RSP | Manston Airport

Manston Airport Airspace Design and Procedures

Design Principles Report

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Glossary

Acronym	Meaning
ACP	Airspace Change Proposal
AMS	Airspace Modernisation Strategy
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ATC	Air Traffic Control
ATM	Air Transport Movement
ATZ	Aerodrome Traffic Zone
BMAA	British Microlight Aircraft Association
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CCO	Continuous Climb Operations
CPRE	Campaign to Protect Rural England
CTA	Control Area
CTZ	Control Zone
DCO	Development Consent Order
DEFRA	Department for Food, Environment & Rural Affairs
FASI-S	Future Airspace Strategy Implementation - South
ft	feet
GA	General Aviation
ICAAN	Independent Commissioner for Civil Aviation Noise
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedure

Glossary (continued)

Acronym	Meaning
LAMP	London Airspace Management Programme
MOD	Ministry of Defence
NATMAC	National Air Traffic Management Advisory Committee
NATS	formerly National Air Traffic Services
NERL	NATS (En Route) plc
PBN	Performance Based Navigation
RMZ	Radio Mandatory Zone
RSP	RiverOak Strategic Partners Ltd
SID	Standard Instrument Departure
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
STAR	Standard Arrival Route
TMZ	Transponder Mandatory Zone
UKFSC	UK Flight Safety Committee

1. Design Principles Development

1.1 Introduction

The purpose of this document is to explain how Manston Airport has conducted engagement with stakeholders to develop a proposed suite of design principles to support our airspace change proposal (ACP-2018-75). Our design principle engagement was conducted in line with Stage 1B of the Civil Aviation Authority (CAA) guidance on the regulatory process for changing the airspace design (within Civil Aviation Publication (CAP) 1616). The Manston Airport Airspace Change Proposal (ACP) concerns the introduction of appropriate Performance Based Navigation (PBN) flight procedures and airspace to enable safe operations at the redeveloped airport.

1.2 Background

Manston Airport is a disused airport on the Isle of Thanet in Kent. It has one of the longest and widest runways in the UK, comparable to other international airports, making it a valuable infrastructure asset. RiverOak Strategic Partners (RSP) is proposing to secure the future of this valuable national asset by redeveloping and reopening it as a successful hub for international air freight which also offers passenger travel, executive travel and aircraft engineering services.

RSP has applied to the Planning Inspectorate for a Development Consent Order (DCO) to build Manston Airport and a decision is now expected in May 2020. In addition, RSP must also secure approval from the CAA for its use of airspace and procedures.

This document relates only to the CAP 1616 process and the proposal to introduce the airspace and Instrument Flight Procedures (IFPs) required to enable safe and efficient operations to and from the airport.[1]

1.3 Manston Airport Operations

There has been an operational aerodrome at the site since 1916. Until 1998 it was operated by the Royal Air Force as RAF Manston and for a period in the 1950s was also a base for the United States Air Force (USAF). From 1998 Manston became known as Kent International Airport and a new terminal was officially opened that year. Operations at the airport continued with a range of services including scheduled passenger flights, charter flights, air freight and cargo, a flight training school, flight crew training and aircraft testing. In the most recent years, it was operating as a specialist air freight and cargo hub servicing a range of operators. The airport was closed in May 2014.

RSP is proposing to redevelop the airport and reopen it as a successful hub for international air freight which also offers passenger travel, executive travel and aircraft engineering services. The increase in demand for air transport seen in recent years is forecast to continue in the period up to 2035. London's six airports:

Heathrow, Gatwick, Stansted, Luton, London City and Southend, handle 76% of the UK's total air freight. However, the Airports Commission report shows that all London airports will be at capacity by 2030, demonstrating a requirement for additional capacity to be provided. Manston Airport will, with the right investment, have ample capacity and all the characteristics of an ideal freight-focused airport.

The proposal is to create 19 cargo stands, handling aircraft landing and taking off between 0700 to 2300 each day. The maximum commercial Air Transport Movements (ATM) are expected to be 26,000 annually when fully operational. In addition to the air freight hub, RSP proposes to develop an aircraft maintenance, repair and overhaul facility and end-of-life recycling facilities, a flight training school, a fixed base operation for executive travel and business facilities for aviation related organisations.

[1] See the Statement of Need, published on the CAA Portal

1.4 General Approach to Development of Principles

In order to introduce the procedures required to allow the airport to operate successfully when it reopens, Manston Airport must follow guidance provided by the CAA and successfully complete the first 6 stages of CAP 1616 – Airspace Design. In Stage 1 (Define), the CAA require Manston Airport to satisfactorily assess the requirement for airspace change by producing a Statement of Need and produce a set of design principles that encompass the safety, environmental and operational criteria and policy objectives that the airport aims for in developing its airspace change.

It is important for design principles to be drawn up through discussion between the Change Sponsor and potentially affected stakeholder organisations at the early stages of the airspace change process. The aim of this engagement is to ensure that those stakeholder groups that may be affected have a good level of understanding of the proposed change, and to ascertain what design considerations are important to them. However, there are a number of overarching design principles that will be adopted that will inform the development of the design options:

- Safety – Procedures must be designed to meet acceptable levels of flight safety
- Harmonisation – Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.

Our general approach to the development of design principles for this ACP was to ensure a high degree of transparency and two-way engagement with all relevant stakeholders, including local communities, so that the options for new airspace are designed in accordance with the priorities of those stakeholders that are most likely to be affected. Stakeholder analysis identified a wide range of organisations and groups that we invited to help develop the design principles for our ACP, drawn from across the following categories:

- Airlines and the wider aviation industry
- Councils and public officials
- Environmental groups.

Two main activities have helped us to determine the list of potential design principles set out in Section 2:

- A design principles development questionnaire; and
- Stakeholder focus groups

Manston Airport planned three focus groups and sent out design principles Questionnaires to aviation and non-aviation stakeholders. Non-aviation stakeholders included the Local Authorities and Councils, Members of Parliament and national organisations interested in conservation and environmental protection. The aviation stakeholders included Airlines who operate as freight carriers, the local General Aviation (GA) community, airport operators and air navigation service providers (ANSP) and members of the National Air Traffic Management Advisory Committee (NATMAC). A full list of those contacted is included in Appendix A1.

A long list of design themes was extracted from all responses and discussions as shown at Appendix A4, Table 14. The design themes were assessed and further developed into the long list of potential design principles shown at Section 2, Table 2.

The long list was reviewed by stakeholders during a second round of engagement as described at Section 3. The stakeholder responses were analysed, and the prioritised final shortlist of design principles was developed and is shown at Section 4, Table 4.

1.5 Design Principles Questionnaire

Manston Airport produced and sent out 2 design principles Questionnaires that were developed for aviation and non-aviation stakeholders. A Technical Information Annex was sent alongside the questionnaires that included details of planned operations at Manston Airport and gave details of pertinent points stakeholders might wish to consider. This was emailed to stakeholders on 4th October 2019, with a requested return date of 15th November 2019. Following a request from some stakeholders, the deadline for responses to the questionnaire was extended until 29th November 2019.

The specific questions asked in the questionnaires can be seen at Appendix 2 and Appendix 3. Additionally, the complete questionnaire documents, along with the responses received can be found on the CAA portal alongside this document.

1.6 Focus Groups

Following the guidance of CAP 1616, Manston Airport elected to undertake focus group meetings to discuss the development of design principles with relevant stakeholders. Three focus groups were organised that included a variety of representatives from different stakeholder groups including Airlines, General Aviators and Air Navigation Service Providers, Local Authorities and national environmental organisations, e.g. The National Trust.

The purpose of each focus group was to provide attendees with information regarding the need for airspace change at Manston Airport, the CAP 1616 process to be followed and the need to gather feedback on the issues that stakeholders considered to be important when jointly developing the design principles.

In addition to discussing design principles, the focus groups were asked to assess the appropriateness of the CAA's decision to allocate this ACP a Level 1 status; there was unanimous agreement between those attending that Level 1 was the appropriate level for this ACP. Minutes of the focus groups can be found on the CAA portal alongside this document.

The focus groups planned and undertaken are detailed in Table 1 below:

Focus Group (a)	Attendees (b)	Date (c)
Focus Group 1	Aviation Stakeholders - Airport users, General Aviation, Air Navigation Service Providers	4th November 2019 - evening
Focus Group 2	Non-aviation stakeholders – Local Authorities (County, District, City and Parish Councils)	5th November 2019 - afternoon
Focus Group 3	Non-aviation stakeholders – Local Authorities (Town and Parish Councils)	5th November 2019 - evening

Table 1 - Focus Group Details

1.7 Design Principle Review

During a second round of engagement, a Design Principle Review document was sent to stakeholders for comment; the review document, along with the responses received, can be found on the CAA portal alongside this document. The long list of potential design principles that had been developed from the questionnaires and focus group feedback was shared with stakeholders for feedback on the principle statements and how they might be prioritised. This was e-mailed to stakeholders on 18th December 2019, with a requested return date of 17th January 2020.

Details of the review document, the responses received and how they affected the development of the final suite of design principles that we propose to adopt is set out in Section 3.

2. Potential Design Principles

2.1 List of Potential Design Principles

After analysing all responses to the stakeholder questionnaires, feedback gathered from the focus groups, we developed a long list of potential design principles. The long list of principles aims to include all the views expressed and acknowledge the comments directly related to this ACP. Table 14 in Appendix 4 shows a breakdown of the responses as well as the source of those points and the specific potential design principle to which the comments have been attributed. Fourteen potential design principles were identified and are shown in Table 2 below. A broad category was allocated to each design principle.

No (a)	Category (b)	Design Principle (c)	Comments (d)	Long list Ref (e)[2]
1	Safety	Procedures must be designed to meet acceptable levels of flight safety	6	Nos 1-6
2	Operational	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it	11	Nos 7-17
3	Environmental	Procedures should be designed to minimise the impact of noise below 7,000 ft	87	Nos 18-104
4	Environmental	Procedures should be designed that minimise aircraft emissions to reduce air pollution	37	Nos 105-141
5	Environmental	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas	24	Nos 142-165
6	Operational / Environmental	Procedures should be designed, where possible, to minimise the number of track miles flown	2	166-167
7	Operational	Designs should minimise the impact on other airspace users in the local area	38	Nos 168-205
8	Environmental	Designs should, where possible, make provision for multiple routes that can be used to spread the noise burden more equitably	9	Nos 206-214
9	Technical	Routes should, where possible, be designed to be PANS-OPS compliant	1	No 215

[2] Derived from Column a in Table 14.

