

Date: 21 August 2023
Registration identification no: 20039412
Our ref: 434394
Your ref: **TR020001**



The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol, BS1 6PN

LutonAirport@planninginspectorate.gov.uk

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear Jo Dowling

NSIP Reference Name / Code: TR020001
User Code: 20039412

Written Representations

Examining authority's submission deadline 1 with a date of 22 August 2023

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

For any further advice on this consultation please contact the case officer Alison Collins and copy to consultations@naturalengland.org.uk.

Yours sincerely

Dr Alison Collins MCIEEM

West Anglia Team

WRITTEN REPRESENTATION

PART I: Summary and Conclusions of Natural England's advice.
PART II: Natural England's detailed advice (starting at page 14)
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Appendix B: Letters of No Impediment for bats and badger

Natural England's Written Representations

Part I: Summary and Conclusions of Natural England's advice .

Summary of Natural England's Advice

We require further information in order to evaluate the potential impacts arising from the application on the special qualities of the Chilterns Area of Outstanding Natural Beauty (AONB) and we are in the process of reviewing the applicant's proposed methodology for this assessment. We would like to see clarification of the information on best and most versatile (BMV) soils; the applicant has provided us with further details but these did not fully address our request. However, we expect that these issues can be resolved satisfactorily. We have received additional information to verify the air quality impacts on nationally designated sites scoped in to the assessment and we have no further concerns regarding the impact of the proposed development on SSSIs. We have received draft protected species licence applications for bats and badger and have now issued Letters of No Impediment. We have made further advisory comments on Biodiversity Net Gain and Green Infrastructure. We agree with the conclusions of the Habitats Regulations Assessment.

1.1. Part I of these written representations provides a summary (above) and overall conclusions of Natural England's advice. This advice identifies whether any progress in resolving issues has been made since submission of our relevant representations (**RR – 1080**). Our comments are set out against the following sub-headings which represent our key areas of remit as follows:

- International designated sites
- Nationally designated sites
- Protected species
- Biodiversity net gain
- Nationally designated landscapes
- Soils and best and most versatile agricultural land
- Ancient woodland and ancient/veteran trees
- Other valuable and sensitive habitats and species
- Access and green infrastructure

1.2. Our comments are flagged as red, amber or green:

- Red are those where there are fundamental concerns which it may not be possible to overcome in their current form
- Amber are those where further information is required to determine the effects of the project and allow the Examining Authority to properly undertake its task and or advise that

further information is required on mitigation/compensation proposals in order to provide a sufficient degree of confidence as to their efficacy.

- Green are those which have been successfully resolved (subject always to the appropriate requirements being adequately secured)

Internationally designated sites

1.3. Natural England's position regarding internationally designated sites **has not** changed since submission of our Relevant Representations (**RR-1080**).

1.4. **Our position regarding impacts on internationally designated sites is as set out in our Relevant Representation (RR – 2.1); see below:**

Natural England is satisfied that the proposed development is not likely to result in significant effects on the [Chilterns Beechwoods Special Area of Conservation \(SAC\)](#). Due to the distance between the application site and the Chilterns Beechwoods SAC, there is unlikely to be a significant effect arising from air quality changes at the internationally designated site due to increased aircraft movements or vehicle emissions either alone or in combination with other plans and projects. In addition, there are no other likely impact pathways to notified features, e.g. hydrological changes.

Nationally designated sites

1.5. Natural England's position regarding nationally designated sites **has** changed since submission of our Relevant Representations [RR-1080].

1.6. **Our updated advice regarding impacts on nationally designated sites on the basis of further information submitted is set out below:**

The applicant has supplied us with a detailed breakdown of the air quality assessment which was carried out for the five Sites of Special Scientific Interest (SSSIs) which were scoped in to the assessment. Following receipt of this information (see Appendix A), we are satisfied that the application will not have an adverse impact on the interest features of nationally designated sites.

Protected species

1.7. Natural England's position regarding European protected species **has** changed since submission of our Relevant Representations [**RR-1080**].

1.8. **Our updated advice regarding impacts on protected species on the basis of further information submitted is set out below:**

Natural England has received draft protected species licence applications for review. We have issued Letters of No Impediment (LoNIs) with caveats for bats and badger (see Appendix B).

Biodiversity Net Gain Provision

1.9. Natural England's position regarding provision of biodiversity net gain **has not** changed since submission of our Relevant Representations [**RR-1080**]. As BNG is pre-mandatory, we are not able to require specific measures. However, there are some aspects of the BNG proposals that we wish to provide additional advice on.

- 1.10. **Our position regarding Biodiversity Net Gain is as set out in our Relevant Representation (4.3 – 4.9). Further detail on our reasoning to support our relevant representation is set out below:**
- 1.11. Natural England’s main area of concern relates to the feasibility of some of the proposed habitats. This specifically relates to the creation of other neutral grassland at “good condition” where there is an element of public access, proposed woodland creation/enhancement, as well as proposed high/very high distinctiveness habitats. Where “good condition” other neutral grassland habitats include public access, we would advise that the condition scores are downgraded to a more realistic condition. This is due to potential impacts from visitor pressure, differences in soil fertility, as well as uncertainties in the provision of seed sources/green hay and hydrology.
- 1.12. The applicant needs to provide further justification for their proposed condition scores, as well as more detail regarding measures to manage and mitigate impacts from visitors (where relevant). In particular this should include:
- Proposed other neutral grassland (“good condition”) habitats within areas of public access
 - Proposed woodland creation/enhancement
 - Proposed high/very high distinctiveness habitats (e.g. lowland meadows and lowland calcareous grassland)
- 1.13. Rather than simply listing the condition criteria in the report, the applicant should provide additional detail as to how each criterion will be met. This should take into account other environmental constraints including but not limited to: public access, proposed management regime, soils and hydrology. Additional detail should be provided to outline how impacts from visitor pressure will be managed where applicable. For example, impacts from trampling and compaction are likely to affect the levels of physical damage, bare ground cover, as well as the type and number of species per m² (and may also increase the risk of sub-optimal indicators listed in the footnotes of the condition criteria). The outline management plan should go into greater detail regarding the proposed management of these habitats – e.g. seed mix, management prescriptions, cutting regime. The illustrations from the strategic masterplan suggest a country park in character, with open access for a range of different users. It will be challenging to achieve “good condition” other neutral grassland with this level of access.
- 1.14. Where there are uncertainties in habitat proposals, a precautionary approach should be taken. Principle 4 of CIEEM’s Good Practice Principles for development states the following:
- Principle 4. Address risks Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.*
- 1.15. The user guide for Metric 3.1 makes it clear that habitat interventions need to be realistic, specifically Principle 6:
- Principle 6: The metric is designed to inform decisions, not to override expert opinion. Management interventions should be guided by appropriate expert ecological advice and not just the biodiversity unit outputs of the metric. Ecological principles still need to be applied to ensure that what is being proposed is realistic and deliverable based on local conditions such as geology, hydrology, nutrient levels, etc. and the complexity of future management requirements.*

- 1.16 We have also highlighted the following guidance from the Metric 3.1 User Guide (Section 6.16-6.18) in relation to woodland creation/enhancement. Natural England advises that the condition scoring for proposed woodland creation is therefore reviewed and updated in line with this guidance.

6.16. Within the biodiversity metric 3.1 the time taken for a newly created woodland to reach 'good' condition is 30+ years for all woodland habitat types, as 'Woodland and forest' habitats take a long time to develop structural complexity. Woodland types of high distinctiveness are also difficult to establish (and are attributed a 'high' difficulty for creation). These risks can result in low biodiversity unit scores being generated when selecting high distinctiveness woodlands for creation.

6.17. The majority of newly created woodland associated with projects and developments would be classified as 'other woodland; broadleaved' or 'other woodland; mixed'. These have a lower risk of delivery (and are attributed 'low' difficulty for creation).

6.18. If a high distinctiveness woodland type is being lost a 'like for like' replacement must be provided, (i.e. the 'other' woodland types are not an option). In these situations, you should aim to replicate the species composition and structure of the particular woodland type that is being lost, but target a realistic condition that can be achieved within in the timeframe of the net gain delivery. This may be limited to poor condition, as a newly planted high distinctiveness woodland would be unlikely to exceed this within 30 years).

