

Gatwick Airport Northern Runway Project

Response to the Examining Authority's Written Questions – Historic Environment

Book 10

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1 Response to the Examining Authority's Written Questions – Historic Environment



- 1 Response to the Examining Authority's Written Questions Historic Environment
- 1.1.1 The below table sets out the Applicant's response to the Examining Authority's Written Questions relating to the historic environment.

ExQ1	Question to:	Question:
HISTORIC ENVIR	RONMENT	
HE.1.1	The Applicant	Archaeology Various specific and detailed concerns are raised with regard to archaeology in the vicinity of the Proposed Development by local authorities, requesting extensive changes to the Written Scheme of Investigation (WSI) [REP1-068], [REP1-097]. Provide a response to these comments and a revised WSI where necessary. The detailed responses to the local authorities concerns are contained within document The Applicant's Response to Local Impact Reports (Doc Ref. 10.15) at Section 3.5. Below is a summary of the issues as raised and the Applicant's response to them. Surrey WSI
		The Applicant has responded to the request to update the feature sampling strategy within the Surrey WSI with the latest Surrey guidance ('Surrey County Council Historic Environment



		Planning, 2023. General Standards for Archaeological Projects in Surrey'). The revised Surrey WSI was submitted at Deadline 2 [REP2-018].
		West Sussex WSI
		This was updated and submitted at Deadline 2 to reflect Project Change 3 [REP2-019]. The LPAs have asked that there should be proposed changes to enlarge the excavation areas at Museum Field and at Brook Farm (WSI Area H). GAL does not consider this necessary, however, wishes to discuss this with the LPAs specialist advisors (Place Services) to better understand their views. If there are further changes required to the WSI as a result, these will be confirmed at Deadline 5. Additionally, we are proposing to submit a report to the Local Planning Authorities which sets out a detailed history of the airport and information regarding past ground disturbance. Once that report has been provided and a meeting to discuss held with the appropriate advisors to the LPAs (Place Services), the final position will be consolidated in the finalised WSI.
HE.1.2	The Applicant	Charlwood House
		a) Provide further details for any proposed mitigation to the setting of Charlwood House. Is the vegetation identified present all year round? Are controls required in terms of tree retention?
		b) Provide indicative design details for structures at the proposed Car Park X, including an assessment of light spill on the setting of the heritage asset.



(a) The ES has assessed the setting effects to Charlwood House and has concluded that Car Park X would not be visible owing to intervening vegetation (see paragraphs 7.9.39 to 40 of ES Chapter 7: Historic Environment [APP-032]). The proposed area of decked parking is in the eastern portion of the area for car parking. There will be limited tree and hedgerow removal of approximately 24m to widen the entrance to Car Park X however there will be replanting with native hedgerow and trees which will mature to screen views. Otherwise, trees on the boundary of existing Car Park X and at Charlwood House will not be removed by the proposed development. These aspects to be reflected in the design of Car Park X are secured through the **oLEMP** (Doc Ref. 5.3 v3) and the **Design Principles** (Doc Ref. 7.3 v2). ES Chapter 8 Landscape, Townscape and Visual Resources [APP-033] has assessed the effects at Bridleway 348Sy, Poles Lane, 80m to the east of Charlwood House, as negligible adverse during in all assessment years (see paragraphs 8.9.78, 8.9.162, 8.9.258). Lying between the bridleway and the listed building, is a further block of mature trees. Overall, although the trees are deciduous the vegetation is sufficiently layered and wooded between the Car Park and Charlwood House so that no intervisibility exists in winter conditions and there are no changes which would affect the setting of the building during daytime or at night. The new design principle for Car Park X is set out in the Design Principles DBF.9 In order to limit visibility to Charlwood House, the design of Car Park X (Work No. 31) will:

- Locate the decked parking provision in the eastern portion of the Works Area.
- Limit tree and hedgerow removal where possible, other than as required to widen the vehicular entrance to Car Park X;



