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**RHS SUBMISSIONS ON
THE DCO SCHEME
IN RELATION TO
REGULATIONS 63, 64 AND 68
OF THE
CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017**

SUMMARY

1. The Government-owned Strategic Highways Company (formerly Highways England) (“**HE**”) has made an application for a Development Consent Order under s37 of the Planning Act 2008 in relation to the M25 junction 10/A3 Wisley interchange improvement scheme (the “**DCO Scheme**”).
2. HE, with Natural England’s (“**NE’s**”) support, has concluded in its “Statement to Inform an Appropriate Assessment” (“**SIAA**”) of the DCO Scheme (REP4-018) and in its more recent Statement of Common Ground with NE (“**SoCG**”) (REP8-022, 3.2.7), that there will be no adverse effect on the integrity of the Thames Basin Heaths Special Protection Area (“**SPA**”) as a result of changes in air quality linked to traffic from the DCO Scheme.
3. This conclusion has been reached on the basis that, although HE and NE acknowledge that there will be “significant increases” in air pollutants on *woodland* within the SPA from the DCO Scheme (3.2.14 SoCG REP8-022), the levels of air pollutants at the location of the *heathland* within the SPA (located 150m from the A3 road at its nearest point) will be negligible. Hence NE and He conclude that the pollutant increases are not a cause for concern and allow a conclusion of “no adverse effect on SPA site integrity from the DCO Scheme alone and in combination with other plans or projects” from the air quality impact pathway.
4. This conclusion is incorrect and does not accord with the strict legal protection afforded to European sites as set out in legislation and caselaw.
5. The two key points are that:
 - 5.1. No assessment has been made by HE or NE of the effect on SPA integrity from air quality impacts on certain areas of SPA woodland between the roads and the heathland (the 0m-150m zone) which, under the SPA’s Ockham and Wisley Common Management Plan 2010-2020 are to be woodland-cleared for heathland restoration or woodland-thinned, so as to increase habitat quality and quantity. The effect of thinning will (absent air quality impacts from the DCO Scheme alone or in combination) (on HE’s own case) be the creation of foraging habitat and a greater resource of invertebrates for the SPA qualifying features; and the effect of clearing (absent air quality impacts from the DCO Scheme alone or in combination) will (on HE’s own case) be creation of nesting and foraging habitat for the qualifying species. The appropriate assessment to be undertaken by the Secretary of State must therefore be made with this in mind, particularly given that the SPA conservation objective targets set by NE (REP5-034) include reference to the management of the SPA.
 - 5.2. An inadequate assessment has been undertaken and incorrect conclusions have been reached by HE and NE in relation to the now-acknowledged pathway of impact on SPA site integrity from air quality impacts from the DCO Scheme (alone or in combination with other plans or projects) on the invertebrate prey resource for SPA qualifying species in the woodland 0m-150 from the roads. Given the air quality data available and increased levels of nitrogen to be deposited in the woodland from the

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DCO Scheme alone and in combination with other plans and projects (compared with the position where no DCO Scheme were to proceed), and gaps in the data and evidence presented, there cannot be certainty (as the “no adverse effect on integrity test” requires) that there will be no adverse effect on the integrity of the SPA through air quality impacts.

