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<b>Title of Airspace Change Proposal</b>	<b>SOUTH COAST CHANGES – Module E of LAMP Phase 1a ACP</b>
<b>Change Sponsor</b>	<b>NATS (NERL)</b>
<b>SARG Project Leader</b>	<b>[REDACTED]</b>

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<b>Case Study commencement date</b>	Issue 1 Received 17 February 2015. Commenced Case Study 4 March 2015 Issue 2 Received 20 March 2015
<b>Case Study report as at</b>	27 July 2015 – Version 1.1; updated 10 Sep 15 as Version 1.2

<b>Instructions</b>		
<p>In providing a response for each question, please ensure that the 'Status' column is completed using the following options:</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Partially</li> <li>• N/A</li> </ul> <p>To aid the DAP Project Leader's efficient Project Management it may be useful that each question is also highlighted accordingly to illustrate what is resolved ( <span style="background-color: #90EE90; padding: 2px;">Green</span> ), not resolved ( <span style="background-color: #FFD700; padding: 2px;">Amber</span> ) or not compliant ( <span style="background-color: #FF0000; padding: 2px;">Red</span> ) as part of the DAP Project Leader's efficient project management.</p>		
<b>1.</b>	<b>Justification for change and "Option Analysis"</b>	<b>Status</b>
1.1	Is the explanation of the proposed change clear and understood?	Yes

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This Airspace Change Proposal (ACP) is for:

A revised 'Solent' SAM 2D Standard Arrival Route (STAR) for Southampton (EGHI) and Bournemouth (EGHH) arrivals which involves a re-alignment further south from a new position ELDAX (close to the Flight Information Region (FIR) FIR Bdy at KUNAV), passing south of Selsey Bill, along the Solent before turning north to Southampton (SAM) VOR (it previously was aligned to GWC VOR) then SAM. The new routing is: ELDAX-NOTGI-EVEXU-RUDMO-MIVLA-SAM and includes a contingency hold at RUDMO. The ACP page 14 Fig 6 (Attachment 1) shows the proposed changes. Revised radar vectoring from the STAR is also proposed for both airports (see Consultation Document Figs D 8 & 9 – Attachments 2 & 3).

A new ATS route N20 will feed the EGHI & EGHH STAR and a Farnborough (EGLF) arrival route. N20 will route: KUNAV-ELDAX-NOTGI-EVEXU-GWC-SAM. See ACP page 14 Fig 6 (Attachment 1).

A revised flight planned routing for 'Solent' departures from EGHI and EGHH routing via Dover (DVR) VOR to Europe at Requested Flight Level (RFL) of FL200+ which will now route to Goodwood (GWC) VOR, then via a new ATS route (U)N16 from GWC-Biggin (BIG) VOR where it joins exiting route (U)L9 from BIG-DVR (it is an AIP flight planned route and not a SID) – see ACP page 14 Fig 7 (Attachment 1). Currently, these departures route GWC-SFD-DVR.

Revised flight planned arrival routes (see ACP page 14 Fig 6) (Attachment 1) for traffic inbound to EGLF for traffic:

- from the south (KATHY & ORTAC) routing KATHY-ABSAV-RUDMO-GWC-PEPIS
- from the southwest to route GIBSO-BILNI-KUMIL-ABSAV-RUDMO-GWC-PEPIS.
- From the Paris FIR routing along a new ATS route N20 - see below.

At the ACP paragraph 5.3, there is a description of how arrivals and departures will be routed as shown in ACP Fig 6&7 to supplement the above information and expected tactical use is highlighted in paragraph 5.4 (this relates to Figs D8&9 in the TAG Consultation Document at Attachment 2&3).

A revised flight planned routing for EGLF departures (see ACP page 14 Fig 7- Attachment 1) routing via DVR VOR to Europe at RFL of FL200+ which will now route to HAZEL- GWC VOR, then a new ATS route (U)N16 from GWC-BIG where it joins existing route (U)L9 from BIG-DVR (it is an AIP flight planned route and not a SID). Currently, these departures route GWC-SFD-DVR.

Lowering of Controlled Airspace (CAS) to FL 65 in 4 areas depicted in the ACP page 13 Fig 5 and page 45 Fig 10 in the Isle of Wight, Selsey and Pagham regions and a Y8 sliver of CAS to the east of Portsmouth (see Attachment 4).

(U)Y8 has a minor re-alignment from WAFFU-GWC instead of via WAFFU-CAMRA-GWC.

(U)M8 has a minor re-alignment from SUBIP-ELDAX-WAFFU instead of SUBIP-WAFFU.

Note: these 2 elements of minor re-alignments over the sea were missed out from the text in the ACP but subsequently clarified as part the proposal.

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1.2	<b>Are the reasons for the change stated and acceptable?</b>	Yes
	<p>This ACP is sponsored by NATS; sponsorship has been transferred from TAG Farnborough with their support. This 'Solent Extraction' has been adopted by NATS from TAG, as it is an enabler for the Phase 1A Network ACP explained later. The ATC benefits may therefore be realised earlier than waiting for the full Farnborough proposal to be submitted given the delay in the TAG post consultation analysis and subsequent ACP submission of the original TAG proposal.</p> <p>ACP extracts:</p> <p><i>Flights that currently arrive at Southampton and Bournemouth airports from the east do so via GWC VOR. Arrivals to Farnborough from the south and east also interact with these flights, and also with Gatwick departures to the west. Departures from all three airports towards Dover also have interactions with Gatwick and Heathrow arrivals. This leads to complexity and inefficiencies in the wider route network (discussed in the ACP at paragraph 4.4). This proposal seeks to move the arrival routes further south offshore and the departure routes further north, reducing these interactions, and enabling the ATC sectorisation which is an integral part of LAMP Phase 1A (detailed in the ACP at paragraph 6.1). Simultaneously, NATS claim that this proposal would mean fewer flights overland below 7,000ft by moving some routes over the sea.</i></p> <p><i>The design of this part of the LAMP proposal illustrates that there would be an enabled fuel <b>disbenefits</b> from this Module of circa 248 tonnes per annum (2016) and circa 400 tonnes in 2020. However, as part of the wider LAMP Phase 1A proposal, NATS has stated that this Module E <b>indirectly contributes</b> to the significant <b>overall CO<sub>2</sub> saving</b> described in the Bridging ACP (by this we would consider that the fuel disbenefit is absorbed into the overall LAMP1A benefits therefore in net terms, it is not a disbenefit per se).</i></p> <p><i>Note that this proposal is not dependent on TAG Farnborough making local changes at a later date, however it would complement any such development should TAG Farnborough seek to progress it.</i></p> <p>This proposal could also stand alone should the remaining network package not be approved; however, the benefits and disbenefits would need to be weighed up in a separate exercise if this situation were to arise.</p>	

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<b>1.3</b>	<p><b>Have all appropriate alternative options been considered, including the 'do nothing' option?</b></p> <p>Post consultation, options were considered by the sponsor. To do nothing could be progressed, however, NATS indicated in ACP paragraph 7.1 that the wider benefits in the wider LAMP 1A proposal would not be realised.</p> <p>The original controlled airspace as consulted upon was considered, however, in view of feedback received from VFR operators, the area of controlled airspace originally proposed in consultation was reduced in size with the proposed southern extremity along the ATS routes of L980 south of the Isle of Wight being revised to run east /west along the northern extremity of danger area D037 with the lower limit at FL65 as per proposal for the remaining area north of D037 (see Attachment 4). The Y8 sliver proposal to lower controlled airspace from FL65 to 5500ft was not progressed, so a universal area of FL 65 is now proposed.</p> <p>One additional option for vectoring Southampton arrivals from the east for Rwy 02 was consulted upon, and therefore this was also proposed. Therefore, 2 options for vectoring will be used by Solent ATC for these arrival profiles – see Consultation Document Part D page D21 paragraph 4.16 and page D35 Fig D8 (Attachment 2).</p> <p>In response to feedback received from Question E13, TAG conducted a study in to the amount of transponding traffic evident in the Solent where lowering of controlled airspace was proposed. The South Coast feedback report (paragraphs 4.21-25) indicated that the average number of flights per day affected by lowering CAS would be 1.6 per day). It did not capture non transponding aircraft. In light of the fact that these aircraft are more likely to be at lower levels NATS concluded that the impact of lowering CAS to FL 65 would not have a significant impact on GA operations. Solent Radar supported this conclusion based on their operational experience of traffic in the region.</p> <p>Re-classification to Class C as opposed to Class A was considered, but discounted due to the potential issues of workload associated with integrating VFR traffic.</p>	<b>Yes</b>
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<b>1.4</b>	<b>Is the justification for the selection of the proposed option sound and acceptable?</b>	<b>Yes</b>
	<p>In the ACP introductory paragraph 1, after Issue 2 was issued, NATS has stated that as an enabler for the wider LAMP Phase 1A proposal this Module is also justifiable indirectly on the grounds of the operational and overall noise benefits of the wider LAMP Phase 1A proposal. The remaining rationale explains the reasons for the revised routeings.</p>	
<b>4.1</b>	<p>In the <b>ACP paragraph 4.1</b>, NATS describe that <i>Fig 3 illustrates today's flight plan routeings which are detailed in the AIP which this ACP module seeks to change. In reality Farnborough flights head directly towards Farnborough in broad swathes: From the east this swathe is roughly from Worthing to GWC, with a concentration of flights via GWC. From the south and southwest the swathe is the breadth of the Isle of Wight with a slight concentration around the FPL route heading towards Farnborough via HAZEL. Solent Group arrivals are in a swathe centred on the SAM 1D STAR as shown. In the ACP Figure 4, the flight plan route for Southampton, Bournemouth and Farnborough departures via DVR is shown. In practice the flights are distributed in a wide swathe along the south coast around GWC. For trajectory density plots these are detailed in the TAG Consultation Documents SOL C Part C Fig 7(Farnborough) (Attachment 7) and SOL C Part D (Southampton and Bournemouth) Attachment 8 A-C).</i></p>	
<b>4.4</b>	<p>In the <b>ACP paragraph 4.4</b>, NATS advise that <i>the operational efficiency of the route network in the South East is constrained by the confluence of routes in this area. The ACP Figure 3 on page 8 demonstrates how the defined routes for Farnborough arrivals are complex in the vicinity of HAZEL, BEGTO and the Isle of Wight. The existing Southampton and Bournemouth arrival routes from the east using the SAM 1D STAR and interact with eastbound departures; both traffic flows route via GWC VOR causing opposite-direction conflicts east of GWC, reducing the opportunity for continuous climb by the GWC departures and increasing controller workload. It also interacts with southbound Gatwick departures and with Farnborough Group traffic. Additionally, extant CAS bases mean the Farnborough Group arrivals from the south and southwest need to stay high and then 'dive' low to get under Gatwick departures via SAM/KENET. Farnborough arrivals from the south and southwest do not need to hold often, but when they do, they hold at PEPIS (between Winchester and Basingstoke at the M3/A303 junction). PEPIS is in the middle of a complex sector, and acts like a 'dam' in the way of Solent northbound departures and southbound arrivals. Immediately PEPIS holding is activated, London Terminal Control's workload increases significantly. NATS advise that when these interactions are taken as a whole, there is a constraint to efficiency in the region.</i></p> <p>On examination of the existing arrangements, there is merit in re-arranging the EGHH and EGHJ arrivals so they are further south over the Solent and revising the flight planned arrival and departures routes to alleviate the conflicting flight paths and ATC workload in the GWC area. Moreover, the re-arrangement of the Solent and Farnborough departures via BIG, enables the re-sectorisation making the arrangements for the traffic management of the Heathrow and Gatwick arrivals inbound to the TIMBA Hold from the southeast.</p>	

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<b>5.1</b>	<p>The justification is also supported in the <b>ACP paragraph 5.1</b>, where NATS state <i>that the objective is to reduce complexity and increase efficiency of the route network by supporting the wider LAMP Phase 1A programme. Reducing over-flight of populated areas is also a benefit but was not a specific objective.</i></p> <p><i>The proposed solution is to realign the arrival routes from the east, further south (mainly over the Solent) for as long as possible, before crossing the coast to re-join the existing landing pattern at lower altitudes. Doing this will remove the GWC conflict between Solent departures and arrivals, and also with Gatwick southbound departures.</i></p> <p><i>Farnborough departures routing via DVR will be improved<sup>1</sup> in the GWC conflict area by climbing towards the HAZEL vicinity to gain altitude before turning east.</i></p> <p><i>The lowering of the CAS bases would mean that the Solent arrivals could descend clear of Gatwick traffic in an area to the south. Farnborough Group arrivals from the south could descend earlier below the Gatwick traffic, but would not need to drop outside CAS as early as they do today. Counter-intuitively, descending Farnborough arrivals slightly earlier (below the interaction) would allow them to stay slightly higher overall during the rest of their arrival route.</i></p> <p><i>The full description of the proposed CAS changes was highlighted above in Section 1.1 and in the Southcoast Feedback report Section 4 in combination with the TAG Consultation material Part D.</i></p> <p><i>Finally, the establishment of a hold over the Solent would remove the 'dam' from the PEPIS area should holding be required for affected Farnborough Group arrivals. Thus Solent traffic would be far less impacted in that area and LTC's workload would not increase so much. See also the TAG Consultation document Part D Section 3 page D15.</i></p>
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<sup>1</sup> Other Farnborough traffic would still route via GWC

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**6.1**

In Section 6.1, the Issue 2 of the ACP has stated that:

*The extant alignment of the Solent and Farnborough departures is GWC-SFD-LYD. Maintaining this alignment would introduce a new interaction with the proposed TIMBA STARs from the direction of the Thames estuary (as described in Module C). NATS state this would not be acceptable as it would introduce additional complexity and workload, and lead to less efficient profiles for both the Farnborough and Gatwick flows as level segments would be allocated by ATC to manage the interactions. This Solent and Farnborough Module is therefore an enabler for the TIMBA STAR changes which is in turn an enabler for the London City point merge system.*

*In addition the proposed departure route changes enable the re-sectorisation necessary for LAMP Phase 1A which involves TC TIMBA increasing in size and taking on additional tasks from S17 (these are responsible for separating London City, Biggin Hill and Southend departures to the southwest via WAFFU, from Heathrow BIG and Gatwick TIMBA arrivals from the southeast). If the Solent and Farnborough Group departures via DVR were to still route via SFD and Y803, TC TIMBA would also have to take on this traffic. As TC TIMBA only goes up to FL195, they would have to co-ordinate higher with S17 and S18 for every departure going this way generating more workload. If that co-ordination couldn't be made for any reason, these departures could still be as low as FL190 until SANDY. By re-routing them via OTSID and into TC CAPITOL airspace, they are away from TC TIMBA, and Heathrow and Gatwick arrivals from the southeast and can be guaranteed a better vertical profile. It also reduces the interactions with the outbound flow via DVR with S15.*

Following further requests from the SARG CO to NATS for supplementary justification rationale, NATS provided updates to further detail the complexity of the interactions of the departures routing via DVR. These are attached at Attachments 5A-C and include an explanation of why the TAG consultation elements have been extracted into LAMP Phase 1A.

Overall, there appears to be an adequate justification for these changes. The underlying rationale is that the re-routeing of the arrivals and departures is essential to enable the remaining LAMP Phase 1A changes to take place. As the consultation indicates, Southampton and Bournemouth arrivals are re-routed more over the sea as they approach the coast from the southeast as they descend to FL 70 above the proposed CAS lower limit of FL65 in the Isle of Wight region, therefore there appears to be less flight over land. Farnborough arrivals from the west and southwest will still tend to be overflying the Isle of Wight but at potentially lower levels.