- 1.17 The habitat proposals also include the creation of "high" and "very high" distinctiveness habitats at good condition such as lowland calcareous grassland and lowland meadows. Again, additional detail should be provided as to how this will be achieved. Please refer to the following guidance from Metric 3.1:

Note: when determining target habitat types for creation and enhancement it's crucial that the site conditions are suitable to support the target habitat. Additional information may be requested of a project to evidence the land suitability, this is particularly important to include for the creation/enhancement of Priority Habitats (high – very high distinctiveness habitats) which are often more difficult to create.

- 1.18 For higher distinctiveness habitats there is an increased delivery risk where habitats may fail to meet the required target condition within the desired timeframe. Although this delivery risk is reflected within the metric scores, we would advise the applicant to clearly set out contingency measures in the event that habitats do not develop as expected. Detailed monitoring and adaptive management will be critical to ensure the success of any habitat creation/enhancement. Habitat design and management should also take into account, and be resilient to, the impacts of climate change and include natural solutions/measures to alleviate this where appropriate, e.g., through carbon sequestration, natural flood/surface water management, urban cooling and provision of SUDs. Part 4 of the Climate Change Adaptation Manual provides information and examples of climate change adaptation via green infrastructure: [Climate Change Adaptation Manual](#). The BNG proposals must be realistic, deliverable and enforceable within the 30 year period, and should be secured through the DCO, should consent be issued.

- 1.19 Additional comments made during the Relevant Representations stage have been provided below for clarity:

4.4. Natural England notes that the applicant is targeting a 10% biodiversity net gain for the proposals and this is welcomed. However, the Oxcam Arc Principles (download.php (semlep.com)) set out an aspiration for a 20% uplift for NSIPs. Therefore given the scale of the project, Natural England encourages the applicant to consider a more ambitious target that delivers significant gains for nature. We also note that habitats will be managed for 50 years, which is supported. We recommend consideration of a 60 year

period for management as this would provide a potential opportunity for a second 30 year uplift for biodiversity net gain, provided additional enhancements were achievable. This could ensure longer-term management of habitats and greater gains for biodiversity.

4.7. We note that individual trees were not considered within the BNG calculations. The Urban Tree Calculator should be used to assess individual trees that do not contribute towards the definition of another broad habitat type (e.g. woodland) so that they are adequately factored into the overall assessment of net gain. Please refer to section 8.3 of the Metric User Guide for further information.

4.8. Natural England also advises that further detail is provided within the proposals to justify the following:

- The process and reasoning for assigning “medium strategic significance” to relevant habitats.
- Further detail regarding creation and enhancement measures for proposed habitats, and the reasoning behind the selection of either approach.
- How the orchid translocation and the areas of high invertebrate interest have been accounted for within the BNG calculations.
- Clarity on the functionality of smaller habitat parcels. This should take into account guidance within the Metric User Guide (provided below).

4.9. Specific guidance from the Metric User Guide regarding smaller habitat parcels:

Principle 8: The metric does not enforce a mandatory minimum 1:1 habitat size ratio for losses and compensation but consideration should be given to maintaining habitat extent and habitat parcels of sufficient size for ecological function.

Nationally designated landscapes

1.20 Natural England’s position regarding nationally designated landscapes **has not** changed since submission of our Relevant Representations [RR-1080].

1.21 **Our position regarding nationally designated landscapes is as set out in our Relevant Representations (4.10 – 4.22) and Table 1. However, we have recently received a proposed methodology for carrying out an assessment of how the development scheme would affect the special qualities of Chilterns AONB which is being reviewed by our specialists. Further detail on our reasoning to support our relevant representation is set out in our Written Representation Part II.**

| Table 1: Potential impact on nationally designated landscapes | | | |
|---|---|---|---|
| Site name and link to current adopted management plan and, if relevant, more recent emerging plan | Special qualities for which NE has outstanding concerns | Potential Impacts where further info/assessment is required | Risk rating: red/amber/green and reference to key issue ref in part II. |
| Chilterns AONB | (a) <i>Relative tranquillity and peace on the</i> | Increased air traffic over the AONB and its setting | Amber |

| | | | |
|---|---|---|-------|
| Chilterns AONB Management Plan Chilterns AONB | <i>doorstep of ten million people, one of the most accessible protected landscapes in Europe; relatively dark skies, of great value to human and wildlife health; unspoilt countryside, secret corners and a surprising sense of remoteness</i> | <p>has been identified as having a significant adverse effect on the perception of tranquillity. Mitigation/compensation measures should be duly considered.</p> <p>Increased road traffic generated by the airport expansion scheme could lead to an increase of traffic on minor roads in nearby parts of the AONB. This displaced traffic could impact on the relative tranquillity of the AONB and require interventions to enable those minor lanes to carry that traffic safely. This aspect should be included in the assessment and mitigation/compensation measures duly considered.</p> | |
| | <i>(b) Panoramic views from and across the escarpment interwoven with intimate dipslope valleys and rolling fields.</i> | <p>The existing airport is a prominent feature in views from much of the surrounding area and is also visible from long distance views from the Chilterns AONB. An assessment of the impact of the proposed development on this special quality should be provided.</p> | Amber |

Our Relevant Representation is given below:

Assessing effects on the special qualities of the AONB

- 1.22 The LVIA should be supported by an assessment of how the scheme, both in its construction and operational phases, would impact on the defined special qualities of the AONB. These are presented in the AONB's statutory management plan. Natural England advises that a significant adverse impact on a special quality of the AONB would impact on the area's capacity to deliver its statutory purpose.
- 1.23 The special qualities most likely to be directly affected by this scheme are:
- *Relative tranquillity and peace on the doorstep of ten million people, one of the most accessible protected landscapes in Europe; relatively dark skies, of great value to human and wildlife health; unspoilt countryside, secret corners and a surprising sense of remoteness*

- *Panoramic views from and across the escarpment interwoven with intimate dipslope valleys and rolling fields.*

1.24 We cannot say definitively whether the other special qualities presented in the AONB management plan could be affected and the Chilterns Conservation Board may have a view on this.

The core LVIA methodology

1.25 The LVIA methodology correctly assigns a very high value to the AONB, however, it only rates the sensitivity of receptors within the AONB as 'high' rather than very high. It would be helpful to have the process and application of professional judgement used to justify this separately explained, along with consideration of whether and how an increased sensitivity would affect any of the conclusions.

Increased air traffic over the AONB

1.26 We note that the LVIA identifies significant effects from increased air traffic over the designated landscape for the operational phase of the scheme, but that no mitigation is proposed. The table on page 22 of document 5.02 Appendix 14.4 Detailed Landscape Impact, identifies a moderate adverse (which is rated significant) residual effect from aircraft movements on the aesthetic or perceptual characteristics of the landscape within the Chilterns AONB.

1.27 We appreciate that landscape consultants are not necessarily able to consider and model alternative uses of airspace across the AONB (and therefore more widely across the east and south-east of England) to relieve pressure on the AONB. This is, however, a potential mitigation measure which the applicant should be required to address. Whilst alternatives may prove unworkable for air safety and practical operational reasons the need to explore such potential mitigation measures is fully justified by the designation status of the Chilterns AONB.

1.28 In relation to air traffic, we would like to know on what basis a flight level of below 7,000 ft above mean sea level has been selected for considering effects on tranquillity within the Chilterns AONB.

Road traffic impacts

1.29 Increased road traffic generated by the airport expansion scheme could lead to an increase of traffic on minor roads in nearby parts of the AONB. This could be local traffic and drivers 'in the know' displaced onto more minor routes and using rat runs to escape more heavily trafficked main roads. This displaced traffic could impact on the relative tranquillity of the AONB and create pressures for more road signage, lighting, kerbing and other interventions to enable those minor lanes to carry that traffic safely. That road engineering would alter the character of those lanes and the character of the landscapes they sit within. It would be helpful to know whether this scenario has been considered by the applicant and their consultants.

Chilterns AONB Boundary Review

1.30 The proposed NSIP is located within a proposed area of search which Natural England is considering as a possible boundary variation to the Chilterns Area of Outstanding Natural Beauty (AONB). Although the assessment process does not confer any additional planning protection, the impact of the proposal on the natural beauty of this area may be a relevant matter in the determination of the development proposal. Natural England considers the Chilterns to be a valued landscape in line with paragraph 174 of the National Planning Policy Framework (NPPF). Furthermore, paragraph 176 of the NPPF states that development in the settings of AONBs should be sensitively located and designed to avoid or minimise impacts on the

designated areas. An assessment of the landscape and visual impacts of the proposal on this area should be undertaken, with opportunities taken to avoid or minimise impacts on the landscape and secure enhancement opportunities. Any infrastructure development should reflect or enhance the intrinsic character and natural beauty of the area and be in line with relevant National Policy Statements and development plan policies.