6. Furthermore the assessment undertaken by NE and HE is deficient as a basis for the Secretary of State’s required appropriate assessment. This is because no assessment has been made by HE or NE of the effect on SPA integrity from the loss of or changes to the existing woodland 0m-150m from the roads so as to deliver so-called compensatory habitat, given that HE and NE have at the same time stressed the relevance to SPA site integrity of the woodland as a resource for invertebrate prey for the SPA’s qualifying species and as a “buffer” from the roads.
7. NE and HE have acknowledged that the DCO Scheme *will* give rise to an adverse effect on integrity of the SPA through woodland “land take” from the SPA so as to deliver the DCO Scheme (3.2.13 of SoCG REP8-022). On that basis NE and HE have acknowledged that the Secretary of State must consider how the Habitats Directive “derogation tests” are met, which includes a requirement to examine any “alternative solutions” ie any alternative solution which would better respect the integrity of the SPA than the DCO Scheme.
8. Since, however, NE and HE have (wrongly) concluded that there is certainty of no adverse effect on the SPA via an air quality impact pathway, HE has not provided to the Secretary of State any analysis of whether any alternative solution might better respect the integrity of the SPA in terms of air pollutant impacts. Similarly, NE has (wrongly) failed to request such information.
9. Based on the evidence before the Examination, the correct conclusion that must be drawn by the Secretary of State under regulation 63 of the Conservation of Habitats and Species Regulations 2017 is that an adverse impact on the integrity of the SPA from air emissions from DCO Scheme (alone and in combination with other plans or projects) cannot be ruled out. As such the Secretary of State’s consideration of alternative solutions under regulation 64 of the Conservation of Habitats and Species Regulations 2017 must include consideration of any alternative solution that would better respect the integrity of the SPA in terms of the air quality impact pathway.
10. RHS has proposed an alternative road layout (the “**RHS Alternative**”) incorporating additional components to the DCO Scheme (south facing slips at the Ockham roundabout; and the retention of the Wisley Lane “left out” onto the A3). Based on HE’s own modelling, when compared to the DCO Scheme, the south facing slips would reduce the annual travel on the local road network by 1,049,000 vehicle kilometres (and when the same comparison is undertaken including the effects on the strategic road network the reduction in annual travel from the south facing slips would be 1,740,000 vehicle kilometres). These reductions give rise to a significant reduction in vehicle emissions and nitrogen deposition by comparison to the DCO Scheme.
11. The RHS Alternative is an alternative solution which has not been taken into account by HE. Accordingly, following regulation 64 of the Conservation of Habitats and Species Regulations 2017, the Secretary of State may not grant consent for the DCO Scheme.
12. In any event, HE’s proposed “compensatory habitat” provision is also inadequate and invalid and therefore the Secretary of State cannot at the same time grant consent for the DCO Scheme and secure compliance with regulation 68 of the Conservation of Habitats and Species Regulations 2017. This is because:

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- 12.1. HE has not made provision for compensatory habitat in respect of the impacts of air quality;
- 12.2. large areas of the purported compensatory habitat is land already subject to the SPA's Wisley and Ockham Commons Management Plan (REP10-019) and so these areas of the proposed compensation represent either "no gain" or a "downgrade" by reference to the requirements of the Management Plan. These areas cannot be counted as valid compensation;
- 12.3. there will be air quality impacts from the DCO Scheme on certain SPA enhancement areas, the impacts of which have not been sufficiently assessed and as such the technical feasibility, effectiveness and appropriate location of delivery of these areas as compensatory habitat has not been demonstrated. These areas cannot be regarded as valid compensation; and
- 12.4. when assessing the benefits of the SPA enhancement areas as compensatory habitat, no discount has been applied by NE or HE to reflect the fact that the SPA enhancement areas relate to woodland which, according to NE and HE, already has benefits to the integrity of the SPA.

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KEY EUROPEAN COURT AND DOMESTIC CASELAW AND GUIDANCE

13. This is set out at Annex 1 to this document.

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THE SECRETARY OF STATE CANNOT CONCLUDE THAT THERE WILL BE NO ADVERSE EFFECT ON THE INTEGRITY FROM THE DCO SCHEME ALONE OR IN COMBINATION WITH OTHER PLANS AND PROJECTS OF THE SPA THROUGH AIR QUALITY IMPACTS

14. NE and HE acknowledged early in the Examination that there *will* be “*significant increases*” in nitrogen deposition rates within the “Ockham and Wisley Common” component of the Thames Basin Heaths SPA (3.2.13 HE / NE SoCG REP5-003 and this has been repeated in the updated SoCG REP8-022, 3.2.14).
15. However, NE and HE say that these significant increases are confined to the part of the SPA they describe as the woodland buffer within 150m of the A3 and M25 (3.3.1 SoCG (REP8-022)) and that these increases are negligible where the *heathland* within the SPA occurs (SoCG 3.2.14 REP8-002). Paragraph 3.2.6 SoCG REP5-003 also states “*the SIAA determined that the spatial extent of the air pollution impact is confined to the established woodland that separates the heathland from the roads*”. This is repeated in the up to date NE / HE SoCG (REP8-022 3.2.6).
16. On this basis NE and HE wrongly conclude that there is no reasonable scientific doubt as to the absence of adverse effects to the integrity of the SPA (from the DCO Scheme alone or in combination with other plans and projects) from changes in air quality (SoCG 3.2.14 REP8-022; HE repeats this in REP7-008 at 2.2.27)
17. The same explanation is given in HE’s document REP5-024 which, after providing new data in a Table 8, states:
 - 1.1.4 *As explained in paragraph 7.2.51 of the SIAA [APP-043] and again in Point 11 of REP4-005 (pages 10-16), the established woodland that separates the A3 and M25 from the heathland habitats of the SPA acts as a buffer and does not support the qualifying SPA species. For each of the transects within the SPA, the heathland habitats occur at a distance of 150 m or greater, and therefore, any points closer than 150 m fall within the woodland buffer. For completeness, nitrogen deposition rates have been added to this version of the table for transect distances of 150 m and 200 m in the table below, in order to enable a full understanding of the changes in nitrogen deposition at the distances at which the heathland occurs.*
 - 1.1.5 *It can clearly be seen in the table that the revised nitrogen deposition rates at the distance at which the habitat that supports the qualifying SPA species occurs (150 m at the closest point), fall well below 1% of the lower range of the critical load for heathland. Therefore, even after taking into account the revised nitrogen deposition rates, the Scheme will still not lead to an adverse effect on the SPA as a result of air quality impacts.”*
18. In the ExQ4 questions (question 4.3.3), HE was finally asked to provide full air quality data predictions, to include the contribution of ammonia. HE did not provide in full what was asked for (see RHS REP11-038 question 4.3.3).
19. However RHS’ Table A (REP11-040) corrects this and RHS has also provided corrected figures for HE’s transect 4 data (see corrections presented in RHS’ Modelling Note (REP11-041)).
20. This RHS work therefore provides as full air quality predictions as is possible to obtain based on the information supplied by HE.