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2.	Airspace Description and Operational Arrangements	Status
2.1	<p><b>Is the type of proposed airspace clearly stated and understood?</b></p> <p>The proposals include a new SAM2D STAR which replaces the SAM1D, new ATS routes (U)N16, (U)N20, re-alignments of (U)Y8 and (U)M8, and lowering of CAS to FL 65 in the following areas:</p> <ul style="list-style-type: none"> <li>The IOW region from FL105 to FL 65.</li> <li>The Selsey region from FL105 to FL65.</li> <li>The Pagham region from FL75 to FL65.</li> <li>The Y8 sliver east of Portsmouth from FL85 to FL65.</li> </ul> <p>These areas where CAS is proposed are shown in the ACP at pages 43-46.</p>	Yes
2.2	<p><b>Are the hours of operation of the airspace and any seasonal variations stated and acceptable?</b></p> <p>The revised STARs, ATS routes and CAS are H24. This is acceptable although the aerodromes served by these arrival and departure routes close overnight. To restrict the hours of the proposed CAS to coincide with the earliest opening times and latest closing times would serve no purpose, and the CAS over the Isle of Wight can also be used for transatlantic traffic to hold in the RUDMO hold should they arrive before Farnborough opening times due to possible tail winds in the Atlantic.</p>	Yes
2.3	<p><b>Is any interaction with adjacent domestic and international airspace structures stated and acceptable including an explanation of how connectivity is to be achieved?</b></p> <p><b>Has the agreement of adjacent States been secured in respect of High Seas airspace changes?</b></p> <p>The revised departure flight plan routing connects to the new ATS route (U)N16 at GWC.</p> <p>The new arrival route N20 connects from French routes at the FIR Bdy at KUNAV.</p> <p>The revised flight planned arrival routes from the west and southwest are via new waypoints and are specifically designed to improve the flow of traffic through the GWC region where existing congestion occurs.</p> <p>The new SAM2D STAR commences at ELDAX which is located on the new route N20.</p> <p>The new ATS route positioned over the sea (N20) routing from the FIR Bdy via KUNAV-ELDAX-NOTGI-EVEXU-RUDMO-MILVA-SAM will be notified to ICAO in accordance with existing procedures.</p>	Yes Ongoing

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<b>2.4</b>	<p><b>Is the supporting statistical evidence relevant and acceptable?</b></p> <p>The Bridging Module provides statistics for traffic operating into the airports concerned. Whilst the numbers for all airports are relatively low compared with the major airports in the London Terminal Control Area (traffic numbers reflected in the Consultation Documents Parts C and D), as previously highlighted and also detailed in following paragraphs, the complexity of interactions with other traffic flows both on the track to Dover and in the area around Goodwood, is the overriding factor used to justify the change.</p>	<b>Yes</b>
<b>2.5</b>	<p><b>Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?</b></p> <p>The re-routing and de-conflicting of traffic inbound on the SAM2D STAR from the outbound routes routing via GWC and (U)N16 would appear to resolve complexity in the GWC area. The EGLF departures will have more track miles to gain height as they will be routed via HAZEL as opposed direct to GWC. The redesign of the departure and arrival routes also means that traffic is deconflicted from Heathrow and Gatwick arrivals from the English Channel, and hence the removal of the outbound flights routing via GWC-SFD-DVR towards BIG enables the re-sectorisation to be effective.</p> <p>In the ACP at paragraph 5.4 tactical usage is summarised and repeated here for ease of reference:</p> <p><b>5.4</b> <i>Farnborough and Solent flights operate in a highly tactical environment, which will remain tactical after this proposal. The impacts on traffic patterns in this tactical environment below 7,000ft would be as consulted upon in the Consultation document Parts C and D.</i></p> <p><b>Holding</b></p> <p><i>In practice holding for Farnborough arrivals is rare. Apart from emergency circumstances, holding occasionally happens when long-haul traffic arrives early (e.g. due to tailwinds) before the airport opens. Holding for Southampton and Bournemouth also only occurs in unusual or emergency situations. The addition of the RUDMO hold will not change this situation, therefore this hold is for contingency use, rather than part of the normal day to day operation.</i></p> <p><b>Arrivals</b></p> <p><i>Farnborough arrivals would follow the new routes but are expected to be vectored into the same broad swathes as seen today on making landfall. Southampton and Bournemouth arrivals from the east will follow the more southerly STAR (over the Solent) and are expected to route via RUDMO as per the consultation document Part D.</i></p>	<b>Yes</b>

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	<p><b>Departures</b></p> <p><i>Farnborough DVR departures would be vectored to the south towards HAZEL, then towards GWC and northeast towards OTSID, not following the flight plan route per se but in a broad swathe around it as the traffic situation tactically develops. The high performance of the Farnborough fleet means that aircraft are expected to be c.7,000ft by the turn at HAZEL. Some Farnborough southbound departures route via HAZEL at lower altitudes today, and others route via GWC at lower altitudes today.</i></p> <p><i>Solent departures would be vectored towards GWC (as they are today) before being turned northeast towards OTSID. This would generally happen before reaching GWC resulting in a broad swathe heading towards OTSID (from between c.15nm west of GWC, to GWC itself). Flights will be turned north as the traffic situation allows, all flights are expected to have reached 7,000ft by the time they make the left turn.</i></p> <p>The airspace design has been extensively tested in ATC development simulations, refined, and then subjected to ATC validation simulations which have involved one of the most extensive simulations NATS has yet undertaken involving both Swanwick Area and Terminal ACCs. A Project Safety Analysis Report has been provided to ATM Ops for approval, and the wider network changes have been subjected to a through Route Design Assurance Report to determine that all interaction traffic is safe. This has also been presented to SARG AR and ATM Ops for approval.</p>	
2.6	<p><b>Are any draft Letters of Agreement and/or Memoranda of Understanding included and, if so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?</b></p> <p>The requirement for LoAs and MoUs was queried with NATS as no reference was made to these in the ACP. NATS advised that the NATS interface agreements with Farnborough, Bournemouth and Solent are very high level and do not go down into the detail of routes/levels etc and therefore do not require updating for LAMP.</p>	No
2.7	<p><b>Should there be any other aviation activity (low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or ATC Procedures can be devised, what action has the sponsor carried out to resolve any conflicting interests?</b></p>	

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The original TAG consultation included a larger area south of the Isle of Wight where the sponsor proposed to lower CAS from FL 105 to FL 65, lower the Y8 sliver east of Portsmouth to 5500ft, and lower part of N859 from FL 75 to FL 65 in the Pagham region (see ACP page 43-46 (Figs 8-11) and the Feedback Report pages 10-12) to see existing, proposed and refined CAS after consultation). As shown in ACP Fig 10, following consultation, the CAS at the southern section of the Isle of Wight section and the Y8 sliver have been modified and changed to a uniform lower limit of FL65. A summary of the feedback from aviation users was covered in the Consultation **Feedback Report, Pages 8-15 at Section 4.**

Objections to the changes to lower CAS were from:

1. [REDACTED] – objecting to Class A – they believe it should be Class C or D to permit VFR access.
2. Post ACP submission, [REDACTED] objecting to the process of extracting the proposal from TAG, and because of the impact to an LAA proposal under consultation to make changes to Q41 classification southwest of the Isle of Wight.
3. Objections from GA users to lowering the CAS to FL 65 (6% of GA consultees responding being affected often).

The NATS generated Southcoast feedback report (in the ACP Package folder) provided detail on some GA airspace users' feedback on lowering CAS to FL 65; some extracts are below:

4.16 Some stakeholders were concerned that the VFR recommended route to France and the Channel Islands would be impacted by the proposal. This route is marked on VFR charts as a southbound blue dashed line starting west of St Catherine's Point lighthouse VRP. Higher-altitude spin/stall training and aerobatics were also mentioned by some stakeholders as being impacted. The proposed shrinking of the IOW region would mitigate the concerns of the users of that VFR route, and would partly mitigate concerns of compression with respect to aerobatics and spin/stall flight training.

4.18 TAG stated in the consultation document that most GA activity occurs below FL 65 in these regions.

4.19 TAG acknowledged that some GA activity would be affected.

4.22 (as previously alluded to in Op Report section 1.3, TAG commissioned a survey which illustrated an average of 1.6 aircraft per day would be affected (based only on transponding traffic) – this was based on a September 2012 traffic analysis indicating 47 flights over 30 days in the airspace longer than 60 secs.

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Although some GA airspace users will be affected over the Isle of Wight and the adjacent proposed CAS where the lower limit will drop to FL 65, NATS/TAG concluded they could reduce the volume of CAS originally proposed and this would partly mitigate some objections. Whilst this modification to the volume of Class A airspace (over the sea) was applied to the original airspace design, it was unclear from the ACP documentation what action was actually pursued to engage with any particular GA operators. (Note: on request 10 Sep 15)

Insert comments when reply received.

During further analysis, the SARG Case Officer was directed to evaluate potential options to enable access to Class A airspace by certain GA operations (e.g. general handling/stalling and spinning exercises) under Class A segregated activity conditions, a concept which already exists in some areas of UK Class A airspace and is permissible under SERA.

As these agreements are already established for a number of VFR segregated activities in Class A airspace throughout the UK (mainly for gliding), as an alternative to Class C or D airspace which NATS has advised is not possible to implement due to workload issues, it has been confirmed within Airspace Regulation that arrangements for segregated activity could be established between NATS and particular GA airspace users.

Therefore, in order to reduce the impact to specific general handling/stalling and spinning exercises conducted above FL 65, it is recommended that, as a condition of the approval of the lowering of controlled airspace over and adjacent to the Isle of Wight, that NATS is to engage appropriate GA stakeholders who conduct these particular sorties to determine what sorties can be accommodated by establishing a MoU/LoA to permit segregated activity to take place under conditions specified in the MoU/LoA, authorised by an exemption to enter Class A airspace under VFR in areas to be agreed over/adjacent to the Isle of Wight where the controlled airspace will drop to FL 65.

Once NATS has established what operators are impacted and can be accommodated by such an agreement, NATS should then be advised to determine appropriate access arrangements, draft the MoU/LoA, then seek the permission from the CAA to agree to the appropriate exemptions. The SARG Case Officer will then oversee the MoU/LoA arrangements and carry out the required exemption permissions under guidance from ISP where required.

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[REDACTED] as the ATS service provider providing service in the adjacent airspace Q41 would provide the appropriate ATS should it subsequently change to Class D.

Having reviewed the proposals, the SARG CO has considered a number of possible options for refining the lower limits of CAS with a view to raising some of the existing volumes of CAS where no changes were proposed. These have been discussed with NATS who has agreed to examine the options and evaluate whether any further refinements and raising of lower limits may be feasible. This is not possible to achieve with the implementation for a number of technical and training reasons (the training package commenced on 26 June 2015), and some of the refinements will be considered once the LAMP 1A change have been introduced once the vertical flight profiles achieved in the new design have been examined. Further detail is available from the SARG CO if required.

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2.8	<p><b>Is the evidence that the Airspace Design is compliant with ICAO SARPs, Airspace Design &amp; FUA regulations, and Eurocontrol Guidance satisfactory?</b></p> <p>Details of SARG IFP analysis will be updated prior to the evaluation by Group Director SARG when the IFP regulatory assessment is completed. At time of writing (27 July) SARG IFP regulator has raised a number of issues, but there are no show stoppers at this stage and nothing is expected to prevent the designs for the STAR and RUDMO Hold from receiving IFP regulatory approval. Flyability assessments have yet to be completed to examine the hold entry /exit procedures.</p> <p><b>STARs</b></p> <p>Update 10 Sep 15. Charting issues being addressed – no impact for ACP decision.</p> <p><b>Holds</b></p> <p>Update 10 Sep 15. Hold design approval still ongoing; flyability check to be completed. No impact for ACP decision.</p> <p>Part of the RUDMO en-route hold's protected area lies out with the proposed CAS to the south and overlaps D037. As a safety requirement, NATS has recognised this and will include appropriate training to ensure controllers radar monitor aircraft having to hold to ensure they do not leave CAS and inadvertently enter D037. This was documented in the RDAR and accepted by SARG ATM Ops and SARG AR.</p> <p><b>Controlled Airspace</b></p> <p>The lowering of CAS enables the SAM2D STAR to be re-aligned, and the revised flight path of the Farnborough arrivals from the west and southwest will result in a flight planned route via ABSAV (over the Isle of Wight).</p> <p><b>ATS Routes</b></p> <p>Both (U)N16 and N20 are RNAV5 ATS routes 10NM wide and are embedded within existed CAS.</p>	Ongoing IFP analysis
2.9	<b>Is the proposed airspace classification stated and justification for that classification acceptable?</b>	Yes

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	<p>The changes to CAS are lowering the lower vertical limits and therefore some Class G will change to Class A. This provides the protection for the revised SAM2D STAR and the arrival AIP flight plannable routes inbound to EGLF. The ATS routes are already embedded within existing CAS Class A below FL 195 and Class C above FL 195.</p> <p>The proposed ATS route amendment for N20 had a lower limit of FL 75 from ELDAX-EVEXU-GWC which was not consistent with the extant lower limits of CAS and hence not consulted on. This was highlighted to NATS by the SARG CO and subsequently corrected to ensure N20 was not below the existing lower limit of FL 85 until the Pagham sector where it will change to FL 75 until after passing NOTGI then dropping to FL 65 where CAS was proposed to be lowered.</p> <p>Given the rationale for the change is to provide protection to IFR arrivals to Bournemouth, Southampton and Farnborough the volume of new CAS proposed is the minimum needed to effectively manage that traffic; a mix of VFR traffic would not be manageable. If the proposed CAS was Class D, then a high Controller workload would occur, requiring additional resource to safely manage it; for which NATS is not appropriately staffed. The integration of VFR traffic in Class D at the levels where change is proposed would be counter-productive to an efficient flow of IFR arrivals. Given that the majority of changes are over the sea, there is not the same volume of VFR traffic present compared to VFR flight over land, therefore SARG AR considers that the Class A is appropriate with this proposal. There is a segment of CAS unchanged at 5500ft north of Gosport where SARG AR has asked NATS to review and consider changing to FL 65 to have a uniform lower limit in the region; whether this is achievable depends on the nature of descent and climb profiles into and outbound from airfields in the Solent area. It is unclear whether this could be achieved with the implementation, however, this will be checked prior to the implementation decision being reached.</p> <p>The proposed lower limit and airspace classification was queried by the SARG CO. A response from NATS concluded that a higher limit of FL 85 would not permit the integration of the arrival profiles to be successfully integrated with other traffic. Additionally, NATS also advised that a Class C classification would create difficulties in separation of VFR traffic which was supported by ATM Ops – see <a href="#">Attachment 6</a>.</p>	
2.10	<b>Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?</b>	No
	It is not practical to integrate VFR traffic in the area where Class A will be lowered, and therefore VFR traffic will be excluded from the area where CAS will be lowered. However, IFR transit traffic prepared to fly in Class A airspace could still be accommodated in accordance with the rules pertaining to the entry requirements for flight in Class A.	
2.11	<b>Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation)</b>	Yes



