



# Gatwick Airport Northern Runway Project

The Applicant's Response to the Examining Authority's  
Written Questions – Ecology and Nature Conservation

**Book 10**

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## 1 Response to the Examining Authority’s Written Questions – Ecology and Nature Conservation

The below table sets out the Applicant’s response to the Examining Authority’s Written Questions relating to Ecology and Nature Conservation.

ExQ1 Question to: Question:		
ECOLOGY AND NATURE CONSERVATION		
EN.1.1	The Applicant	<p><b>Relevant Representation – Natural England</b></p> <p>Can the Applicant update the assessment in ES Chapter 9, paragraphs 9.9.385 to 9.9.387 [APP-034] in line with NE’s advice in its RR [RR-3223] so that the significance of the effect is based on the percentage change when compared to the Critical Load (CLo) of the site/ habitat rather than the predicted background, so that this aligns with the assessment methodology. This should clearly state any exceedances of NO<sub>x</sub>, NH<sub>3</sub> and NO<sub>2</sub> and describe any subsequent mitigation measures required and where they are secured in the application.</p> <p>Nitrogen dioxide (NO<sub>2</sub>) is one of the two gases that make up the collective term nitrogen oxides (NO<sub>x</sub>) with the other being nitric oxide (NO). As such, any effect from NO<sub>2</sub> is considered via the CLe for NO<sub>x</sub>.</p> <p>For reference, the Applicant provided an assessment of effects with respect to the ancient woodland sites (which are also SSSI) highlighted by Natural England in their Relevant Representation [RR-3223] (paragraph 5.5) at <b>Appendix G of Supporting Air Quality Technical Notes to Statements of Common Ground [REP1-050]</b>. The document considers the impacts of NO<sub>x</sub> (and therefore NO<sub>2</sub>), NH<sub>3</sub> and nitrogen</p>

		deposition against the relevant CLe/CLo (rather than the predicted background) and provides supporting documents with details of the air quality modelling and SSSI citations for the four sites. The conclusion of this submission was that effects would be as described in ES Chapter 9: Ecology and Nature Conservation [APP-034], (i.e. negligible magnitude and therefore minor adverse significance).
EN.1.2	The Applicant	<p><b>Air Quality Effects on Sites of Special Scientific Interest</b></p> <p>Can the Applicant update ES Chapter 9 [APP-034] and any supporting documents to provide an assessment of air quality effects on Sites of Special Scientific Interest (SSSI). This should clearly identify and discuss any exceedances of NO<sub>x</sub>, NH<sub>3</sub> and NO<sub>2</sub> and describe relevant mitigation measures that might be required and where these are secured in the application.</p>
		<p>The Applicant provided an assessment of air quality effects on SSSIs at <b>Appendix G of Supporting Air Quality Technical Notes to Statements of Common Ground [REP1-050]</b>. The document considers the impacts of NO<sub>x</sub> and NH<sub>3</sub> and provides supporting documents with details of the air quality modelling and SSSI citations. The conclusion of this submission was that effects would be as described in <b>ES Chapter 9: Ecology and Nature Conservation [APP-034]</b>, (i.e. negligible magnitude and therefore minor adverse significance). There are no air quality standards for nitrogen dioxide (NO<sub>2</sub>) relevant to ecological effects. NO<sub>2</sub> is one of the two gases that make up the collective term nitrogen oxides (NO<sub>x</sub>) with the other being nitric oxide (NO). As such, any effect from NO<sub>2</sub> is considered via the CLe for NO<sub>x</sub>.</p>
EN.1.3	The Applicant	<p><b>Other Consents and Licenses</b></p> <p>The List of Other Consents and Licenses [APP-264] states that for ecology draft licences are expected to</p>

	NE	<p>be provided to NE during the DCO examination.</p> <p>a) Can the Applicant provide an update on progress with the applications for ecology licenses.</p> <p>b) Can NE indicate if it is likely to be able to submit Letters of No Impediment into the Examination.</p> <p>Draft licences for badger and great crested newt have been prepared and shared with Natural England for the purposes of enabling them to issue Letters of No Impediment. The Applicant would propose to provide an update to confirm the NE response through updates to the SoCG at a relevant future deadline.</p>
EN.1.4	The Applicant	<p><b>Invasive Non-Native Species</b></p> <p>ES Chapter 9 [APP-034] notes that invasive non-native species have been identified on the Project site and the wider survey area.</p> <p>The Applicant is asked to confirm whether there is any potential overlap of construction activities with these areas of known invasive non-native species contamination and, if so, whether a potential spread pathways analysis has been carried out?</p> <p>The potential for overlap of construction activities with the location of known INNS is limited to along the River Mole corridor due to the presence of Himalayan balsam. In this location, in the absence of any form of soil management strategy, there would be a risk that the realignment of the river would spread this species further down the river catchment. However, whilst no specific spread pathway analysis has been undertaken, the approach of the Project to Invasive Non-Native Species (INNS) is set out in Section 5.1.3 of <b>ES Appendix 5.3.2 Code of Construction Practice Annex 4 – Soil Management Strategy</b> [<a href="#">APP-</a></p>

		<p><a href="#">086</a>]. This will ensure that any INNS are identified and appropriate treatment implemented prior to any soil movement during the construction of the Project. To provide further detail and to ensure that both flora and fauna INNS are addressed comprehensively, a full INNS Management Strategy during construction will be produced. An Outline of the INNS Management Strategy is to be included as an Annex to the CoCP at Deadline 4. The <b>Code of Construction Practice</b> <a href="#">[REP1-021]</a> (including its Annexes) is secured through Requirement 7 of the <b>dDCO</b> (Doc Ref. 2.1 v6).</p> <p>In addition, the approach to INNS during the operational phase of the Project is set out in Section 7.3 of <b>ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan</b> <a href="#">[REP2-021]</a>.</p>
EN.1.5	The Applicant	<p><b>Biodiversity Net Gain</b></p> <p>It is suggested by the Joint Surrey Councils (JSCs) (paragraph 7.47 <a href="#">[REP1-097]</a>) that although not a legal requirement, due to the long term and large-scale impacts of habitat loss the Applicant should be delivering Biodiversity Net Gain (BNG) in the local, regional and national interest.</p> <p>Please respond to this suggestion?</p> <p>The Applicant's approach to the delivery of BNG is as set out in <b>ES Appendix 9.9.2 Biodiversity Net Gain Statement</b> (Doc Ref. 5.3 v3). This highlights that the NRP will deliver over 20% net gain. The Applicant's proposed approach to securing its BNG commitment is discussed in response to EN.1.6 below.</p>
EN.1.6	The Applicant	<p><b>Securing Biodiversity Net Gain</b></p> <p>NE recommend in its RR <a href="#">[RR-3223]</a> that the target increase in BNG is secured by a suitably worded</p>