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21. RHS' data should still, however, be regarded as a likely underestimate of the nitrogen deposition levels arising from the DCO Scheme:
 - 21.1. REP5-049 explains why the ammonia contribution may be underestimated by using (as has been done here) a technique of assuming a doubling of nitrogen oxides contribution to nitrogen deposition. For example, Figure 19 of REP5-049, shows that, at the roadside, ammonia will contribute to nitrogen deposition more than nitrogen oxides, i.e. more than double, and that the ammonia proportion will increase over time, such that it will increasingly dominate roadside nitrogen deposition in future years.
 - 21.2. Further, RHS' Modelling Note (REP11-041) sets out HE's modelling errors for transect 4, while RHS' response to ExQA Q4.3.3 in REP11-038 explains that: the speed assumptions used by HE in its modelling and by AQC in its remodelling (RHS Modelling Note REP11-041), are unrealistic, and that it is therefore to be expected that in-combination nitrogen deposition will increase by more than shown in the RHS Modelling Note (REP11-041) were more realistic speed data to be used.
22. It is now beyond doubt that ammonia must be included in the air quality predictions for the DCO Scheme given:
 - 22.1. NE's acknowledgment in its REP10-016 (page 1) that ammonia is "*a key pollutant likely to affect habitats*";
 - 22.2. the Habitats Regulations Assessment ("**HRA**") caselaw referred to in the Annex 1;
 - 22.3. HE's own HRA guidance LA115 (REP11-039) as described in the Annex 1, see in particular at page 10: "*Precautionary principle: The conservation objectives prevail where there is uncertainty or harmful effects are assumed in the absence of evidence to the contrary*";
 - 22.4. the existence of other local plan HRAs (for which NE has been the statutory consultee) which *have* included consideration of ammonia (REP10-026); and
 - 22.5. the air quality guidance referred to by RHS in its response to ExQ4 Q4.4.7 in REP10-025.
23. RHS's Table A makes clear, in summary, that the DCO Scheme will give rise at transects 1, 3 and 4 to an effect of making significantly worse in 2022 the exceedance over critical load of deposited nitrogen on the SPA compared with the position without the DCO Scheme.
24. Specifically, Table A shows that, at transects 1, 3 and 4 (either side of the A3, south of the M25 J10) (the transects can be seen marked on Baker Consultants Ltd's Figure 1-4 (REP11-042, REP11-043, REP11-044, REP11-045):
 - 24.1. the DCO Scheme *alone* in 2022 will give rise to a significant increase of the amount of nitrogen deposited on the SPA, compared with the amount of nitrogen deposited on the SPA in 2022 without the DCO Scheme (the Do Minimum scenario). This increase can be expressed as up to 12.2% of the critical load. The increases will be: >1% of the critical load out to more than 100m from the road along transect 1; to more than 25m from the road along transect 3; and to more than 75m from the road along transect 4.