No (a)	Category (b)	Design Principle (c)	Comments (d)	Long list Ref (e) [2]
10	Environmental	There should be no overflying of Ramsgate	10	Nos 216-225
11	Operational	Any new airspace should be the minimum volume necessary	13	Nos 226-238
12	Technical	Consider the Flexible Use of Airspace	4	Nos 239-242
13	Operational	Any new airspace should facilitate fair access to all airspace users	11	Nos 243-253
14	Environmental	Routes should be chosen to minimise the flight distance over land and maximise distance over the sea to reduce the impact of noise and emissions	12	Nos 254-265

[2] Derived from Column a in Table 14.

Table 2 - Long List of Potential Design Principles

2.2 Potential Design Principles Not Taken Forward

After analysing all responses to the stakeholder questionnaires and feedback gathered from the focus groups, additional potential design principles were developed. However, although these potential design principles were shared with stakeholders for review, they were not included as design principles for the reasons indicated below.

2.2.1 Routes should, where possible, be designed to be PANS-OPS compliant

The new routes will be designed, where possible, so that they comply with the internationally agreed criteria set down in the International Civil Aviation Organisation (ICAO) document PANS-OPS 8168 Volume 2 – *Construction of Visual and Instrument Flight Procedures*. Any deviation from the criteria set down in PANS-OPS would require Manston Airport to produce a robust safety case to justify why the designs are not compliant, before submitting to the CAA. Manston Airport considers that this is a safety-related principle and as such, will be considered under the design principle SAFETY.

2.2.2 There should be no overflying of Ramsgate

Given the location of Manston Airport in relation to the town of Ramsgate, it would not be possible to design procedures to the east of the airport that completely avoid any overflight of the southern end of the town by the harbour. However, designs will seek to minimise the impact of noise and emissions over the town in line with the design principles above. Manston Airport is also planning to introduce operational procedures (a noise preferential runway system) to minimise the impact on Ramsgate.

2.2.3 Any new airspace should be the minimum volume necessary

At this stage, Manston Airport is not planning on introducing any new Controlled Airspace (CAS); however, an associated Aerodrome Traffic Zone (ATZ) will be proposed. Notwithstanding this, the provision of regulated airspace to protect traffic operating at Manston Airport is a potential design option, rather than a design principle. Any requirement to introduce additional CAS would be considered under the design principle SAFETY.

2.2.4 Consider the Flexible Use of Airspace

Any revised airspace structure should be adaptable to minimise the impact on other airspace users. Manston Airport assesses that this could be considered as a potential design option relating to the type of CAS required to protect traffic operating at Manston Airport. As previously stated, this will be considered under the design principle SAFETY.

2.2.5 Any new airspace should facilitate fair access to all airspace users

Any regulatory change or airspace amendment should continue to allow fair access to the airspace for all aviation users. Manston Airport is not currently planning on introducing any regulated airspace (CAS) to protect traffic operating from the airport, but should this be required, consideration to fair access will be considered under the design principle that seeks to minimise the impact on other airspace users.

2.2.6 Routes should be chosen to minimise the flight distance over land and maximise distance over the sea to reduce the impact of noise and emissions

Consideration of the impact of noise and emissions has already been included within the design principles. Manston Airport is required to produce a comprehensive list of route designs at Stage 2 of the CAP 1616 process and this list will include options that minimise the time spent overland by designing tracks that route over the sea as much as possible. As a result, this is considered to be a design option, rather than a design principle, and will be considered at the next step of the process.

2.3 Shortlist of Potential Design Principles

Table 3 below sets out the first version of the shortlist of potential design principles that have been developed before the second round of engagement.

No	Design Principle
1	Procedures must be designed to meet acceptable levels of flight safety
2	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it
3	Procedures should be designed to minimise the impact of noise below 7,000 ft
4	Procedures should be designed that minimise aircraft emissions to reduce air pollution
5	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas
6	Procedures should be designed, where possible, to minimise the number of track miles flown
7	Designs should minimise the impact on other airspace users in the local area
8	Designs should, where possible, make provision for multiple routes that can be used to spread the noise burden more equitably

Table 3 - Shortlist of Potential Design Principles

A review of the design principles indicates that for the 8 potential design principles identified, there is no requirement to reject one principle over another and all 8 potential design principles could be shared with stakeholders for a further round of engagement.

The next section shows how continued engagement with stakeholders was conducted in order to understand the importance stakeholders attached to the developed potential design principles.

3. Design Principle Review

3.1 Introduction

We recognise the importance of engagement and transparency throughout the airspace change process. At key stages during the engagement we shared our progress with stakeholders and sought additional feedback. The shortlist of potential design principles that had been developed as described in the previous section was shared with stakeholders and we invited them to share their views through a second round of engagement.

3.2 Review Process

Not only is it important to have a list of design principles, but these should also be ranked in priority order. This could be important as Design Options are developed and where a choice presents itself concerning which design principle has primacy should conflicts occur.

On 18th December 2019, a Design Principle Review document was sent to all stakeholders who had initially been contacted as part of the Stage 1 process, to seek their views on the potential design principles. Stakeholders were asked to review the design principles and offered the opportunity to comment further, specifically requesting their thoughts on how these design principles should be prioritised.

Specifically, stakeholders were asked to provide the following information regarding each design principle:

1. Do you agree this is a design principle?
2. Rank the 6 design principles in order of priority from 1 (Highest) to 6 (Lowest).
3. If you feel any of the design principles are not applicable to you, please mark it as '0'.
4. Please provide comments as to why you agree or disagree with the design principle.

Stakeholders were also asked to provide additional comments, as follows:

1. If there are any other areas of concern that you feel have not been considered, please provide additional comments.
2. Are there other design principles not included in the list that you feel should be considered?

In addition, stakeholders were asked to comment on a number of potential design principles that Manston Airport had considered but were not being included in the final list of design principles.

A review of the feedback received is provided in paras 3.6 to 3.15 below.

3.3 Responses Received

From the emails sent out to organisations and individuals, we received a total of 23 responses to the Design Principles Review document from the following organisations:

- **Airlines and Aviation Industry**
  - o Air Navigation Solutions (ANS)
  - o British Microlight Aircraft Association (BMAA)
  - o Channel Gliding Club
  - o Kent Gliding Club
  - o London Biggin Hill Airport
  - o NATS En-Route Ltd (NERL)
  - o Rochester Airport
  - o UK Flight Safety Committee (UKFSC)

- **Councils and Public Officials**
  - o Canterbury City Council (2 responses)
  - o Dover District Council
  - o Fordwich Town Council
  - o Herne and Broomfield Parish Council
  - o Kent County Council
  - o Minster Parish Council
  - o Ramsgate Town Council
  - o Sutton by Dover Parish Council
  - o Thanet District Council
  - o Westgate-on-Sea Town Council (2 responses)

- **Environmental Protection Groups**
  - o Campaign to Protect Rural England (CPRE) Kent
  - o Kent Downs Area of Outstanding Natural Beauty (AONB)
  - o Natural England

3.4 Prioritisation Methodology

In order to produce the prioritised list of design principles detailed in Section 4 below, the priority ranking provided by each stakeholder was analysed. Returns that did not include an order of prioritisation were not used to determine the overall priority. Where a stakeholder gave a design principle a score of 0, this was discounted when calculating the average as this would skew the score. The average of the scores attributed to each design principle was used to determine the final ranking of the design principles. The design principle with the lowest average was ranked the highest for importance, the design principle with the highest average was ranked the least important.

Stakeholders were requested only to rank the design principles that had been developed as a result of the responses to questionnaires and Focus Group meetings.

3.5 Prioritisation Returns and Assumptions

The BMAA re-sent their generic 'Policy for design principles During ACP Engagement' document and made no further comment.

The UKFSC agreed that all the proposals as stated were recognisable design principles on which an ACP could be based, but provided no priority ranking, as it was not relevant to their organisation. The response also included a general comment relating to the caveats included in the draft design principles that they felt could be removed without altering the intent of the design principle.

The responses from Canterbury County Council contained no agreement or priority for the suggested design principles, but did include comments that have been included below.

The response from NERL contained no priority for the suggested design principles, but did include comments that have been included below.

Where returns have not included a priority ranking, no assumptions have been made based on comments received and these returns have not contributed to the overall ranking of the design principles.

3.6 Design Principle 1

Procedures must be designed to meet acceptable levels of flight safety – any changes to airspace arrangements must maintain high standards of safety.

3.6.1 Summary of Feedback and Priority

There were no additional comments received during the design principles review relating to this design principle. Safety is of paramount importance and underpins this, and every ACP. As such, this design principle will be taken forward to the design options stage as the highest priority design principle.

3.6.2 Proposed text of Design Principle

Procedures must be designed to meet acceptable levels of flight safety.

3.7 Design Principle 2

Design options must accord with the CAA's published Airspace Modernisation Strategy (AMS) [CAP 1711] and any current or future plans associated with it – the AMS and the Masterplan that NERL has been commissioned to produce will affect any airspace and procedures that Manston Airport will be proposing to introduce. It is important that the impact of the AMS and the Masterplan work on this airspace change is included. Any design work will also take into account the change in vertical reference caused by the transition altitude, particularly with interactions with other airports.

3.7.1 Summary of Feedback and Priority

There were no additional comments received during the design principles review relating to this design principle. Subject to the overriding design principle of maintaining a high standard of safety, the highest priority of this airspace change is that it accords with the CAA's published AMS and any current or future plans associated with it. As such, this design principle will be taken forward to the design options stage as the second highest priority design principle.

3.7.2 Proposed text of Design Principle

Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.

3.8 Design Principle 3

Procedures should be designed to minimise the impact of noise below 7,000 ft – one of the Governments key environmental objectives is to limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise. Current government policy states that below 7,000 ft, the noise impact of aviation on those on the ground takes greater precedence than the management of aircraft emissions.

3.8.1 Summary of Feedback and Priority

All the returns received that included a response, agreed that this was a valid design principle and that the consideration of noise should be a high priority, although there should be a balance between the control of noise and emissions.