		<p>requirement in the DCO.</p> <p>a) The Applicant is asked to explain whether and, if so, how the target increase in BNG of 22.5% habitat units and 16.7% watercourse units is secured in the dDCO.</p> <p>b) The Applicant is asked whether R8 should state that the landscape and ecology management plan for any part of the works must be substantially in accordance with the BNG Statement [APP- 136] in addition to the outline landscape and ecology management plan.</p> <p>The Applicant considers that the most appropriate method of securing the measures which contribute to the conclusions in <b>ES Appendix 9.9.2: Biodiversity Net Gain Statement</b> (Doc Ref. 5.3 v3) is the incorporation of the relevant measures into <b>ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan</b> (oLEMP) (Doc Ref. 5.3 v3) such that they are reflected in Landscape and Ecology Management Plans submitted pursuant to Requirement 8 of the <b>dDCO</b> (Doc Ref. 2.1 v6) by virtue of the requirement that such plans must be substantially in accordance with the oLEMP.</p> <p>An amended version of the <b>oLEMP</b> has been submitted at Deadline 3 (Doc Ref. 5.3 v3) that explicitly incorporates details of the measures relied upon in Section 8.</p>
EN.1.7	The Applicant	<p><b>Reprovision of Woodland Habitat</b></p> <p>The BNG Statement [APP-136] states that planting extensive areas of new woodland within the Project would not be possible because of the nature of an operational airport and the requirements with respect to aircraft safeguarding.</p>

		<p>a) The Applicant is asked to explain why replacing lost woodland habitat with new woodland habitat on a like for like basis within the project poses any greater risk to aircraft safeguarding than that which exists in the baseline scenario?</p> <p>b) The Applicant is asked if it considered alternative options of providing areas of new woodland at a further distance from the airport or as off-site compensatory habitats as a way of meeting Habitat Trading standards without affecting aircraft safeguarding. If so, the Applicant is asked to explain why alternatives were discounted.</p> <hr/> <p>(a) Bird strikes are extremely hazardous to flight safety and even relatively minor events can result in costly repairs and aircraft downtime. Secondary risks can arise when a strike occurs and other wildlife (birds and land creatures) are drawn to feed on the carrion. Consideration is also given to how the public uses the landscape, as apparently innocuous activities such as picnicking or bird feeding can encourage risk species. Great care is taken to avoid the establishment of new commuting routes which would cross the airport or the extended approaches to the runway. The Aerodrome is required to comply with the UK Regulation (EU)139/2014 Implementing Rule ADR.OPS.B.020 Wildlife strike hazard reduction, and extensive CAA guidance is provided within CAP772 Wildlife Hazard Management at Aerodromes.</p> <p>The wildlife hazard safeguarding considerations are holistic and consider the presence of risk species, their known patterns of activity and how they move through the landscape diurnally and seasonally. The greater part of loss of trees as a result of the Project is limited to planting alongside the highways to the north of the airport boundary (as a result of the highway improvements proposed as part of the Project). There is limited space within the roads corridor to replant trees on a like for like basis once the revised road geometry has been accounted for. Replanting within the corridor has also needed to account for the appropriate design standards with respect to the proximity of trees to the revised road layout. Additional woodland planting will</p>
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	<p>be provided in the new public open spaces to the north of Longbridge Roundabout (Church Meadows) and within the former Car Park B. The Project has therefore maximised the replanting of woodland that is possible within the context of the areas where it is to be lost.</p> <p>The re-provision of woodland elsewhere within the Project site would involve planting closer to the runways and could increase risk of commuting by risk species across them. The overall approach to woodland habitat creation has been to avoid closed canopy woodland forest of oak, beech, hornbeam, pine which could mature to provide new habitat for risk species (e.g. Buzzards/Corvids) closer to the runway. Where woodland planting does occur (e.g. at Pentagon Field), it is from an approved palette which will be less attractive to risk species. As set out in Annex 3 of <b>ES Appendix 9.9.2 Biodiversity Net Gain Statement</b> (Doc Ref. 5.3 v3), overall, the Project will be providing a net gain in both area and value for scrub, wetland, water courses and individual tree habitats, with a large net gain in value of grasslands present.</p> <p>(b) The Project provides extensive new habitats of ecological value that lead to the delivery of a BNG over 20%. Such habitats include the grasslands and woodland edge at Brook Farm, the marshy grassland and Open Mosaic Habitat at Museum Field and the Mole diversion corridor, for example. Brook Farm was not part of the original airport and was brought into the Project boundary for the purpose of biodiversity enhancement. Likewise, Museum Field is an agricultural field outside of the current airport boundary, and although its intended future function is primarily with respect to fluvial flood management, the opportunity to provide significant biodiversity enhancement in this area has been taken. The works to the River Mole will also create 300m of new naturalised river valley to replace a stretch of river which is currently netted and canalised. Details of how these habitats fit together holistically are set out in Section 6 of <b>ES Appendix 8.8.1 Outline Landscape and Ecology Management Plan</b> (Doc Ref. 5.3 v3). Planting of woodland in these offsite areas was explored and has been taken, where safe to do so (for example, wet woodland along Horley Road, woodland edge habitat around existing mature tree lines). The position of the Project</p>
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		with respect to the BNG trading rules was accepted by Natural England (Section 5.11) in their Relevant Representation <a href="#">[RR-3223]</a> .
EN.1.8	The Applicant	<p><b>Time Between Habitat Loss and Reprovision</b></p> <p>In the BNG calculation table A-2 ‘On-Site Habitat Creation’, the time to target condition applied to woodland and forest is 15 years. However, paragraph 9.9.66 of the ES <a href="#">[APP-034]</a> suggests that new woodland planting to replace that lost the initial construction period (2024-2029) will not reach maturity until approximately 2060.</p> <p>Can the Applicant explain how the apparent 31 to 36-year timescale from loss of existing habitat to maturity of replacement habitat has been accounted for in the assessment?</p>
		<p>The BNG time to target condition relates to the criteria for woodland within the habitat condition assessments rather than fully mature woodland. As such, the two are not necessarily directly comparable.</p> <p>Notwithstanding this, the assessment of impacts to woodland within the <b>ES Chapter 9 Ecology and Nature Conservation</b> <a href="#">[APP-034]</a> is described across the various timescales of the Project. As set out in Paragraph 9.9.67, the loss of woodland is considered to be of Moderate Adverse significance during the initial assessment periods until the woodland reaches semi-maturity by the 2047 assessment year where it was considered to be Minor Adverse and therefore no longer significant.</p>
EN.1.9	The Applicant	<p><b>Monitoring and Maintenance of Woodland Planting</b></p> <p>The Outline LEMP <a href="#">[APP-113]</a> does not set out the duration for which monitoring, management and</p>