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- 24.2. the DCO Scheme *in combination* with other plans or projects in 2022 will give rise to a significant increase of the amount of nitrogen deposited on the SPA, compared with the amount of nitrogen deposited on the SPA in 2022 without the DCO Scheme and other plans or projects (the Do Nothing scenario). This increase can be expressed as up to 49.6% of the critical load. This takes account of the error in the transect 4 calculations, as set out in REP11-038, Q4.3.3 and the RHS Modelling Note (REP11-041), which means that the in-combination impacts along this transect should be adverse, not beneficial. The increases will be >1%, and in most cases much more than 1%, of the critical load for all points 0m-200m along all transects (apart from at Receptors 155 and 156 on transect 4, as set out in the RHS Modelling Note, which is likely to underestimate the in-combination increases on this transect (as explained in REP11-038, Q4.3.3)).
25. Therefore the DCO Scheme air quality predictions, when taken alone and when taken in combination with other plans or projects, mean that in 2022 the nitrogen deposition at certain parts of the SPA will be at levels significantly further from the desired critical load for this SPA (i.e. 10 kg N/ha/yr for both heathland and coniferous woodland) than would otherwise be the case.
26. Due to HE failing to provide isopleth (air modelling contour) information to the Examination (HE has only provided data for specific transect points), it is not clear how far across the SPA these effects will be felt. Hence there is insufficient information to understand the details of the levels of pollution across the wider Wisley and Ockham Commons component of the SPA. The data available are limited only to discrete transect points at the SPA. RHS made clear this serious deficiency early on in the Examination in REP1-043, para 9, page 23.
27. Transects 2, 5 and 6 show an improvement in the amount of nitrogen deposited on the SPA from the DCO Scheme by comparison to the position without the DCO Scheme, but again it is not clear how widely these effects might extend.
28. HE states (for example paragraph 3.2.9 of new SoCG REP8-022); and 6.1.29-6.1.31 of HE's REP11-007) that the amount of nitrogen to be deposited on the SPA from the DCO Scheme alone or in combination with other plans or projects in 2022 will be less than in 2015. This is true. But this is a "red herring":
- 28.1. This does not take into account the huge exceedances in nitrogen deposition already seen at the SPA and the need to achieve levels at or below the critical load, as set out by NE in its SPA Supplementary Advice conservation air quality targets (REP5-034), i.e. to restore as necessary the concentrations and deposition of air pollutants to at or below site relevant critical loads values given on the Air Pollution Information System. Table A shows that there were very significant exceedances of critical load seen at the SPA in 2015 i.e. up to 50.6 kg N/ha/yr compared with the critical load of 10 kg N/ha/yr. It can be expected that these exceedances are already having an adverse effect on the SPA. Whilst the exceedances of the critical load in 2022 are predicted to be less than in 2015, they would be significantly lower still on transects 1, 3 and 4 in 2022 if the DCO Scheme did not proceed.
- 28.2. NE and HE acknowledged early in the Examination that the DCO Scheme *will* give rise to "*significant increases*" in nitrogen deposition rates within the "Ockham and Wisley Common" component of the Thames Basin Heaths SPA (3.2.13 HE / NE SoCG REP5-003 and this has been repeated in the updated SoCG REP8-022, 3.2.14).

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- 28.3. HE has already acknowledged that “*the forecast changes in nitrogen deposition rates ...may have a very small effect on the assemblage of invertebrate species in the woodland buffer*” (2.2.12 REP7-008) so HE has acknowledged that the levels are sufficient to affect the invertebrate assemblage of the woodland (see paras 88-91 of RHS’s REP8-054).
29. Furthermore it is clear from *Compton Parish Council v Guildford BC* [2019] EWHC 3242 (Admin) that it is not acceptable, when considering whether there might be an adverse effect on SPA site integrity from a plan or project, merely to rely on reductions in baseline emissions or the fact that with the development, emissions would still be much lower than at present. At paragraph 207 of the judgment, Sir Duncan Ouseley states (emphasis added):
- “That [ie the question of whether there would be no adverse effect] could not be answered, one way or the other, by simply considering whether there were exceedances of critical loads or levels, albeit rather lower than currently. What was required was an assessment of the significance of the exceedances for the SPA birds and their habitats. Guildford BC did not just treat reductions in the baseline emissions or the fact that with Plan development, emissions would still be much lower than at present, as showing that there would be no adverse effect from the Plan development.....”*
30. The information in RHS’ Table A could only be made available by RHS at deadline 11 since it was dependent upon receipt of HE’s outstanding data which HE only made available at deadline 10. Hence all assessments undertaken prior to that (including the SIAA at REP4-018) have not taken into account the up to date and fullest air quality data available.
31. The Secretary of State must make his appropriate assessment in the light of the fullest information available i.e. at RHS’ Table A (REP11-040) together with RHS’ Modelling Note which corrects the HE’s transect 4 data (REP11-041).
32. HE’s conclusion that the DCO Scheme will lead to “no adverse effect on SPA site integrity from an air quality pathway” is based on an assumption – namely that the woodland (within the Ockham and Wisley Common component of the SPA) 0m-150m from the roads, which HE acknowledges will be subject to “significant increases” in nitrogen deposition from the DCO Scheme (SoCG 3.2.14 REP8-022), has no relevance to the integrity of the SPA.
33. There are however two fundamental reasons why HE and NE are incorrect to conclude this:
- 33.1. No assessment has been made by HE or NE of the effect on SPA integrity from air quality impacts on certain areas of SPA woodland between the roads and the heathland (the 0m-150m zone) which, under the SPA’s Ockham and Wisley Common Management Plan 2010-2020 are to be woodland-cleared for heathland restoration or woodland-thinned, so as to increase habitat quality and quantity. The effect of thinning will (absent air quality impacts from the DCO Scheme alone or in combination) (on HE’s own case) be the creation of foraging habitat and a greater resource of invertebrates for the SPA qualifying features; and the effect of clearing (absent air quality impacts from the DCO Scheme alone or in combination) will (on HE’s own case) be creation of nesting and foraging habitat for the qualifying species. The appropriate assessment to be undertaken by the Secretary of State must therefore be made with this in mind, particularly given that the SPA conservation objective targets set by NE (REP5-034) include reference to the management of the SPA.
- 33.2. An inadequate assessment has been undertaken and incorrect conclusions have been reached by HE and NE in relation to the now-acknowledged pathway of impact