- 1.31 An extension to an existing AONB is formally designated once a Variation Order, made by Natural England, is confirmed by the Defra Secretary of State. Following the issue of the designation order by Natural England, but prior to confirmation by the Secretary of State, any area that is subject to a Variation Order would carry great weight in decisions on planning and infrastructure proposals. For more information about the boundary review process, please read these [Frequently Asked Questions](#).

Soils and best and most versatile agricultural land

- 1.32 Natural England's position regarding soils and the best and most versatile agricultural land **has not** changed since submission of our Relevant Representations [RR-1080]. We have been supplied with additional information but this has not addressed our request satisfactorily.
- 1.33 **Our position regarding soils and best and most versatile agricultural land is as set out in our Relevant Representation (4.23 – 4.31). Further detail on our reasoning to support our relevant representation is set out in our Written Representation Part II. Our Relevant Representation is given below:**
- 1.34 The Agricultural Land Classification (ALC) figures for the Main Application Site have been derived from a combination of site-specific ALC and Soil Resource Surveys, and Post-1988 ALC surveys. The ALC figures for the Off-Site Highways Area have been derived from Provisional ALC mapping, assuming all mapped Grade 3 is Subgrade 3a. Assuming that the Provisionally mapped ALC Grade 3 land is BMV makes it impossible to provide an accurate baseline and demonstrate the likely potential impacts. So, whilst this may make the mitigation precautionary, it means that the project is unable to show how it avoids impacts to BMV soils nor inform the design of potential mitigation to safeguard the soil resources.
- 1.35 The proposals set out that of the 57.6 ha of BMV agricultural land, 5.1 ha will be permanently developed; and a further 27 ha will be subject to land use change to woodland or scrub and assessed as a permanent loss of agricultural land in Phase 1. In Phase 2a, a further 17.6 ha of BMV land will be permanently developed. As a result, 22.7 ha of BMV would be irreversibly lost as a result of permanent land take and a further 27 ha being taken out of agricultural use for forestry.

Agricultural Land Quality and Farm Holdings

- 1.36 In addition to the permanent land use change, a further 28.5 ha (27 and 1.5 ha in Phase 1 and 2a, respectively) of BMV land will be subject to a change from intensive agricultural to less-intensive grassland and assessed as a temporary loss of agricultural land. Chapter 6 states that the soil profiles to be permanently converted from arable production to neutral grassland/neutral meadow grassland will remain intact and their physical properties, including ALC Grade will be unchanged. We advise that the applicant should provide simple land take breakdowns for each phase and component. For example, total agricultural area impacted by scheme (split by scheme phase and by ALC grade), and total BMV agricultural area permanently and temporarily required for the development (split by phase).

- 1.37 The assessment provided in Chapter 6 takes account of loss of BMV and impact to the soil resources from a soil resilience perspective. We agree with the general conclusion that effects on BMV would be moderate adverse (significant). Natural England recommends that the agricultural land and soils are assessed in line with the IEMA (2021) Guidelines: '*A New Perspective on Land and Soil in Environmental Impact Assessment*' (2022). The soil assessment should be updated following correction for site specific soil horizon depths (topsoil and subsoil).
- 1.38 Soil volumes presented in Chapter 6 are based on a 25 cm depth of topsoil and 25 cm depth of subsoil. Soil depths should be informed by the site specific soil resource surveys presented in Appendices 6.2 – 6.5, and subsoils would be expected to be deeper than 25 cm. The soil profile specifications are discussed in Appendix 8.2 Outline Landscape and Biodiversity Management Plan (oLBMP). A soil balance should be prepared and presented to clearly identify the surplus of different soil types and identify opportunities for the sustainable re-use of this resource on site. We advise that the applicant should provide simple soil volume breakdowns for each phase and soil type. For example, total soil volume impacted by scheme (split by scheme phase and by soil type). The balance (soil re-use and surplus) should be consistent with the proposals set out in the oLBMP. Natural England welcomes that Soil Resource Surveys have been undertaken across the site. This site specific information should inform the soil and agricultural land EIA presented in Chapter 6, split by Phase, soil type and soil horizon (topsoil / subsoil). We have requested further information from the applicant and we are currently reviewing this with specialists.

Outline Soil Management Plan

- 1.39 Soil is a finite resource which plays an essential role within sustainable ecosystems, performing an array of functions supporting a range of ecosystem services, including storage of carbon, the infiltration and transport of water, nutrient cycling, and provision of food. It is recognised that a proportion of the agricultural land will experience temporary land loss. In order to both retain the long term potential of this land and to safeguard all soil resources as part of the overall sustainability of the whole development (during construction and decommissioning), it is important that the soil is able to retain as many of its many important functions and services (ecosystem services) as possible through careful soil management and appropriate soil use, with consideration on how any adverse impacts on soils can be avoided or minimised.
- 1.40 Natural England welcomes the preparation of an Outline Soil Management Plan (oSMP) with reference made to the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Natural England also welcome that a detailed Soil Management Plan will be produced by the Contractor post consent as secured through Development Consent Order (DCO), which will be in accordance with the oSMP. The SMP needs to be clearer that the aim is for BMV agricultural land subject to temporary development or a change in land use, will to be returned to, or retain, its original land quality. For example, this could be actioned by a target specification for the restored soils according to location and soil types, end use and required ALC grade. In addition to the target specification, a monitoring and aftercare plan should be detailed to confirm the target ALC grade is achieved, or retained, to ensure no loss of BMV land. Given the fine texture of the topsoil (clay and silt), the loose-tipping method is the preferred method for soil handling so to minimise any damage to the soil resource. To avoid risk of soil damage and compaction, bulldozers should not normally be employed for soil stripping or replacement for soils being reused. Soil stockpiles should not exceed 3m in height for topsoils and 5m for subsoils. Although it is sensible to include the reconditioning methodology and the separate handling and storage methodology of soils which may be plastic, every effort should be made to avoid this scenario. Decompaction must be undertaken when the soils are dry and friable (Section 5.11). The target specification for the restored soils for each intended end-use should be clearly set out in the oSMP, with required soil volumes.

- 1.41 We advise that if the development proceeds, the developer uses an appropriately experienced soil specialist to advise on, and supervise, soil handling, including identifying when soils are dry enough to be handled and how to make the best use of the different soils on site. All soils should only be handled in a dry and friable condition, and it is expected that soil handling will be confined to the drier summer period to minimise risk of soil damage (April through September). Soil handling methods should normally be as specified as in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (including accompanying Toolbox Talks).

Ancient woodland and ancient/veteran trees

- 1.42 Natural England's position regarding ancient woodland and ancient/veteran trees **has not** changed since submission of our Relevant Representations [RR-1080].
- 1.43 **Our position regarding ancient woodland and ancient/veteran trees is as set out in our Relevant Representation (2.12); see below:**
- 1.44 Natural England and the Forestry Commission have produced [standing advice](#) for planning authorities in relation to ancient woodland and ancient/veteran trees. We note that ancient woodland habitats may be impacted by construction dust (where they are within 200m of the construction area) and subject to increased air pollution. We support the relevant representations made by Forestry Commission, including recommendations to plant a buffer strip between the car park and the Winchill Wood Ancient Woodland due to the potential for noise, light and dust pollution and measures to safeguard ancient woodland affected by works at the A1081 roundabout.

Other valuable and sensitive habitats and species

- 1.45 Natural England's position regarding **has not** changed since submission of our Relevant Representations [RR-1080].
- 1.46 **Our position regarding priority habitats and species is as set out in our Relevant Representation (2.13 – 2.15); see below:**
- 1.47 We note that the development will result in almost the entire loss (93%) of Wigmore Park County Wildlife Site (CWS) and loss of habitat at Dairyborn Scarp District Wildlife Site (DWS) (20%) and Luton Parkway Verges DWS (37%).
- 1.48 Priority habitats and species are of particular importance for nature conservation and are included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. There will be impacts on priority habitats and species, including arable field margins, lowland calcareous grassland, hedgerows, lowland mixed deciduous woodland and certain invertebrates (i.e. picture-winged fly *Ulidiidae sp*, the set-aside downy-back beetle *Ophonus laticollis* and the dingy skipper butterfly *Erynnis tages*). We ask that representations from any appropriate non-statutory organisations are taken into account with regard to these aspects. Your authority has a [duty](#) to have regard to conserving biodiversity as part of your decision making. Conserving biodiversity can also include restoration or enhancement to a population or habitat. Further information is available [here](#).
- 1.49 Natural England would like to re-iterate the importance of the mitigation hierarchy, to prioritise avoidance of ecological impact on sites of local/regional value for biodiversity. Robust evidence

needs to be provided to demonstrate that avoidance measures are not deliverable and that proposed mitigation will minimise impacts and harm/disturbance to priority habitats. Any compensation measures that are required as a result of unavoidable impact must be adequate, robust and deliverable in a suitable and timely manner.