		<p>maintenance of mitigation measures would be secured. Woodland planting would not have reached maturity until approximately 2060 according to paragraph 9.9.66 of the ES [APP-034].</p> <p>Given that long-term moderate adverse significant effects are anticipated relating to loss of woodland and scrub habitat, can the Applicant explain how the ExA can be confident that appropriate monitoring, management and maintenance of mitigation measures are secured by the DCO for the timescale required for woodland habitats to mature?</p> <p>Arrangements for monitoring, managing and maintaining landscaping and ecology proposals will be detailed within the Landscape and Ecology Management Plans, to be submitted and approved by Crawley Borough Council (in consultation with other relevant planning authorities) in accordance with Requirement 8 of the <b>Draft DCO</b> (Doc Ref. 2.1 v6) and in substantial accordance with the <b>Outline Landscape and Ecology Management Plan</b> (oLEMP) (Doc Ref. 5.3 v3). Section 11 of the oLEMP details the key maintenance operations for specific landscape types and features, including those relevant to native woodland and buffer planting in Section 11.3, along with a typical programme for maintenance in Annex 1 and a maintenance schedule in Annex 2.</p> <p>Section 10 of the <b>oLEMP</b> (Doc Ref. 5.3 v3) submitted at Deadline 3 confirms the minimum duration of maintenance and management of planting (including woodland) as being 30 years from the date of completion of planting, which the relevant LEMP(s) must be in accordance with.</p>
EN.1.10	The Applicant	<p><b>Maintenance of Landscape Adopted by Highway Authorities</b></p> <p>Paragraph 9.1.1 of the Outline LEMP [APP-113] states that the landscape and ecological proposals that</p>

	RHAs	<p>form part of the adoptable highway will be adopted and maintained by the local highway authority or NH.</p> <p>Can the Applicant explain how the ongoing maintenance of these areas is secured in the dDCO? The RHAs may wish to comment</p> <p>A LEMP substantially in accordance with the <b>oLEMP</b> (Doc Ref. 5.3 v3) is required to be approved for each highway work in accordance with Requirement 8(1) of the <b>dDCO</b> (Doc Ref. 2.1). The undertaker must comply with the approved LEMPs under DCO Requirement 8(4). Should highway be adopted, the undertaker will retain this obligation under the DCO and would be responsible for reaching agreement with the relevant highway authority should such highway authority take over responsibility for the landscape maintenance. The Surface Access Corridor works specifically are set out in Section 4.7 of the oLEMP. Details of the timescales over which management/maintenance will be undertaken are set in Section 10 of the oLEMP. The details in the LEMPs must be substantially in accordance with this.</p> <p>These agreements are likely to be those secured under Articles 20 and 21 of the <b>draft DCO</b> (Doc Ref. 2.1 v6) in relation to local highway authorities and Schedule 9 in relation to National Highways. To ensure alignment, Requirement 8(2) requires CBC to consult the relevant highway authority (the local highway authority or National Highways as appropriate) prior to approving LEMPs relating to highway works.</p>
EN.1.11	NE RPAs	<p><b>Securing of Mitigation Measures</b></p> <p>Are NE and the RPAs satisfied that mitigation measures outlined in Table 9.8.1: Mitigation and Enhancement Measures of ES Chapter 9 [APP-034] are appropriately secured in the dDCO?</p>

		N/A – this question is not directed at the Applicant.
EN.1.12	The Applicant	<p><b>Light Spill from MSCP Y</b></p> <p>The proposed MSCP Y is directly adjacent to new woodland planting associated with the surface access works. Volume 5 of the DAS [APP-257] states that the façades of MSCPs will maintain open areas for natural ventilation and that in most locations there is not a need for additional cladding. There does not appear to be any information in the Operational Lighting Framework [APP-077] relating to controlling light spill from MSCPs.</p> <p>Given that reasons for the proposed woodland include to compensate for loss of existing habitat, provide nesting sites for breeding birds and to maintain connectivity for bats, can the Applicant:</p> <ol style="list-style-type: none"> <li>a) Explain whether light spill from the MSCP will impact the quality of the proposed woodland habitat; and</li> <li>b) Describe the measures that will be incorporated into the design to limit light-spill from MSCP Y.</li> </ol> <p>Measures to control lighting will be secured through DCO Requirement 4 (see <b>Design and Access Statement Appendix 1 – Design Principles</b> (Doc Ref. 7.3 v3). Design Principle LA11 is specific for bats – “LA11 Lighting will be designed to avoid disturbance to areas of value for bats by shielding adjacent habitats of value”. 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”.</p>