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on SPA site integrity from air quality impacts from the DCO Scheme (alone or in combination with other plans or projects) on the invertebrate prey resource for SPA qualifying species in the woodland 0m-150 from the roads. Given the air quality data available and increased levels of nitrogen to be deposited in the woodland from the DCO Scheme alone and in combination with other plans and projects (compared with the position where no DCO Scheme were to proceed), and gaps in the data and evidence presented, there cannot be certainty (as the “no adverse effect on integrity test” requires) that there will be no adverse effect on the integrity of the SPA through air quality impacts.

34. Each of these points is now considered in detail.
35. **No assessment has been made by HE or NE of the effect on SPA integrity from air quality impacts on certain areas of SPA land between the roads and the heathland (the 0m-150m zone) which, under the SPA’s Ockham and Wisley Common Management Plan 2010-2020 are to be woodland-cleared for heathland restoration or woodland-thinned**
36. The Conservation Objectives of the Thames Basin Heaths SPA refer to “*Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:the distribution of the qualifying species within the site.....*” (emphasis added).
37. It is therefore no surprise that the Wisley & Ockham Commons Management Plan 2010-2020 (REP10-019) includes a work programme involving thinning and clearing woodland within the SPA zone 0m-150m from the roads with woodland thinning and clearing “*increasing habitat quantity and quality*” (see page 18 Management Plan). The areas within this zone to be cleared and thinned, as taken from the Management Plan, are shown on Baker Consultant Ltd’s Figure 1 REP11-042. Within the Management Plan there is no mention whatsoever of any objective “to retain the woodland buffer”.
38. The Management Plan was only provided to the Examination in deadline 10, after being requested in response to question 4.4.5 n ExQ4.
39. The Management Plan states:
 - 39.1. Page 9 states “*this management plan sets out the management objectives and work programmes for Ockham and Wisley Commons that will be implemented by these staff for the period 2010-2020*”. The work programme referred to is set out at the back of the Management Plan in an 8 page table called Wisley Ockham Work Programme 2010-2020. The items on that table which are most relevant in this context are MH02 01 (“manage woodland by thinning”) and MH31 02 (“woodland clearance for heathland restoration”). These items list certain areas of the SPA (management compartments) in which each of these activities will take place. These management compartments are shown on Figure 3 of the Management Plan. Baker Consultant Ltd’s Figure 1 reflects the information in this 8 page table and in Figure 3 of the Management Plan.
 - 39.2. Page 5 states “*...removal of some secondary woodland will be a feature of heathland restoration*”
 - 39.3. Page 6 states “*the maintenance of restored areas will maintain the heathland habitats close to both sides of the A3*”