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	The RNAV designs will be promulgated via a double AIRAC cycle. The publication of the ICAO 1:500,000 Southern England edition VFR chart will be brought forward from March 2016 to February 2016. This has been co-ordinated with AIS.	
2.12	<b>Is there a commitment to allow access to all airspace users seeking a transit through controlled airspace as per the classification, or in the event of such a request being denied, a service around the affected area?</b>	Yes
	Transit arrangements for IFR traffic are permitted in accordance with extant regulations. VFR traffic would not be permitted to enter Class A.	
2.13	<b>Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?</b>	Yes
	For IFR transits in Class A.	
2.14	<b>Are any airspace user group's requirements not met?</b>	Yes
	<p>Whilst there were objections to the proposed CAS from some GA users, together with an objection [REDACTED] the impact of the change over the Isle of Wight above FL65 is minimal although some types of sorties may be affected such as aerobatics, stalling and spinning. The Feedback Report at paragraphs 4.11 to 4.33 addresses the GA feedback. Following the feedback in consultation, TAG commissioned a study into aircraft affected above FL 65. Based on a traffic survey in September 2012, there were 47 transponding traffic flights observed operating for more than one minute above FL65 with an average of 1.6 per day. NATS concluded that the number of aircraft affected per day would not constitute a significant increase to funnelling and compression (para 4.24).</p> <p>Given the lower limit of FL65 for the proposed airspace, any flights currently conducting manoeuvring over the Isle of Wight above FL 65 would have to position south of the new airspace towards St Catherine's point should they wish to manoeuvre above FL 65 should the change be approved. As the CAS lower limit in this area remains FL105, some of these specialist manoeuvres may still be possible assuming the required references to ground features is achievable. However, under segregated access arrangements as discussed in Section 2.7, it is anticipated that the few GA airspace users conducting GH (aerobatics, stalling and spinning) may still be accommodated. Further stakeholder engagement by NATS will determine exactly which operators can be accommodated.</p>	
2.15	<b>Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).</b>	No
2.16	<b>Is the airspace structure of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity (including holding patterns) and associated protected areas in both radar and non-radar environments?</b>	Yes (pending SARG IFP assessment)

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	<p>The following position is yet to be confirmed. The RNAV5 SAM2D STAR has adequate protection in accordance with the SARG AR Airspace containment policy (i.e. 5NM either side of the nominal track, although SRG IFP has an issue with the design submission –</p> <p>The RNAV Hold protected area for <b>RUDMO</b> (en route hold for the SAM2D STAR is not fully contained within existing CAS. The aircraft enters the hold from the east and holds to the south. Part of the protected area lies to the south outside CAS and within D037. A Regulatory Requirement therefore needs to be issued to NATS to ensure traffic entering the RUDMO Hold does not leave CAS to the north (this is a technical issue and in reality is not expected to occur). This has already been identified by NATS in the RDAR analysis and a safety requirement identified.</p> <p>The proposed ATS routes providing connectivity from KUNAV-GWC (N20) and from GWC-BIG ((U)N16) are wholly contained within existing CAS.</p>	
<b>2.17</b>	<p><b>Have all safety buffer requirements (or mitigation of these) been identified and described satisfactorily (to be in accordance with the agreed parameters or show acceptable mitigation)? (Refer to buffer policy letter).</b></p> <p>The arrival procedures are in close proximity to D037 danger area (but no closer than the existing routes L980 and L859 which abut the danger area. There are a number of measures which NATS will implement to ensure aircraft do not enter these danger areas which is currently applicable to the existing airspace arrangements. This arrangement applied prior to lowering the POMPI Triangle to FL105 in 2014 with traffic routing through this airspace above FL125 and in the areas where adjacent CAS to the Danger Areas was FL105 on the west side and FL 85 /75 on the east side of the Portsmouth ranges. There is no reason why the same principles cannot apply in that controllers would continue to vector up to 2NM within the lateral limits of CAS against activity within the Danger Areas with the major change being the lowering of the POMPI Triangle southern extremity from FL 105 to FL 65. The SAM 2D STAR is at least 5NM from the northeast corner of D037 and does not get any closer.</p>	<b>Yes</b>
<b>2.18</b>	<p><b>Do ATC procedures ensure the maintenance of prescribed separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures?</b></p> <p>Aircraft using the proposed SAM2D STAR will be contained within CAS. Aircraft being vectored will follow the normal vectoring practice regarding aircraft boundaries. The tactical arrival vectoring and descent will continue to ensure arrivals will remain within the proposed new CAS. Traffic in the RUDMO hold will be monitored to ensure aircraft do not inadvertently enter D037.</p>	<b>Yes</b>

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2.19	<p><b>Is the airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?</b></p> <p>STARs are all above the relevant safety altitudes. New ATS routes are at FL 75/85 and above.</p>	YES
2.20	<p><b>If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?</b></p> <p>Whilst the SAM2D is adjacent to D037, and the AIP arrival routes for Farnborough are adjacent to D037, both routes lie within existing CAS and the same principles apply for controllers to vector aircraft at least 2NM from the edge of CAS, and in this case D037. This is described in 2.17 above.</p>	No
2.21	<p><b>Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?</b></p> <p>The new route N20 from KUNAV provides connectivity to the SAM2D STAR.</p> <p>The departures from Bournemouth, Southampton and Farnborough that will be routed via newly established (U)N16 will be following AIP Flight Planning via GWC, and therefore connectivity is achieved at GWC.</p>	Yes
3.	<b>Supporting Resources and CNS Infrastructure</b>	<b>Status</b>
3.1	<p><b>Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:</b></p> <ul style="list-style-type: none"> <li>▪ <b>Communication:</b> Is the evidence of communications infrastructure including RT coverage together with availability and contingency procedures complete and acceptable? Has this frequency been agreed with S&amp;S Section?</li> </ul> <p>Checked by S&amp;S.</p> <ul style="list-style-type: none"> <li>▪ <b>Navigation:</b> Is there sufficient accurate navigational guidance based on in-line VOR or NDB or by approved RNAV derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/Eurocontrol Standards? Eg. Nav aids – has coverage assessment been made eg. a DEMETER report, and if so, is it satisfactory?</li> </ul> <p>TBC by SARG IFP.</p>	<p>Yes</p> <p>TBC</p>

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	<ul style="list-style-type: none"> <li>▪ <b>Surveillance:</b> Radar Provision – have radar diagrams been provided, and do they show that the ATS route / airspace structure can be supported?</li> </ul>	YES
	Adequate radar cover is provided.	
3.2	<p><b>Where appropriate, are there any indications of the resources to be applied, or a commitment to provide them, in line with current forecast traffic growth acceptable?</b></p> <p>Within the scope of this proposal (i.e. Class A not Class D), no additional controller resource is required, although the main network changes have re-defined sector boundaries.</p>	N/A
4.	<b>Maps/Charts/Diagrams</b>	<b>Status</b>
4.1	<p><b>Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 co-ordinates?</b>  <b>(We would expect sponsors to include clear maps and diagrams of the proposed airspace structure(s) – they do not have to accord with AC&amp;D aeronautical cartographical standards (see CAP725), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals. AC&amp;D work would relate to regulatory consultation charts only).</b></p> <p>The revisions to CAS were clearly shown in the consultation and refinements in the Feedback report. These were replicated in the ACP, together with a description of the route alignments and flight plannable routes. An updated ICAO 1:500,000 chart was also provided to show the new CAS structure.</p> <p>A draft STAR chart and associated database coding table was provided for the SAM 2D STAR.</p>	Yes
4.2	<p><b>Do the charts clearly indicate the proposed airspace change?</b></p> <p>The charts provided in the ACP previously described showed the flight paths of the SAM2D STAR, the flight planned routings of the Farnborough arrivals, the departure profiles to GWC, the new ATS routes and the proposed CAS.</p>	Yes
4.3	<b>Has the Change Sponsor identified AIP pages affected by the Change Proposal and provided a draft amendment?</b>	Yes

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	<p>The new STAR will be portrayed in IFP charts and associated RNAV database coding table will be included into the UK AIP once SARG IFP approvals have been issued. A comprehensive list of all AIP amendments was provided with the ACP reference documentation in order to identify all Aerodrome entries, en-route entries, as well as extensive lists of other information and charts which are published in the AIP. A list of ATS route amendments was provided within the validation spreadsheets which are subject to checking and approval by the SARG mapping specialist before being submitted with the AIS change Request submissions. The lower limits of N20 was checked and an error detected and subsequently rectified.</p> <p>Given the enormity of change, AIS amendments were scheduled to be submitted to AIS 3 weeks ahead of the normal schedule. As the implementation date has slipped, all AIP change requests will still be submitted early to enable a smooth amendment process by AIS.</p> <p>At the same time, an opportunity was taken to examine any ATS routes in the South Coast Region which had base level change points which were not identified by 5LNCs. Whilst it was not possible to change all segments subject to change in the LAMP 1a proposal, other ATS routes have been examined and a number can be changed before LAMP1A implementation. Changes not possible with LAMP1A will be identified for later change – this is purely an issue with NATS mapping and adaptation and the ability to absorb the change given that training material has to be prepared well in advance before change requests are submitted to AIS.</p>	
<b>5.</b>	<b>Operational Impact</b>	<b>Status</b>
<b>5.1</b>	<p><b>Is the Change Sponsor's analysis of the impact of the change on all airspace users, airfields and traffic levels, and evidence of mitigation of the effects of the change on any of these, complete and satisfactory?</b></p> <p><b>Consideration should be given to:</b></p> <p><b>a) Impact on IFR GAT, on OAT or on VFR general aviation traffic flow in or through the area.</b></p>	Yes

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The interactions currently experienced with the arrival flows inbound to Farnborough from the south and south west, the arrival flows inbound to Southampton and Bournemouth from the east, and the departure routing for all 3 airfields to DVR above FL165, will be improved and hence efficiency of handling these flights will improve against the existing traffic patterns, especially so in alleviating congested GAT traffic flows around Goodwood.

Whilst GA activity above FL65 over the Isle of Wight and adjacent proposed new CAS where it is lowered to FL65 will curtail GA VFR operations above FL65, the sponsor's assessment appears fair and concludes that whilst some sorties are affected the impact should be minimal given the number of flights seen operating above FL65 in today's airspace structure. There will still be limited scope for some flights to operate south of the Isle of Wight in the St Catherine's Point area up to FL 105. However, the subsequent conditional requirement to be placed on NATS as outlined in Section 2.7 may mitigate the impact even further.

As an independent exercise as part of the ACP review process, with due regard to the GA Red Tape challenge, the SARG CO commenced some analysis into potential options where it was thought that raising some lower limits of Class A could be considered, This very much depended on utilisation of the lower limits of ATS routes and climb profiles of some LTMA departures and the re-designed London City and Southend arrival profiles. The areas considered were primarily over the sea where it was considered GAT would not be potentially flying through considering the re-design of the LCY SIDs and re-routed STARS. A number of options for raising lower limits were therefore presented to NATS. For a number of technical issues with adaption, mapping and production of AIP amendments and training material, the initial NATS view was that it was unlikely all options could be implemented at the same time as LAMP1A although each option would be considered. NATS response was that whilst the options were probably not feasible with LAMP1A implementation, they could be incorporated at the next appropriate ICAO 1:500,000 Southern England chart cycle. It may even be the case that the next cycle after LAMP1A will need to be brought forward to co-incide with the potential Farnborough ACP should that change be approved (implementation date yet TBD by the TAG sponsor).

In due course, the SARG CO will revisit these options to determine whether there are any further opportunities for CAS refinement.

**b) Impact on VFR Routes.**

N/A

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<p>The cross channel route to the Cherbourg peninsular which routes from the Isle of Wight will initially have a lower limit of FL 65 where CAS has been lowered over the northern ¾ of the island. NATS believe this will not cause severe impact to cross channel VFR traffic. Traffic will be able to climb above FL 65 as soon as they cross the FL 65 lower limit boundary resulting in a delayed commencement of climb, but before aircraft are over the sea, for any traffic choosing to cross the Channel above this level.</p>	
<b>c) Consequential effects on procedures and capacity, ie on SIDS, STARS, holds. Details of existing or planned routes and holds.</b>	<b>Yes</b>
<p>The departure and arrival procedures are contained within existing CAS and the newly proposed CAS with the minor exception of the RUDMO contingency hold protected area previously discussed.</p> <p>The FPL routes for Farnborough are within CAS and subject to ATC vectoring against other traffic and the limits of CAS.</p> <p>This Module contributes to the efficiency of the LAMP 1A network capacity by reducing complexity in the GWC area by taking the SAM STAR further south, re-positioning the FBO arrivals from the west and south west and re-routing the Farnborough departures to DVR requesting FL 165+ via GWC to BIG then DVR, thus taking this flow away from the Heathrow and Gatwick arrivals from the south. The same principle applies to Bournemouth and Southampton departures which will also route via (U)N20 This enables the re-design for the LCY network changes with LAMP 1A.</p>	
<b>d) Impact on Airfields and other specific activities within or adjacent to the proposed airspace.</b>	<b>Yes</b>
<p>As highlighted above, some GA sorties above FL 65 are impacted, but no other airfield procedures are affected.</p>	
<b>e) Any flight planning restrictions and/or route requirements.</b>	<b>Yes</b>
<p>Arrivals into Bournemouth and Southampton will FPL the SAM 2D STAR from the southeast. All other changes to arrivals and departures for Southampton, Bournemouth, and Farnborough (except for those using the SAM2D) will following FPL routeings as described in the relevant AIP AD 2.22 procedures section.</p>	

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<b>5.2</b>	<p><b>Does the Change Sponsor Consultation letter reflect the likely operational impact of the change?</b></p> <p>The impact to GA operations has been highlighted, and as a result of feedback, the proposal was modified.</p> <p>The traffic flows of traffic affected by this change will be improved and ATC congestion around Goodwood will be improved, but as highlighted in the ACP, there is a fuel disbenefit to operators flying the revised arrival and departure routes. Whilst this is absorbed into the complete ACP package, the detail regarding track mileage and CO2 emissions will be summarised in the Environmental report.</p>	Yes
<b>6.</b>	<b>Economic Impact</b>	<b>Status</b>
<b>6.1</b>	<p><b>Is a provisional economic impact assessment to all categories of operations and users likely to be affected by the change included and acceptable? (This may include any forecast capacity gains and the cost of any resultant additional track mileage).</b></p> <p>Not required</p>	No

<b>Case Study Conclusions – To be completed by DAP Project Leader</b>		<b>Yes/No</b>
<b>Has the Change Sponsor met the DAP Airspace Change Proposal requirements and Airspace Regulatory requirements above?</b>		Yes (subject to IFP assessment)
<p>This ACP module extraction from the TAG airspace consultation has been brought into the LAMP Phase 1A proposal at a late stage. The ACP analysis has been complicated by the fact that proposals arising from the TAG consultation relevant to the LAMP Phase 1 proposal are predicated on a number of proposals included in the TAG consultation for elements below 7000ft, and elements for change above 7000ft which do not require consultation. The review of consultation material has therefore required careful analysis to determine what was actually consulted upon and transferred to the NATS LAMP sponsor from TAG.</p>		



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Whilst the AR consultation specialist has confirmed that the extraction of the proposals from the TAG consultation has been acceptable, the amount of cross referencing from the ACP to references in the TAG consultation has been cumbersome, but nevertheless, the consultation material covered all elements which have been transferred to the NATS sponsor regarding change below 7000ft. The diagrams presented in the consultation material were of a high quality.

Whilst early analysis of the ACP Module necessitated a number of queries to highlight certain inconsistencies in the ACP material, all queries raised have been addressed and an updated Module E Issue 2 was issued after a few weeks into the ACP assessment. During detailed assessment of this Module, the rationale and justification for this module has been queried, and as a consequence, the sponsor has provided satisfactory responses to address issues raised by the SARG CO.