Kent County Council stated that noise continues to be their main consideration in regard to the impact of aviation on local communities and that even at heights above 7,000 ft, individuals are becoming more sensitive to aviation noise and this sensitivity can result in disturbance, stress and ultimately negative health outcomes. They also noted that noise that disrupts sleep is the most damaging to health and therefore encouraged restrictions on night noise. CPRE Kent also noted that whilst minimising the impact of noise below 7,000 ft is an absolute priority, noise above 7,000 ft should also be minimised.

Ramsgate Town Council reiterated their view that they oppose any flights overflying Ramsgate.

Thanet District Council stated that the design principle should be expanded to include procedures being designed to avoid overflight of sensitive areas.

Stakeholder Priority 1

3.8.2 How has the feedback influenced the Design Principle?

Manston Airport acknowledges all the comments received during the design principle review and accepts that minimising the impact of noise on local communities will be an essential factor when designing the route options for the airport. Manston Airport will seek to limit the number of people affected by adverse impact from aviation noise in line with current Government policy. Given the location of the airport in relation to Ramsgate, it is unlikely that procedures can be designed that can avoid overflight of the town but procedures will be designed that minimise the impact as much as possible. As previously stated, Manston Airport intends to introduce operational procedures that will reduce the impact on Ramsgate as much as possible. The consideration of including overflight of sensitive areas will be considered under a separate design principle.

This design principle will be taken forward to the final shortlist.

3.8.3 Proposed text of Design Principle

Procedures should be designed to minimise the impact of noise below 7,000 ft.

3.9 Design Principle 4

Procedures should be designed that minimise aircraft emissions to reduce air pollution – improving environmental performance by reducing emissions is an outcome that the CAA's AMS is expected to deliver. More direct routes and the use of continuous climbs and descents are some of the measures that can be employed to reduce fuel burn, therefore reducing emissions per flight.

3.9.1 Summary of Feedback and Priority

The majority of returns received that included a response, agreed that this was a valid design principle. Sutton Parish Council stated that they did not believe that this constituted a design principle as it contradicted the design principle relating to noise.

It was generally recognised that it is important to reduce emissions as much as possible but that minimising the impact of noise on communities was a higher priority.

Whilst generally supporting the principle of reducing emissions, Ramsgate Town Council stated that, due to the proximity of the town's residents to the airport and flight paths, they did not feel that the use of direct routes or continuous climbs would reduce air pollution over the town, and may increase noise and pollution on take-off.

Other respondees also commented that the use of more direct routes and continuous climb operations may increase the noise impact in some areas. Procedures should be tailored to specific aircraft types in order to minimise the impact. Designing routes that go over the sea to minimise flying over land would avoid or reduce noise impacts for many areas, this would add a very small extra distance to the overall flight length and would therefore have minimal environmental impact.

Thanet District Council proposed that the principle should incorporate measures within the DEFRA Clean Air Strategy 2019 and Aviation 2050: the future of UK Aviation 2018 Green Paper to align with the Council's air quality priorities.

Kent County Council stated that, in an area like the south east, it would be nearly impossible to design routes that sufficiently avoid creating negative impacts for communities on the ground and that airspace design should make provision for multiple routes that offer respite for affected communities.

Chanel Gliding Club stated that the use of direct routing could adversely affect operations at Waldershare Park airfield.

Stakeholder Priority 4

3.9.2 How has the feedback influenced the Design Principle?

There is a balance that needs to be struck between the control of noise and emissions and although emissions need to be considered, noise impact can have a massive impact on residents' quality of life. Although this design principle may contradict a design principle that seeks to minimise the impact of noise, it is still a valid design principle that will need to be considered during the design of the new procedures. The priority afforded to this design principle by stakeholders reflects the policy to minimise the impact of noise as a priority below 7,000 ft.

Improving environmental performance by reducing emissions is an outcome that the CAA's AMS is expected to deliver. Manston Airport will look at measures when designing its route options that can be employed to minimise the environmental impact through reduced emissions. This design principle will be taken forward to the final shortlist.

3.9.3 Proposed text of Design Principle

Procedures should be designed that minimise aircraft emissions to reduce air pollution.

3.10 Design Principle 5

Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas – the new routes should be designed to protect, as much as practicable, areas that are sensitive to noise. These may include sites of care or education, tranquil or rural areas that are used by the public for recreational purposes and cultural or historical assets. Avoiding overflight of all of these locations in every case would be impractical but we will endeavour to achieve this where possible.

3.10.1 Summary of Feedback and Priority

All the returns received that included a response, agreed that this was a valid design principle, with many of the respondees ranking this design principle as the highest priority.

Several respondees commented that large parts of the area likely to be affected are rural, where ambient noise levels are low and therefore the presence of overflying aircraft will be more apparent than in areas where the existing ambient noise levels are higher. Such areas are valued for their tranquillity and this would need to be taken into account when balancing the identified competing areas that are sensitive to noise.

Ramsgate Town Council stated that in order to aid the regeneration of the town through its attractiveness as a place to live, work and visit it is imperative that its 3 secondary and 8 primary schools, its extensive conservation area and numerous listed buildings, its beaches, parks and open spaces are protected from overflight.

Thanet District Council stated that the design principle should be expanded to include procedures being designed to avoid overflight of sensitive areas e.g. schools, care institutions, special educational needs facilities, designated wildlife and nature sites. Also "where practicable" should be removed as an unnecessary qualifier that undermines the principle proposed.

Natural England advised that any change to the flightpaths that were presented during the DCO process would invalidate the assessment that had been undertaken as part of that process.

Kent County Council commented that increased overflight of designated landscapes would disrupt the tranquillity from which many people benefit. The use of satellite-based routes could lead to concentration of noise which would introduce a conflict in this area between population centres and the tranquillity of rural and protected landscapes.

Sutton Parish Council commented that routing aircraft over the sea would help solve the noise pollution problem.

NERL believed that the noise considerations had been covered by other design principles.

Stakeholder Priority 2

3.10.2 How has the feedback influenced the Design Principle?

The comments received do not contradict the original aims of this design principle. However, as previously stated, it may not be possible to avoid the overflight of all of these locations in every case but design options will endeavour to minimise the impact of noise on particularly sensitive areas, where this is possible within the bounds of procedure design. Manston Airport acknowledges the comments on removing the 'where practicable' caveat but considers that it should remain as part of the design principle.

3.10.3 Proposed text of Design Principle

Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas.

3.11 Design Principle 6

Procedures should be designed, where possible, to minimise the number of track miles flown – in order to minimise emissions and to optimise operational efficiencies, designs should, where possible, minimise the number of track miles flown.

3.11.1 Summary of Feedback and Priority

There was mixed support for this design principle, with the majority of stakeholders stating that they did not believe that this was a valid design principle.

One stakeholder supported this design principle because the minimisation of track miles would decrease the amount of time and distance of airspace usage for more efficiency and is more environmentally friendly. The majority felt that the reduction in noise pollution was more important, even if this meant an increase in track miles and therefore emissions. The use of oversea routes to minimise flying over land should be more of a consideration than the use of direct routing, and that this would add a very small extra distance to the overall flight length, so would not be an issue.

Other General Aviation should also be considered when designing routes to ensure a safe mix of commercial and recreational traffic.

Stakeholder Priority 6

3.11.2 How has the feedback influenced the Design Principle?

Route designs will aim to minimise the number of track miles flown in order to reduce the time exposure to noise and emissions whilst meeting the operational efficiency requirements of operators. However, this should not be at the expense of the overall impact of noise and emissions on the local communities. This has been reflected in the priority that has been attributed to this design principle through stakeholder review. Manston Airport still considers this to be a valid design principle that can be taken forward to the design options phase, although the wording has been amended to remove the caveat 'where possible'.

3.11.3 Proposed text of Design Principle

Procedures should be designed to minimise the number of track miles flown.

3.12 Design Principle 7

Designs should minimise the impact on other airspace users in the local area – the airspace and procedure design should aim to address the needs of all air traffic operating in the local area. New routes must take into account GA (Sports & Recreation) operations at local airfields and avoid any unnecessary impact. Access to airspace should be ensured, especially for military fixed wing and rotary aircraft to meet defence operational and training requirements.

3.12.1 Summary of Feedback and Priority

All the returns received that included a response, agreed that this was a valid design principle and agreed that the designs should minimise the impact on other airspace users and in particular GA (Sports & Recreation) operations at local airfields.

It was also considered that Manston Airport coordinate with other airports in the area to ensure deconfliction of routes and consider the cumulative impact of aviation on local communities.

Some stakeholders also commented on the introduction of CAS and that this should be minimised to permit the necessary freedom for recreational aviation activities.

Stakeholder Priority 3

3.12.2 How has the feedback influenced the Design Principle?

The Manston Airport ACP forms part of the Future Airspace Strategy Implementation – South (FASI-S) programme, and as such, the airport is coordinating its proposal with NATS and other airports in the south east to ensure deconfliction of routes. The cumulative impact of aviation will also be considered as part of this programme and this will be covered by the design principle that design options must accord with the CAA's AMS. There is no intention at this time to introduce CAS as part of this proposal which would restrict the necessary freedom of recreational aviation activities. This design principle will be taken forward to the final shortlist.

3.12.3 Proposed text of Design Principle

Designs should minimise the impact on other airspace users in the local area.

3.13 Design Principle 8

Designs should, where possible, make provision for multiple routes that can be used to spread the noise burden more equitably – Airspace design should make provision for multiple arrival and departure routes to spread the burden of over-flight more equitably between communities.

3.13.1 Summary of Feedback and Priority

There was general support for the use of multiple routes to avoid continual noise in one area, although some stakeholders were unsure whether this constituted a valid design principle without further information on where the routes would be and how the burden would be spread. NERL believed that the noise considerations had been covered by other design principles.

Fordwich Town Council expressed support for the use of a variety of procedures in order to disperse both noise and emissions.

Kent County Council stated that concentration of flight paths results in an untenable situation where certain settlements are intensively overflown compared to when overflight was shared through natural variation in choices made by pilots. PBN allows precise routes to be chosen and flown and they believe that this technology could be better utilised to mimic the range of routes flown before. Their view is that the use of multiple arrival and departure routes should be specified to provide predictable rotating respite and spread the burden of over-flight more equitably between communities.