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- 39.4. Page 18 states: *“Heathland recreation started in the mid 1990’s and by 2006 the site had become the largest heathland restoration project in the Thames Basin Heaths SPA. Felling and thinning licences are now in place on the remaining woodland blocks to increase habitat quantity and quality. These licences run to 2012 by which time 100 hectares of wet, humid and dry heath will exist. Further works need to be planned beyond 2012. Figure 8 shows vegetation comparisons between 1948 and 2011, Figure 9 shows the clear fell forestry works and Figure 10 maps the woodland thinning areas.”*
- 39.5. Page 34 states that Objective 1 is *“Restore, and where feasible recreate, areas of heathland to a favourable condition as defined by Natural England Conservation Objectives (see Appendix 5). This will entail the maintenance of existing habitat, expansion of these areas and the creation of links - all as shown in the Figures 8, 9 and 10”*. It later states *“Existing wet and dry heathland components should remain at its current extent. A further 5 ha of heathland to be restored from wooded areas during the life of this plan.”*
- 39.6. Page 39 states *“Between 20% and 33% of the woodland area will be open as a result of natural processes such as wind blow as well as the maintenance of paths, rides and glades and management such as thinning. These areas, which receive good amounts of sunlight, will support a diverse flora and invertebrate fauna.”*
40. It is clear that this Management Plan work programme is being delivered. HE’s REP4-014 (5.1.60) discusses the thinning that has taken place recently *“as part of the ongoing management of the woodland”* in the Management Plan management compartments 5c / 5a for which the prescription is thinning (these compartments correspond to HE’s SPA enhancement area E5, see Baker Consultant Ltd’s Figure 3, and it is SPA enhancement area E5 being referred to in paragraph 5.1.60).
41. Delivery of the Management Plan is tied into the conservation objective targets for this SPA. NE’s Supplementary Advice on the SPA (REP5-034) states, as the first conservation objective target for each of the 3 qualifying species (taking nightjar as an example): *“Maintain management or other measures (whether within and/or outside the site boundary as appropriate) necessary to maintain or restore the structure, function and/or the supporting processes associated with Nightjar and its supporting habitats”*.
42. The Explanatory Notes state for this conservation objective target (for nightjar as an example):
“Active and ongoing habitat management is usually required to protect, maintain or restore populations of breeding nightjar. Other measures may also be required, and in some cases, these measures may apply to areas outside of the designated site boundary in order to achieve this target.
- This information will typically be found within, where applicable, supporting documents such as the Natura 2000 Site Improvement Plan, any Site Management Strategies or Plans, the notified Views about Management Statement for the underpinning SSSI and/or management agreements. Further details about the necessary conservation measures for this site can be provided by Natural England.*
- Habitat management should retain the open, mosaic structure of lowland wet and dry heath, ensuring that all life cycle stages of heather are present. It may, in certain areas, be appropriate to maintain scrubby vegetation and occasional taller trees should be available for the nightjar to ‘churr’ from.*

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Where habitat conditions are currently unsuitable, management should seek to increase the availability and continuity of lowland heath or other suitable open habitat. Plantations should continue to be managed by providing permanent open space and by rotational clear-fell and re-stocking, which can temporarily create suitable breeding habitat for up to 10 years.”

43. Baker Consultant Ltd’s Figure 1 (REP11-042) shows in particular the Wisley & Ockham Commons Management plan prescriptions for woodland clearing and thinning *within the 0m-150m woodland zone*.
44. Of the compartments prescribed for woodland *clearing* under the Management Plan, compartments 5c, 3b and 3d partly fall within the 0m-150m zone.
45. For the management compartments prescribed for woodland *thinning* under the Management Plan, compartments 5c, 5a, 3f, 3e, 1c, 1d, 7e, 7d, 7b, 9k, 9f, 9e, 10k, 10j and 10i all partially fall within the 0m-150m zone.
46. HE (in the NE / HE SoCG REP8-022 (3.2.8)) states:

“As has been recorded in Habitats Regulations Assessment Annex B [APP-041], in Item 4.0 of the meeting held on the 16th March 2018 the Surrey Wildlife Trust confirmed that the intention of the current management plan for the Ockham and Wisley Commons SSSI component of the SPA is to maintain existing areas of heathland, rather than creating new areas of heathland by removing additional areas of the coniferous woodland. Natural England confirmed this again by email on the 31st January 2020 ‘The current management plan for Ockham and Wisley Commons SSSI produced by Surrey Wildlife Trust, which Natural England has endorsed, is primarily focussed on the maintenance of the current areas of open heathland, and in particular the enhancement of the quality of the habitat so that it meets the basic objectives set by Natural England, so that the feature can be described as being in a ‘favourable’ condition. The current Countryside Stewardship agreement between Natural England and Surrey Wildlife Trust, which runs for 10 years, is also focussed on the management of the existing open heathland resource. It does not seek to extend the open heathland area through the felling of mature trees’. Therefore, Highways England can confirm with a high degree of confidence that the removal of conifer trees to extend the open heathland is not part of the current management of the site or required to achieve Favourable Conservation Status.”