Whilst the rationale for Module E has been closely examined and questioned by SARG AR, the sponsor's responses highlighted at the Attachments 5 and 6 do appear to indicate a satisfactory case to change the airspace arrangements for the affected arrival and departure profiles for Farnborough, Southampton and Bournemouth as appropriate.

Whilst there are fuel dis-benefits arising from this Module, these are absorbed into the complete LAMP 1A package which, subject to ERCD environmental assessment, should illustrate an overall environmental benefit. Although traffic numbers into Southampton and Bournemouth airports are relatively low, the individual assessments indicate less people overflown due to the re-routing of arrival tracks over the sea.

There is no doubt the revised arrangements for the traffic flows in the vicinity of Goodwood will be improved with the re-routed arrivals, and hence the integration of the eastbound departure flows will be made more efficient from an ATC point of view and will reduce ATC workload and complexity in this choke point with the consequent benefits to flight safety.

The re-routed departure routing to DVR via Biggin for traffic crossing the channel at FL165+ will certainly take these flights out of the 'teeth' of the Heathrow arrivals from the south, and as a consequence, whilst few departing flights use this route, the integration of these 2 traffic flows is vastly improved, with a reduction in complexity and workload to separate the traffic. Whilst it is not just the traffic flows which will change, the re-sectorisation of the channel sectors is another factor contributing to the rationale for this change.

Some GA activity will be affected above FL 65, however, this may be mitigated by the conditional requirement placed on NATS as discussed in Section 2.7 in order to enable access to Class A airspace under VFR on the principle of segregated airspace activity under specified conditions.

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The proposal is therefore recommended as it is an enabler for the remaining elements of the LAMP 1A package. For any reason, should this proposal not be accepted, there is an impact to LAMP such that procedures would have to be revisited to accommodate existing traffic flows, and as a consequent, any airspace re-design or changes to ATC operating procedures (bearing in mind the re-sectorisation) of the main LAMP package will cause a delay to the implementation.

#### Outstanding Issues

Serial	Issue	Action Required
1	2.3. The new ATS route positioned over the sea (N20) routing from the FIR Bdy via KUNAV-ELDAX-NOTGI-EVEXU-RUDMO-MILVA-SAM and other minor re-alignments will be notified to ICAO in accordance with existing procedures.	SARG CO to notify ICAO.
2	2.8. The SAM2D STAR and RUDMO Hold SARG IFP assessment to be completed.	SARG IFP to complete.
3	3.8. RUDMO Hold flyability check.	NATS to complete flyability check.
4	3.9. CAS north of Gosport.	SARG CO to check with NATS if this section can be raised. (on request 15 Sep 15)
4	2.16. RUDMO Hold containment TBC.	SARG IFP to confirm. Note: not an issue as NATS has already issued a safety requirement for controllers to monitor aircraft entering the hold in order to prevent inadvertent entry into D037.
5	3.1. Navigation coverage TBC.	Waiting SARG IFP confirmation.
6	4.3. AIP amendments.	To be checked by SARG CO before approval for publication issued.

#### Additional Compliance Requirements (to be satisfied by Change Sponsor)

Serial	Requirement
1	Safety requirement for radar monitoring of the RUDMO Hold already identified by NATS.

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<b>2</b>	<p>A. As a conditional approval, NATS is to engage appropriate GA stakeholders who conduct general handling sorties such as aerobatics, spinning and stalling above FL 65 to determine what sorties can be accommodated by establishing a MoU/LoA to permit segregated activity to take place under conditions specified in the MoU/LoA which will be authorised by an exemption to enter Class A airspace under VFR in areas to be agreed over/adjacent to the Isle of Wight where the controlled airspace will be lowered to FL 65.</p> <p>B. Once NATS has established what operators are impacted and can be accommodated by such an agreement, NATS is then to determine appropriate access arrangements, draft the MoU/LoA, then seek the permission from the CAA to agree to the appropriate exemptions.</p> <p>C. The SARG Case Officer is to oversee the MoU/LoA arrangements and carry out the required exemption permissions under guidance from ISP where required.</p>
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Recommendations	Yes/No
<b>Is the approval of the SoS for Transport required in respect of the Environmental Impact of the airspace change?</b> [Comments]	No
<b>Is the approval of the MoD required in respect of National Security issues surrounding the airspace change?</b> The MOD (DAATM) has agreed to the lowering of CAS to FL65.	Yes
<b>General Summary</b>	
<p>Whilst this package has a fuel disbenefit arising from slightly extra track mileage, these dis-benefits are absorbed into the overall Phase 1A package, which shows an overall fuel benefit. Subject to environmental assessment, less people are overflowed compared with the existing arrival procedures for Southampton and Bournemouth, although traffic numbers operating on these routings are low. There is impact, albeit small, to some GA operations above the Isle of Wight region above FL 65, however, GA operations at this level are relatively few in numbers, but may be mitigated under the conditional approval requirements above.</p>	

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Doc Type:	Annex C	Version: 1/2012
Title:	<b>Airspace Change Proposal Operational Assessment</b>	Page 28 of 29

#### Comments

Whilst this ACP Module was a late addition bolted onto the LAMP Phase1A package, the reasons for the extraction have been covered by exchange of e mail / discussion between the SARG AR consultation specialist and the sponsor. The rationale and justification for this Module being an enabler for the remaining LAMP package was queried and subsequently accepted. If this ACP is not approved for any reason, redesigning of ATC procedures to enable LAMP 1A to be implemented will be required. This will affect Phase 1A planned implementation.

#### Observations

The extraction of elements associated with the TAG consultation could have been more easily distinguished in the ACP rather than using a continuous cross referencing, and given the extraction of material relating to the TAG consultation material, the analysis would have been easier if the details had been re-produced in the ACP main document. Nevertheless, the analysis has been completed with TAG consultation material relevant to this proposal being highlighted for the benefit of the SARG Exec review.


#### Operational Assessment Sign-off/Approvals

	Name	Signature	Date
Operational Assessment completed by (SARG Case Officer)			27 July 2015
Operational Assessment approved by (Head of Section)			3/08/2015

	<b>Safety and Airspace Regulation Group</b>	<b>DAP 1C</b>
Doc Type:	Annex C	Version: 1/2012
Title:	<b>Airspace Change Proposal Operational Assessment</b>	Page 29 of 29

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<b>Case Study Sign-off/Approvals</b>			
	<b>Name</b>	<b>Signature</b>	<b>Date</b>
Case Study Assessment Conclusions approved by (Head AAA)	[REDACTED]	[REDACTED]	17 SEP 15

<b>Group Director SARG Comment/Approval</b>		
<p style="font-size: 1.2em;">Approved subject to agreed conditions</p>		
<b>Name</b> M SWAN	<b>Signature</b> 	<b>Date</b> 21/09/15

## **LAMP PHASE 1A OPERATIONAL REPORT – LIST OF ATTACHMENTS**

1. ACP page 14 Fig 6 & 7 – proposed changes for arrival and departure routes.
2. Consultation Document Fig D8 – revised radar vectoring (Southampton) from SAM2D STAR.
3. Consultation Document Fig D9 – revised radar vectoring (Bournemouth) from SAM2D STAR.
4. ACP page 13 Fig 5 – proposed changes to controlled airspace.
5.
  - A. NATS supplementary justification rationale for Module E (E mail dated 9 June 2015).
  - B. NATS supplementary justification rationale for Module E extraction (E mail dated 10 June 2015).
  - C. NATS further rationale for Module E as an enabler for Phase 1A (E mail dated 11 June 2015).
6. SARG ATM Ops support for airspace classification rationale (E mail dated 30 June 2015).
7. Consultation Document Fig C7 – current arrival flows for Farnborough from the south.
8.
  - A. Consultation Document Fig D5 – current arrival flows for Southampton from the east.
  - B. Consultation Document Fig D6 – current arrival flows for Bournemouth from the east (4000-7000ft).
  - C. Consultation Document Fig D7 – current arrival flows for Bournemouth from the east (below 4000ft).

Revisions for Issue 2.0' for clarified version of this CAS chart

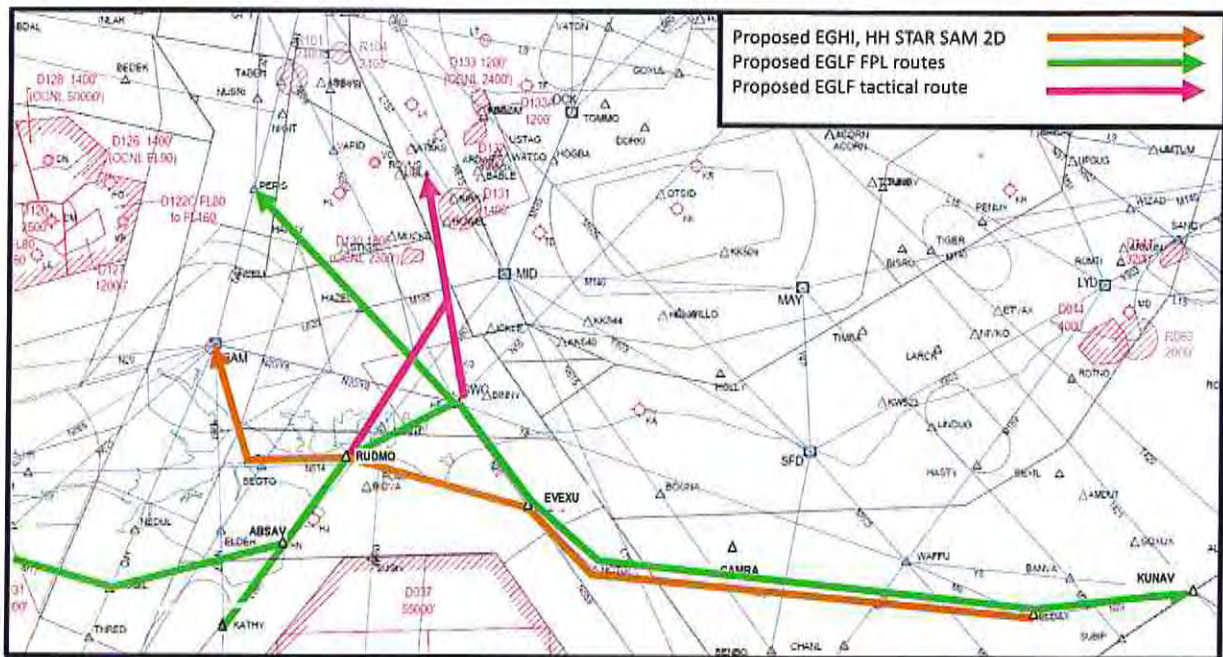


Figure 6 Proposed arrival FPL routes (illustration THIS CHART UPDATED)

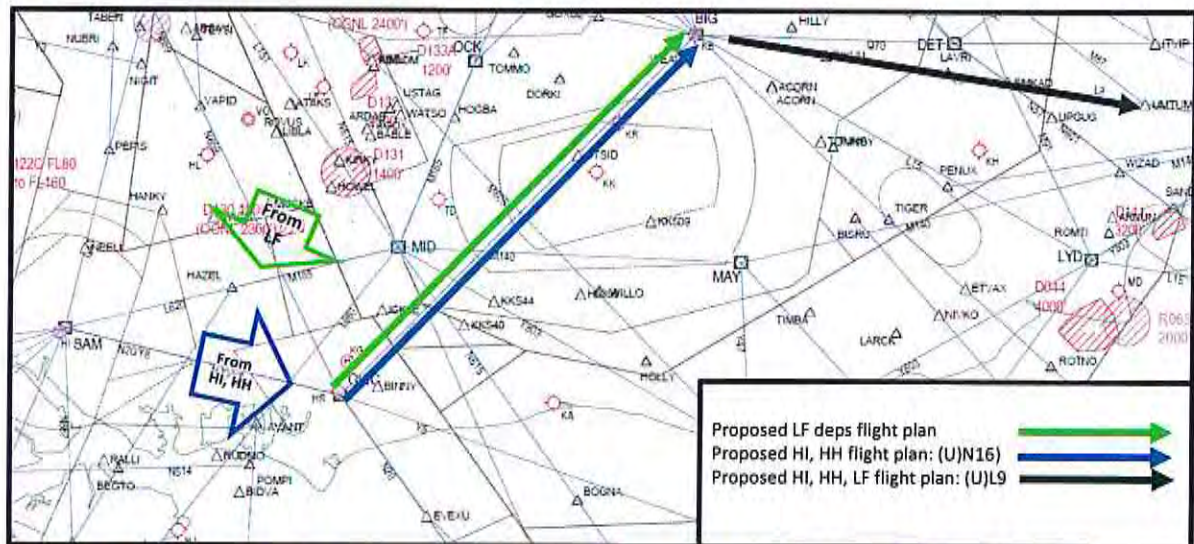


Figure 7 Proposed DVR departure FPL routes relevant to this proposal (illustration)

### 5.3 Procedural Usage

Figure 6 shows the procedures for arrivals. Farnborough arrivals from the south will route via ABSAV to the proposed hold at RUDMO at FL70. The route then continues GWC PEPIS from where there is a defined radio fail procedure via the TAGOX hold (this is no change from today).

From the east Farnborough arrivals route via GWC with contingency hold at PEPIS.

Southampton and Bournemouth arrivals would also route via the proposed hold at RUDMO, FL70 the lowest level of the hold.