		Provide re-planting provisions along the southern boundary to further screen views.
		Activities and mitigation measures which will take place during the pre-commencement and construction period of the Project are defined within ES Appendix 5.3.2: Code of Construction Practice (CoCP) [REP1-021]. Annex 6 of the CoCP [REP1-023, REP1-024, REP1-025] includes an Outline Arboricultural Method Statement which identifies
		measures to protect retained trees and root protection zones.
		(b) The indicative designs for Car Park X are within the Design & Access Statement -
		Volume 2 [REP2-033] at section 5.2.4 on Car Park X Deck Parking and Flood Storage Area.
		This shows the decked parking in the eastern portion of the area for car parking.
		Measures to control lighting are described in the Design & Access Statement - Volume 5 [REP2-036] and in ES Appendix 5.2.2: Operational Lighting Framework [APP-077]. The design and lighting principles are set out in the Design Principles (Doc Ref. 7.3 v2) which is secured by Requirement 4 of the dDCO (Doc Ref. 2.1 v6). In particular, Design Principle LA8 states: "In general, lighting should be controlled to remain contained within the site boundary. Positioning and the use of shields could be used to prevent unintended light spill". Other provisions within the Design Principles relating to nature conservation (effects to bats) will also act to prevent light spill.
HE.1.3	The Applicant	Charlwood Park Farmhouse



- a) Provide further design details for structures (lighting etc) at the proposed North Terminal Long Stay Decked Car Park, including an assessment of how they may affect the setting of Charlwood Park Farmhouse.
- b) Why are nurseries not considered to be noise sensitive uses [APP-032]? The ExA notes that the current operators of the nursery have no concerns. However, ownership and uses of buildings change over time.
- (a) **ES Chapter 7: Historic Environment** [APP-032] (paragraph 7.9.80) has assessed the effects to Charlwood Park Farmhouse and has concluded that no part of the decked car park would be visible in views from and across Charlwood Park Farmhouse, therefore the magnitude of impact would be no change. The indicative design information for the Car Park is contained within the **Design & Access Statement Volume 3** [REP2-034] at section 5.6.7 and Figure 24.

As stated in response to HE1.2 above, the **Design Principles** (Doc Ref. 7.3 v2) provides site-wide design principles for car parks including landscaping and built form related design principles. The **Design Principles** are secured by Requirement 4 of the **dDCO** (Doc Ref. 2.1 v6).

(b) The Bear and Bunny Nursery is a longstanding occupier of the building which is owned by GAL. **ES Chapter 14: Noise and Vibration** [APP-039] considers buildings in use as nurseries as being potentially highly sensitive and assessment is undertaken on a case by case basis. During preparation of the ES, a site visit was undertaken to the Bear & Bunny Nursery (occupiers of Charlwood Park Farmhouse) and a discussion held with the managers



		of it. The ES assessment concluded that there would be negligible adverse effects at this receptor (see paragraphs 14.4.86, 14.9.20 and 14.9.224 of ES Chapter 14: Noise and Vibration [APP-039]. Separately in ExQ1 NV.1.19, the ExA has asked why nurseries are not included in the Noise Insulation Scheme for schools. The Applicant has subsequently agreed to include them because some can be noise sensitive and they will be considered for insulation. The Applicant's Response to NV.1.19 is included in Doc Ref. 10.16.
HE.1.4	The Applicant	It is noted that two of the heritage assets identified within Charlwood Conservation Area are places of worship (Grade I Church of St Nicholas and the Grade II* Providence Chapel). Are such assets considered to be more susceptible to noise from aircraft given that they may be considered to be places where people are likely to take quiet reflection? Provide further justification for your view that effects from ground noise on these heritage assets would be negligible [APP-032]. The methodology for identifying and assessing noise sensitive assets uses the criteria established for the assessment of impacts arising from air noise change (Aviation Noise Metric



(Temple Group and Cotswold Archaeology, 2014)). The use and general application of this methodology has been agreed with Historic England (see the signed **Statement of Common Ground between Gatwick Airport Limited and Historic England** [REP1-035]).

The application of the English Heritage Aviation Noise Metric methodology is discussed at paragraph 7.4.6 of **ES Chapter 7: Historic Environment** [APP-032] and further summarised between paragraphs 7.4.12 – 7.4.16. A more detailed review of the application of the methodology is also set out in paragraphs 5.4.4 – 5.4.12 of **ES Appendix 7.6.1: Historic Environment Baseline Report** [APP-101].