- 1.50 We advise that representations from Environment Agency are taken into account for any water-dependant priority habitats and species that might be affected.

Access and green infrastructure

- 1.51 Natural England's position regarding access and green infrastructure **has not** changed since submission of our Relevant Representations **[RR-1080]**.
- 1.52 **Our position regarding access and green infrastructure is as set out in our Relevant Representation (2.16 – 2.20). Further detail on our reasoning to support our relevant representation is set out below:**
- 1.53 Natural England is aware of two large, proposed developments that are adjacent to the airport proposals. This includes Land to the East of Luton which has been allocated as a strategic housing site in Cockernhoe for 2,100 homes within North Hertfordshire District Council's Local Plan (Sites EL1, EL2 and EL3), as well as Land North East of Wandon End (Ref: 22/03231/FP) which is an application for a Solar Farm.
- 1.54 The Order Limits of the Airport proposals appear to overlap with the Solar Farm application and Natural England would therefore like to see more detail regarding the long-term management of proposed off-site hedgerow restoration. Currently there is uncertainty as to how this would be achieved.
- 1.55 Opportunities should be sought to link GI provision between these developments to maximise gains for people and nature, and improve connectivity. The design of the replacement open space provision should aim to improve connections with the wider landscape, as well as existing access routes such as the Chiltern Way, in particular opportunities should be investigated to provide off road walking and cycling routes. Opportunities should be taken to reflect and / or enhance local landscape character, drawing on the baseline evidence and recommendations contained within the relevant Landscape Character Assessments (LCAs) and National Character Profile (NCA). Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.
- 1.56 Natural England's [Green Infrastructure Framework](#) provides evidence-based advice and tools on how to design, deliver and manage green infrastructure (GI) and is a useful resource for informing GI provision within the proposals. GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all. GI provision should enhance ecological networks, support ecosystems services and connect as a living network at local and regional scales.
- 1.57 Development should be designed to meet the [15 Green Infrastructure Principles](#). The Green Infrastructure Standards can be used to inform the quality, quantity and type of green infrastructure to be provided. The proposals should have a GI plan including a long-term delivery and management plan. Strong community engagement regarding the design of the replacement open space provision is also encouraged to maximise its value for the local community.

Natural England's overall conclusions

- 1.58 The main issue raised by this application is the lack of information that we require in order for us to make an evaluation of the impact of the proposal on protected landscapes and best and most versatile (BMV) soils in accordance with our statutory remit. We would like to see an assessment of the potential impacts on the special qualities of the Chilterns AONB and a consideration of possible mitigation measures for loss of tranquillity; we are now in the process of reviewing the applicant's proposed methodology for this assessment. We have reviewed the further information that has been provided on best and most versatile soils but it did not address our request satisfactorily. We have reviewed the further information that has been provided regarding air quality impacts for nationally designated sites and have no further concerns. We have received draft protected species licence applications for bats and badger and have provided the applicant with Letters of No Impediment. We have provided some additional advisory notes on the assessment of Biodiversity Net Gain and Green Infrastructure.

Natural England's Written Representations

Part II: Natural England's detailed advice

Part II of these representations updates and where necessary augments Part II of the Relevant Representations. It expands upon the detail of all the significant issues ('red' and 'amber' issues) which, in our view remain outstanding and includes our advice on pathways to their resolution where possible. Part II also shows 'green' issues which have been agreed since our Relevant Representations (**RR-1080**) (subject always to the appropriate requirements being secured adequately).

Natural England will continue engaging with the applicant to seek to resolve these concerns throughout the examination. Natural England advises that the matters indicated as 'red' and 'amber' will require consideration by the Examining Authority during the examination.

Natural Englands Written Representations, Part II, Table 2

| Table 2: Natural England's detailed advice | | | | | | |
|--|---|---|--|--|--|------------------------------|
| NE key issue ref (cite ref in Relevant Rep) | Topic | Issue summary (C) – construction phase (O) – operational phase | NE commentary and advice on further details about the project to enable assessment or further evidence/assessment work required | NE comment on mechanism for securing resolution, e.g. mitigation/compensation | Matters that must be secured in the DCO | Risk Red/Amber/ Green |
| International designated sites | | | | | | |
| | Chilterns Beechwoods SAC | O | No further information required | n/a | n/a | Green |
| National designated sites | | | | | | |
| | Dallow Downs and Winsdon Hill SSSI; Cowslip | O | No further information required. Natural England considers that further information provided on | n/a | n/a | Green |

| | | | | | | |
|--|--|-------|--|---|---|-------|
| | Meadow SSSI; Wain Wood SSSI; Galley and Warden Hills SSSI; Smithcombe, Sharpenhoe and Sundon Hills SSSI | | air quality changes demonstrates that there is unlikely to be an adverse impact on the interest features of SSSIs scoped in to the assessment. | | | |
| Protected Species | | | | | | |
| | Bats Badger | C | No further information required. Natural England has issued LONIs (with caveats) for those protected species requiring licences following the grant of permission. Should a licence subsequently be found to be required for Roman snail, we are content with the mitigation strategy provided and see no impediment to issuing a licence. | The applicant will be required to amend certain details as advised by Natural England when a full licence application is submitted. | Mitigation measures for protected species | Green |
| Biodiversity net gain (Advisory only) | | | | | | |
| | | C & O | Natural England requests further justification as to why the condition scores have been chosen, as well as more detail regarding measures to manage and mitigate impacts from visitors (where relevant). In particular this should include: •Proposed other neutral grassland ("good condition") habitats within areas of public access •Proposed woodland creation/enhancement | Agreed Biodiversity Metric calculation | | Amber |

| | | | | | | |
|--|--|--|---|--|--|-------|
| | | | <ul style="list-style-type: none"> Proposed high/very high distinctiveness habitats (e.g. lowland meadows and lowland calcareous grassland) | | | |
| | | | The applicant should provide additional detail as to how each condition criterion will be met. | Agreed Biodiversity Metric calculation | | Amber |
| | | | The Urban Tree Calculator should be used to assess individual trees that do not contribute towards the definition of another broad habitat type (e.g. woodland) so that they are adequately factored into the overall assessment of net gain. | Agreed Biodiversity Metric calculation | | Amber |
| | | | <p>Natural England also advises that further detail is provided within the proposals to justify the following:</p> <ul style="list-style-type: none"> The process and reasoning for assigning “medium strategic significance” to relevant habitats. Further detail regarding creation and enhancement measures for proposed habitats, and the reasoning behind the selection of either approach. How the orchid translocation and the areas of high invertebrate interest have been accounted for within the BNG calculations. Clarity on the functionality of smaller habitat parcels. This should take into account | Agreed Biodiversity Metric calculation | | Amber |

| | | | | | | |
|--|----------------|---|--|--|--|-------|
| | | | guidance within the Metric User Guide. | | | |
| National designated landscapes | | | | | | |
| | Chilterns AONB | 0 | Assessment of the impact on the special qualities of Chilterns AONB. | The need to explore potential mitigation measures is fully justified by the designation status of the Chilterns AONB. | Agreed strategy for the implementation of any reasonably practicable identified mitigation and monitoring measures within a Landscape Management Plan. | Amber |
| | | | The LVIA methodology correctly assigns a very high value to the AONB it only rates the sensitivity of receptors within the AONB as 'high' rather than very high. | It would be helpful to have the process and application of professional judgement used to justify this separately explained, along with consideration of whether and how an increased sensitivity would affect any of the conclusions. | | Amber |
| | | | In relation to air traffic, we would like to know on what basis a flight level of below 7,000 ft above mean sea level has been selected for considering effects on tranquillity within the Chilterns AONB. | | | Green |
| Soils and Best and Most Versatile Agricultural Land | | | | | | |
| | | | We advise that the applicant should provide simple land take breakdowns for each phase and component. For example, total agricultural area impacted by scheme (split by scheme phase and by Agricultural Land Classification (ALC) grade), and | | | Amber |