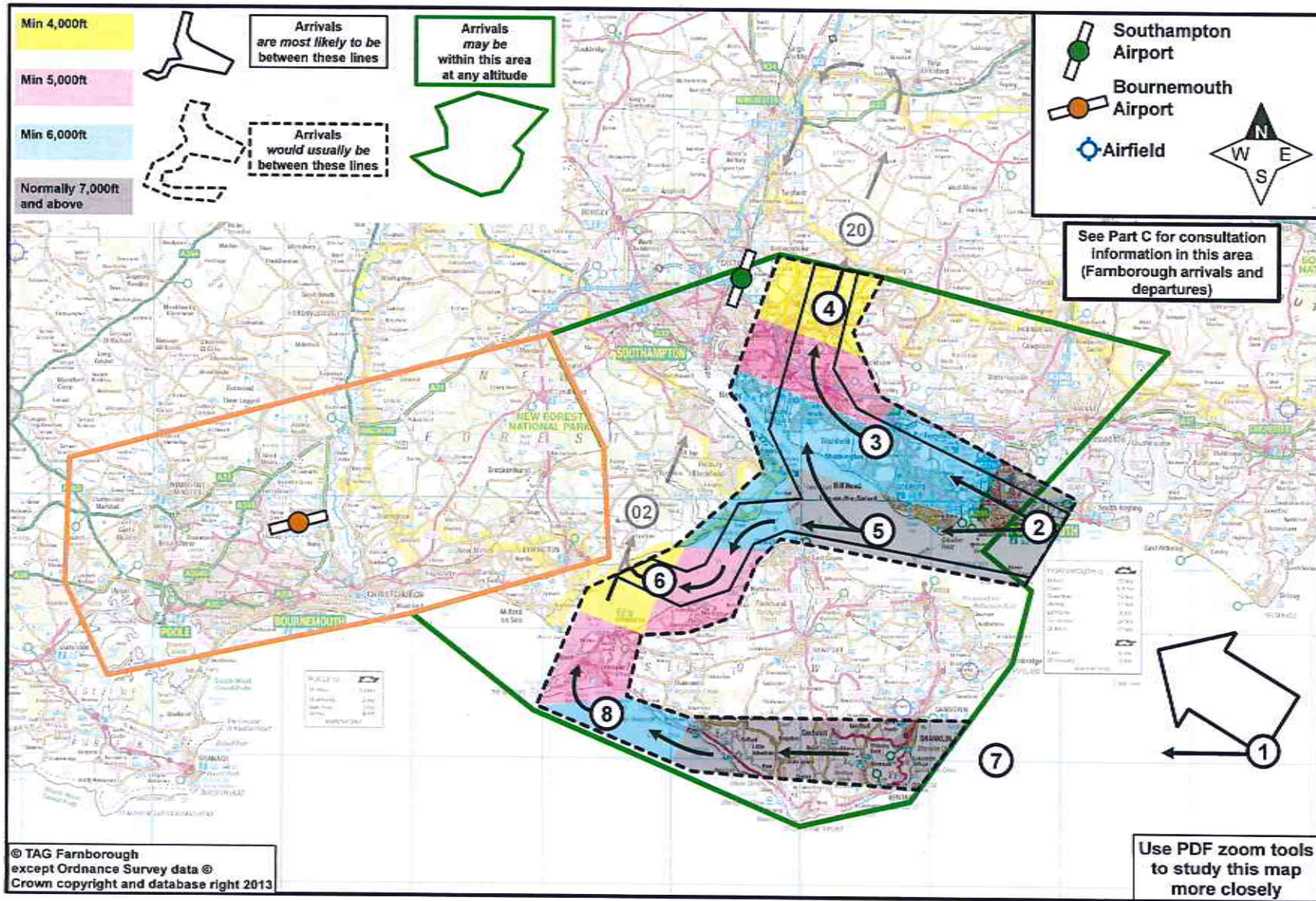


Figure D8: Proposed SOUTHAMPTON arrival flows from the east to both runways, 4,000ft-7,000ft

ATTACHMENT 2



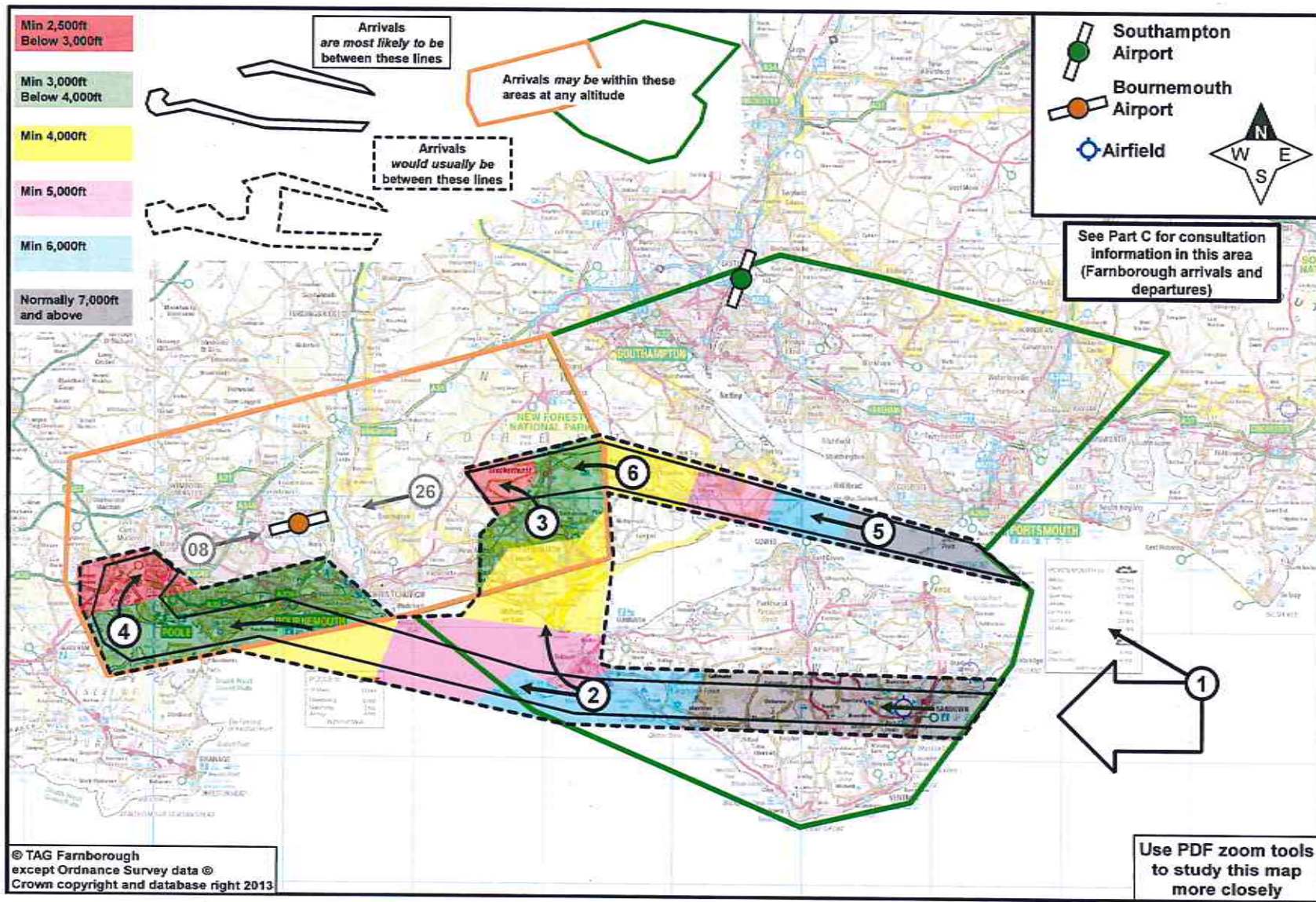


Figure D9: Proposed BOURNEMOUTH arrival flows from the east to both runways, 7,000ft to 2,500ft

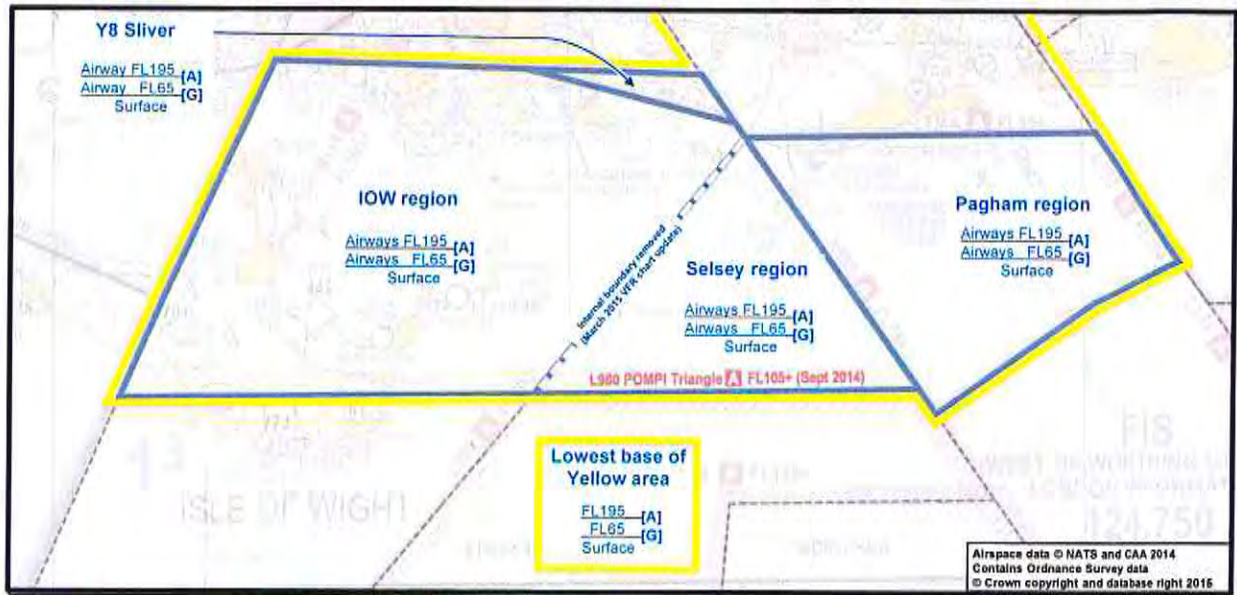


Figure 5 Proposed CAS volumes overlaid on current VFR chart (illustration)  
See Section 0.1

**From:** [REDACTED]  
**Sent:** 09 June 2015 18:04  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: LAMP Phase1A Module-E

[REDACTED]

Here is a bit more detail on the interaction between the Mod E LF/HH/Hi deps, Mod C LC/MC deps and the sectorisation (1<sup>st</sup> two slides) and also a bit on why Mod E is also good for TC WILLO (last 2 slides) which is not a Mod C link but an associated benefit.

[REDACTED]

**From:** [REDACTED]  
**Sent:** 04 June 2015 09:34  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: LAMP Phase1A Module-E

[REDACTED]

Just to confirm this and seeking a little more clarification – is it due to the numbers of movements to route via (U)N16 away from the other northbound flows into Heathrow and Gatwick (on Module E Issue 2 page 19 you inserted – i.e. from EGLF fewer than 5 flts per day and EHHH and HI fewer than 2 flights a day), the re-routed SAM 2DSTAR, the re-sectorisation, or all 3. I am bound to be asked so a clear understanding would be helpful.

Regarding your other query on the design queries, you should get a reply soon (it was discussed yesterday).

Regards,

[REDACTED]

**From:** [REDACTED]  
**Sent:** 02 June 2015 10:04  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: LAMP Phase1A Module-E

[REDACTED]

The answer is yes. The Module E Solent and Farnborough traffic to/from the east interact with other flows associated with the Module C LCY changes. Because there are interactions the Module C elements have had to be designed and validated on the basis that the Module E changes are also implemented, so non-approval of Module E would mean that that Module C could not be implemented.

[REDACTED]

**From:** [REDACTED]  
**Sent:** 02 June 2015 09:44  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: LAMP Phase1A Module-E

[REDACTED]

Thanks for the prompt reply. Can you just give me an answer to my last question:

Again, for avoidance of doubt, if Module E were to present issues which cannot be resolved before AIS deadlines, does this preclude the LCY network changes being implemented.

[Redacted]

---

**From:** [Redacted]  
**Sent:** 01 June 2015 17:04  
**To:** [Redacted]  
**Cc:** [Redacted]  
**Subject:** FW: LAMP Phase1A Module-E

[Redacted]

The answer is yes – there are Module E changes that are now enablers for the wider LCY changes due to the knock on effects and the fact that it is not possible to totally isolate changes in adjacent areas of airspace from one another.

The reason that Mod E changes were covered in the Farnborough consultation rather than the NATS one is primarily because they are also (and more so) integral to the Farnborough proposal, and that the Farnborough proposal was initially scheduled to go in first. A decision had to be made as to whom ran the consultation on these elements and the fact that Farnborough needed them more, and first, put them in the frame. The fact that they are subsequently seeking to make their changes some time after LAMP Phase 1A was not known at the time – indeed their delay has only really crystallised in the last few months.

A further reason was around trying to minimise the complexity of what was already two complex consultation exercises. The low level changes in Module E relate to Solent and Farnborough flows in a geographic area that significantly overlapped the area in which Farnborough was proposing its low level changes. Bear in mind that the London Airspace Consultation was criticised for its complexity, despite our best efforts to simplify. If it also included low level changes out to Bournemouth and Southampton, covering traffic flows and geographical areas that were also being consulted upon by Farnborough, it would have greatly increased this complexity and the risk to both Farnborough and NATS of challenge to the consultation processes.

While the Farnborough proposal has not progressed as planned, we are confident that all the areas affected have been consulted on, and that those with objections have been given a chance to voice them. As with the question around the Stansted justification (see email of 22/05/2015) we do not believe the omission of a potential benefit (ie the enabler for wider system changes) would have denied anyone the chance to object to the changes presented in Module E, and all the other parts of the consultation have had their own consultation processes during which all relevant stakeholders have likewise been given the chance to object.

Hopefully this answers your query. If not please let me know.

[Redacted]

[Redacted]  
**NATS**

---

**From:** [Redacted]  
**Sent:** 01 June 2015 15:54  
**To:** [Redacted]

**Cc:** [REDACTED]  
**Subject:** LAMP Phase1A Module-E  
**Importance:** High

Re-sent due to error!

[REDACTED]

Whilst I had quite a few early queries on Module E, I am now writing up my Module E report, and have a few significant queries. I refer to the Issue 2 provided on 20 March which had a number of revisions and new details not present in Issue 1. The statement in Module E Section 1, Introduction sub-paragraph 6 states:

*Note also that as an enabler for the wider LAMP Phase 1A proposal this Module is also justifiable indirectly on the grounds of the operational and overall noise benefits of the wider LAMP Phase 1A proposal*

Then the new details in Section 6 paragraph 6.1 states that: *This Solent and Farnborough Module is therefore an enabler for the TIMBA STAR changes which is in turn an enabler for the London City point merge system.*

For avoidance of doubt, could you please clarify - Am I right in saying that in addition to Modules A and D being enablers for the LCY network changes, this Module E is equally an enabler for the LCY network change (as described in Module E Section 6.1)?

If so, why was the proposal to lower CAS to facilitate the re-alignment of the SAM2D STAR, the subsequent establishment of (U)N16, the change to the Farnborough departure and arrival routes, and the fact that these proposals enable ATC sectorisation which is an integral part of Phase 1A, not included in the Network Consultation for LAMP Phase 1A rather than being embedded in the TAG consultation?

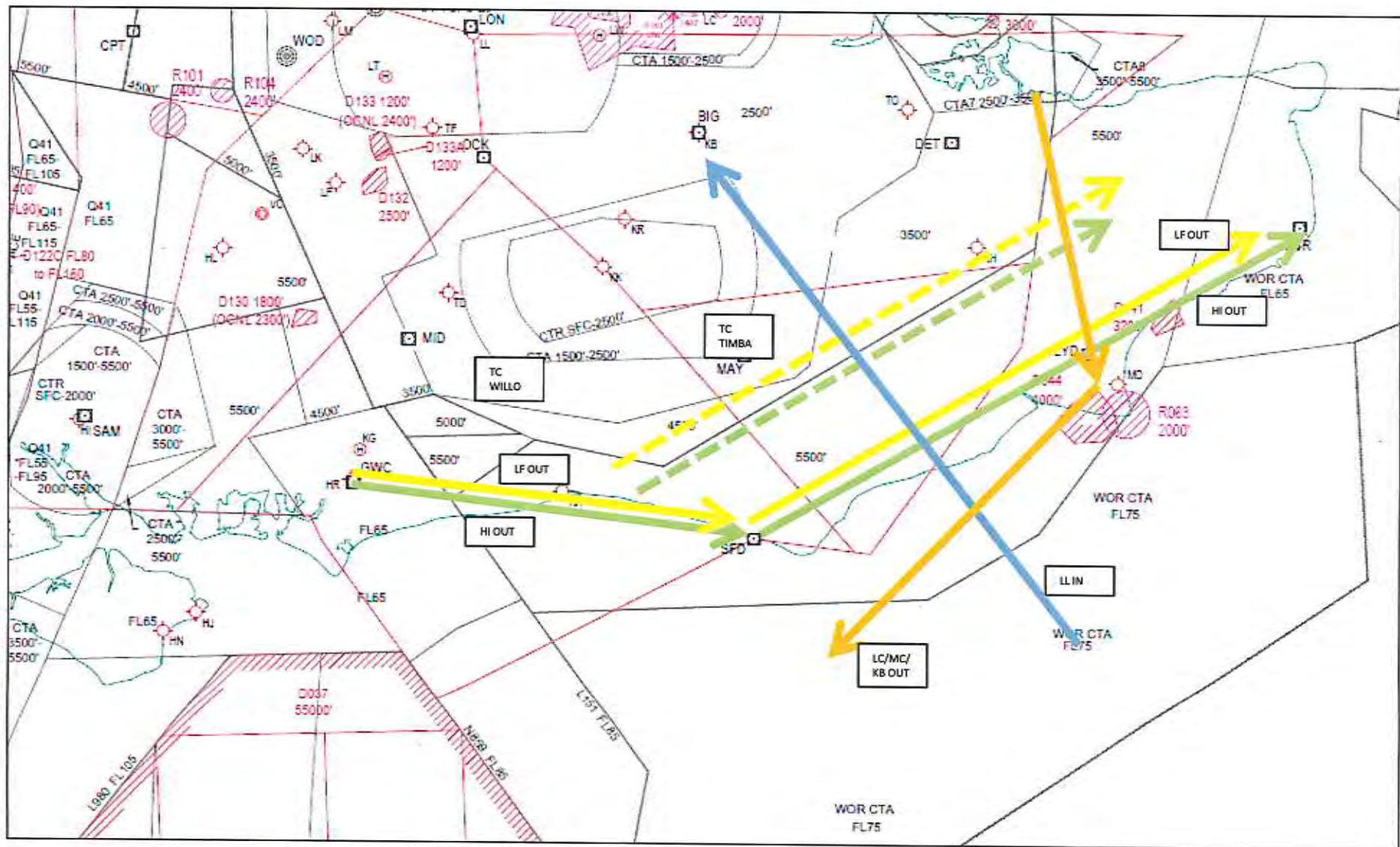
Again, for avoidance of doubt, if Module E were to present issues which cannot be resolved before AIS deadlines, does this preclude the LCY network changes being implemented.