47. It seems, unfortunately, that both HE and NE have failed to read the Management Plan correctly or in any detail. This is because, when the above statement is compared with Baker Consultants Ltd’s Figure 1, taken from the Management Plan, one sees instantly that:
 - 47.1. Areas of “woodland clearance for heathland restoration” (MH31 02 in the Work Programme table) are to be undertaken in areas within 150m from the roads, see management compartments 5c, 3b and 3d; and
 - 47.2. The above statement has completely failed to mention the large areas of woodland to be thinned in areas within 150m from the roads.
48. The contents of the Management Plan are also not consistent with HE’s ExQ3 answer 3.8.2 (REP7-004):

“The woodland adjacent to the road forms a buffer between the heathland habitats where the SPA qualifying species occur and the A3 and M25. As Natural England has explained in response 2.4.7d within Natural England’s response to the ExA’s second written questions [REP5-032], the achievement of favourable condition for the Ockham and Wisley Commons

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SSSI component part of Thames Basin Heaths SPA is dependent upon improvement of the condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland. This is not to say that the clearance of some areas of this woodland would conflict with the conservation objectives of the SPA, but rather, that the management of the Ockham and Wisley Commons SSSI component of the Thames Basin Heaths SPA does not require the removal of the woodland buffer in order to achieve favourable condition for the site”.

49. It is difficult to see how it can be accurate to say that the “*achievement of favourable condition for the Ockham and Wisley Commons SSSI component part of Thames Basin Heaths SPA is dependent upon improvement of the condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland*” when the Management Plan, which is specifically referred to in the NE Supplementary Advice conservation objective targets (REP5-034), and which has been endorsed by NE, clearly envisages both woodland clearance and woodland thinning in this very area.
50. The contents of the Management Plan are also inconsistent with NE’s assertion in the SoCG between NE / HE. At 3.2.18 (REP8-022) NE states:
- “Natural England has consistently advised against the removal of the woodland ‘buffer’ in areas of the site alongside the M25 and A3. There is strong evidence that the retention of belts of mature trees provides an effective mechanism to disperse vehicle emissions away from sensitive habitats alongside busy roads. As stated previously, the achievement of favourable condition for this component part of Thames Basin Heaths SPA is dependent upon improvement of condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland.”* Note that large areas of the woodland thinning and clearance under the Management Plan are within the 0m-150m woodland buffer zone of the SPA (see Baker Consultant Ltd’s Figure 1).
51. It can be seen from HE’s own discussion of its SPA enhancement areas in REP4-014 that thinning woodland, including woodland close to the roads, is a means by which to create foraging habitat for the qualifying species / a greater resource of invertebrate prey for the qualifying species:
- 51.1. Paragraph 1.4.7 states “*thinning totalling approximately 24.9 ha, where the woodlands will be thinned to encourage increased woodland diversity and provide more open habitats. The thinning of woodland will create open glades to support foraging qualifying species (particularly nightjar and woodlark) and enable increased diversity (both of species and structure) of the mixed woodland, providing a much more diverse habitat type for invertebrates, thus increasing the food potential of the qualifying species.*”
- 51.2. A similar statement is made again at paragraph 5.1.38 “*Areas of thinning totalling approximately 24.9 ha, where the woodlands will be thinned (focusing on young silver birch trees and Scots pines), to encourage increased woodland diversity and provide more open habitats. The thinning of woodland will create open glades to support foraging qualifying species (particularly nightjar and woodlark) and enable increased diversity (both of species and structure) of the mixed woodland, providing a much more diverse habitat type for invertebrates, thus increasing the food potential of the qualifying species.*”
- 51.3. At paragraph 5.1.82 “*... the thinning of 24. ha of mixed woodland, creating some open areas and rides, as well as improving the diversity of the woodland (much of which is currently dominated by Scots pine of a similar age) by allowing other tree species to grow, as well as planting some deciduous tree species. The enhancement*

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of the diversity of these areas of woodland will improve their value as an invertebrate resource, whilst also providing foraging areas for nightjars and woodlarks as a result of the creation of open areas and rides.”