		<p>Designing lighting to this principle will prevent the quality of the proposed woodland habitat being impacted.</p> <p>Mutli-storey Car Park Y will be designed according to these Design Principles, secured by Requirement 4 of the <b>dDCO</b> (Doc Ref. 2.1). As such, light spill from the car park into adjacent habitats that could be of value to bats or breeding birds (which would include new planting along the proposed surface access works) will be avoided through design.</p>
EN.1.13	The Applicant	<p><b>Bat Roost Surveys</b></p> <p>In their LIR [REP1-097] the JSCs identify at paragraph 7.42 that no bat roost surveys of ‘high’ or ‘medium’ trees proposed for removal have been carried out to inform the baseline and impact assessment.</p> <p>Why have such surveys not been carried out? As this appears to be in contravention of policy, should the Order be granted, would surveys be carried out before construction commences?</p> <p>Surveys of trees for the presence of roosts of key woodland bat species formed part of the landscape-scale radio tracking study completed as part of the submission (<b>ES Appendix 9.6.3 Bat Trapping and Radio Tracking Surveys</b> [<a href="#">APP-131</a> and <a href="#">APP-132</a>]). No trees that are proposed for removal (based on the preliminary design work and removal plans) were found to support roosts of the woodland species (including Bechstein’s bat). In addition, the activity surveys undertaken to date found the vegetation along the A23 to be predominantly of low value to foraging and commuting bats compared to other parts of the Project site. The low numbers recorded suggest this does not constitute an important roost location for bats.</p> <p>Subject to the final detailed tree removal and protection plans being confirmed prior to construction</p>

		<p>commencing (through the Detailed Arboricultural and Vegetation Method Statements detailed in <b>CoCP Annex 6</b> (Doc Ref. 5.3)), further bat roost surveys will be carried out in accordance with paragraph 5.4.18 of <b>ES Appendix 5.3.2: Code of Construction Practice [REP1-021]</b>. As set out in Table 9.8.1 of <b>ES Chapter 9: Ecology and Nature Conservation [APP-034]</b>, mitigation for the loss of any roost would be determined post survey, depending on the type of roost located. Given the surveys completed to date, it is anticipated that any roosts that are located in this area will be of low conservation status (such as day roosts for commoner species). Mitigation for the loss of such roosts will be straight forward to accommodate within retained woodland</p>
EN.1.14	The Applicant	<p><b>Great Crested Newts</b></p> <p>In their LIR [REP1-097] the JSCs identify at paragraph 7.43 that a translocation exercise is required to mitigate for adverse impacts to populations of great crested newts.</p> <p>Explain how this would be undertaken and how it would be secured through the DCO.</p>
		<p>As set out in Table 9.8.1 of <b>ES Chapter 9: Ecology and Nature Conservation [APP-034]</b>, any translocation exercise would be undertaken under appropriate licence from Natural England, issued under the relevant legislation. As such, there is no requirement for such work to be secured through the DCO as it is subject to separate legal controls (see Table 2.2.1 in <b>List of Other Consents and Licences</b> (Doc Ref. 7.5 v2).</p>
EN.1.15	The Applicant	<p><b>Light-Sensitive Receptors</b></p> <p>The Statement of Common Ground between the Applicant and the EA [REP1-034] states that details</p>

		<p>identifying the light-sensitive receptors will be provided within the lighting strategies for both the construction and operational phases of the Project.</p> <p>Will these strategies be submitted into the Examination?</p> <hr/> <p>Construction lighting will be controlled via the Section 4.7 of the <b>Code of Construction Practice (CoCP)</b> [<a href="#">REP1-021</a>], secured via Requirement 7 of the <b>dDCO</b> (Doc Ref. 2.1), which includes details of light-sensitive receptors and the principles that must be followed to protect ecology. All construction activities must be carried out in accordance with the CoCP.</p> <p>Operational lighting forms part of the <b>Design Principles</b> for the Project (Design Principle LA9) (Appendix 1 to the <b>Design and Access Statement</b> (Doc Ref. 7.3 v3). This sets out that lighting in the vicinity of sensitive receptors should ensure that potential adverse effects are identified, controlled and mitigated. Mitigation should typically be provided in the form of lighting equipment utilising precise optics and lenses, baffles and light shields, in conjunction with a suitable lighting control regime. Individual habitat requirements may necessitate the specification of a particular lighting spectrum, however this should be proportionate and not at the expense of safety.</p> <p>It will be a requirement of the design for any phase of the development to accord with this Design Principle. As such, the presence of any light-sensitive receptors would be identified by the Project Ecologist during the design stage for that phase and any necessary mitigation included, as per the Design Principle. Detailed designs must be in accordance with the Design Principles under DCO Requirements 4 and 5.</p>
<p><b>ECOLOGY AND NATURE CONSERVATION: HABITATS REGULATIONS ASSESSMENT</b></p>		



EN.1.16	The Applicant	<p><b>Assessment of Effects on European Sites in 2029</b></p> <p>The Habitats Regulations Assessment Report (HRAR) [APP-134] paragraph 2.2.14 states that potential effects could arise as a result of the operation of the Proposed Development from 2029. However, no assessment of potential operational effects on the European sites considered is provided for 2029 as part of the HRAR.</p> <p>Could the Applicant provide such an assessment or explain the reason for this omission from the HRAR?</p> <hr/> <p>Paragraph 2.2.12 to 2.2.18 <b>Appendix 9.9.1: Habitat Regulations Assessment Report – Part 1</b> (Doc Ref. 5.3 v2) provides detail on the assessment years, 2032 and 2038 years were used to represent the anticipated worst-case scenario with respect to operational emissions resulting from the Project.</p> <p>The year 2032 was chosen as the initial assessment year given that it represents the year the highways works are assumed to have opened and the point at which traffic flows have increased most rapidly, therefore demonstrating the greatest changes to operational air quality. On the basis that 2032 presents a worst case scenario, the year 2029 was omitted from the HRA assessment.</p>
EN.1.17	The Applicant	<p><b>HRAR Assessment Periods</b></p> <p>It is noted that some of the assessment periods used for the HRAR [APP-134] do not overlap with the ES assessment period.</p> <p>Can the Applicant confirm which assessments from the ES have been relied upon for the HRAR.</p>