Grateful for a prompt reply.

Regards,

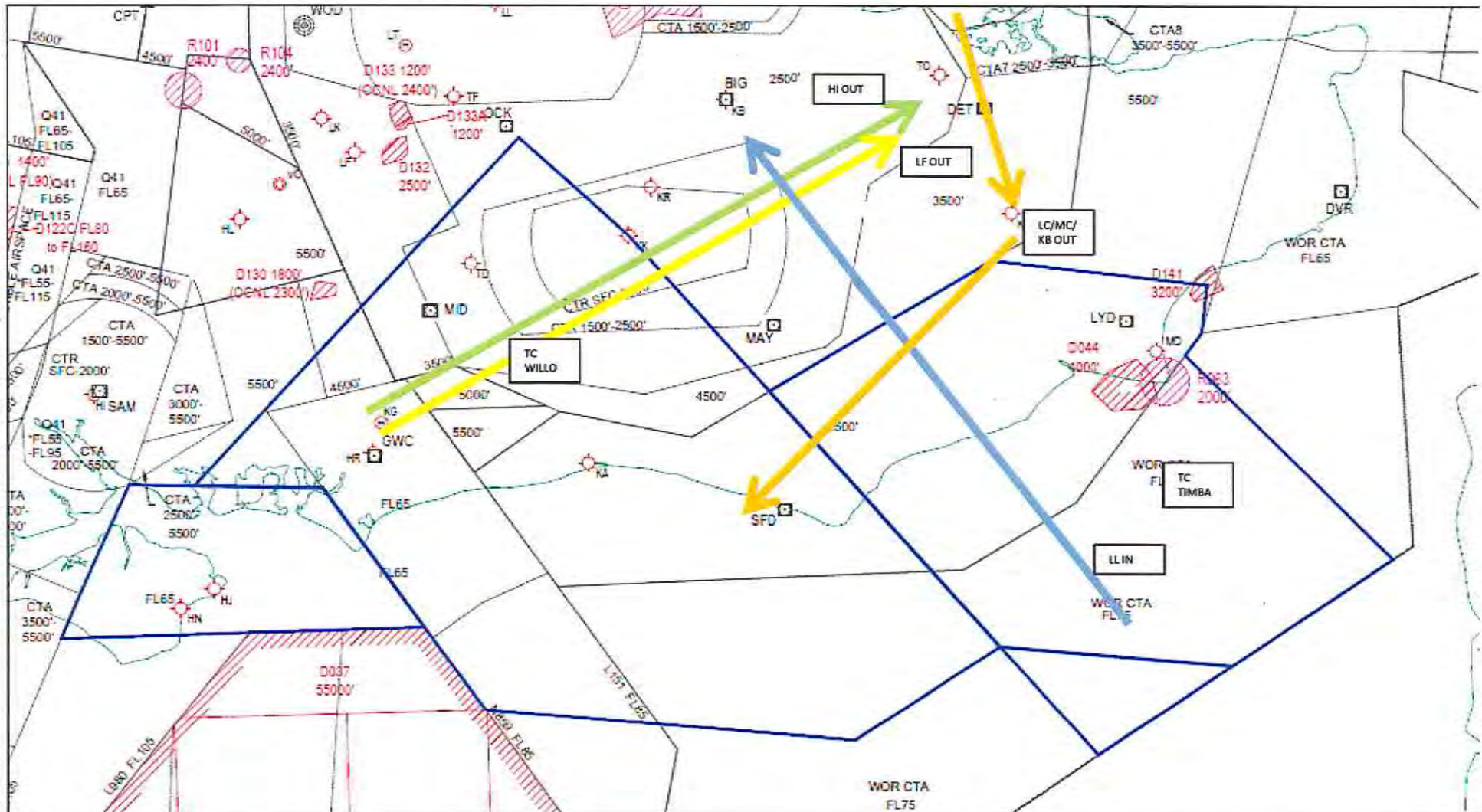
[REDACTED]

**Today.** TC Sth boundary in Red. LF and HI Deps climb from TC WILLO to S18 9not shown). S18 climb to FL190 and give to S17 (not shown) who then generally jump the LL arrivals by vectoring north of track (dashed green/yellow lines) to get away from the LL arrivals as their profiles are the same where their flight planned routes cross . These LF and HI departures outclimb the LC/MC/KB deps via LYD which have been held down low for miles by Thames. This is currently all S17's job. The LF/HH and HI avoid TC TIMBA. The LF/HH and HI avoid TC TIMBA.

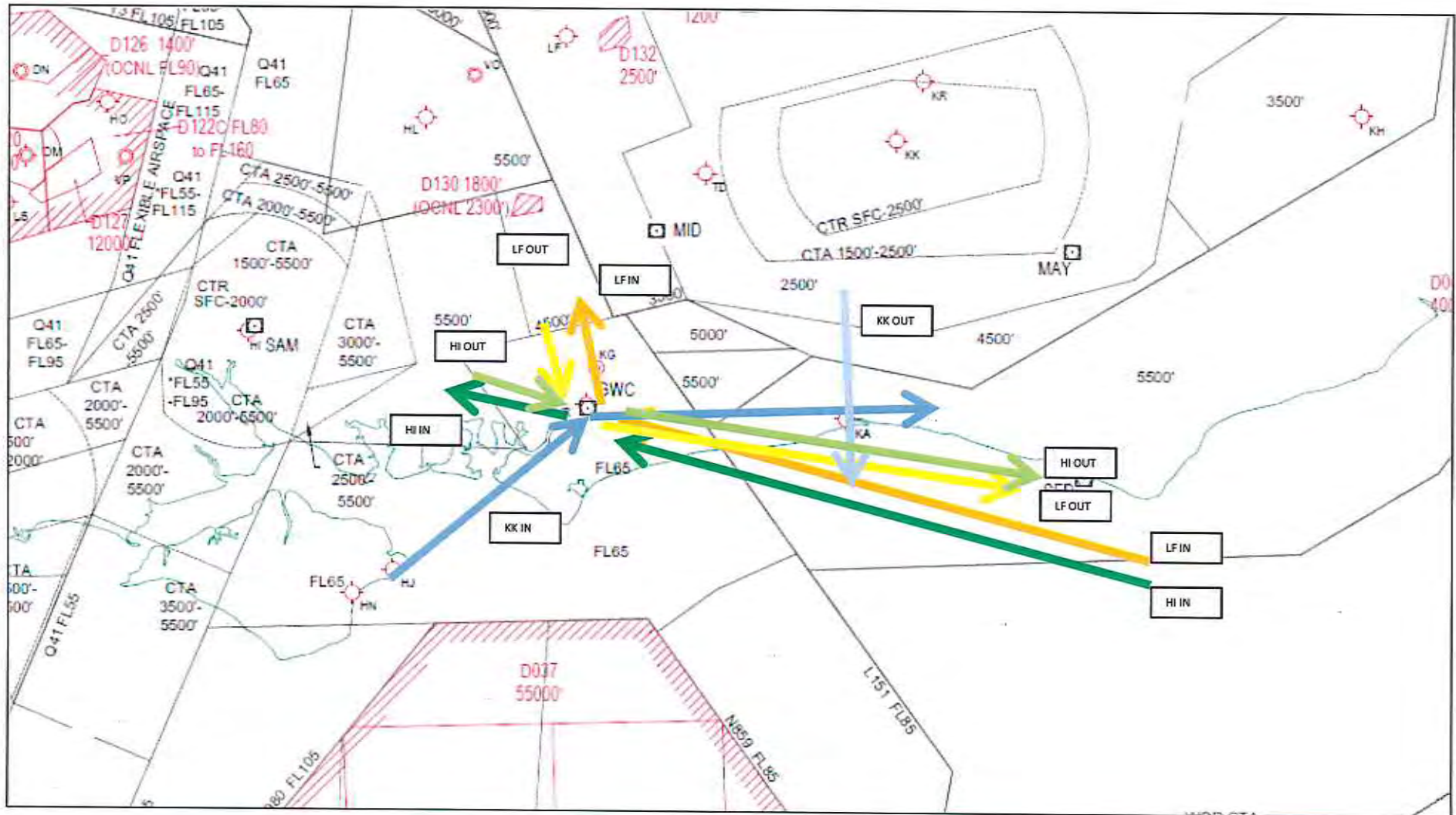


**LAMP 1a.** TC Sth boundary in blue. TC TIMBA much bigger and taking on chunk of S17 task. The new LC design gets LC arrivals higher, quicker allowing TC TIMBA to cut them across ahead of LL arrivals. This would put them head on to LF/HI/HH deps if left via SFD as today: both reaching the SFD/MAY area at the same height.

If we left the LF/HI/HH deps as today they would therefore have to be held down low, underneath LL arrivals and be as low as FL190 as they approach DVR (rather than at cruise). Not only is this restrictive in terms of levels and penalising in terms of fuel and CO2, it would also add complexity to the enlarged TIMBA sector that is disproportionate to the average of c.7 LF/HI/HH flights a day as they would be perpendicular to the primary LL arrival flow through the sector, and seeking climb. Note also that c.7 per day is an average number – the complexity would increase on days when there are more flights and/or when they happen to be during times that TC TIMBA is already busy.



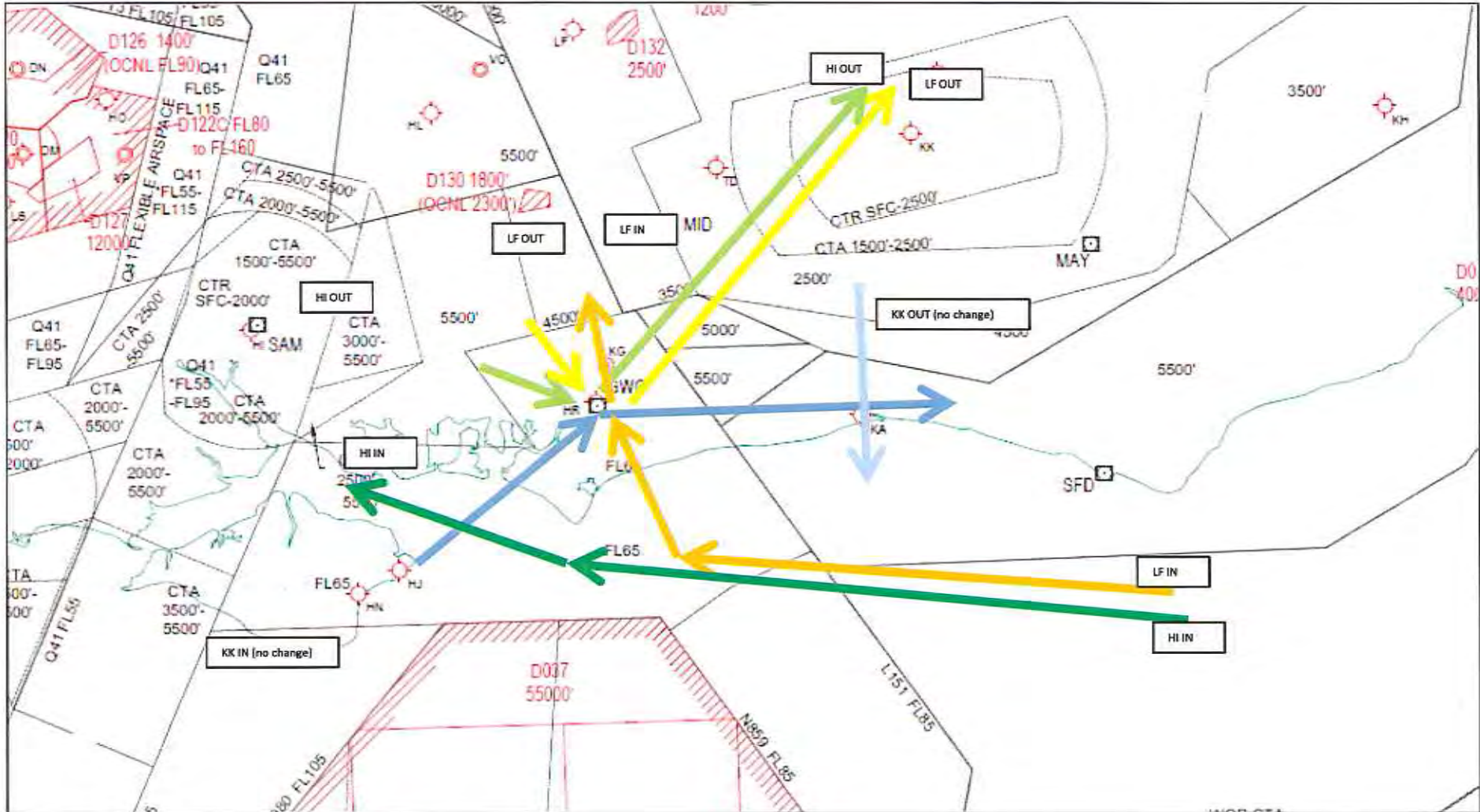
TODAY (ignore FL65 base in IOW area)  
Everything converges at GWC and SFD





# LAMP1a

Helps to de-conflict all these routes in TC WILLO



**From:** [REDACTED]  
**Sent:** 10 June 2015 14:58  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: LAMP Phase1A Module-E

[REDACTED]

I have added some further detail to the rationale sent previously which helps tell the story of why the decisions we took were reasonable. Additions and clarifications are in red:

The reason that Mod E changes were covered in the Farnborough consultation rather than the NATS one is primarily because they are also (and more so) integral to the Farnborough proposal, and that the Farnborough proposal was initially scheduled to go in first. A decision had to be made as to whom ran the consultation on these elements and the fact that Farnborough needed them more, and first, put them in the frame. The fact that they are subsequently seeking to make their changes some time after LAMP Phase 1A was not known at the time – indeed their delay has only really crystallised in the last few months. **It is worth noting that the reason for the delay in the Farnborough proposal is that they have undertaken extensive redesign of the contentious low level elements of their proposal – specifically to address issues raised in consultation. While this delay has resulted in the transfer of the less contentious, higher level parts of the proposal to NATS LAMP, it should be noted that this is because of Farnborough directly responding to objections with a redesign – which I am sure you agree is evidence of a good a consultation process.**

Specifically, the LAMP1A dependency on the Farnborough proposal was not explicitly stated in the Farnborough consultation for a number of reasons:

1. We/Farnborough were aware that CAA are not minded to approve changes based on a justification that references future changes that are subject to separate and later approval processes as these future changes may or may not come to pass. Farnborough initially intended to progress their changes ahead of, and regardless of whether LAMP1A came subsequently came in. If the consultation was undertaken on the basis that part of the justification was dependent on LAMP1A, we/Farnborough believed there to be a danger that approval of the whole Farnborough proposal may be subject to LAMP1A approval. Farnborough understandably did not want this dependency as at the time they were seeking to implement first and LAMP1A was still on the drawing board.
2. At that stage the LAMP1A design was still relatively immature, and the exact nature of the dependency was not known. At that stage, the LAMP proposal had just finished the swathe consultation, and detailed designs were not in place. Indeed the final design for the higher level Farnborough and Solent routes and their interaction with London City routes over Kent was only finalised after Gatwick had withdrawn (note that this also demonstrates good consultation as the withdrawal was in reaction to consultation response) and the validation simulation, both of which occurred late in 2014.
3. A further reason was around trying to minimise the complexity of what was already two complex consultation exercises. The low level changes to Solent and Farnborough flows **that are now in in LAMP 1A Module E** are in a geographic area that significantly overlapped the area in which Farnborough was proposing its low level changes. Bear in mind that the London Airspace Consultation was criticised for its complexity, despite our best efforts to simplify. If it also included low level **swathes** out to Bournemouth and Southampton, covering traffic flows and geographical areas that were also being consulted upon by Farnborough, it would have greatly increased this complexity and the risk to both Farnborough and NATS of challenge to the consultation processes.