CPRE Kent stated that any multiple route designs, and the proposed timetables for use of such routes, must be agreed with those that would be affected.

Natural England reiterated that any route designs are not altered from those that were presented and assessed during the DCO process, otherwise the conclusions reached would be invalidated.

Dover District Council stated that route designs should focus on flying over the sea, rather than creating more routes.

Stakeholder Priority 5

3.13.2 How has the feedback influenced the Design Principle?

The use of multiple routes has the ability to disperse and share the impact of both noise and emissions although this might result in more people being affected. Any design options that include multiple routes is likely to produce a greater volume of reactions from communities; the full impact will not be realised until the options have been designed and shared with local communities.

The wording of this design principle has been amended slightly and will be taken forward to the final shortlist.

3.13.3 Proposed text of Design Principle

Designs should make provision for multiple routes that can be used to spread the noise burden more equitably.

3.14 Additional Comments

3.14.1 If there are any other areas of concern that you feel have not been considered, please provide additional comments below

London Biggin Hill Airport provided additional comments regarding the Safety design principle and the provision of CAS, commenting that the provision of CAS would enable aircraft to remain on the published routes, rather than having to avoid unknown traffic. They also commented on the requirement to future proof the airport under ICAO regulations relating to the provision of Air Traffic Services in CAS.

- **Our Response –** Manston Airport acknowledges the comments made by Biggin Hill. At this stage, Manston Airport is not planning on introducing any new airspace other than an Aerodrome Traffic Zone (ATZ). Notwithstanding this, the provision of regulated airspace to protect traffic operating at Manston Airport is a potential design option, rather than a design principle. Any requirement to introduce additional Controlled Airspace (CAS) would be considered under the design principle SAFETY.

Ramsgate Town Council reiterated that Ramsgate contains areas of severe deprivation, with many people suffering severe stress and health effects including mental health and lung conditions. Avoiding overflying these areas should be included as a priority.

- **Our Response –** Minimising the impact on the population of Ramsgate has been considered under the design principles relating to noise and emissions. As previously stated, Manston Airport is planning on introducing operational procedures (a noise preferential runway system) to minimise the impact on the town.

Canterbury City Council commented on the road traffic impact and the impact of flights over Herne Bay.

- **Our Response –** The impact of road traffic is not related to the airspace change and was considered as part of the DCO process. The impact of flights on Herne bay will be considered under the design principles relating to noise and emissions.

CPRE Kent stated that airspace design should take place in close consultation with the Independent Commissioner for Civil Aircraft Noise (ICCAN) to help avoid the worst option. In addition, attention must be given to areas of severe deprivation.

- **Our Response –** Manston Airport acknowledges the comment relating to consultation with ICCAN. Attention to areas of severe deprivation will be considered under the environmental design principles.

Channel Gliding Club stated that commercial traffic should be routed away from existing airfields to improve safety.

- **Our Response –** Safety is the highest priority design principle and this includes consideration of airspace users. This will also be considered under the design principle that seeks to minimise the impact on other airspace users in the local area.

Kent County Council commented on how the impact of overflight is represented to communities and stated how imperative it will be to use alternative metrics to ensure that communities are fully aware of the implications. They also recognise the additional impacts of night flights, especially in relation to the negative health implications of interrupted sleep and would fully support a ban on night flights.

- **Our Response –** Manston Airport acknowledges the comment s relating to the representation of the impact and whilst following the necessary guidance and best practice, consideration will be given to the use of alternative methods in order to ensure that those affected have the best possible information about the impacts. Hours of operation of the airport will be in accordance with the DCO application.

Sutton Parish Council stated that priority seems to have been given to minimising the track miles in order to save the aircraft owners money. Their priority as a community organisation is to limit the noise pollution of residents.

- **Our Response –** Whilst the reduction in track miles would be to optimise operational efficiencies, it would also produce environmental benefits through reduction in emissions. However, Manston Airport has not afforded this design principle any priority in order to save money for operators. The low priority given by stakeholders means that other considerations (noise and emissions) will take precedence in the evaluation of the design options.

The feedback from Westgate Town Council welcomed the initiatives to enhancing the environment locally and suggested the airport encourages research into solar powered flight and renewable energies building an ethos on sustainable alternatives for the future.

- **Our Response –** Manston Airport thanks Westgate Town Council for their comments. Although important, the development of sustainable alternatives within the aviation industry are not considered as part of this project.

3.14.2 Are there other design principles not included in the list that you feel should be considered as candidates for the final shortlist? If so, please provide your comments

Both Thanet District Council and Natural England suggested that the designs should align with the indicative flight swathes submitted through the DCO application.

- **Our Response –** As a general guide for Manston Airport, arriving and departing aircraft will follow the route swathes as submitted in the DCO. However, initial design options will not be constrained by these route swathes to ensure that all possible options can be explored.

CPRE Kent suggested that the designs must consider the impacts on nature to minimise impacts during the whole flight, including seasonal bird routes and areas which would be disturbed by aircraft.

- **Our Response –** It is not practicable to consider the impact on nature during the whole flight, as onward routes and destinations are not known at this stage. Consideration of the impact on nature and natural habitats, in Kent, that are likely to be affected by the routes in and out of Manston Airport will be considered under the design principle which should seeks to minimise the impact of noise on particularly sensitive areas.

Sutton Parish Council commented that their preference was to see departure routes over the sea to the north of Manston.

- **Our Response –** This is considered to be a design option, rather than a design principle, and will be considered at the next step of the process.

Canterbury City Council suggested a ban on all night flights and a principle that aircraft join a straight-line approach as late as safely possible to minimise the number of flights over Herne Bay.

- **Our Response –** Hours of operation of the airport will be in accordance with the DCO application. The location of the approach routes in the vicinity of Herne Bay will need to be compliant with the necessary regulations. Options will be considered at the next stage of the process that take into account the design principles to minimise the impact of noise and emissions.

NERL suggested a design principle that covers the use of PBN and regulatory adherence through the process.

- **Our Response –** Manston Airport is planning on introducing PBN procedures, as stated in the Statement of Need, that will be designed so that they comply with the internationally agreed criteria set down in the International Civil Aviation Organisation (ICAO) document PANS-OPS 8168 Volume 2 – Construction of Visual and Instrument Flight Procedures. Manston Airport considers that this is a safety-related principle and as such, will be considered under the safety design principle.

Ramsgate Town Council considered that the consultation to date was inadequate as the inclusion of extensive aviation industry representatives and representatives from parish councils far and wide across Kent effectively diluted the impact of the one representative from Ramsgate.

- **Our Response –** The engagement at this stage of the process has been conducted in accordance with the guidance laid down in CAP 1616. The full public consultation on the airspace change will be open to everyone to consider and comment on the proposal.

3.15 Potential Design Principles Not Taken Forward

3.15.1 Routes should, where possible, be designed to be PANS-OPS compliant

There were no additional comments relating to not including this potential design principle.

3.15.2 Routes should be chosen to minimise the flight distance over land and maximise distance over the sea to reduce the impact of noise and emissions

Rochester Airport considered that this should be included as a design principle as it pulls other design principles together with some focus for the next stage. CPRE Kent also considered that it was too important an issue to be left to a later stage and it will avoid the extra costs of trying to amend proposals later. Kent County Council would welcome the consideration of options to minimise the time spent overland and design routes over the sea as much as possible.

Canterbury City Council considered that this should also be included as a Design Principle with special emphasis on minimising overflying over land even if this meant longer flight paths (and hence more pollution) over the sea.

Manston Airport is required to produce a comprehensive list of design options that address the Statement of Need and align with the design principles. These designs will include options that minimise the flight distance over land that will be shared with stakeholders during the early part of Stage 2. The noise and emissions impact of each option will be considered under the 3 design principles that focus on these impacts.

3.15.3 There should be no overflying of Ramsgate

Ramsgate Town Council disagreed with the exclusion of this design principle stating that would obviously be possible not to use the eastern approach at all, except in emergencies, just inconvenient to the operator to schedule take offs and landings accordingly. CPRE Kent commented that if overflying of Ramsgate cannot be avoided, no airspace design will be acceptable. They also commented that a major concern with previous operations was the way in which aircraft flew where they wanted, which is unacceptable. Design's must optimise procedures and regulations must ensure that aircraft comply with them. CPRE Kent added that this does not only apply to Ramsgate and that other built-up areas should be avoided.

It is unlikely that any procedures can be designed for operations from Runway 10 and to Runway 28 that completely avoid the overflight of Ramsgate. Operationally, Manston Airport will require procedures to be promulgated that allow operations to be conducted from either runway direction and it would not be feasible not to conduct operations when the meteorological conditions dictate that departures use Runway 10 and arrivals use Runway 28. Aircraft that operate in and out of Manston Airport will be required to conform to the published procedures and penalties could be enforced on operators for non-conformance. Procedures will be designed that minimise the impact of noise and emissions, particularly on built-up areas.

3.15.4 Any new airspace should be the minimum volume necessary

There were no additional comments relating to not including this potential design principle.

3.15.5 Consider the Flexible Use of Airspace

There were no additional comments relating to not including this potential design principle.

3.15.6 Any new airspace should facilitate fair access to all airspace users

CPRE Kent stated that all existing users must have priority over Manston users because existing users have established rights to use the airspace. This is especially important for users such as gliders which need space to seek out best routes. NERL believed that this should remain as a design principle in order to allow for the use of CAS if necessary.

Manston Airport is not proposing to introduce new airspace that would restrict operations for other airspace users and design options would seek to minimise the impact on other airspace users in the local area. The consideration any CAS will be considered under the safety design principle.

4. Final Shortlist of Design Principles

4.1 Shortlist of Design Principles

In light of the feedback received from stakeholders during the review described above in Section 3, the prioritised shortlist of design principles is shown in Table 4 below.