		<p>The assessment periods for the ES are set out in Section 6.3.11 of <b>ES Chapter 6: Approach to Environmental Assessment</b> <a href="#">[APP-031]</a>:</p> <ul style="list-style-type: none"> <li>• <i>2024 to 2029, representing the assumed initial construction period prior to opening of the altered northern runway;</i></li> <li>• <i>2029: represents the assumed opening year of the altered northern runway (and therefore the first point at which effects arising from its dual runway operation would occur);</i></li> <li>• <i>2032: an interim assessment year (and assumed surface access improvements opening year);</i></li> <li>• <i>2038: representing the assumed year in which the development works proposed as part of the Project would be completed; and</i></li> <li>• <i>2047: representing the long term forecast year and to meet a specific requirement of guidance in the Design Manual for Roads and Bridges to assess impacts 15 years after the last of the key highways works associated with the Project are due to be completed.</i></li> </ul> <p>The assessment periods used within the HRAR are set out in paragraph 2.2.12 <i>et seq.</i> of <b>ES Appendix 9.9.1 HRAR</b> (Doc Ref. 5.3 v2):</p> <p><i>Potential effects as a result of construction could arise from works taking place between 2024 and 2038, representing the indicative construction period for the Project.</i></p>
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		<p><i>Potential effects as a result of the operation of the Project could occur from 2029 (the assumed opening year) once the infrastructure necessary to start dual runway operations is complete.</i></p> <p><i>With respect to changes in operational air quality, 2032 is an interim assessment year as this is the year that the surface access improvements are anticipated to be fully operational and therefore represents the point at which traffic flows have increased most rapidly. Post 2032, the increase in traffic flows resulting from the Project is forecast to be much slower.</i></p> <p><i>A further assessment year for operational emissions (2038) has been included on the basis that this is the year in which the Project is anticipated to be fully operational. As such, the two assessment years (2032 and 2038) represent the anticipated worst-case scenario with respect to operational emissions resulting from the Project.</i></p> <p><i>A further assessment year is included in the Project ES as a long-term forecast year (2047). No specific air quality assessment on ecology receptors for 2047 has been completed as by this period it is anticipated that the vehicle fleet will be almost fully electrified. As such, the previous assessment years are considered to be the worst-case scenarios and any residual impacts still experienced in 2047 are considered to be no worse than those considered in 2038 and so no change to those assessment conclusions are likely from an ecological receptor air quality assessment perspective.</i></p> <p>As such, the assessment periods of both the ES and the HRAR are the same with the construction assessment period from 2024 to 2038 and operational assessment period from 2029 to 2047.</p>
EN.1.18	NE	<p><b>Future Decarbonisation of Vehicles</b></p> <p>Does NE agree with the Applicant’s assumptions in paragraphs 2.2.18 and 4.5.16 of the HRAR [APP-134]</p>

		that the future decarbonisation of vehicles would be such that any residual effects in 2047 would be no worse than in 2038? And does NE agree with how this has been accounted for in the assessment of operational emissions resulting from the Proposed Development?
		N/A - this question is not directed at the Applicant.
EN.1.19	The Applicant	<p><b>Ammonia Emissions</b></p> <p>It is noted that the HRAR [APP-134] paragraph 4.5.17 states that modelling of NH<sub>3</sub> emissions has been undertaken, which informs the Habitats Regulations Assessment (HRA) conclusions. No cross-reference to the data is provided in the HRAR or ES Chapter 13 [APP-038] and it does not appear to be contained in the application documents. Furthermore, the in-combination modelling results do not appear to be provided.</p> <p>Can the Applicant identify the location of this information within the application documents or provide the relevant data?</p> <p>Paragraph 4.5.28 of <b>ES Appendix 9.9.1: Habitat Regulations Assessment Report – Part 1</b> (Doc Ref. 5.3 v2) sets out the ammonia assessment methodology, agreed with Natural England during pre-submission discussions.</p> <p>Section 4 and 5 of <b>ES Appendix 9.9.1: Habitat Regulations Assessment Report – Part 1</b> (Doc Ref. 5.3 v2) sets out air quality impact of ammonia (NH<sub>3</sub>), including the contribution to nitrogen deposition, derived from both NO<sub>x</sub> and NH<sub>3</sub>.</p> <p><b>ES Appendix 9.9.1: Habitat Regulations Assessment Report – Part 2</b> (Doc Ref. 5.3 v2) sets out figures</p>

		with NH <sub>3</sub> results for all site assessed, for both the Project alone and cumulative scenarios.
EN.1.20	The Applicant	<p><b>Ebernoe Special Area of Conservation and The Mens Special Area of Conservation</b></p> <p>Air quality modelling data and figures have not been provided in relation to the Ebernoe Special Area of Conservation (SAC) and The Mens SAC and the omission is not explained in the HRAR [APP-134].</p> <p>Can the Applicant either provide the information or explain why it was considered unnecessary to provide it with the application?</p>
		<p>Impacts at The Mens and Ebernoe Common SACs were screened out on the basis that the SACs are located more than 20 km from the Project site and there is no potential for changes to vehicle emissions resulting from the operation of the Project. Further detail is provided in Paragraph 4.5.9 of <b>ES Appendix 9.9.1: Habitat Regulations Assessment Report – Part 1</b> (Doc Ref. 5.3 v2). Further detail is provided in Paragraph 4.5.9 of <b>ES Appendix 9.9.1: Habitat Regulations Assessment Report – Part 1</b> (Doc Ref. 5.3 v2).</p>
EN.1.21	The Applicant	<p><b>Annual Average Daily Traffic Numbers</b></p> <p>References are made in the HRAR [APP-134] to Annual Average Daily Traffic (AADT) being ‘low’, although what is considered to constitute low is not defined. Footnotes to the screening matrices contained in HRAR Annex 1 appear to reflect the approach that predicted changes in traffic numbers below 1000 AADT, together with changes in air quality that equate to less than 1% of the CLo/ Critical Levels (CLe), would not</p>

		<p>result in a Likely Significant Effect (LSE).</p> <p>Can the Applicant confirm the approach that was taken to the assessment?</p>
		<p>The approach to the screening of traffic numbers is set out in Paragraph 4.5.22 of <b>ES Appendix 9.9.1 HRAR – Part 1</b> (Doc Ref. 5.3 v2). AADT contributions were considered ‘low’ ‘<i>where the contribution from the Project is either so small such that it can properly be ignored or where it is negative (i.e. where the Project results in a redistribution of traffic flows away from a road link)</i>’. ‘Small’ was taken to be a change of &lt;30 AADT. This approach was agreed with Natural England during pre-submission discussions.</p>
EN.1.22	The Applicant	<p><b>In-Combination Assessment</b></p> <p>It is not explicitly stated in the HRAR [APP-134] whether the same short list of developments used for the Environmental Impact Assessment (EIA) cumulative assessment was used for the HRA in-combination assessment, nor is the extent of the in-combination study area(s) specified.</p> <p>Although it is concluded in the HRAR that there could be an in-combination LSE on a number of the European sites, the other plans and projects, which together with the Proposed Development could result in an LSE on a particular site, are not identified.</p> <p>The Applicant is asked to address these omissions.</p>
		<p>The <b>HRAR</b> (Doc Ref. 5.3 v2) explains that a detailed strategic traffic model has been created for the Project (see HRAR §4.5.10). <b>ES Chapter 12: Traffic and Transport</b> (Doc Ref. 5.1 v3) explains the approach to assessment of cumulative projects at paragraphs §12.11.4 to 12.11.6. <b>ES Chapter 12: Traffic</b></p>