With the benefit of hindsight it is possible to highlight where the various consultations that the different organisations undertook have a different slant to the final ACP, however the rationale laid out above describes why, at the time, the approach taken was reasonable.

Furthermore, and more importantly, we are confident that between the NATS or Farnborough consultations:

1. that all the areas affected have been consulted on,

2. that all the potential impacts have been described, and
3. that those with objections have been given a chance to voice them.

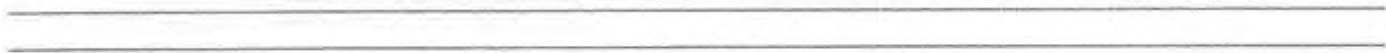
As with the question around the Stansted justification (see email of 22/05/2015) we do not believe the omission of a potential benefit (ie the enabler for wider system changes) would have denied anyone the chance to object to the changes presented in Module E, and all the other parts of the consultation have had their own consultation processes during which all relevant stakeholders have likewise been given the chance to object.

Hopefully this answers your query. If not please let me know.

[Redacted signature]

[Redacted name]

**NATS**



**From:** [REDACTED]  
**Sent:** 11 June 2015 15:56  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: LAMP Phase1A Module-E - further clarification

[REDACTED]

Further to my last I have come up with a simple analogy to illustrate why the strategy was/is to undersell potential benefits in the consultation when there was uncertainty about what order and what scope the final ACPs would come in:

If you are selling a cake and then when it is time to pay you stick an extra cherry on top, then no one will complain. If you are selling a cake with a cherry on top and then when it's time to pay you remove the cherry, then this is a more tricky situation to justify.

In the consultation run by Farnborough the local benefits were the cake and the link to LAMP Phase 1A was the cherry. At the time of the consultation we could not be certain that both LAMP1A and Farnborough would go ahead, in what order or what the scope of each would be. Therefore the link was not covered as it would have created an unnecessary dependency on LAMP1A for the Farnborough proposal (which was due to go first).

With hindsight, this is fortunate because if we had gone into detail about links at that stage, much of it would have been focused around the Gatwick Phase 1A design interactions which have since been removed from 1A scope; if we had done this we would now be in the situation where some of the justification cited in the consultation would no longer exist (ie cherry removed). This demonstrates the benefit of focussing on 'local' justification and keeping the proposals loosely coupled while there is risk of any parts not being progressed.

Hopefully this helps you to further understand our strategy.

[REDACTED]

[REDACTED]  
**NATS**

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**From:** [REDACTED]  
**Sent:** 10 June 2015 14:58  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: LAMP Phase1A Module-E

[REDACTED]

I have added some further detail to the rationale sent previously which helps tell the story of why the decisions we took were reasonable. Additions and clarifications are in red:

The reason that Mod E changes were covered in the Farnborough consultation rather than the NATS one is primarily because they are also (and more so) integral to the Farnborough proposal, and that the Farnborough proposal was initially scheduled to go in first. A decision had to be made as to whom ran the consultation on these elements and the fact that Farnborough needed them more, and first, put them in the frame. The fact that they are subsequently seeking to make their changes some time after LAMP Phase 1A was not known at the time – indeed their delay has only really crystallised in the last few months. **It is worth noting that the reason for the delay in the Farnborough proposal is that they have undertaken extensive redesign of the contentious low level elements of their proposal – specifically to address issues raised in consultation. While this delay has resulted in the transfer of the less contentious, higher level parts of the proposal to NATS LAMP, it should be noted that this is because of Farnborough directly responding to objections with a redesign – which I am sure you agree is evidence of a good a consultation process.**

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2. At that stage the LAMP1A design was still relatively immature, and the exact nature of the dependency was not known. At that stage, the LAMP proposal had just finished the swathe consultation, and detailed designs were not in place. Indeed the final design for the higher level Farnborough and Solent routes and their interaction with London City routes over Kent was only finalised after Gatwick had withdrawn (note that this also demonstrates good consultation as the withdrawal was in reaction to consultation response) and the validation simulation, both of which occurred late in 2014.
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Furthermore, and more importantly, we are confident that between the NATS or Farnborough consultations:

1. that all the areas affected have been consulted on,
2. that all the potential impacts have been described, and
3. that those with objections have been given a chance to voice them.

As with the question around the Stansted justification (see email of 22/05/2015) we do not believe the omission of a potential benefit (ie the enabler for wider system changes) would have denied anyone the chance to object to the changes presented in Module E, and all the other parts of the consultation have had their own consultation processes during which all relevant stakeholders have likewise been given the chance to object.

Hopefully this answers your query. If not please let me know.



---

**From:** [REDACTED]  
**Sent:** 30 June 2015 15:08  
**To:** [REDACTED]  
**Subject:** RE: Solent Module E

[REDACTED]

Their argument does sound reasonable to me

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 26 June 2015 15:18  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** FW: Solent Module E

Here is some feedback to two earlier questions regarding classification and lower limits for the Solent Module E extraction (see my preceding e mail).

[REDACTED] – do you think this is reasonable? A reply would be helpful on Monday. Once received, I will discuss with

[REDACTED]

---

**From:** [REDACTED]  
**Sent:** 22 June 2015 16:31  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Solent Module E

[REDACTED]

The answers to the outstanding questions on Mod E:

**Q1. Why not use a lower classification:**

This is answered in the feedback report Mod E Ref A page 15 para 4.30-4.34, repeated here for ease:

“TAG Farnborough’s Consultation Document Part E (Ref 3) paragraph 5.31 on page E23 stated that the classification is proposed to be Class A from FL65. The controlling authority would be London Terminal Control (LTC), and the CAS volumes were planned for definition as Worthing CTA. Discussion was undertaken with LTC with respect to Class C arrangements, but LTC explained that it would be difficult for their controllers to integrate IFR and VFR aircraft successfully especially with low numbers and infrequent procedures.

The workload created by GA free-calling LTC for entry, causing frequency congestion, is another issue. Notwithstanding this, NATS investigated establishing Class D volumes, delegated to Solent Radar, as an alternate option, but it became apparent that LTC flights would need to operate in, and through, Solent Class D airspace whilst retaining communications with LTC.

Complex management procedures were discussed between Solent and LTC but crucially it would increase the workload of both controllers. Their workloads would increase even further if VFR traffic was operating in that region.

Ultimately, the complexity of the airspace management between LTC and Solent Radar ruled out Class C and D volumes from further consideration, and those volumes would remain associated with the relevant Class A airway."

## Q2. Why not raise base to FL85

The generic justification for the base was provided under item 7 in the email sent 02/04. This is repeated below with some additional text specifically focused on the impact of raising base to FL85

"The Figure below shows the path of the Solent arrivals on the proposed STAR (green arrow) and the existing Solent departures to the south via GWC (red arrow). The Solent departures flight plan to GWC to exit UK airspace at SITIT, XAMAB or XIDIL, all of which need level separation with the inbound flows. This interaction will be managed tactically by descending the arrivals to FL70 while the departures are climbed to FL80 before turning south.

The justification for the proposed dimensions and base is therefore to provide sufficient airspace to cross the Solent arrivals beneath the departures. "

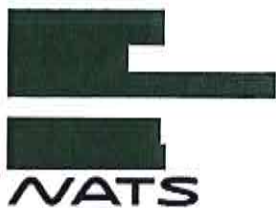
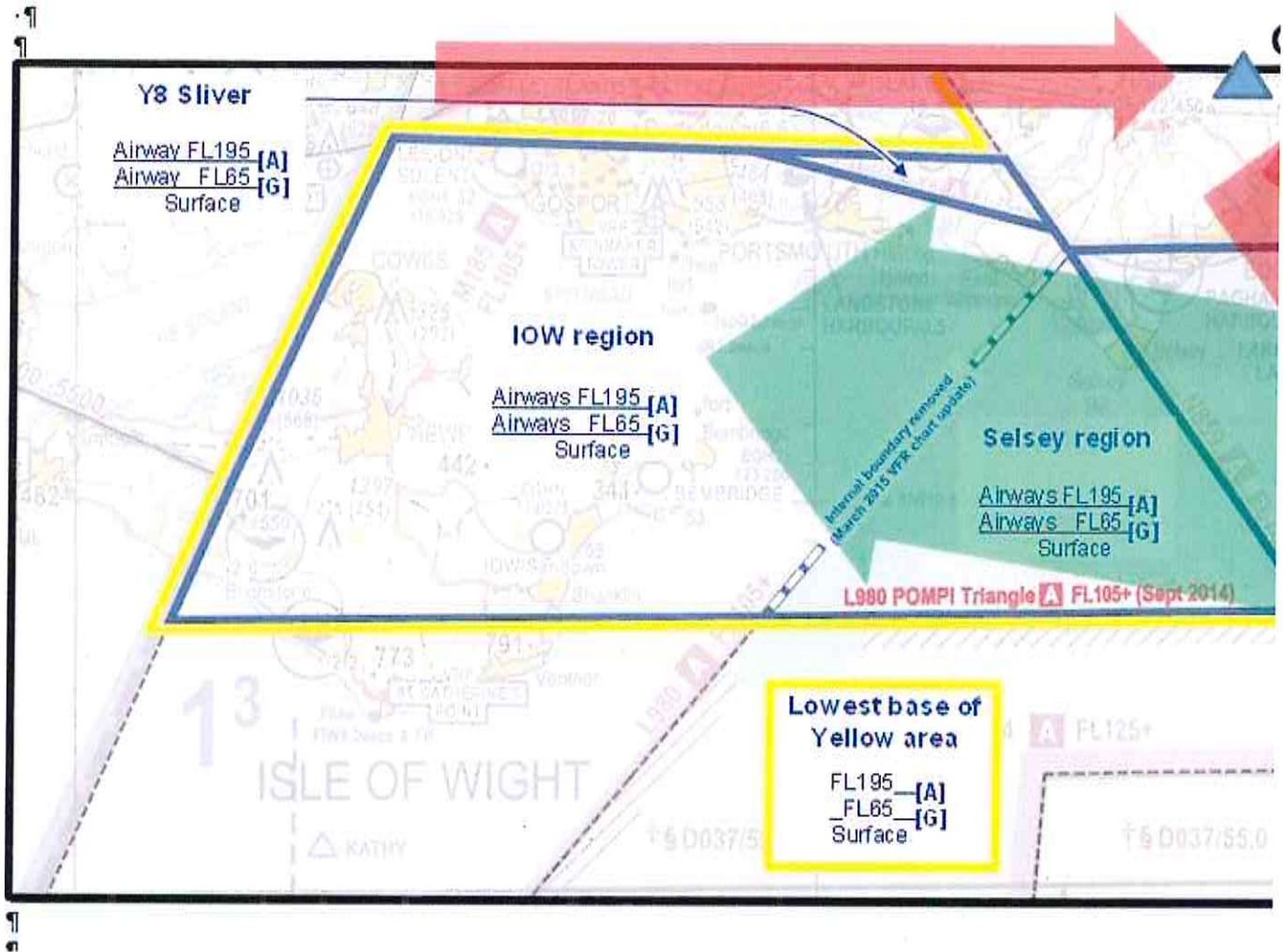
Why not climb leave arrivals at FL90 and climb Solent deps to FL100 for the cross?

Solent currently climb the departures via GWC to FL70. We are increasing this to enable them to get the level change on the Solent arrivals. We can't give Solent FL100 on all their departures because:

- We often need to jump Solent departures via GWC with LF departures and more significantly in terms of volume, the same goes for Gatwick 26 BOGNA departures which are vectored towards GWC away from WILLO.
- We need to descend LF arrivals from the South that route HAZEL-ROVUS (nothing to do with LF ACP). If we give FL100 away to Solent, we can't drop them until about 5nm south of HAZEL which is too high for Farnborough APC and would also cause problems getting underneath the Gatwick SAM departures.

It would also cause some potential safety issues with opposite direction traffic crossing vertically whilst under the control of different units (solent and TC). This is rather complicated to explain – if you need more justification that described above let me know and we can get you more detail on this issue.





From: [REDACTED]  
 Sent: 18 June 2015 10:31  
 To: [REDACTED]  
 Cc: [REDACTED]  
 Subject: Solent Module E

[REDACTED] and I have briefed [REDACTED] this morning on the LAMP designs and progress with our assessment. Module E consultation evaluation is still ongoing. Before the operational and consultation assessments of Module E are completed and submitted to the SARG Exec for approval, we have a few more questions.

1. If Class G user feedback to the Module E proposal to lower the base level of CAS to FL65 presents difficulties in either how the Module has been extracted from Farnborough, or with impacts to Class G users, please advise whether Class C may be considered as an alternative; if not, please advise why.

2. What is the impact if the lower limit of the proposed airspace at FL65 proves to be unacceptable and as an alternative, what is the impact if FL85 was adopted instead of FL65.

The aim is to have Module E operational and consultation assessments complete by the end of next week, therefore a response by Tuesday is requested.