The methodology uses predicted noise change footprints formed by combining two separate noise metric datasets and assessing the overlapping common area between them. The first dataset is the noise contour which shows the areas where there will be a predicted change of 1 decibel (dB) or more in the average summer daytime (Leq 16 hr) noise levels. The second dataset requires the provision of the contour which shows the areas where there will be a 25% change in the daytime N60 contour. This would represent the areas where there would be a predicted 25% change in the number of daytime flights for which the maximum outdoor noise level (Lmax) is likely to exceed 60dB on an average summer day.

ES Chapter 14: Noise and Vibration [APP-039]) describes the noise modelling that has been done to predict and assess the changes in noise expected from the Project. The noise metrics used for this are as required by the Civil Aviation Authority's (CAA) CAP1616 guidance (CAA, 2021). N60 Day has not been modelled and is not required under CAA guidance. Therefore, the positive noise change footprints have been established by using the 1dB change in Leq 16 hr only. This ensures a conservative assessment since had the N60



		Day 25% change also been considered it would have resulted in a smaller noise change footprint. The use of this methodology has been agreed with Historic England (see the signed Statement of Common Ground between Gatwick Airport Limited and Historic England [REP1-035]). The Grade I Church of St Nicholas and the Grade II* Providence Chapel are not within the 1dB noise change contour and are thus scoped out of the assessment of air noise effects.
		Additionally, the ES has also assessed the effects to heritage assets from aviation ground noise. The Church of St. Nicholas and the Grade II* Providence Chapel are identified as heritage assets of high sensitivity or value by ES Chapter 7: Historic Environment [APP-032] (see Sections 7.69 and 7.9.133). The predicted increase in daytime ground noise LAeq, 16 hours dB (2032 Project with mitigation versus 2032 baseline) at baseline noise monitoring Locations 1 and 2 is 1-4dB, and these locations are considered to be representative of the Charlwood Conservation Area. The consequent significance of effect in respect of these three heritage assets would be minor adverse, which is not significant in terms of the EIA regulations.
HE.1.5	The Applicant	Church Road Conservation Area
		a) Provide further justification in support of your view of the effect of the Proposed Development upon the Conservation Area.
		b) Could improvements to the Church Meadows by way of mitigation provide some benefits to the Conservation Area (and the Grade I Church of Saint Bartholomew).



Provide further details on such mitigation. How would it/ they be secured?

- a) **ES Chapter 7: Historic Environment** [APP-032] has assessed the effects to the Church Road Conservation Area (see Sections 7.9.96 and 7.9.107 7.9.110). Temporary effects during construction may be up to moderate adverse.
- b) The establishment and use of the environmental mitigation area at Longbridge Roundabout (secured by the Draft DCO), however, would slightly enhance the significance of the Church Road (Horley) Conservation Area. This would be a result of increased public access and the creation (on the west side of the river) of an area for informal recreational use, and also through the provision of information boards on the west side of the River Mole in this location that will describe the historical features of the area.

Additional planting along the south-eastern edge of the Conservation Area would also help over time in screening out views of buildings and other elements associated with the Airport. The Conservation Area is of medium sensitivity or value and the magnitude of impact of the establishment and use of the environmental mitigation area would be up to low beneficial. The significance of effect is likely to be minor beneficial.

ES Appendix 8.8.1 Outline Landscape Ecology Management Plan (Doc Ref. 5.3 v3) sets the overarching vision for landscape proposals within the Project. Figure 1.2.3 of the oLEMP provides a sketch landscape concept of land at Longbridge roundabout including Church Meadows and the replacement public open space west of the River Mole connected by a new



		footbridge. The landscape principles in the oLEMP secure the aspects described above - see Section 4.7 of the oLEMP in particular.
HE.1.6	The Applicant	Provide further information about any effects on the setting of Burstow Conservation
		Area and the Grade I Church of St Bartholomew as a result of the Proposed Development.
		The Burstow Conservation Area and Church of St Bartholomew was scoped out of assessment following application of the English Heritage Aviation Noise Metric methodology and having established from a site visit that there would be no visual effects due to intervening vegetation and the built environment.
		The application of the English Heritage Aviation Noise Metric methodology is discussed at paragraph 7.4.6 of ES Chapter 7: Historic Environment [APP-032] and further summarised between paragraphs 7.4.12 – 7.4.16. A more detailed review of the application of the methodology is also set out in paragraphs 5.4.4 – 5.4.12 of ES Appendix 7.6.1: Historic
		Environment Baseline Report [APP-101].