		<p><b>and Transport</b> (Doc Ref. 5.1 v3) explains the approach to assessment of cumulative projects at paragraphs §12.11.4 to 12.11.6.</p> <p>In line with the Planning Inspectorate guidance in its Advice Note 17 (Planning Inspectorate, 2019), the cumulative traffic and transport effects are inherently included in the future baseline scenarios. The strategic highway modelling used for the ES includes background traffic growth based on TEMPro and National Traffic Forecast derived growth factors with adjustments to consider relevant local development. This includes the EIA developments listed in the Uncertainty Log contained in <b>Transport Assessment Annex B Strategic Transport Modelling Report</b> [APP-260]. Future year networks have been updated in consultation with National Highways and Local Authorities to reflect the committed schemes for which funding has been secured.</p> <p>As such, the same short list of developments was used for the HRAR as for the ES since the HRAR relies upon the traffic model generated for the ES.</p> <p>Consequently, the extent of the study area for in-combination LSE was the extent of the traffic model.</p>
EN.1.23	The Applicant	<p><b>Air Traffic Emissions</b></p> <p>The HRAR [APP-134] paragraph 4.1.1 identifies changes in air quality from emissions to air from both air traffic and surface access traffic as a potential impact pathway. However, no subsequent reference to air traffic is made in the HRAR.</p> <p>The Applicant is asked to explain this apparent omission.</p>

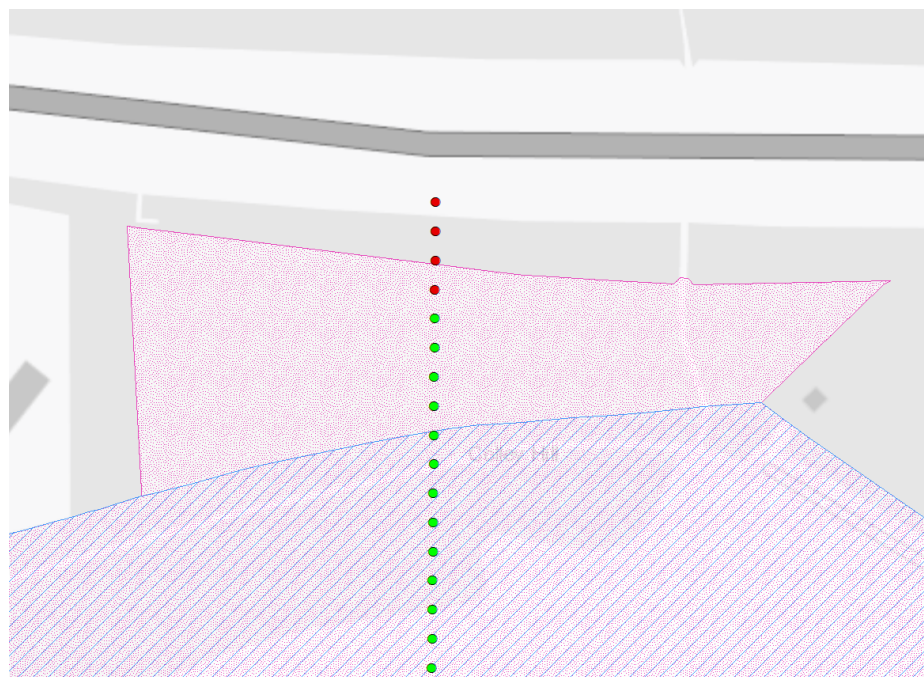
		The air quality data used for the HRA assessment (Doc Ref. 5.3 v2) includes an assessment of air quality impacts from all related sources including airport and non-airport related road traffic, aircraft and airport sources.
EN.1.24	The Applicant	<p><b>Errors in Cross-Referencing</b></p> <p>There appear to be a number of errors in the cross-referencing from the HRAR main text [APP-134] to the figures contained in Annex 7 [APP-135] which makes it difficult to relate the statements made in the HRAR to the supporting information.</p> <p>The Applicant is asked to provide an accurate list of the HRAR Annex 7 figures and correct the incorrect cross-referencing in the HRAR main text where necessary.</p>
		A revised version of the <b>HRAR</b> (Doc Ref. 5.3 v2) with any cross-referencing errors corrected has been submitted at Deadline 3.t
EN.1.25	The Applicant	<p><b>Mole Gap and Reigate Escarpment SAC and SSSI</b></p> <p>ES Appendix 13.9.1 Part 6 Table 2.5 (page 170) [APP-167] identifies a modelled exceedance in 2038 (for the Proposed Development alone) of the NO<sub>x</sub> CLe for the Mole Gap and Reigate Escarpment SSSI (ID Eco_263), which is a component of the Mole Gap and Reigate Escarpment SAC and appears to have the same boundary. However, no exceedance is predicted for the SAC (and it is concluded that there would not be an LSE).</p>