Prioritised Design Principle (a)	Design Principle (b)	Category (c)
1	Procedures must be designed to meet acceptable levels of flight safety	Safety
2	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it	Operational
3	Procedures should be designed to minimise the impact of noise below 7,000 ft	Environmental
4	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas	Environmental
5	Designs should minimise the impact on other airspace users in the local area	Operational
6	Procedures should be designed that minimise aircraft emissions to reduce air pollution	Environmental
7	Designs should make provision for multiple routes that can be used to spread the noise burden more equitably	Environmental
8	Procedures should be designed to minimise the number of track miles flown	Environmental / Operational

Table 4 - Prioritised Design Principles

5. CAP 1616 - Next Steps

5.1 Next Steps

This document will be submitted to the CAA as evidence to support Step 1B of the CAP 1616 airspace change process ahead of the Stage 1 Define Gateway.

Following successful completion of the Stage 1 Define Gateway and subsequent publication, further stakeholder engagement meetings will be organised to discuss the design options once they are developed. The design principles will be used as the framework against which Design Options are developed and assessed to address the Statement of Need.

Currently, Manston Airport's estimated timeline for subsequent stages of this process is shown in Table 5 below:

CAP 1616 Stage (a)	Estimated Completion Date (b)
Stage 1 Define	29th February 2020
Stage 2 Develop and Assess	26th June 2020
Stage 3 Consult	27th November 2020
Stage 4 Update and Submit ACP	28th May 2021
Stage 5 Decide	28th January 2022
Stage 6 Implement	October 2022

Table 5 - Manston Airport ACP Timeline

A1. Stakeholders Contacted - Step 1B

A1.1 Aviation Stakeholder Matrix

The following tables represents the key aviation stakeholders identified by Manston Airport as potentially being affected by the proposal. We engaged with all of these stakeholders during the development of the design principles that will inform the airspace design process.

A1.1.1 Air Cargo Operators

We are consulting with freight airline operators who have the potential to operate from Manston Airport.

Air Cargo Operators	
Cargolux	Coyne Air
Magma Aviation	Network Airline

Table 6 - Air Cargo Operators

A1.1.2 Local Aerodrome and Aviation Organisations

We are consulting with the following local airports, airfields and aviation organisations:

Local Aerodromes	
Air Ambulance Kent Surry Sussex	Channel Gliding Club
Gatwick Airport	Kent Gliding Club
London Biggin Hill Airport	London City Airport
Lydd Airport	Maypole Airfield
Rochester Airport	Southend Airport

Table 7 - Local Aerodrome and Aviation Organisations

A1.1.3 Air Navigation Service Providers

We are consulting with the following ANSPs:

ANSP	
ANS (Gatwick)	NATS
NATS (London City)	Southend ATC

Table 8 - Air Navigation Service Providers

A1.1.4 National Aviation Organisations

We are consulting with the following National Aviation Organisations through members of the National Air Traffic Management Advisory Committee (NATMAC):

National Aviation Organisations	
Airlines UK	Airport Operators Association
Airspace4All	Airfield Operators Group
Aircraft Owners and Pilots Association	Association of Remotely Piloted Aircraft Systems
Aviation Environment Federation	British Airways
British Airline Pilots' Association	British Balloon and Airship Club
British Business & General Aviation Association	British Gliding Association
British Hang Gliding and Paragliding Association	British Helicopter Association
British Microlight Aircraft Association	British Model Flying Association
British Parachute Association	General Aviation Alliance
General Aviation Safety Council	Guild of Air Traffic Control Officers
Honourable Company of Air Pilots	Helicopter Club of Great Britain
Heavy Airlines (Virgin Airlines)	Light Aircraft Association
Low Fares Airlines	Military Aviation Authority
MoD Defence Airspace & Air Traffic Management	NATS
Navy Command HQ	PPL/IR
UK Airprox Board	UK Flight Safety Committee

Table 9 - National Air Traffic Management Committee

A1.2 Non-Aviation Stakeholder Matrix

The following tables represents the key non-aviation stakeholders identified by Exeter Airport to engage with during the development of the design principles that will inform the airspace design process.

A1.2.1 Elected Local Representatives

We are consulting with the following Members of Parliament:

Member of Parliament	Constituency
Damian Green	Ashford
Rosie Duffield	Canterbury
Charlie Elphike	Dover
Nathalie Elphike	Dover
Helen Whately	Faversham and Mid-Kent
Damian Collins	Folkestone and Hythe
Sir Roger Gale	North Thanet
Gordon Henderson	Sittingbourne
Craig Mackinlay	South Thanet

Table 10 - Members of Parliament

A1.2.2 Local Authorities

We are consulting with the following Local Authorities:

Local Authorities	
Kent County Council	Dover District Council
Folkestone and Hythe District Council	Ashford Borough Council
Swale Borough Council	Thanet District Council
Canterbury City Council	

Table 11 - Local Authorities

A1.2.3 Town and Parish Councils

We are consulting with the following Local Authorities:

Town and Parish Councils	
Acol Parish Council	Acrise Parish Council
Adisham Parish Council	Alkham Parish Council
Ash Parish Council	Aylesham Parish Council
Barham Parish Council	Bekesbourne-with-Patrixbourne Parish Council
Birchington Parish Council	Bishopsbourne Parish Council
Blean Parish Council	Boughton under Blean Parish Council
Bridge Parish Council	Broadstairs & St Peters Town Council
Brook Parish Council	Cape-le-Ferne Parish Council
Chartham Parish Council	Chestfield Parish Council
Chilham Parish Council	Chislet Parish Council
Cliffsend Parish Council	Crundale Parish Council
Deal Town Council	Denton with Wootton
Dover Town Council	Dunkirk Parish Council
Eastry Parish Council	Elham Parish Council
Elmsted Parish Council	Eythorne Parish Council
Folkestone Town Council	Fordwich Town Council
Godmersham Parish Council	Goodnestone Parish Council
Graveney with Goodnestone Parish Council	Guston Parish Council
Hackington Parish Council	Harbledown & Rough Common Parish Council
Hawkinge Town Council	Herne & Broomfield Parish Council
Hernhill Parish Council	Hersden Parish Council
Hoath Parish Council	Hougham Without Parish Council
Hythe Town Council	Ickham & Well Parish Council

Town and Parish Councils (continued)	
Kingston Parish Council	Langdon Parish Council
Leysdown Parish Council	Littlebourne Parish Council
Lower Hardres & Nackington Parish Council	Lydden Parish Council
Lyminge Parish Council	Manston Parish Council
Minster Parish Council	Monkton Parish Council
Nonington Parish Council	Northbourne Parish Council
Paddlesworth Parish Council	Petham Parish Council
Preston Parish Council	Ramsgate Town Council
Ringwould & Kingsdown Parish Council	Ripple Parish Council
River Parish Council	Sandwich Town Council
Sarre Parish Council	Sheperdswell and Coldred Parish Council
Sholden Parish Council	St Nicholas-at-Wade with Sarre Parish Council
St. Margaret's at Cliffe	Staple Parish Council
Stelling Minnis Parish Council	Stourmouth Parish Council
Sturry Parish Council	Sutton by Dover Parish Council
Swingfield Parish Council	Temple Ewell Parish Council
Thanington Parish Council	Tilmanstone Parish Council
Upper Hardres Parish Council	Walmer Parish Council
Waltham Parish Council	Westbere Parish Council
Westgate-on-Sea Town Council	Whitfield Parish Council
Wickhambreaux Parish Council	Wingham Parish Council
Womenswold Parish Council	Woodnesborough Parish Council
Worth Parish Council	

Table 12 - Town and Parish Councils

A1.2.4 Conservation and Environmental Organisations

We are consulting with the following conservation and environmental organisations:

Conservation and Environmental Organisations	
CPRE Kent	Elmley Nature Reserve
Kent Downs AONB	National Trust
Natural England	Woodland Trust

Table 13 - Conservation and Environmental Organisations

A2. Aviation Stakeholder Questionnaire

Q1 - Please list any altitude constraints, together with your reasons, that you feel RiverOak Strategic Partners could consider when designing its new departure and approach procedures?

Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?

Q3 - Please advise us of any future requirements for coordination (particularly adjacent/contiguous routes) between Manston Airport and adjacent Air Navigation Service Provider (ANSP) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Manston Airport departure and approach procedures?

Q4 - Are there any aspects of CAA Airspace Modernisation Strategy (e.g. airway entry/exit points, existing planned or new handover points) that RiverOak Strategic Partners should take into account in the design of procedures? Please provide details.

Q5 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Manston Airport procedure development? Please provide details.

Q6 - Have you previously had a Letter of Agreement or Memorandum of Understanding with the Operators of the 'previous' Manston Airport? If so, do you see this as an agreement that could influence the design of the Manston Airport departure and approach procedures? Please provide details.

Q7 - Please let us know if there are any day or evening time constraints that you consider RiverOak Strategic Partners could take into account when designing its departure and approach procedures? Please provide details and reasons.

Q8 - Please tell us if there are any other operational constraints that RiverOak Strategic Partners will need to consider when planning its new arrival and departure procedures?

Q9 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe RiverOak Strategic Partners should engage with during the process of designing its new procedures? Please provide details and reasons.

Q10 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Manston Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?

Q11 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Manston Airport's procedure design project?

Q12 - Please provide details of any issues or constraints due to local General Aviation operations that you believe may have an impact on Manston Airport's departure and approach procedures?

Q13 - Please provide details of any constraints that may be occasioned by local gliding activities on Manston Airport's procedure design project.

Q14 - We would be grateful for any views you may wish to express regarding how RiverOak Strategic Partners should balance the needs of the airlines operating from Manston Airport against the needs of the local community.

Q15 - Please advise us of any other issues or constraints you feel RiverOak Strategic Partners could consider when designing its new departure and approach procedures? Please provide details.

A3. Non-Aviation Stakeholder Questionnaire

Q1 - Please list the facilities in your local area that you believe would be most affected by aircraft noise (e.g. hospitals, schools, parks, hospices etc.)?

Q2 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise over the early morning and late evening period.

Q4 - Please identify any other areas, that are not necessarily local to you, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise?

Q5 - Do you believe aircraft conducting continuous climbs to altitude after taking off (where this is safe to do so) may reduce exposure to noise in your local area?

Q6 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc.) that you feel aircraft could avoid?

Q7 - Please state what principles you believe we can adopt to mitigate (in full or in part) regarding the impact of airliner exhaust fumes or pollution?

Q8 - Please bring to our attention any recent or ongoing local environmental studies you feel should be considered by RiverOak Strategic Partners when designing the new departure and approach procedures?