| | | | | | | |
|---|--|--|--|--|-----------------------------|-------|
| | | | total BMV agricultural area permanently and temporarily required for the development (split by phase). | | | |
| | | | A soil balance should be prepared to clearly identify the surplus of different soil types and identify opportunities for the sustainable re-use of this resource on site. We advise that the applicant should provide simple soil volume breakdowns for each phase and soil type. For example, total soil volume impacted by scheme (split by scheme phase and by soil type). The balance (soil re-use and surplus) should be consistent with the proposals set out in the outline Landscape and Biodiversity Management Plan (oLBMP). | | | Amber |
| | | | The Soil Management Plan (SMP) needs to be clearer that the aim is for BMV agricultural land subject to temporary development or a change in land use, to be returned to, or retain, its original land quality. | | Agreed Soil Management Plan | Amber |
| Ancient Woodland and Ancient/Veteran Trees (Advisory only) | | | | | | |
| | | | Ancient woodland habitats may be impacted by construction dust and subject to increased air pollution. We support the representations made by Forestry Commission, including recommendations to plant a | | | Green |

| | | | | | | |
|--|--|--|---|--|--|-------|
| | | | buffer strip between the car park and the Winchill Wood Ancient Woodland due to the potential for noise, light and dust pollution and measures to safeguard ancient woodland affected by works at the A1081 roundabout. | | | |
| Other valuable and sensitive habitats and species (Advisory only) | | | | | | |
| | | | There will be impacts on priority habitats and species, including arable field margins, lowland calcareous grassland, hedgerows, lowland mixed deciduous woodland and certain invertebrates (i.e. picture-winged fly, the set-aside downy-back beetle and the dingy skipper butterfly). We ask that representations from any appropriate non-statutory organisations are taken into account with regard to these aspects. We advise that representations from Environment Agency are taken into account for any water-dependant priority habitats and species that might be affected. | | | Green |
| Access and green infrastructure (Advisory only) | | | | | | |
| | | | The Order Limits of the Airport proposals appear to overlap with a nearby Solar Farm application and we want to see more detail regarding the long-term management of proposed off-site hedgerow restoration. | | | Green |
| | | | Opportunities should be sought to link GI provision between adjacent developments to | | | Green |

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | <p>maximise gains for people and nature, and improve connectivity. The design of the replacement open space provision should aim to improve connections with the wider landscape, as well as existing access routes such as the Chiltern Way, in particular opportunities should be investigated to provide off road walking and cycling routes. Opportunities should be taken to reflect and / or enhance local landscape character, drawing on the baseline evidence and recommendations contained within the relevant Landscape Character Assessments (LCAs) and National Character Profile (NCA). Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.</p> | | | |
|--|--|--|--|--|--|--|

Natural England's Written Representations

PART III: Natural England's detailed comments on the Development Consent Order (DCO) and associated documents

Part III of these representations provides Natural England's detailed comments on the Development Consent Order.

| Page | DCO ref | Natural England's comments | Risk (Red/Amber/Green) |
|------|---------|--|------------------------|
| 60 | 8(2) | We support the requirement that no part of the development must be carried out until a (h) dust management plan and a (j) soils management plan have been approved in writing by the relevant planning authority. | Green |
| 60 | 9 | We support the requirement that no part of the development containing landscaping mitigation may commence until a landscaping scheme has been submitted to and approved in writing by the relevant planning authority. | Green |
| 61 | 10 | We support the requirement that no part of the development may commence until a landscape and biodiversity management plan must be submitted and approved in writing by relevant planning authority | Green |
| 61 | 11 | We support the requirement that no part of the development may commence until final pre-construction survey work is required to establish whether a European or national protected species is present or likely to be affected by the development and a scheme of mitigation measures has been submitted and approved by the relevant planning authority or, where appropriate, a licence has been granted by Natural England. | Green |
| | | | |

Natural England's Written Representations Appendices

Appendix A Air Quality Data for SSSIs (supplied by applicant)



Technical Note

| | |
|----------------|--|
| Project title | Luton Airport DCO |
| Job number | 295919-00 |
| File reference | |
| cc | |
| Prepared by | Arup – air quality |
| Date | July 2023 |
| Subject | Natural England – air quality at SSSIs |

8 Fitzroy Street London W1T 4BJ United Kingdom
t +44 20 7636 1531 d 02077555111
arup.com

1. Introduction

This note presents the air quality data requested by Natural England which underlies the conclusion regarding five Sites of Special Scientific Interest (SSSIs) on page 167 of the submitted Biodiversity Chapter 8 of the Environmental Statement (now AS-027 of examination library) which include nitrogen oxides (NO_x) concentrations, ammonia (NH₃) concentrations, nitrogen deposition kgN/ha/yr and annual average daily traffic (AADT) data.

2. NO_x Concentrations

The NO_x concentrations for the SSSIs in the assessed Do-Minimum (DM) and Do-Something (DS) scenarios are shown in Table 1. The contribution of the scheme does not exceed 1% of the critical level (the threshold for determining a contribution as imperceptible) at any of these SSSIs, and with the exception of Dallow Downs & Winsdon Hill SSSI the critical level is not forecast to be exceeded in any future year.

Table 1: NOx concentrations

| SSSI | ID | Relevant habitat at the ID point | CL | DM (µg/m³) | | | | | DS (µg/m³) | | | | | DS-DM (µg/m³) | Difference exceeds 1% of CL? | Difference expressed as % of CL |
|--|------|----------------------------------|----|------------|----------------------|------------------------------|----------------------------------|-------|----------------------|------------------------------|----------------------------------|-------|------|---------------|------------------------------|---------------------------------|
| | | | | Background | Aircraft and airport | Airport-related road traffic | Non-airport related road traffic | Total | Aircraft and airport | Airport-related road traffic | Non-airport related road traffic | Total | | | | |
| 2027 | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 30 | 12.48 | 0.14 | 1.86 | 32.79 | 47.30 | 0.16 | 2.11 | 32.55 | 47.30 | 0.00 | No | 0.0% | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 30 | 12.04 | 0.23 | 0.40 | 6.62 | 19.30 | 0.27 | 0.44 | 6.61 | 19.40 | 0.10 | No | 0.3% | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 30 | 10.89 | 0.09 | 0.60 | 13.83 | 25.40 | 0.11 | 0.67 | 13.83 | 25.50 | 0.10 | No | 0.3% | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 30 | 11.76 | 0.15 | 0.10 | 3.12 | 15.10 | 0.17 | 0.12 | 3.09 | 15.10 | 0.00 | No | 0.0% | |
| Wain Wood SSSI | E122 | Woodland | 30 | 10.91 | 0.21 | 0.02 | 0.23 | 11.40 | 0.25 | 0.02 | 0.23 | 11.40 | 0.00 | No | 0.0% | |
| 2039 | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 30 | 12.04 | 0.13 | 1.05 | 22.92 | 36.10 | 0.20 | 1.41 | 22.56 | 36.20 | 0.10 | No | 0.3% | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 30 | 11.60 | 0.22 | 0.23 | 4.38 | 16.40 | 0.33 | 0.20 | 4.43 | 16.60 | 0.20 | No | 0.7% | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 30 | 10.50 | 0.09 | 0.33 | 9.38 | 20.30 | 0.14 | 0.45 | 9.29 | 20.40 | 0.10 | No | 0.3% | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 30 | 11.34 | 0.14 | 0.06 | 2.10 | 13.60 | 0.22 | 0.05 | 2.12 | 13.70 | 0.10 | No | 0.3% | |
| Wain Wood SSSI | E122 | Woodland | 30 | 10.51 | 0.20 | 0.01 | 0.16 | 10.90 | 0.31 | 0.02 | 0.16 | 11.00 | 0.10 | No | 0.3% | |
| 2043 | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 30 | 12.04 | 0.13 | 0.97 | 21.77 | 34.90 | 0.24 | 1.42 | 21.49 | 35.20 | 0.30 | No | 1.0% | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 30 | 11.60 | 0.22 | 0.18 | 4.11 | 16.10 | 0.40 | 0.19 | 4.04 | 16.20 | 0.10 | No | 0.3% | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 30 | 10.50 | 0.09 | 0.30 | 8.91 | 19.80 | 0.16 | 0.47 | 8.66 | 19.80 | 0.00 | No | 0.0% | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 30 | 11.34 | 0.14 | 0.05 | 1.99 | 13.50 | 0.26 | 0.04 | 1.98 | 13.60 | 0.10 | No | 0.3% | |
| Wain Wood SSSI | E122 | Woodland | 30 | 10.51 | 0.20 | 0.01 | 0.15 | 10.90 | 0.38 | 0.02 | 0.15 | 11.10 | 0.20 | No | 0.7% | |