		Can the Applicant account for the difference between the results?
		<p>As set out in Paragraph 4.5.21 <i>et seq.</i> of the <b>HRAR</b> (Doc Ref. 5.3 v2), the screening criteria for a potential effect are not whether the total of any one pollutant exceeds the CLe/CLo, rather it is whether the change in concentration/deposition rate between the Do Minimum/Do MinimumHRA and the Do Something scenarios is greater than 1% of the CLe/CLo (note the exceedance needs to be &gt;1%, not ≥1%). As shown in the Table 2.5 referenced, the change at this location is 0.3µg.m<sup>-3</sup> or 1%. As such, effects from changes in NO<sub>x</sub> were screened out from further assessment.</p> <p>The draft <b>Statement of Common Ground between Gatwick Airport Limited and Natural England</b> [REP1-037] submitted at Deadline 1 records that Natural England has agreed that likely significant effects can be screened out with respect to the Mole Gap to Reigate Escarpment SAC (§2.8.3.1).</p>
EN.1.26	The Applicant	<p><b>In-Combination Effects at the Mole Gap to Reigate Escarpment SAC</b></p> <p>The HRAR [APP-134] paragraph 4.5.54 states that the modelling did not predict any exceedances of the in-combination CLe for NO<sub>x</sub> and NH<sub>3</sub> at the Mole Gap to Reigate Escarpment SAC in 2032. However, this is not clear from Figures 40 and 41, which appear to depict exceedances in some locations.</p> <p>The Applicant is asked to explain the discrepancy.</p> <p>As explained in paragraph 4.5.53 of the <b>HRAR</b> (Doc Ref. 5.3 v2), the traffic data for this SAC shows that for the majority of the links the Project’s contribution to traffic flows is negative, and so there is no possibility of an in-combination effect along these links. The one link that does experience an increase in traffic in the in-combination assessment is the M25. However, in this location the exceedances fall within the SSSI</p>

boundary and not within the SAC boundary, and the habitats for which the SAC is designated do not occur in this location in any case (for note, in most areas the SAC and SSSI boundaries overlap, however close review of Figures and 40 and 41, shows the area of the SAC by way of a blue hatching, and the SSSI by pink dots) (see **Figure 1** below).

**Figure 1 Mole Gap to Reigate Escarpment SAC and SSSI**



EN.1.27 NE

**Approach to Air Quality Assessment**

Can NE confirm that it agrees with the Applicant's approach to assessing air quality as set out in the HRA,

		including the assumptions that have been made by the Applicant in the assessment?
		N/A - this question is not directed at the Applicant.
EN.1.28	NE	<p><b>Conclusions of HRA</b></p> <p>Can NE confirm whether it agrees with the conclusions of the HRA?</p>
		N/A - this question is not directed at the Applicant.
EN.1.29	The Applicant	<p><b>In-Combination Effects of Traffic on the Ashdown Forest SAC and Special Protection Area</b></p> <p>In respect of potential In-Combination Effects (ICE) of operational traffic in 2038 on the Ashdown Forest SAC and Special Protection Area (SPA), HRAR [APP-134] paragraphs 4.5.57 – 4.5.58 state that an exceedance of 1% of the CLe/ CLo is predicted for all three pollutants. However, NH<sub>3</sub> is not taken forward on the basis that the locations on the exceedances are all “<i>within the road</i>” and none are present within the SAC/ SPA habitats. This is not apparent from HRAR Figure 47 [APP-135], and it is not indicated if this approach has been agreed with NE.</p> <p>The Applicant is asked to explain the discrepancy.</p>
		The B2026 is obscured in the Figure by the assessment layers overlaid upon it, but to confirm the

		<p>exceedances lie within this road. The approach to assessment and the conclusions reached within the HRAR have been agreed with Natural England. The Draft <b>Statement of Common Ground between Gatwick Airport Limited and Natural England</b> [REP1-037] submitted at Deadline 1 records that Natural England has agreed that Ashdown Forest should be taken forward to Appropriate Assessment on air quality grounds, but that an adverse effect on the integrity of the protected site can be ruled out (§2.8.3.2).</p>
EN.1.30	The Applicant	<p><b>ICE of Traffic on the Mole Gap to Reigate Escarpment SAC</b></p> <p>In relation to potential ICE of operational traffic in 2038 on the Mole Gap to Reigate Escarpment SAC, HRAR paragraph 4.5.60 concludes that as the contribution of the Proposed Development to traffic flows is negative for the majority of road links there is no possibility of ICE along these links, and reference is made to HRAR Figure 10. However, that figure relates to 2032. HRAR Figure 26 appears to be the correct figure, however the information depicted therein does not reflect the above statement. HRAR para 4.5.15 states that the ICE assessment is based on the ‘Do Something’ scenario minus the ‘Do Minimum HRA’ scenario. The negative AADT figures (all links apart from the M25) presented on Figure 26 relate to the assessment alone, ie ‘Do Something’ minus ‘Do Minimum’. The in-combination figures (titled ‘Diff (Cumulative’)) are all positive. In addition, it is not identified in the HRAR main text whether any exceedances of the pollutant CLe/ CLo were predicted.</p> <p>Can the Applicant explain this discrepancy and any implications it has for the assessment?</p>
		<p>Paragraph 4.5.60 should refer to Figure 26. This has been corrected in the Deadline 3 submission of the <b>HRAR</b> (Doc Ref. 5.3 v2).</p> <p>With respect to the conclusions of that paragraph, the DMHRA assessment represents a future baseline</p>