The methodology is available for review at the web address in the footnote below¹.

In summary, the methodology uses predicted noise change footprints formed by combining two separate noise metric datasets and assessing the overlapping common area between them. The first dataset is the noise contour which shows the areas where there will be a predicted change of 1 decibel (dB) or more in the average summer daytime (Leq 16 hr) noise levels. The second dataset requires the provision of the contour which shows the areas where there will be a 25% change in the daytime N60 contour. This would represent the areas where there would be a predicted 25% change in the number of daytime flights for which the maximum outdoor noise level (Lmax) is likely to exceed 60dB on an average summer day.

ES Chapter 14: Noise and Vibration [APP-039]) describes the noise modelling that has been done to predict and assess the changes in noise expected from the Project. The noise metrics used for this are as required by the Civil Aviation Authority's (CAA) CAP1616 guidance (CAA, 2021). N60 Day has not been modelled and is not required under CAA guidance. Therefore, the positive noise change footprints have been established by using the 1dB change in Leq 16 hr only. This ensures a conservative assessment since had the N60 Day 25% change also been considered it would have resulted in a smaller noise change footprint. The use of this methodology has been agreed with Historic England (see the signed **Statement of Common Ground between Gatwick Airport Limited and Historic England** [REP1-035]).

¹ https://historicengland.org.uk/research/results/reports/6934/AviationNoiseMetric-
ResearchonthePotentialNoiseImpactsontheHistoricEnvironmentbyProposalsforAirportExpansioninEngland



		The location of the Conservation Area, the Zone of Theoretical Visibility and the noise change contour used in the assessment are shown within the ES Historic Environment Figures
		[APP-054] at Figures 7.6.2, Figure 7.6.3 and Figure 7.6.6 respectively. As the Conservation
		Area at Burstow is outside of the area of 1dB change of Leq contour it has not been included
		within the scope of the assessment.
HE.1.7	The Applicant	Noise Insulation Grant Scheme
		a) How does the Applicant's current sound insulation scheme apply to listed buildings?
		b) Are there further allowances provided given that it is more difficult/ restrictive to provide insulation to historic buildings?
		c) What changes, if any, are proposed as part of the Proposed Development?
		(a) The current Noise Insulation Scheme applies to all residential buildings including those that are listed.
		(b) The current Noise Insulation Scheme makes no further provisions for listed buildings
		(c) The proposed Noise Insulation Scheme (ES Appendix 14.9.10 [APP-180], increases
		the sums of money available across new zones. Under the proposed NIS, the
		Applicant will write to homeowners and work with the owner to develop a suitable
		package of acoustic insulation to suit their needs and to satisfy the local authority
		conservation officer that the proposals can receive Listed Building Consent where this is necessary.
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Energy Efficiency and Historic Buildings, Secondary Glazing for Windows, Historic England, 20162 gives guidance on forms of secondary glazing best suited to Listed Buildings (Figures 6 to 16 give photographs of secondary glazing), and the Applicant will employ a specialist secondary glazing contractor to develop sympathetic and appropriate designs in each case. Experience shows that secondary glazing, mounted so as to not affect the external glazing, and acoustic ventilators suitably designed for Listed buildings are generally consented. In the Outer Zone, there are 137 listed dwellings. Where acoustic insulation and/or acoustic ventilators are required, the Applicant commits to manage the Listed Building applications, thus reducing costs to the home owner. This is noted as follows in **ES Appendix 14.9.10 Noise Insulation Scheme Update Note** [REP2-031] submitted at Deadline 2:

5.1.2 In the case of listed buildings, or for buildings within conservation areas, the property owner and/or occupier should contact the local council to establish if planning permission or listed building consent is required. Where planning permission or listed building consent is required, the owner should advise GAL and GAL's contractors will survey the property and submit the necessary application for the required consents following any requirements of the local conservation officer and Historic England's guidance Energy Efficiency and Historic Buildings, Secondary Glazing for Windows, 2016.