Q9 - Are there any other local development projects, perhaps currently at the planning stage, that RiverOak Strategic Partners should be aware of and consider when planning Manston Airport's departure and approach procedures?

Q10 - Please list any other relevant local or national organisations that you believe RiverOak Strategic Partners should ensure are involved in public consultation.

Q11 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary.

Q12 - We would be grateful for your views about how RiverOak Strategic Partners should balance the needs of airlines operating from Manston Airport against the needs of the local community.

Q13 - Please advise us of any other issues or constraints you feel RiverOak Strategic Partners could consider when designing its new departure and approach procedures? Please provide details.

A4. Longlist of Themes and Design Principles

A4.1 Development of the Potential Design Principles

Table 14 below shows the long list of responses (column b) derived from the Focus Group and Questionnaire responses. The long list has been organised according to which of the 14 potential design principles, as shown in column d and earlier in Table 2, that they have contributed to the formulation of.

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
1	Safe and efficient operations	Questionnaire	Procedures must be designed to meet acceptable levels of flight safety
2	Ensuring that Manston does not export or increase safety risk into their own operations, as would be the case if General Aviation activity was (e.g.) forced into high-density corridors around the periphery of Manston's procedures or into extended over-water tracks	Questionnaire	
3	The Thames Estuary, North Sea and English Channel pose a safety threat and planning constraint for some aviation sectors but almost none to Commercial Air Transport and any change must not increase the safety risk of one sector simply to the commercial benefit of another	Questionnaire	
4	There are considerably wind farms located offshore of the proposed freight hub and more planned with larger turbines. These have potential to disrupt radar facilities and increase safety concerns	Questionnaire	
5	Enabling a safe air traffic environment for all airspace users	Questionnaire	
6	Safety should be the highest design principle priority	Questionnaire	
7	Co-ordination with NATS (TC) regarding the control of aircraft through the point merge system which controls the flow of aircraft into the London TMA, including traffic bound for Biggin Hill Airport	Questionnaire	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it
8	All new routes into and out of Manston must integrate with the other airports in the southeast of England	Questionnaire	
9	Reference must be made to the proposed modernisation of airspace in the southeast of England, including proposals being put forward by the applicable neighbouring airports	Questionnaire	
10	Plans for Manston are fully integrated with plans being developed by NATS and the nearby airports for the airspace modernisation programme	Questionnaire	

[3] As depicted in Section 2.

