Requirements	Assessed as partially met due to the requirement to cross the DA which is frequently active and will limit availability.	Green	Yellow	Yellow	Yellow

A23-SE-E	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 54: Option A23-SE-E DP Assessment

11.6.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-E?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Seven respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘Options D, E, and F would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an Amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

NATS (NERL)

‘No; DP1 & DP6: Conflicts with LTMA departures. Swathe E completely overlapping the DA which is frequently active and will limit availability.’

LSA agree and we have included the additional comments in our assessment of DP1 and DP6 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar, Foulness SPA and Ramsar site, Outer Thames Estuary SPA, The Swale SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘Arrivals 23 via e and f over the built-up areas and flying level isn’t a good plan, re design these to avoid the built-up areas isn’t difficult.’

Should this option be progressed further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

11.7. Option A23-SE-F

11.7.1. Summary

This section summarises the feedback received during Round 1 of engagement which introduced the majority of the options. Round 2 engagement was specifically for feedback on some additional options that were introduced. Round 3 focused on the Do Nothing and Do Minimum options.

In Round 1, while six respondents agreed that the DPs had been correctly applied, other comments and sponsor responses are provided in section 11.7.3, below the Table.

Comments received related to the need to include certain communities and/or sites that are overflowed in the evaluation. Concern was also expressed about conflict with LTMA departures and overflight of the Danger Area.

11.7.2. Design Principle Evaluation

A23-SE-F	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 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 overflowed 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.				

A23-SE-F	Design Principle	Qualitative Assessment	Initial Evaluation 2022	Post Stakeholder Feedback 2022	New Criteria Assessment 2024	Post Stakeholder Feedback 2024
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 55: Option A23-SE-F DP Assessment

11.7.3. Stakeholder Feedback – Round 1 - 2022

Survey Question

‘ARRIVALS Runway 23 - South and East.

Do you think we have correctly applied the Design Principles to swathe A23-SE-F?

If no, please provide the Design Principle number and reason in the free text ‘other’ field.

Response

Six respondents agreed that the Design Principles had been correctly applied.

Stakeholder feedback with our responses in **BOLD**.

Anonymous

‘Options D, E, and F would result in more concentrated flight paths over the Kent Downs AONB and therefore should, in our view, be assigned an amber rating for DP4.’

LSA agree and we have included the Kent Downs AONB in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘No; A variant of F is to go closer to the EGMC ATC, to maybe Southend Pier and then fly 055 before hooking left into 23. Keeps you further away from the DA.’

Should this option be progressed, this comment will be addressed and considered later in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes. We will then consider and evaluate climb gradients and accurate tracks.

NATS (NERL)

‘No; DP1 & DP6: Conflicts with LTMA departures. Swathe F completely overlapping the DA which is frequently active and will limit availability.’

LSA agree and we have included the additional comments in our assessment of DP1 and DP6 and changed the RAG score from fully met to amber.

Natural England

‘No; 3,4,5 – Flight path is over Crouch & Roach Estuaries SPA and Ramsar site, Dengie SPA and Ramsar, Foulness SPA and Ramsar site, Outer Thames Estuary SPA, The Swale SPA and Ramsar, Medway Estuary & Marshes SPA and Ramsar which could have significant impacts on the interest features of these sites including disturbance from low flight altitudes and increased noise, bird strikes, as well as the potential for additional emissions and pollutants. Tranquillity of the Kent Downs AONB may also be impacted.’

LSA have assessed the comments as only relating to DP4 and we have included the additional areas in our assessment of DP4 and changed the RAG score from fully met to amber.

Private Pilot

‘Arrivals 23 via e and f over the built-up areas and flying level isn’t a good plan, re design these to avoid the built-up areas isn’t difficult.’

Should this option be progressed further in the ACP process, at CAP1616 Stage 3, when we reduce our options and refine the swathes to more concise routes, we will consider and evaluate climb gradients and accurate tracks.

Essex County Council

ECC considers that there are likely to be respite options for these arrivals.

All options are being considered for both permanent routes and potential respite options.

12. Additional Engagement Feedback

12.1. Round 1 – 2022

In addition to the Stakeholder comments from Round 1, one response was received in the Survey from Biggin Hill Airport which addressed all of the Options presented. This is as follows:

'This response applies to all departure and arrival routes. Biggin Hill Airport believe that it will be possible for all design principles to be applied to the routes which are established within each swathe. We look forward to further engagement, during the consultation, to explore and resolve any route options with possible interactions which will impact the Biggin Hill Airport route options development.'

LSA thanks Biggin Hill Airport for their feedback and looks forward to engaging with them throughout this ACP process.

12.2. Round 3 – 2024

In addition to the comments from Round 3 received either via the survey or email we had a response from London Stansted Airport which was as follows:

'I've not filled out the feedback form as we do not have any comments on the outcome of the evaluation itself which is obviously the focus of the majority of the questions. The only comment we have is in response to question 45 on the evaluation criteria and specifically DP10 – Systemisation and the output of the evaluation of this DP, just to note that London Stansted Airport is keen to work with LSA to resolve the possible conflicts between our proposed options once LSA have designed specific route options at Stage 3.'

LSA thanks London Stansted Airport for their feedback and looks forward to engaging with them throughout this ACP process.

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