3. NH₃ Concentrations

The NH₃ concentrations for the SSSIs in the assessed Do-Minimum (DM) and Do-Something (DS) scenarios are shown in Table 2. All NH₃ is derived from road traffic. The contribution of the scheme does not exceed 1% of the critical level at any of these SSSIs for all assessment years, except for at Dallow Downs and Winsdon Hill SSSI in 2043. Note that Dallow Downs and Winsdon Hill is designated as a SSSI for calcareous grassland (and great pignut) according to the SSSI citation. According to mapping on www.magic.gov.uk the nearest calcareous grassland is 300m from the M1 at its closest. Therefore, the designated interest feature of the SSSI is beyond the affected area. Also note that the assessment has been precautionary in using the lowest available ammonia critical level of 1 µg/m³ for all five SSSIs. This critical level is appropriate for sites with diverse lichen and bryophyte flora. However, there is no indication from any of the SSSI citations that a diverse lichen and bryophyte flora is actually present in the affected area.

Table 2: NH₃ concentrations

| SSSI | ID | Relevant habitat at the ID point | CL | DM (µg/m ³) | | | DS (µg/m ³) | | | DS-DM (µg/m ³) | Difference exceeds 1% of CL? | Difference expressed as % of CL |
|--|------|----------------------------------|----|------------------------------|----------------------------------|-------|------------------------------|----------------------------------|-------|----------------------------|------------------------------|---------------------------------|
| | | | | Airport-related road traffic | Non-airport related road traffic | Total | Airport-related road traffic | Non-airport related road traffic | Total | | | |
| 2027 | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 1 | 0.16 | 2.84 | 2.99 | 0.18 | 2.82 | 2.99 | 0.00 | No | 0.0% |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 1 | 0.04 | 0.69 | 0.74 | 0.05 | 0.69 | 0.74 | 0.00 | No | 0.3% |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 1 | 0.06 | 1.46 | 1.52 | 0.07 | 1.46 | 1.53 | 0.01 | No | 0.7% |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 1 | 0.01 | 0.33 | 0.34 | 0.01 | 0.32 | 0.33 | 0.00 | No | -0.3% |
| Wain Wood SSSI | E122 | Woodland | 1 | 0.00 | 0.02 | 0.03 | 0.00 | 0.02 | 0.03 | 0.00 | No | 0.0% |
| 2039 | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 1 | 0.14 | 3.01 | 3.16 | 0.20 | 2.96 | 3.16 | 0.00 | No | 0.2% |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 1 | 0.04 | 0.67 | 0.71 | 0.03 | 0.68 | 0.71 | 0.00 | No | 0.3% |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 1 | 0.05 | 1.47 | 1.52 | 0.07 | 1.46 | 1.53 | 0.00 | No | 0.3% |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 1 | 0.01 | 0.32 | 0.33 | 0.01 | 0.32 | 0.33 | 0.00 | No | 0.1% |
| Wain Wood SSSI | E122 | Woodland | 1 | 0.00 | 0.02 | 0.03 | 0.00 | 0.02 | 0.03 | 0.00 | No | 0.1% |
| 2043 | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 1 | 0.13 | 2.81 | 2.94 | 0.19 | 2.77 | 2.97 | 0.02 | Yes | 2.3% |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 1 | 0.03 | 0.62 | 0.64 | 0.03 | 0.60 | 0.63 | -0.01 | No | -1.1% |
| SSSI | ID | Relevant habitat at the ID point | CL | DM (µg/m ³) | | | DS (µg/m ³) | | | DS-DM (µg/m ³) | Difference exceeds 1% of CL? | Difference expressed as % of CL |
| | | | | Airport-related road traffic | Non-airport related road traffic | Total | Airport-related road traffic | Non-airport related road traffic | Total | | | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 1 | 0.05 | 1.36 | 1.41 | 0.07 | 1.32 | 1.40 | -0.01 | No | -1.1% |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 1 | 0.01 | 0.30 | 0.30 | 0.01 | 0.30 | 0.30 | 0.00 | No | 0.0% |
| Wain Wood SSSI | E122 | Woodland | 1 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.02 | 0.00 | No | 0.1% |

4. Nitrogen Deposition (derived from both NO_x and NH₃)

The nitrogen deposition for the SSSIs in the assessed Do-Minimum (DM) and Do-Something (DS) scenarios are shown in Table 3. A net reduction in nitrogen deposition is forecast across the assessment period (e.g. a net improvement of 1.79 kgN/ha/yr at Dallow Downs and Winsdon Hill SSSI from 2027 to 2043), even allowing for cumulative traffic growth for all SSSIs, except Wain Wood SSSI where there is no change in the forecasted nitrogen deposition across the assessment period. The contribution of the scheme is either imperceptible (less than 1% of the CL) or slightly positive, except at Dallow Downs SSSI in 2043. Even there, the forecast impact is small (2% of the CL) and well below the DMRB threshold ([LA 105 - Air quality \(standardsforhighways.co.uk\)](#)) of 0.4 kgN/ha/yr for concluding an adverse botanical impact would arise. Moreover, the impact on Dallow Downs and Winsdon Hill SSSI is modelled for the closest habitat to the M1 (woodland). However, Dallow Downs and Winsdon Hill is designated as a SSSI for calcareous grassland (and great pignut) according to the SSSI citation. According to mapping on [www.magic.gov.uk](#) the nearest calcareous grassland is 300m from the M1 at its closest. Therefore, the designated interest feature of the SSSI is beyond the affected area.

Table 3: Nitrogen deposition

| SSSI | ID | Relevant habitat at the ID point | CL | DM (kgN/ha/yr) | | | | | DS (kgN/ha/yr) | | | | | DS-DM (kgN/ha/yr) | Difference exceeds 1% of CL? | Difference expressed as % of CL | Exceeds DMRB threshold of 04kgN/ha/yr? |
|--|------|----------------------------------|----|----------------|----------------------|------------------------------|----------------------------------|-------|----------------------|------------------------------|----------------------------------|-------|-------|-------------------|------------------------------|---------------------------------|--|
| | | | | Background | Aircraft and airport | Airport-related road traffic | Non-airport related road traffic | Total | Aircraft and airport | Airport-related road traffic | Non-airport related road traffic | Total | | | | | |
| 2027 | | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 10 | 35.70 | 0.02 | 1.55 | 27.97 | 65.24 | 0.03 | 1.76 | 27.77 | 65.26 | 0.02 | No | 0.2% | No | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 10 | 20.86 | 0.02 | 0.26 | 4.31 | 25.45 | 0.03 | 0.28 | 4.30 | 25.48 | 0.03 | No | 0.3% | No | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 10 | 33.46 | 0.02 | 0.62 | 14.21 | 48.31 | 0.02 | 0.69 | 14.21 | 48.39 | 0.08 | No | 0.8% | No | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 10 | 19.32 | 0.02 | 0.07 | 2.04 | 21.44 | 0.02 | 0.08 | 2.01 | 21.43 | -0.01 | No | -0.1% | No | |
| Wain Wood SSSI | E122 | Woodland | 10 | 32.06 | 0.05 | 0.02 | 0.24 | 32.37 | 0.06 | 0.02 | 0.24 | 32.38 | 0.01 | No | 0.1% | No | |
| 2039 | | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 10 | 35.70 | 0.03 | 1.33 | 28.00 | 65.06 | 0.04 | 1.80 | 27.55 | 65.09 | 0.03 | No | 0.3% | No | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 10 | 20.86 | 0.02 | 0.21 | 4.00 | 25.09 | 0.04 | 0.18 | 4.04 | 25.12 | 0.03 | No | 0.3% | No | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 10 | 33.46 | 0.02 | 0.49 | 13.54 | 47.51 | 0.03 | 0.65 | 13.40 | 47.54 | 0.03 | No | 0.3% | No | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 10 | 19.32 | 0.02 | 0.05 | 1.91 | 21.30 | 0.02 | 0.04 | 1.93 | 21.31 | 0.01 | No | 0.1% | No | |
| Wain Wood SSSI | E122 | Woodland | 10 | 32.06 | 0.05 | 0.02 | 0.23 | 32.35 | 0.07 | 0.02 | 0.23 | 32.38 | 0.03 | No | 0.3% | No | |
| 2043 | | | | | | | | | | | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | E60 | Woodland | 10 | 35.70 | 0.03 | 1.22 | 26.29 | 63.24 | 0.05 | 1.79 | 25.93 | 63.47 | 0.23 | Yes | 2.3% | No | |
| Cowslip Meadows SSSI | E67 | Lowland neutral grassland | 10 | 20.86 | 0.03 | 0.16 | 3.67 | 24.72 | 0.05 | 0.17 | 3.60 | 24.68 | -0.04 | No | -0.4% | No | |
| 2043 | | | | | | | | | | | | | | | | | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | E71 | Lowland calcareous grassland | 10 | 33.46 | 0.02 | 0.42 | 12.62 | 46.52 | 0.04 | 0.68 | 12.26 | 46.43 | -0.09 | No | -0.9% | No | |
| Galley & Warden Hills SSSI | E109 | Lowland calcareous grassland | 10 | 19.32 | 0.02 | 0.04 | 1.77 | 21.15 | 0.03 | 0.04 | 1.77 | 21.16 | 0.01 | No | 0.1% | No | |
| Wain Wood SSSI | E122 | Woodland | 10 | 32.06 | 0.05 | 0.02 | 0.21 | 32.33 | 0.09 | 0.02 | 0.21 | 32.38 | 0.05 | No | 0.5% | No | |