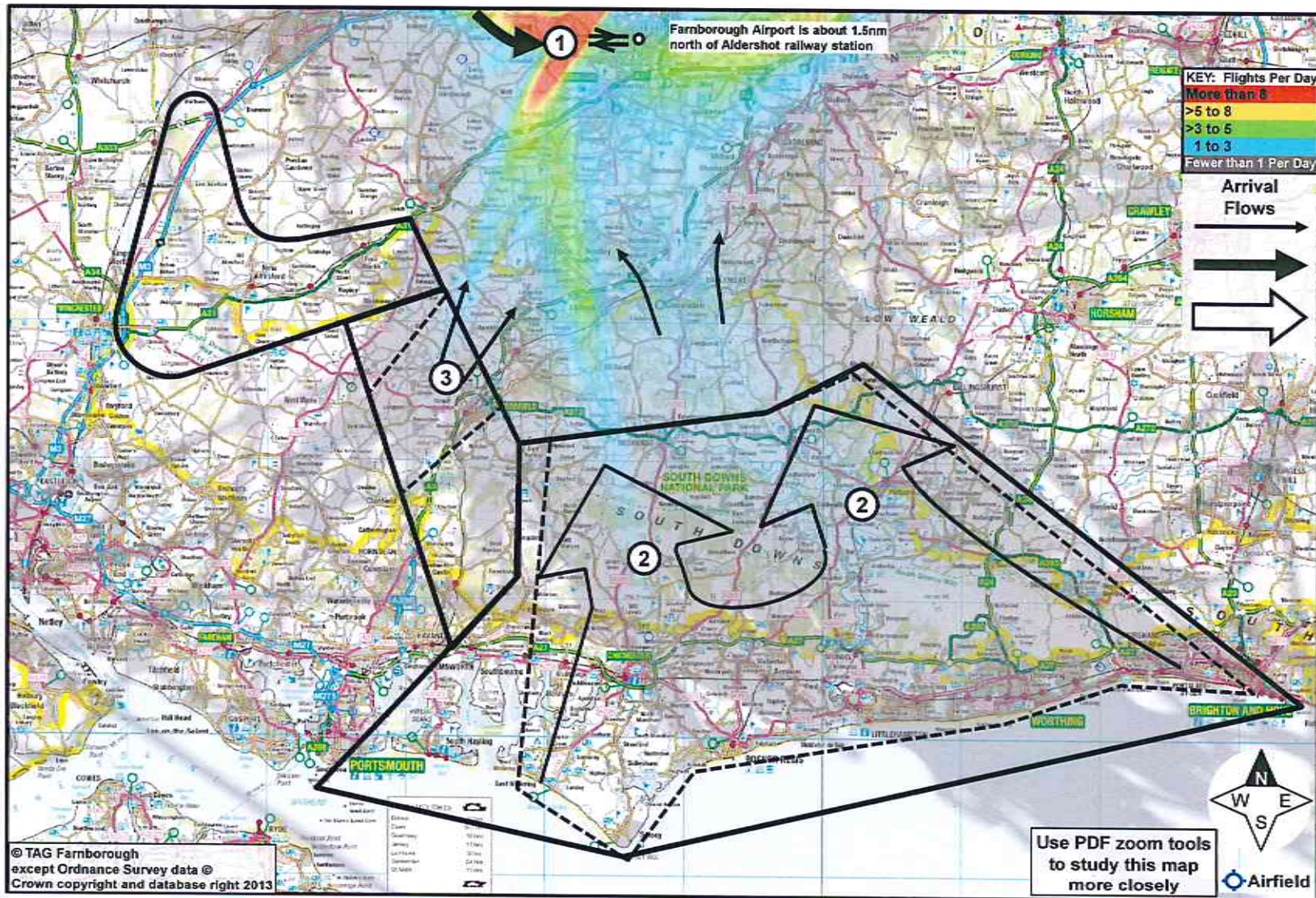


Figure C7: Arrows/dotted lines - Current Farnborough arrival flows from the south (Radar data is all Farnborough air traffic up to 7,000ft)

ATTACHMENT 7

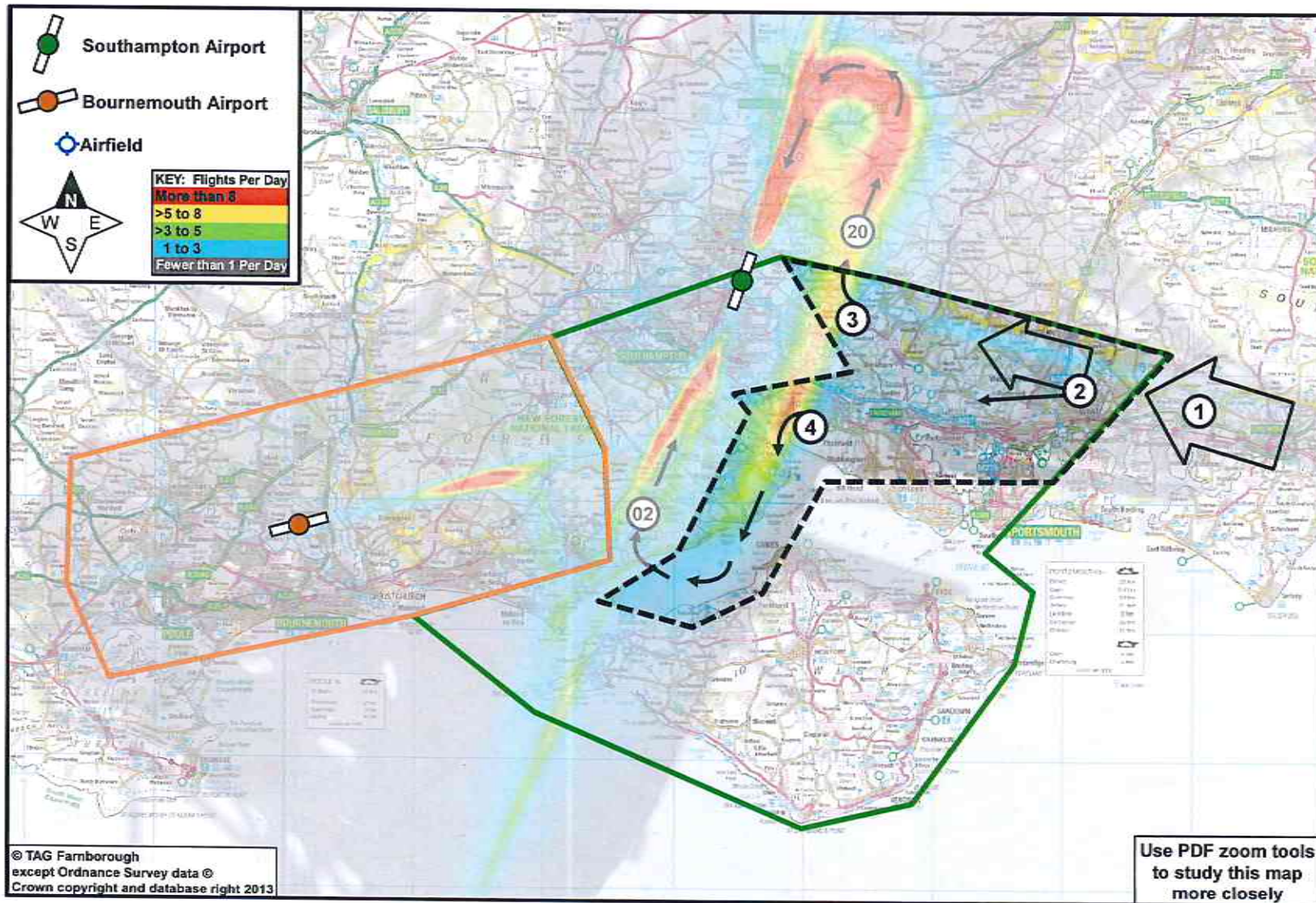


Figure D5: Arrows/dotted lines - typical current SOUTHAMPTON arrival flows from the east to both runways, 4,000ft-7,000ft (Radar data is all Southampton and Bournemouth air traffic up to 7,000ft)

ATTACHMENT 8A

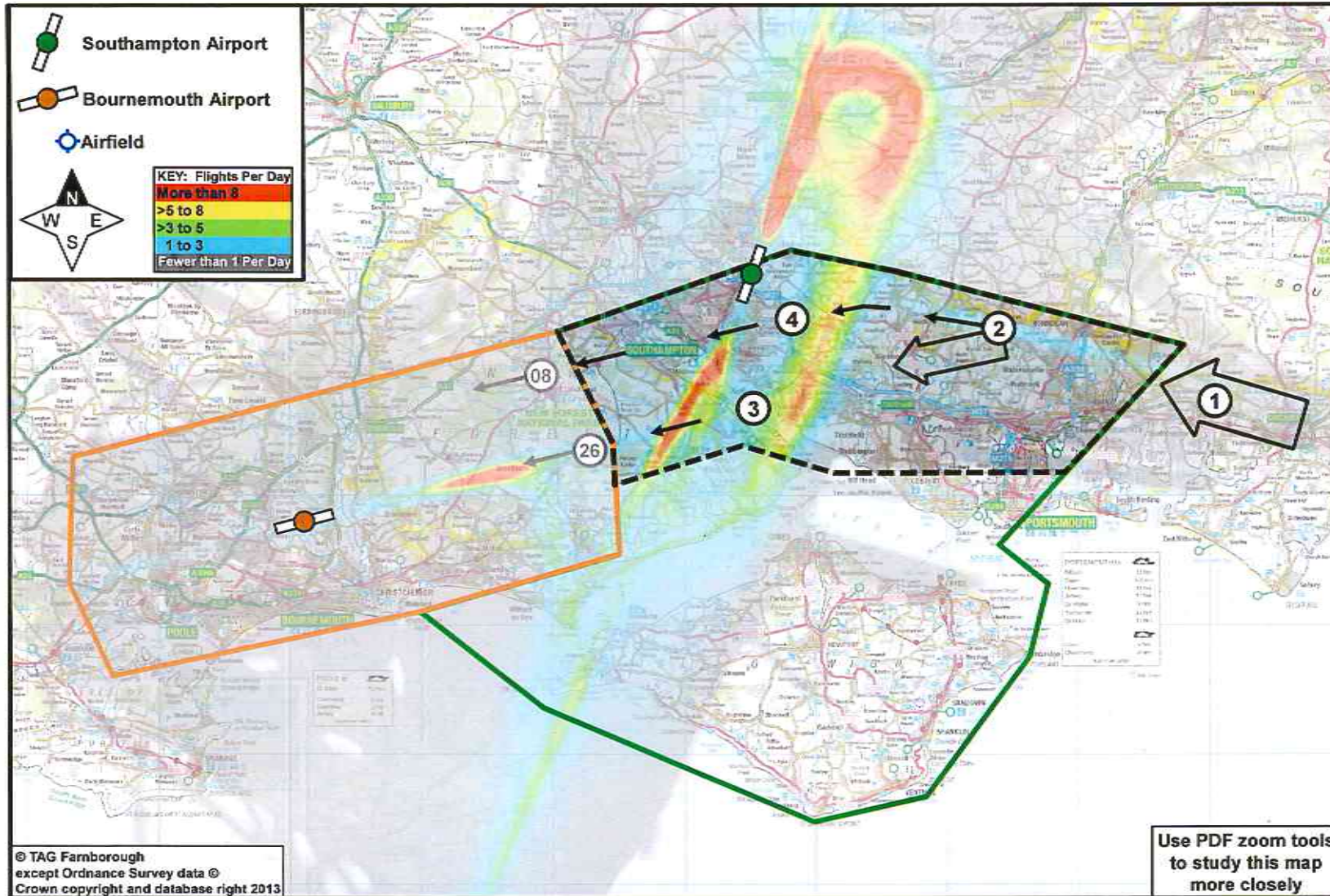


Figure D6: Arrows/dotted lines - typical current BOURNEMOUTH arrival flows from the east to both runways, 4,000ft-7,000ft (Radar data is all Southampton and Bournemouth air traffic up to 7,000ft)

ATTACHMENT 8B

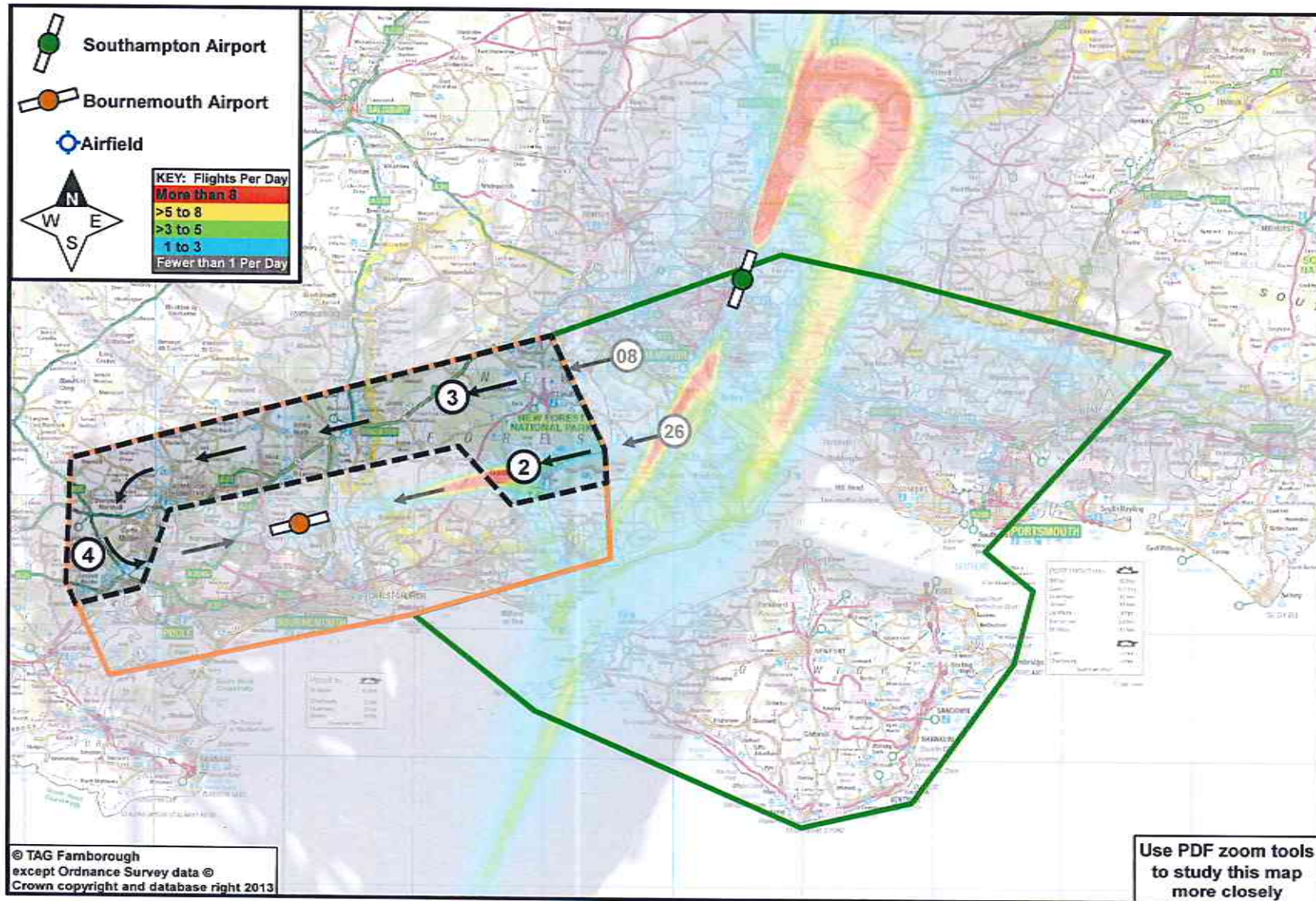


Figure D7: Arrows/dotted lines - typical current BOURNEMOUTH arrival flows from the east to both runways, below 4,000ft (Radar data is all Southampton and Bournemouth air traffic up to 7,000ft)

ATTACHMENT 8C