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
11	Any design work undertaken will ultimately take into account the change in vertical reference caused by the transition altitude, particularly with interactions with other airports	Questionnaire	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it
12	LAMP timescales through the FASI-S work	Questionnaire	
13	Use the guidance contained in the CAA AMS when developing the airspace in order to maintain regulatory compliance	Questionnaire	
14	Integrate the proposal within the overall UK airspace modernisation context	Questionnaire	
15	Each airspace change process is not looked at in silo (sic) but instead considers the cumulative impact on local communities and seeks to achieve deconfliction of flight paths	Questionnaire	
16	Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context	Questionnaire	
17	Optimisation of the development work above and below the 7,000ft NATS en-route split	Questionnaire	
18	Approaches and departures should afford the steepest routing possible to reduce noise levels at the surface	Questionnaire	Procedures should be designed to minimise the impact of noise below 7,000 ft
19	Concerned primarily with noise and emissions	Questionnaire	
20	Noise abatement	Questionnaire	
21	Restrict/Limit night flying	Questionnaire	
22	Clearly there is a cost to steep climb-outs, both in noise and fuel consumption, but not on descents	Questionnaire	
23	A minimum altitude of 2,000ft will avoid disturbance of the population of Herne Bay	Questionnaire	
24	Adherence to current proposals of 07.00 – 22.00 local time seems satisfactory	Questionnaire	
25	Noise abatement areas should be considered, or preferred corridors for departure especially	Questionnaire	
26	Overflying Ramsgate is simply not acceptable	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
27	Will expose a new, large and vulnerable population to very high levels of aircraft noise and air pollution	Questionnaire	Procedures should be designed to minimise the impact of noise below 7,000 ft
28	RIVEROAK cannot overfly Ramsgate or the wider Thanet during the tourism season day or night	Questionnaire	
29	RIVEROAK cannot overfly Ramsgate or the wider Thanet during school hours	Questionnaire	
30	The needs of the local community are prioritised above the needs of any airlines using Manston Airport	Questionnaire	
31	Alternative PBN routes for STARs and SIDs are acceptable	Questionnaire	
32	Consideration should also be given to radar sequencing of arrivals to vary and shorten the track distances to final approach	Questionnaire	
33	Approaches and departures should use the steepest routing possible	Questionnaire	
34	Reduction in noise footprint	Questionnaire	
35	Older aircraft types with higher noise and emission levels than more recent types should be discouraged	Questionnaire	
36	Even more affected by the noise and pollution from aircraft	Questionnaire	
37	This means that flight paths must be as high as possible	Questionnaire	
38	Areas are of concern because of the increase in noise	Questionnaire	
39	Worst case must be assumed for noise and pollution emissions, and flightpaths for the worst case, such as fully loaded aircraft, must be used	Questionnaire	
40	Totally unacceptable to have most of such noise and the loudest noise for the large towns under the flight paths, such as Ramsgate and Herne Bay	Questionnaire	
41	Proposed flight paths should be to go over the sea as much as possible, with carefully chosen routes between the coast and airport	Questionnaire	
42	PBN means that any chosen route will be very narrow, magnifying the noise and pollution impacts	Questionnaire	
43	Potential to avoid any one area always receiving the intensive narrow flow of aircraft overhead at the same time everyday	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
44	Early morning flights wake people up, and late evening flights either wake up people already asleep or make it more difficult for those trying to go to sleep	Questionnaire	Procedures should be designed to minimise the impact of noise below 7,000 ft
45	Heavily laden aircraft will be more noisy and some engines may be unable to provide higher rates of climb without excessive noise	Questionnaire	
46	Flight profiles need to be chosen to give minimum noise for the specific aircraft	Questionnaire	
47	The airport must have very restricted operations, carefully chosen to minimise those impacts	Questionnaire	
48	The flights should also be as high as possible, and should use Continuous Descent Approach	Questionnaire	
49	There must be NO Night Flights, and most flights should be between 10 am and 5 pm	Questionnaire	
50	Sutton Parish has three main villages which will be affected by aircraft noise if the departure route indicated is eventually adopted	Questionnaire	
51	Avoid excessive noise pollution over the whole of East Kent	Questionnaire	
52	Consider that the residents we represent are more likely to be affected than the landscape	Questionnaire	
53	Consider alternative departure routes which would protect the environment	Questionnaire	
54	The proposed departure route will cause noise nuisance to many thousands of people. An alternative route is available and will mitigate most of the public concern	Questionnaire	
55	Noise pollution will affect more residents as new building projects come forward	Questionnaire	
56	Both noise and air pollution would exasperate the already poor health outcomes of many residents	Questionnaire	
57	Would suffer directly and/or indirectly through the impact of noise and pollution	Questionnaire	
58	Any permission to overfly Ramsgate would be disastrous	Questionnaire	
59	Planes landing over Ramsgate created measured noise levels up to and in excess of 100 decibels	Questionnaire	
60	Any overflying of Ramsgate is unacceptable	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
61	There should be absolutely no flying from 19:00 to 08:00	Questionnaire	Procedures should be designed to minimise the impact of noise below 7,000 ft
62	Should not be inflicted with sleep disturbance in the early morning or late evening	Questionnaire	
63	Ramsgate is too close to the proposed runway for this to reduce noise exposure. It may in fact increase noise and increase safety concerns (CCO)	Questionnaire	
64	There should be no overflying of Ramsgate except in emergency	Questionnaire	
65	All the noise and pollution are going to be highly intrusive	Questionnaire	
66	There should be no overflying of residential areas during an extensive night-time period, no take-offs over Ramsgate, and landings restricted to emergencies only	Questionnaire	
67	Noise pollution may also be a concern in that the background noise levels may be increased	Questionnaire	
68	There should not be an extension to include night flying	Questionnaire	
69	The route swathes should mimic what occurred before with most departures to the north to less densely populated areas rather than the new proposed southerly routes over densely urban populated areas	Questionnaire	
70	Investigate the benefits that the use of Performance Based Navigation can bring in terms of providing accurate flightpaths and therefore being able to move traffic away from areas of concern in the local community	Questionnaire	
71	Minimising noise and emissions take priority for most people over dispersal	Questionnaire	
72	In the South East there is a conflict between population centres and the tranquillity of our rural and protected landscapes	Questionnaire	
73	Concentration of flight paths results in an untenable situation where certain settlements are intensively overflown compared to the previous situation where overflight was shared through the natural variation	Questionnaire	
74	The voice of communities needs to be listened to regarding the damaging impact of aviation noise	Questionnaire	
75	Noise that disrupts sleep is the most damaging to health. Therefore, we would fully encourage restrictions on night noise	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
76	Over-flight of densely populated areas should be avoided to minimise the number of people affected by aircraft noise	Questionnaire	Procedures should be designed to minimise the impact of noise below 7,000 ft
77	Focus on minimising and mitigating the environmental and community impacts of aircraft movements	Questionnaire	
78	Local Plans which should be considered when designing flight paths	Questionnaire	
79	Each airspace change process is not looked at in silo (sic) but instead considers the cumulative impact on local communities and seeks to achieve deconfliction of flight paths	Questionnaire	
80	Given the potentially profound changes to currently not overflown communities, it is imperative that these alternative metrics are used by airspace change promoters to ensure that communities are fully aware of the implications	Questionnaire	
81	The use of holding stacks should also be avoided where possible	Questionnaire	
82	Given the location of Manston Airport it would seem logical for routes to follow the coast as far as possible to avoid flying over settlements	Questionnaire	
83	There are several sensitive facilities in relation to Runway 28	Questionnaire	
84	Aircraft noise in the late evening and early morning is likely to be particularly noticeable	Questionnaire	
85	Continuous climbs and descents overall will cut noise especially in the local area but it can increase noise in areas	Questionnaire	
86	Any work on the proposed flight paths takes into consideration the plans in the emerging Local Plan	Questionnaire	
87	Steeper and continuous climbs and descents for cost and environmental benefits	Questionnaire	
88	Biggest complaint we had when we indirectly operated at Manston previously was Aerodrome noise	Aviation Focus Group	
89	Westerly departures only to the North to avoid noise issues	Non-Aviation Focus Group	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
90	We had a noise monitor at this school that recorded noises over 90 decibels from planes coming into land. I find it hard to believe the claim that the noise levels won't be this loud again	Non-Aviation Focus Group	Procedures should be designed to minimise the impact of noise below 7,000 ft
91	Have you weighed up the impact of background noise in rural areas vs the impact in urban areas	Non-Aviation Focus Group	
92	Are there 3 options, urban, rural and over the sea	Non-Aviation Focus Group	
93	We never had the noise issue before, this will upset local people	Non-Aviation Focus Group	
94	Herne Bay is an issue - can you avoid overflowing Herne Bay	Non-Aviation Focus Group	
95	Why can't you come in nearer to the end of the runway	Non-Aviation Focus Group	
96	It's fairly obvious that Ramsgate would want as little overflying as it can	Non-Aviation Focus Group	
97	The ideal situation for Ramsgate would be no overflying at all	Non-Aviation Focus Group	
98	We will need compensating measures to the west, as if 78% of flights are going towards Herne Bay, we will need to make sure they can achieve greater heights and bank sooner	Non-Aviation Focus Group	
99	Doesn't want flights going over Ramsgate, so all those flights will go west and south and come over our areas. As much as I hear you, I don't agree with you	Non-Aviation Focus Group	
100	So there will be a big impact on Ramsgate through noise and disturbance	Non-Aviation Focus Group	
101	To the West and South I understand you might want dispersion because house is more separate so you might hear one flight a day. You wouldn't have much of a say if you live in Ramsgate, as you're so close to the runway	Non-Aviation Focus Group	
102	In Ramsgate, we'd like the aircraft to be lined up further out to sea than they were previously	Non-Aviation Focus Group	
103	It's possible for aircraft to climb quickly after take-off, in terms of proximity to Ramsgate can they climb quicker	Non-Aviation Focus Group	
104	When possible aircraft should get away from Ramsgate as soon as possible	Non-Aviation Focus Group	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
105	May also allow more direct overland routing than would otherwise be the case	Questionnaire	Procedures should be designed that minimise aircraft emissions to reduce air pollution
106	Concerned primarily with noise and emissions	Questionnaire	
107	Steeper and continuous climbs and descents for cost and environmental benefits	Questionnaire	
108	The Kent Downs AONB Unit is also concerned about air quality over the AONB	Questionnaire	
109	Recognise the impact airspace design can have on the Kent Downs AONB	Questionnaire	
110	Opportunities for more direct routings and continuous climb and descent profiles	Questionnaire	
111	Clearly there is a cost to steep climb-outs, both in noise and fuel consumption, but not on descents	Questionnaire	
112	Will expose a *new, large and vulnerable* population to very high levels of aircraft noise and air pollution	Questionnaire	
113	All principles for mitigation and reducing pollution and emissions ….. should be considered for adoption	Questionnaire	
114	Consideration should also be given to radar sequencing of arrivals to vary and shorten the track distances to final approach	Questionnaire	
115	Older aircraft types with higher noise and emission levels than more recent types should be discouraged	Questionnaire	
116	Reduce unnecessary All-Up-Mass on departure and thus emission levels	Questionnaire	
117	Even more affected by the noise and pollution from aircraft	Questionnaire	
118	This means that flight paths must be as high as possible	Questionnaire	
119	Worst case must be assumed for noise and pollution emissions, and flightpaths for the worst case, such as fully loaded aircraft, must be used	Questionnaire	
120	Totally unacceptable to have most of such noise and the loudest noise for the large towns under the flight paths, such as Ramsgate and Herne Bay	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
121	PBN means that any chosen route will be very narrow, magnifying the noise and pollution impacts	Questionnaire	Procedures should be designed that minimise aircraft emissions to reduce air pollution
122	Potential to avoid any one area always receiving the intensive narrow flow of aircraft overhead at the same time everyday	Questionnaire	
123	"Reduction" is what is needed, (exhaust fumes & pollution). Use the latest lower pollution aircraft	Questionnaire	
124	The airport must have very restricted operations, carefully chosen to minimise those impacts	Questionnaire	
125	Consider alternative departure routes which would protect the environment	Questionnaire	
126	Both noise and air pollution would exasperate the already poor health outcomes of many residents	Questionnaire	
127	Would suffer directly and/or indirectly through the impact of noise and pollution	Questionnaire	
128	Any overflying of Ramsgate is detrimental and unacceptable (fumes and pollution)	Questionnaire	
129	Environmental studies must be given weight in this process of considering flight paths	Questionnaire	
130	All the noise and pollution are going to be highly intrusive	Questionnaire	
131	Minimising noise and emissions take priority for most people over dispersal	Questionnaire	
132	This would help providing it does not increase emissions (CCOs)	Questionnaire	
133	This should be closely followed by principles which focus on minimising and mitigating the environmental and community impacts of aircraft movements	Questionnaire	
134	The impact on the flights on the designated sites due to nutrification should also be considered	Questionnaire	
135	Local Plans which should be considered when designing flight paths	Questionnaire	
136	Dover Council expect an assessment of the impact of aircraft movements on local air quality to be regularly carried out	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
137	Any work that is undertaken as part of this work on climate emergency is fully taken into consideration	Questionnaire	Procedures should be designed that minimise aircraft emissions to reduce air pollution
138	Any work on the proposed flight paths takes into consideration the plans in the emerging Local Plan	Questionnaire	
139	Steeper and continuous climbs and descents for cost and environmental benefits	Questionnaire	
140	Flying the most direct route is helping reduce emissions which is central to the current political climate	Non-Aviation Focus Group	
141	Herne Bay is an issue - can you avoid overflowing Herne Bay	Non-Aviation Focus Group	
142	Aircraft activity impacts on all these elements (noise, visual intrusion & inappropriate activity) but most particularly it is the noise impact that has potential to impact on tranquillity	Questionnaire	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas
143	Increased concentration of flight paths, if overflying the AONB could negatively impact on tranquillity of the AONB	Questionnaire	
144	Recognise the impact airspace design can have on the Kent Downs AONB	Questionnaire	
145	Seek to conserve and enhance the natural beauty of this nationally protected landscapes by avoiding as far as possible flight paths across the Kent Downs AONB	Questionnaire	
146	Sensitive areas were identified in the DCO application documents	Questionnaire	
147	Concerns regarding noise impacts on the birds for which the Thanet Coast and Sandwich Bay Special Protection Area (SPA) is designated	Questionnaire	
148	Departure and approach procedures should follow the principles set out in the DCO application, otherwise the conclusions of the Environmental Impacts Assessment submitted cannot be relied upon	Questionnaire	
149	The Swale SPA (also a SSSI and RAMSAR) – including Elmley National Nature Reserve and the Swale National Nature Reserve	Questionnaire	
150	Stodmarsh Nature Reserve	Questionnaire	
151	All tranquil areas as defined by the CPRE Tranquillity maps, all areas of importance to nature	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
152	List of what facilities to avoid	Questionnaire	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas
153	Areas least affected by aircraft noise and pollution are those at sea, but areas proposed for flyover would still need assessing for wildlife, such as birds	Questionnaire	
154	Most species are suffering continuing and devastating declines, it is essential to avoid potential impacts	Questionnaire	
155	Especially relevant to North East Kent Marine Protected Area (NEKMPA) which includes the North East Kent European Marine Site (NEKEMS) and the more recent Marine Conservation Zone (MCZ)	Questionnaire	
156	North East Kent Marine Protected Area (NEKMPA) which includes the North East Kent European Marine Site (NEKEMS) and the more recent Marine Conservation Zone (MCZ). These sites are amongst some of the best wildlife sites in Europe.	Questionnaire	
157	Sandwich and Pegwell SSSI Pegwell Nature reserve Monkton Nature Reserve Montefiore Woodland The town of Herne Bay – 40,000 residents – and the villages to the west of the runway	Questionnaire	
158	In the South East there is a conflict between population centres and the tranquillity of our rural and protected landscapes	Questionnaire	
159	The increased overflight of designated landscapes will also disrupt the tranquillity that so many people enjoy	Questionnaire	
160	Single Event Noise exposure, and the frequency of that exposure, can cause significant community annoyance even if it does not exceed the 'average level of daytime aircraft noise' due to the tranquillity of rural areas	Questionnaire	
161	Where possible over-flight of areas of tranquillity should also be avoided	Questionnaire	
162	Imperative departure and approach procedures do not impact on the operation of the railway station	Questionnaire	
163	As much as possible limit overflight of protected landscape areas	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
164	There are several sensitive facilities in relation to Runway 28	Questionnaire	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas
165	Such areas are valued for their tranquillity.	Questionnaire	
166	May also allow more direct overland routing than would otherwise be the case	Questionnaire	Procedures should be designed, where possible, to minimise the number of track miles flown
167	Taking into account the environment and noise, a longer arrival/departure track would be off-putting to the freight industry	Aviation Focus Group	
168	'Share safely,' rather than the historic 'segregate for safety' approach	Questionnaire	Designs should minimise the impact on other airspace users in the local area
169	Airspace and procedure design must aim to address the needs of non-Manston as well as Manston air traffic	Questionnaire	
170	Airspace design will be expected to achieve safety through effective and efficient sharing of the air, not through allocating discrete blocks from which some aviation sectors are segregated	Questionnaire	
171	Ensuring that Manston does not export or increase safety risk into their own operations, as would be the case if General Aviation activity was (e.g.) forced into high-density corridors around the periphery of Manston's procedures or into extended over-water tracks	Questionnaire	
172	The Thames Estuary, North Sea and English Channel pose a safety threat and planning constraint for some aviation sectors but almost none to Commercial Air Transport and any change must not increase the safety risk of one sector simply to the commercial benefit of another	Questionnaire	
173	Consider, balance and accommodate the needs of all sectors	Questionnaire	
174	Would be better to route these further east, over less congested areas and away from Maypole	Questionnaire	
175	Operations at Maypole endeavour to keep our neighbours happy by taking off and clearing the area in the most expeditious manner. Any alteration to this due to Manston operations will have a major impact	Questionnaire	
176	Not below 2,000 ft within 2 miles of Maypole Airfield	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
177	08:00 to dusk to avoid Maypole Airfield operations	Questionnaire	Designs should minimise the impact on other airspace users in the local area
178	Proximity of Maypole Airfield circuit and departure points	Questionnaire	
179	Move approach path over Herne Bay further north	Questionnaire	
180	Limitations of Radar Service in/over adjacent Wind Farms	Questionnaire	
181	If your proposed airspace redesign brings Manston bound traffic below 5500ft overhead EGKE (Challock), due consideration is given to routing such traffic to the West of EGKE above the existing lower (3500ft) part of the TMA	Questionnaire	
182	A minimum altitude of 2,000ft will avoid potential conflict with Maypole traffic	Questionnaire	
183	GNSS based PBN allows varied routing, but the ILS Cat 3 will be rigid – The latter gives certainty of likely conflict areas to class G users, and would be better for operations below 2,000ft	Questionnaire	
184	Aircraft climb profiles when fully laden need to be examined, with engine failure routes if adequate climb not possible to avoid potential conflict with Southend, Maypole and Waldershare traffic	Questionnaire	
185	Training areas South / South West of Manston use class G up to 5,000ft for manoeuvring as restricted to 2,500 to the West which is too low for practice stalls / spins etc	Questionnaire	
186	Waldershare is close to the South-Eastern arrival and departure routes and may be operational up to 5,000ft	Questionnaire	
187	Minimum altitude points on both arrivals and departures with specified vertical profiles and alternative routings when these cannot be complied with	Questionnaire	
188	Only allow operations with compliant aircraft types	Questionnaire	
189	To be GA friendly	Questionnaire	
190	As far as possible approaches from the North preferred	Questionnaire	
191	Remember to include them (helicopters), also consider GA	Questionnaire	
192	Remember to be GA Friendly	Questionnaire	
193	The following areas should be considered (Danger Areas)	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
194	Ensure access to airspace as required for both fixed wing and rotary aircraft as required to meet defence operational and training requirements	Questionnaire	Designs should minimise the impact on other airspace users in the local area
195	Consider and allow for MOD access to airspace in order to meet future defence requirements	Questionnaire	
196	The needs of General Aviation should be considered	Questionnaire	
197	Airspace design should allow for the use of Maypole/ Hoath airfield	Questionnaire	
198	Airspace design should not unduly constrict airspace, particularly for General Aviation	Questionnaire	
199	Any restriction of the local airspace would impact on the viability of the gliding site	Questionnaire	
200	Reiteration that the UK airspace's default classification is G	Questionnaire	
201	Reiteration that ICAO Class E airspace default is without the addition of a TMZ or RMZ	Questionnaire	
202	Our extended centre lines intersect, what are your plans to harmonise activities with Maypole airfield	Aviation Focus Group	
203	Departures and arrivals from west take into account operations at Maypole airfield	Aviation Focus Group	
204	If you're going to have a spread of possible route, you have some conflict there, to the class G operator you're introducing uncertainty to tracks	Aviation Focus Group	
205	We want Manston to work with GA	Aviation Focus Group	
206	Alternative PBN routes for STARs and SIDs are acceptable	Questionnaire	Designs should where possible, make provision for multiple routes that can be used to spread the noise burden more equitably
207	Therefore several PBN should be available with careful choice of when they would be used	Questionnaire	
208	Potential to avoid any one area always receiving the intensive narrow flow of aircraft overhead at the same time everyday	Questionnaire	
209	The proximity of Ramsgate directly under any proposed approach path from the east does not allow multiple routes from or to that direction	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
210	Multiple routes that share noise exposure over more people but less frequently seems a fairer approach to implement	Questionnaire	Designs should where possible, make provision for multiple routes that can be used to spread the noise burden more equitably
211	Concentration of flight paths results in an untenable situation where certain settlements are intensively overflown compared to the previous situation where overflight was shared through the natural variation	Questionnaire	
212	This technology could be better utilised to mimic the range of routes flown before its introduction	Questionnaire	
213	The use of multiple arrival and departure routes should be specified "to provide predictable rotating respite and spread the burden of over-flight more equitably between communities."	Questionnaire	
214	Airspace design should make provision for multiple routes that offer respite for affected communities	Questionnaire	
215	Will be designing procedures with great attention to detail incorporating ICAO compliant design requirements for GNSS guidance	Aviation Focus Group	Routes should, where possible, be designed to be PANS-OPS compliant
216	Overflying Ramsgate is simply not acceptable	Questionnaire	There should be no overflying of Ramsgate
217	RIVEROAK cannot overfly Ramsgate or the wider Thanet during the tourism season day or night	Questionnaire	
218	RIVEROAK cannot overfly Ramsgate or the wider Thanet during school hours	Questionnaire	
219	Any permission to overfly Ramsgate would be disastrous	Questionnaire	
220	Planes landing over Ramsgate created measured noise levels up to and in excess of 100 decibels	Questionnaire	
221	Any overflying of Ramsgate is unacceptable	Questionnaire	
222	There should be no overflying of Ramsgate except in emergency	Questionnaire	
223	There should be no overflying of residential areas during an extensive night-time period, no take-offs over Ramsgate, and landings restricted to emergencies only	Questionnaire	
224	The ideal situation for Ramsgate would be no overflying at all	Non-Aviation Focus Group	
225	So there will be a big impact on Ramsgate through noise and disturbance	Non-Aviation Focus Group	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
226	Approaches and departures should afford the steepest routing possible reduce the surface size of any CTZ and increase the base height of any adjoining CTA volumes (thereby minimising the volume of airspace)	Questionnaire	Any new airspace should be the minimum volume necessary
227	The UK airspace's default classification is G and that sponsors must establish a safety case for proposing to change this class or add any further restrictions or requirements by their ACP	Questionnaire	
228	All sponsors must demonstrate that alternatives have been considered such as RMZ and TMZ before considering controlled airspace	Questionnaire	
229	Respect the requirement for minimum airspace volumes	Questionnaire	
230	Minimum airspace requirement	Questionnaire	
231	If airspace is expanded to include this area, complaints will be numerous	Questionnaire	
232	The space between is sufficient; your ATZ as it was previously will work	Questionnaire	
233	If the ATZ returns to its previous status, no problem	Questionnaire	
234	Smaller Controlled Airspace footprint	Questionnaire	
235	Minimum size of existing and any proposed controlled airspace	Questionnaire	
236	Steeper and continuous climbs and descents for minimisation of controlled airspace footprint	Questionnaire	
237	Use of Class E airspace as an alternative to class C and D airspace	Questionnaire	
238	Any extra airspace other than ATZ	Aviation Focus Group	
239	The ability to achieve timely and straight forward hand-back of those parts of the airspace that are not being utilised (approach, go-round and departure airspace for the out-of-use runway that does not fall within that required for in-use runway procedures should be released for other users without the need for ATC approval)	Questionnaire	Consider the Flexible Use of Airspace
240	The ability for timely and straight-forward hand back of those parts of the airspace that are not being used	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
241	Ensure that there will be measures to allow flexible use of airspace	Questionnaire	Consider the Flexible Use of Airspace
242	Flexible use of airspace	Questionnaire	
243	The design process and ANSP resource should examine and accommodate to the maximum extent it is safe to do so, the needs of all users	Questionnaire	Any new airspace should facilitate fair access to all airspace users
244	Airspace design will be expected to achieve safety through effective and efficient sharing of the air, not through allocating discrete blocks from which some aviation sectors are segregated	Questionnaire	
245	Consider, balance and accommodate the needs of all sectors	Questionnaire	
246	Where Commercial Air Transport needs segregated airspace, the ANSP should ensure that ATC staffing is maintained at/supplemented to the level that ensures other air users safe and unencumbered access through the segregated airspace volume	Questionnaire	
247	Sponsors must accept the assumption that GA is entitled to continued safe use of airspace and that commercial aviation does not have a right to limit airspace access	Questionnaire	
248	Remember to be GA Friendly	Questionnaire	
249	Ensure access to airspace as required for both fixed wing and rotary aircraft as required to meet defence operational and training requirements	Questionnaire	
250	Consider and allow for MOD access to airspace in order to meet future defence requirements	Questionnaire	
251	Airspace design should allow for the use of Maypole/ Hoath airfield	Questionnaire	
252	Recognition that GA including sporting and recreational aviation has legitimate rights of access to airspace	Questionnaire	
253	At this stage in the process will you discuss accommodating general aviation	Non-Aviation Focus Group	
254	First rule for proposed flight paths should be to go over the sea as much as possible, with carefully chosen routes between the coast and airport	Questionnaire	Routes should be chosen to minimise the flight distance over land and maximise distance over the sea to reduce the impact of noise and emissions
255	All routes should be chosen to minimise flight distance over land and maximise distance over the sea	Questionnaire	