² https://historicengland.org.uk/images-books/publications/eehb-secondary-glazing-windows/#:~:text=Secondary%20glazing%20when%20carefully%20designed,the%20installation%20is%20easily%20reversible.



HE.1.8	The Applicant	Pentagon Field
		Provide further justification for the view that raising the ground level of Pentagon Field by up to 4.4m [APP- 032] would not result in any change to the character of the historic landscape in this area.
		ES Chapter 7 Historic Environment [APP-032] considers the spoil placement at Pentagon Field at paragraphs 7.9.31, 7.9.33 and 7.9.34, and considers the effects to both heritage assets and historic landscapes. In summary the placement of spoil and subsequent landscaping work at Pentagon Field would not result in any change to the character of the historic landscape in this area. The magnitude of impact and significance of effect would therefore be no change.
		The field, in common with the surrounding landscape, has been subject to historic field boundary removal in the past, as confirmed by historic mapping. No existing field boundaries or other historic features would need to be removed. Section 5.11.4 and Figure 73 of the Design and Access Statement - Volume 4 [REP2-035] considers Pentagon Field. Design principle DLP17 which secures the new woodland planting along the Balcombe Road boundary will also assist with the screening external views. The Applicant's view is that, given the existing variation of levels across the site from east to west, the proposed grading and seeding of the deposited material, and the provision of a 15m woodland belt to the eastern perimeter (at the boundary with Balcombe Road), the placement of spoil would not change the character of the historic landscape in this area. The placement of soil would not physically affect the surrounding countryside and no sensitive views would be affected.



HE.1.9	The Applicant Historic England	Air Noise and the Setting of Heritage Assets Provide further information on the issue of air noise and tranquility with regard to the way in which the settings of designated heritage assets are experienced (referred to as the Temple Methodology by Historic England [REP1-073]).
		As discussed within in the answer to question HE1.6 above, the ES applies the English Heritage Aviation Noise Metric methodology to scope in historic assets for assessment. The development of this methodology considered tranquility inherently, and how a change in aircraft noise could affect the significance of heritage assets. It reviewed available research and CPRE tranquility mapping correlated with Gatwick's Noise Insulation Scheme, noise contours and flight tracks and noise contours from Heathrow.
		Section 5.4 of ES Appendix 7.6.1 : Historic Environment Baseline Report [APP-101] explains the application of the methodology in accordance with EIA principles to establish the significance of change brought by the development. The Applicant has applied the methodology conservatively by using the entire area where there will be a predicted change of 1 decibel (dB) or more in the average summer daytime (Leq 16 hr) noise level (see Figure 7.6.6 of ES Historic Environment Figures [APP-054]). The next stage in the methodology is to identify those heritage assets within the noise change footprints that can be classed as 'noise-sensitive'. Four broad categories are considered:



- (A) When solitude, embedded with quietness, is intrinsic to understanding the form, function, design intentions and rationale for the siting of a heritage asset;
- (B) When a non-quiet and specific existing soundscape forms part of the functional understanding of the heritage asset;
- (C) When the abandonment of a heritage asset; a monument, building or landscape, in antiquity (or more recently) has created a perceived otherworldly romanticism enabled by the absence of anthropogenic sounds (quietness); and
- (D) When the absence of foreign (modern) sounds allow an asset to be experienced at a very specific point in time that is intrinsic to understanding the asset's significance.

The methodology identified three heritage assets within categories A and B which would suffer a deterioration in noise environment ("negative change") and two category A assets for which there would be an improvement ("positive change") as a result of the Project (see ES Chapter 7 Historic Environment [APP-032] paragraphs 7.6.42 and 7.9.117 to 7.9.124). The ES records the individual assessments of potential impacts on the significance of these assets resulting from the change in air noise taking into existing baseline conditions and the noise increase or decrease that they would experience as a result of the project.