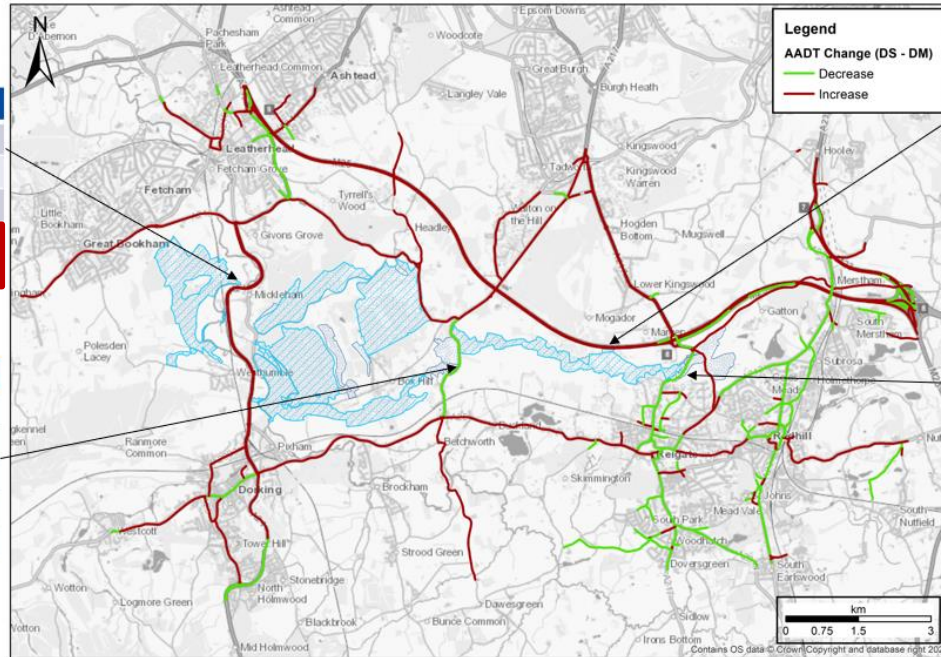
		<p>with growth from local plans and projects within 10km of the protected site removed, but includes projected background traffic growth from local plans and projects beyond 10km and Gatwick "business as usual" demand (see Habitats Regulations Assessment Report (HRAR) §4.5.11 (APP-134)).</p> <p>The test DS-DMHRA is always therefore likely to be positive due to this background growth on the road network. Where the contribution of the Project to total flows is negative (as represented by the DS-DM assessment) there is no possibility of an effect arising from the Project on these links as concluded in the HRAR §4.5.60 [APP-134].</p> <p>The Draft <b>Statement of Common Ground between Gatwick Airport Limited and Natural England</b> [<a href="#">REP1-037</a>] submitted at Deadline 1 records that Natural England has agreed that likely significant effects can be screened out with respect to the Mole Gap to Reigate Escarpment SAC (§2.8.3.1).</p> <p>On the basis that there was no possibility of an effect due to the negative traffic flows from the Project, exceedances of the pollutant CLe/CLo were not considered further.</p>
EN.1.31	The Applicant	<p><b>Changes in AADT</b></p> <p>In several of the HRA figures contained in HRAR Annex 7 [APP-135] the 'Diff (Main)' number equates to the 'Do Something' vehicle number minus the 'Do Minimum' vehicle number; and the 'Diff (Cumulative)' number equates to the 'Do Something' number minus the 'Do Minimum HRA' number (appearing consistent with the approach to the ICE assessment set out in HRAR paragraph 4.5.15). However, the opposite applies in other figures (and also to different roads within the same figure in some instances), ie the Diff (Main) number equates to the 'Do Something' number minus the 'Do Minimum HRA' number and the Diff (Cumulative) number equates to the 'Do Something' number minus the 'Do Minimum' number.</p>

		<p>Can the Applicant explain this discrepancy and any implications it has for the assessment?</p> <p>The Applicant confirms that the traffic data used in the air quality modelling is consistent with the approach set out in Paragraph 4.5.15 of HRAR (Doc Ref. 5.3 v2).</p> <p>The HRA figures contained within <b>HRAR Annex 7</b> (Doc Ref. 5.3 v2) have been reviewed with respect to changes in AADT assessed in the air quality modelling. Errors have been identified in reporting difference values in Figure 10 for A24 and Figure 22 for Windsor Road. The corrected numbers have been provided below, highlighted by a red box at <b>Figure 2</b> and <b>Figure 3</b> below. The discrepancy in the figure values does not have any implications on the data used for the HRA assessment or on the conclusions reported.</p>
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**Figure 2 A24**

A24	
DM	29,902
DMHRA	30,827
DS	30,856
Diff (Main)	954
Diff (Cumulative)	29

B2032	
DM	15,883
DMHRA	15,290
DS	15,838
Diff (Main)	-45
Diff (Cumulative)	548



M25	
DM	197,657
DMHRA	197,073
DS	200,320
Diff (Main)	2,663
Diff (Cumulative)	3,247

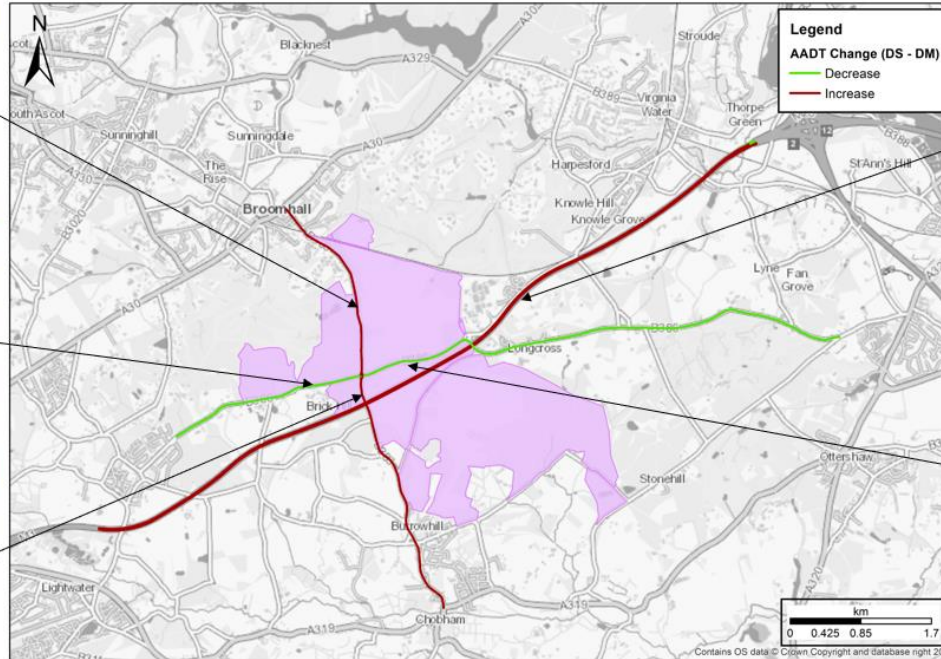
A217	
DM	25,636
DMHRA	23,862
DS	25,215
Diff (Main)	-421
Diff (Cumulative)	1,353

**Figure 3 Windsor Road**

Chobham Road	
DM	24,407
DMHRA	23,764
DS	24,414
Diff (Main)	7
Diff (Cumulative)	650

B386 (west)	
DM	9,426
DMHRA	8,501
DS	9,410
Diff (Main)	-16
Diff (Cumulative)	909

Windsor Road	
DM	21,771
DMHRA	23,593
DS	23,679
Diff (Main)	1,908
Diff (Cumulative)	86



M3	
DM	183,314
DMHRA	180,634
DS	183,803
Diff (Main)	489
Diff (Cumulative)	3,169

B386 (east)	
DM	18,172
DMHRA	17,087
DS	18,119
Diff (Main)	-53
Diff (Cumulative)	1,032