No (a)	Focus Group/Questionnaire Responses (b)	Source (c)	Specific Potential Design Principle [3] (d)
256	These routes need to go well beyond the shore before turning to avoid disturbing the coastal areas	Questionnaire	Routes should be chosen to minimise the flight distance over land and maximise distance over the sea to reduce the impact of noise and emissions
257	For Runway 28, departures for flights to the south would follow the same initial route as departures to the north, but then turn east over the sea, and east of Thanet, before going south	Questionnaire	
258	For Runway 10, Arrivals from the south would come the same route as Runway 28 southerly Arrivals, but carry on north around Thanet, before turning east	Questionnaire	
259	Consider using the free airspace north of Manston Airport over the sea where noise pollution would not be an issue	Questionnaire	
260	Consider noise pollution in our area to be completely unnecessary when an obvious solution exists (Climb to the north over the sea)	Questionnaire	
261	Climbs in the empty airspace over the Thames Estuary would take the exhaust and noise pollution away from the population of East Kent	Questionnaire	
262	Use the clear and unused airspace north east of Manston	Questionnaire	
263	Utilisation of the airspace north east of Manston for aircraft climbing into airways is a solution which would be very welcome throughout East Kent	Questionnaire	
264	Ensure that the maximum advantage is taken to fly over the least populated areas (the sea)	Questionnaire	
265	Turning out to sea as soon as possible	Non-Aviation Focus Group	

Table 14 - Long List of Themes Deriving Design Principles

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