A wider assessment of tranquility is contained within **ES Chapter 8 Landscape**, **Townscape and Visual Resources (LTVR)** [APP-033] which, in accordance with the **PINS Scoping Opinion** [APP-095] (PINS ID 4.2.2; see ES Chapter 8, Table 8.3.1: Summary of Scoping Responses), draws on the CAA CAP1616 methodology for assessing effects to the perception of tranquility. The final assessment methodology and conclusions have been



		agreed with Natural England and this will be recorded in the updated Statement of Common Ground. The overall assessment is nuanced, as people's reaction to overflying aircraft varies between individuals. Overall, however, the assessment is that magnitude of change from the Project to the level of tranquility within the High Weald, Surrey Hills and Kent Downs National Landscapes and the South Downs National Park would be negligible, leading to minor adverse effects on the perception of tranquility during the day and at night, which would not be significant. Please also see the answer to question HE1.11 below.
HE.1.10	The Applicant	Mitigation Historic England notes that various mitigations for effects on listed buildings on the periphery of the airport estate are proposed [REP1-073]. How do you consider such mitigation will be secured?
		ES Chapter 7: Historic Environment [APP-032] identifies several mitigation measures to reduce the potential for impacts on the historic environment and how these are to be secured through the Draft DCO at Table 7.8.1. These include: the project-wide and site-specific Design Principles including provisions for landscaping, lighting & amenity and noise are included in the Design Principles (Doc Ref. 7.3 v2) secured through DCO Requirement 4, the CoCP [REP1-021] secured through DCO Requirement 7 and the oLEMP (Doc Ref. 5.3 v3) secured through DCO Requirement 8.
HE.1.11	The Applicant	Air Noise and the Setting of Heritage Assets



Various RRs and the LIRs from Kent County Council (KCC) [REP1-079] and Sevenoaks District Council [REP1-095] raise concerns over current and proposed effects of aircraft noise upon various designated heritage assets, including, but not limited to Chartwell Place, Penshurst Place, Chiddingston Castle, and Hever Castle. Your response in the Relevant Representation Report is noted [REP1-048]. Can you provide further information on this? How many additional aircraft are likely to pass over, or close to, these assets?

As discussed within in the answer to question HE1.6 and 1.9 above, the ES applies the English Heritage Aviation Noise Metric methodology to scope in historic assets for specific assessment. The use of this methodology has been agreed with Historic England. It is based on consideration of the overlap of contours of average noise levels and numbers of movements and its development considered the aviation noise effects at Gatwick and Heathrow. Gatwick has applied the methodology conservatively – this results in a contour showing which areas meet the criteria for assessment. The Hever Castle, Petworth House, Wakehurst Place and the Temple of the Winds, Blackdown assets listed above, along with Chartwell Place, Penshurst Place and Chiddingston fall outside of this contour and were therefore scoped out of the assessment.

This notwithstanding, the assessment of effects to tranquillity is contained within **ES Chapter 8: Landscape, Townscape and Visual Resources (LTVR)** [APP-033] which itself draws on methodologies contained within **ES Chapter 14: Noise and Vibration** [APP-039]. The tranquillity assessment considers overflight by aircraft in accordance with CAA methodologies (see **ES Appendix 14.9.2 Air Noise Modelling** [APP-172]) and considering the change in the total number of daily overflights at these locations that would arise if up to



approximately 20% more Gatwick fights were added to the actual number of overflights in the future baseline scenario of 2032 (this year being modelled as the year up to which air traffic numbers would increase the most).

Gatwick Airport only overflight analysis is illustrated in **ES LTVR Figure 8.6.3** and the non-Gatwick baseline overflights are illustrated in **ES LTVR Figure 8.6.4** [APP-061]. The combined analysis of all overflights within a wider 35 mile radius around Gatwick Airport is illustrated in **ES LTVR Figures 8.6.5**, **8.6.6** and **8.6.7** [APP-061].

Following consideration of the overflight analysis above, *Table 8.9.1: Increase in Daily Overflights at Assessment Locations*, of ES Chapter 8 reports how the Project would increase flights at 10 well known and popular sites, some of which are also heritage assets. These include Hever Castle, along with Petworth House, Wakehurst Place and the Temple of the Winds, Blackdown.