Note: The 'Aircraft and airports' portion only include contribution from NOx, whereas the 'Airport-related road traffic' and 'Non-airport related road traffic' portions include contribution from NOx and NH3.

5. AADT Traffic Data


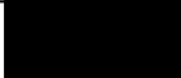
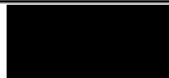
The traffic data for the road links adjacent to the SSSIs in the assessed Do-Minimum (DM) and Do-Something (DS) scenarios are shown in Table 4. For all SSSIs and all assessment years, there is an increase in AADT numbers between DM and DS which correspond with increases in NOx concentrations and nitrogen deposition with a few exceptions. For Dallow Downs and Winsdon Hill SSSI in 2027 and Cowslip Meadows SSSI in 2039, the AADT decreases but NOx concentrations and nitrogen deposition increases. This is explained by increase the fleet mix with more heavy duty vehicles (HDV) in the DS scenario, leading

to an overall increase in road traffic emissions and therefore increases in NOx concentration and nitrogen deposition. For Cowslip Meadows SSSI and Smithcombe, Sharpenhoe and Sundon Hills SSSI in 2043, nitrogen deposition decreases between DM and DS despite increases in AADT and NOx concentrations. This is explained by the decrease in contribution of ammonia which is calculated from NOx concentrations using the National Highways Ammonia tool, leading to an overall decrease in nitrogen deposition. There is no traffic data available for Wain Wood SSSI as it is not located adjacent to any modelled roads as part of the assessment. The closest modelled road is located approximately 2km west from Wain Wood SSSI.

Table 4: AADT data

| SSSI | DM | | | DS | | | DS-DM |
|--|------------------------------|----------------------------------|---------|------------------------------|----------------------------------|---------|-------|
| | Airport related road traffic | Non-airport related road traffic | Total | Airport related road traffic | Non-airport related road traffic | Total | |
| 2027 | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | 8,020 | 148,087 | 156,106 | 9,014 | 147,087 | 156,101 | - 5 |
| Cowslip Meadows SSSI | 1,124 | 19,008 | 20,132 | 1,217 | 18,959 | 20,176 | 43 |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | 2,044 | 47,569 | 49,613 | 2,282 | 47,625 | 49,908 | 295 |
| Galley & Warden Hills SSSI | 584 | 22,807 | 23,391 | 649 | 22,861 | 23,510 | 119 |
| Wain Wood SSSI | - | - | - | - | - | - | - |
| 2039 | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | 7,812 | 164,683 | 172,495 | 10,577 | 162,054 | 172,631 | 136 |
| Cowslip Meadows SSSI | 1,054 | 20,401 | 21,455 | 818 | 20,586 | 21,404 | - 51 |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | 1,908 | 54,239 | 56,147 | 2,564 | 53,738 | 56,302 | 155 |
| Galley & Warden Hills SSSI | 511 | 25,405 | 25,915 | 143 | 25,538 | 25,681 | - 234 |
| Wain Wood SSSI | - | - | - | - | - | - | - |
| 2043 | | | | | | | |
| Dallow Downs and Winsdon Hill SSSI | 7,971 | 168,386 | 176,357 | 11,664 | 165,769 | 177,432 | 1,076 |
| Cowslip Meadows SSSI | 877 | 20,823 | 21,699 | 846 | 20,909 | 21,755 | 55 |

| SSSI | DM | | | DS | | | DS-DM |
|--|------------------------------|----------------------------------|--------|------------------------------|----------------------------------|--------|-------|
| | Airport related road traffic | Non-airport related road traffic | Total | Airport related road traffic | Non-airport related road traffic | Total | |
| Smithcombe, Sharpenhoe and Sundon Hills SSSI | 1,834 | 55,945 | 57,779 | 3,028 | 55,354 | 58,382 | 603 |
| Galley & Warden Hills SSSI | 335 | 26,230 | 26,564 | 126 | 26,288 | 26,413 | - 151 |
| Wain Wood SSSI | - | - | - | - | - | - | - |

| | Prepared by | Checked by | Approved by |
|-----------|---|--|---|
| Name | Tiffany Cheung | James Bellinger | Chris Stocks |
| Signature |  |  |  |

Appendix B Letters of No Impediment for bats and badger

Date: 02 August 2023
Our ref: DAS 415965
**LONDON LUTON AIRPORT EXPANSION
PROJECT NSIP**



NSIP Reference Code: TR020001

Steven Mills
Senior Ecologist, Arup
[REDACTED]@arup.com
The Arup Campus, Blythe Valley Business Park,
Solihull, B90 8AE, United Kingdom

Sent by e-mail only

Dear Steven

| |
|--|
| <p>DRAFT MITIGATION LICENCE APPLICATION STATUS: INITIAL DRAFT APPLICATION LEGISLATION: THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (as amended) NSIP: London Luton Airport Expansion Project Development Consent Order SPECIES: Bat <i>Pipistrellus pipistrellus</i></p> |
|--|

Thank you for your draft bat mitigation licence application in association with the above NSIP site, received in this office on the 11 July 2023. As stated in our published guidance, once Natural England is content that the draft licence application is of the required standard, we will issue a 'letter of no impediment'. This is designed to provide the Planning Inspectorate and the Secretary of State with confidence that the competent licensing authority sees no impediment to issuing a licence in future, based on information assessed to date in respect of these proposals.

Assessment

Following our assessment of the submitted draft application documents, I can now confirm that, on the basis of the information and proposals provided, Natural England sees no impediment to a licence being issued, should the DCO be granted.

However, please note the following issues have been identified within the current draft of the Method Statement and Application Form that will need to be addressed before the licence application is formally submitted. Our wildlife adviser, Cara Doyle, discussed this matter with Steven Mills via e-mail correspondence on the 31 July 2023 where it was confirmed that the necessary amendments would be made. Please do ensure that the Method Statement and Application Form is revised to include these changes prior to formal submission. These include:

Ecologist Experience:

In the formal licence application please provide further examples of mitigation licences held by the named ecologist, as the current example does not include relevant species or roost numbers. If the named ecologist does not have further mitigation licences, then references can be provided to show their experience.

Surveys:

It was stated that additional surveys will be conducted following the same methodology should the DCO be granted which Natural England is satisfied with. However, please see the following comments relating to the surveys that would need to be addressed in the formal licence application:

- The updated surveys must be within the last 2 survey periods of the works beginning to ensure the roost characterisation is correct and adequately compensated.
- The updated surveys should be carried out throughout the active period (March-November) to provide correct roost characterisation and use throughout the year.
- The updated surveys should be carried out at the correct temperature and in suitable weather conditions, as per the BCT guidelines, as it was noted previous surveys had the limitations of colder temperatures and unsuitable weather conditions.

Should roost types not currently listed be characterised by updated surveys then the mitigation for the roosts lost, damaged or disturbed will need to be adjusted to ensure the roost type and species are provided for.

It was noted that previous surveys discovered Brown Long-eared bats in Winch Hill Wood roost. Please ensure this species is included in the Method Statement and Application Form when submitting the full application.

Mitigation:

There is the mention of mitigation for connectivity lost in section E of the Method Statement, but this is not included in section E3.4 which specifies this is where the mitigation for connectivity lost should be explained. It is advised that any mitigation for connectivity lost is included in section E3.4.

Figures:

Figure C5b Survey Area: Please provide the location of surveyors and show their field of view of the surveyed structures in the formal licence application.

Figure E3 Specification for mitigation compensation: Please provide the location of the bat boxes in the formal licence application.

Figure E4 Monitoring, management and maintenance map: Please provide the locations and monitoring for the bat boxes in the formal licence application.

Next Steps

Should the DCO be granted then the mitigation licence application must be formally submitted to Natural England and necessary changes made. At this stage any modifications to the timings of the proposed works, e.g. due to ecological requirements of the species concerned, must be made and agreed with Natural England before a licence is granted. Please note that there will be no charge for the formal licence application determination, should the DCO be granted, or the granting of any licence.

If other minor changes to the application are subsequently necessary, e.g. amendments to the work schedule/s then these should be outlined in a covering letter and must be reflected in the formal submission of the licence application. These changes must be agreed by Natural England before a licence can be granted. If changes are made to proposals or timings which do not enable us to meet reach a 'satisfied' decision, we will issue correspondence outlining why the proposals are not acceptable and what further information is required. These issues will need to be addressed before any licence can be granted.

Full details of Natural England's licensing process with regards to NSIP's can be found at the following link:

http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/Images/wml-g36_tcm6-28566.pdf

As stated in the above guidance note, I should also be grateful if an open dialogue can be maintained with yourselves regarding the progression of the DCO application so that, should the Order be granted, we will be in a position to assess the final submission of the application in a timely fashion and avoid any unnecessary delay in issuing the licence.

Please contact me if you have any queries.

Yours sincerely

Cara Doyle

Tel: [REDACTED]

E-mail: [REDACTED]@[naturalengland.org.uk](http://www.naturalengland.org.uk)

Date: 01 August 2023
Our ref: DAS 415965
(NATIONALLY SIGNIFICANT INFRASTRUCTURE
PROJECT)



Steven Mills
Senior Ecologist, Arup
[REDACTED]@arup.com
The Arup Campus, Blythe Valley Business Park,
Solihull, B90 8AE, United Kingdom
Sent by e-mail only

Dear Steven,

DRAFT MITIGATION LICENCE APPLICATION STATUS: INITIAL DRAFT APPLICATION
LEGISLATION: THE PROTECTION OF BADGERS ACT 1992 (as amended)
NSIP: London Luton Airport Expansion Development Consent Order
SPECIES: Badger *Meles meles*

Thank you for your subsequent draft badger mitigation licence application in association with the above NSIP site, received in this office on the 04 July 2023. As stated in our published guidance, once Natural England is content that the draft licence application is of the required standard, we will issue a 'letter of no impediment'. This is designed to provide the Planning Inspectorate and the Secretary of State with confidence that the competent licensing authority sees no impediment to issuing a licence in future, based on information assessed to date in respect of these proposals.

Assessment

Following our assessment of the resubmitted draft application documents, I can now confirm that, on the basis of the information and proposals provided, Natural England sees no impediment to a licence being issued, should the DCO be granted.

However, please note the following issues have been identified within the current draft of the method statement that will need to be addressed before the licence application is formally submitted. Our wildlife adviser, Cassandra Jackson, discussed this matter with Steven Mills via e-mail correspondence on the 26 July 2023 where it was confirmed that the necessary amendments would be made. Please do ensure that the Method Statement and application form is revised to include these changes prior to formal submission. For clarity these include:

Ecologist Experience:

In the formal licence application please provide reference numbers of licences issued to the proposed named ecologist as evidence for experience of closing badger setts by the proposed methodology. Should the named ecologist be changed in the formal licence application additional evidence or references would also be required.

Methodology:

In the method statement it should state that the one-way gates will be visited at intervals of no more than three days as opposed to saying three times a week for clarity and to tie in with the wording of licence conditions. Any setts that have been classified as 'disused' but fall within the impact area should be destroyed or proofed against badger entry prior to the licenced work to

prevent these setts becoming active during the exclusion works. This should only be done if there is absolute certainty that the setts are not in use. See monitoring notes below.

Surveys:

You have stated that additional surveys will be conducted following the same methodology should the DCO be granted which Natural England is satisfied with. However, we have the following comments relating to the surveys that would need to be addressed in the formal licence application:

- The updated field surveys must be within three months of the formal licence application submission.
- Should a main sett be found to be impacted then bait marking surveys should be repeated to identify the best location for the artificial badger sett. Bait marking surveys should take place in February – April.
- The updated surveys should aim to include all areas of land suitable to badgers including those areas where access or other limitations impeded previous surveys. Ecological justification for areas not surveyed should be included in the method statement.
- Please include the methodology used for categorising the badger setts as in 'current use' or 'disused' as well as how the level of usage has been assigned to them. Natural England would expect a variety of monitoring techniques including trail cameras, sand traps, as well as inserting small sticks in sett entrances to detect badger movement (sticky tape can be attached to the sticks to catch the hairs of animals moving through the entrance). Monitoring of the setts should be over an extended period – ideally at least four to six weeks.
- Section 2.3.1 Reference is made to Natural England, but the reference details are missing from the Method Statement.

Should a main sett be found during the updated surveys then consideration for the artificial sett locations should be made and included within the revised licence application.

Figures:

Figure 1 Badger Impact Plan – Please differentiate the setts to be closed and those to be retained. If possible, also plot the assumed territory boundaries of the clans so impacts to the clans can also be identified on the figure.

Please also provide a figure with the updated survey results.

Application Form:

Individual Badger development Licenses cannot be issued for multiple years. Whilst it is incredibly beneficial to know of work that will be taking place in 2033 and possibly beyond a separate licence will be required. Works taking place in 2033 should be kept within the Method Statement for context to allow Natural England to understand all the impacts but should be removed from the application form.

Artificial Setts:

Natural England understands that currently there is no requirement for an artificial sett but please see the below recommendations should one be required in the future:

Construction of an artificial setts must be complete prior to the exclusion works and there should be evidence that the badgers have found the sett. Evidence could be gained from a variety of monitoring techniques. Attractive bait such as peanuts as well as bedding can be used to assist the badgers locate the artificial sett.

Artificial setts must be constructed:

- in a suitable location,
- within the territory of the affected badger social group (this can be determined using a bait-marking survey)
- away from main roads, public rights of way or sources of danger to badgers,
- using materials and in a manner which is sufficiently robust for long-term use by badgers,
- made of materials not harmful to badgers,
- of a size to reflect the importance and extent of the sett to be lost
- provide a dry and well-ventilated (but not draughty) refuge,
- ideally with vegetative cover immediately around the structure.
- with the minimum internal diameter of artificial tunnels, chambers and sett entrances, being 300mm.

Next Steps

Should the DCO be granted then the mitigation licence application must be formally submitted to Natural England. At this stage any modifications to the timings of the proposed works, e.g. due to ecological requirements of the species concerned, must be made and agreed with Natural England before a licence is granted. Please note that there will be no charge for the formal licence application determination, should the DCO be granted, or the granting of any licence.

If other minor changes to the application are subsequently necessary, e.g. amendments to the work schedule/s then these should be outlined in a covering letter and must be reflected in the formal submission of the licence application. These changes must be agreed by Natural England before a licence can be granted. If changes are made to proposals or timings which do not enable us to meet reach a 'satisfied' decision, we will issue correspondence outlining why the proposals are not acceptable and what further information is required. These issues will need to be addressed before any licence can be granted.

Full details of Natural England's licensing process with regards to NSIP's can be found at the following link:

http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/images/wml-g36_tcm6-28566.pdf

As stated in the above guidance note, I should also be grateful if an open dialogue can be maintained with yourselves regarding the progression of the DCO application so that, should the Order be granted, we will be in a position to assess the final submission of the application in a timely fashion and avoid any unnecessary delay in issuing the licence.

I hope the above has been helpful. However, should you have any queries then please do not hesitate to contact me.

Yours sincerely

Cassandra Jackson

Tel: [REDACTED]

E-mail: [REDACTED]@naturalengland.org.uk