52. Note that the SPA enhancement areas within the SPA discussed in REP4-014 are in some cases within 150m of the roads (eg E1, E2, E5 and E6 (see Baker Consultants Ltd’s Figure 3 (REP11-044) so HE cannot seek to argue that the management compartments are not intended to benefit the SPA birds (if that were the case, neither would the birds benefit from large areas of the SPA enhancement areas).
53. The Management Plan’s thinning will, based on the impacts of thinning described in REP4-014, have the effect of “*supporting foraging SPA species*” and “*increasing food potential of the qualifying species*”, and in the words of the Management Plan will “*increase habitat quantity and quality*” (see page 18). It is therefore necessary for the Secretary of State’s appropriate assessment to consider, in the light of the SPA’s conservation objective targets, the effect of the DCO Scheme’s (alone and in combination) air quality impacts on the thinned and cleared woodland in the relevant management compartments and the extent to which those compartments’ role in “*supporting foraging SPA species*” and “*increasing food potential of the qualifying species*” or “*increasing habitat quantity and quality*” could be affected.
54. Taking nightjar as an example, there are 4 conservation objective targets that would be particularly relevant to the Secretary of State’s assessment (the following are those for nightjar taken from Table 1 of the NE Supplementary Advice REP5-034) (there may be others from Tables 2 and 3 for woodlark and Dartford warbler respectively):
 - 54.1. Food availability: *Maintain or restore the distribution, abundance and availability of key prey items at prey sizes preferred by all three of the qualifying features;*
 - 54.2. Extent and distribution of supporting habitat for the breeding season which includes feeding as part of the breeding cycle: *Maintain the extent, distribution and availability of suitable breeding habitat which supports each of the three qualifying features for all necessary stages of their breeding cycle (courtship, nesting, feeding and roosting);*
 - 54.3. Landscape: *Maintain or restore the amount and continuity of open and unobstructed patches within nesting and foraging areas, including areas of clear-fell, windfall, wide tracks, open spaces within forests and heath.*
 - 54.4. Air quality: *Restore as necessary the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk). The critical load for nitrogen deposition for heathland is 10kg/ha/yr¹. The critical load for woodland which is the same as heathlands, 10kg N/ha/yr².*
55. However no such an assessment has been undertaken by HE or NE.
56. In terms of potential air quality impacts, Baker Consultant Ltd’s Figure 1 (REP11-042) shows the air quality transects for which HE has provided air quality data.
57. It can be seen from Table A (REP11-040) for transects 1 and 3, and Tables 3 and 4 in RHS’ Appendix 3 AQC Modelling Note (REP11-041) for transect 4 for 2022 that:

¹ <http://www.apis.ac.uk/srcl/select-a-feature?site=UK9012141&SiteType=SPA&submit=Next>

² <http://www.apis.ac.uk/node/965>

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- 57.1. At Transect 1 the DCO Scheme, both alone and in combination, will lead to significantly greater levels of nitrogen deposition on the SPA to just beyond 100m from the road than would be the case without the DCO Scheme. This Transect affects the management prescription area 3e (thinning). The in-combination increase in nitrogen deposition at 100m in 2022 is 8.4% relative to the critical load, while the DCO Scheme alone increase is 1.2% relative to the critical load.
- 57.2. At Transect 3 the DCO Scheme, both alone and in combination, will lead to significantly greater levels of nitrogen deposition on the SPA to just beyond 25m from the road than would be the case without the DCO Scheme. This Transect affects the management prescription area 3f (thinning). The in-combination increase in nitrogen deposition at 25m in 2022 is 3.4% relative to the critical load, while the scheme alone increase is 1.7% relative to the critical load.
- 57.3. At Transect 4 the DCO Scheme both alone and in combination will lead to significantly greater levels of nitrogen deposition on the SPA to just beyond 75m from the road than would be the case without the DCO Scheme. This Transect affects the management prescription areas 9k and 9f (thinning). The in-combination increase in nitrogen deposition at 75m in 2022 is 6.0% relative to the critical load, while the scheme alone increase is 4.7% relative to the critical load.
58. Table A (REP11-040) (for transects 1 and 3) and Tables 3 and 4 in RHS' Appendix 3 AQC Note (REP11-041) (for transect 4) show that, as a result of the DCO Scheme, both alone and in combination, the levels of nitrogen at this SPA will be significantly further from the desired critical load at transects 1, 3 and 4 than would otherwise be the case.
59. Due to the limited air quality data provided (the absence of isopleth information from HE), it is not known how far these negative effects might be felt across wider areas the SPA or whether other areas to be thinned or cleared under the Management Plan may be affected.
60. In relation to the first 3 conservation objective targets listed, and given the air quality data above, the Secretary of State cannot be certain as to "no adverse effect on integrity" from air quality impacts on the areas above to be thinned under the Management Plan. This is because:
 - 60.1. due to the absence of isopleth contours from HE a full understanding of the air quality impacts across areas of the SPA wider than the transects are not known and this includes the areas between 0m-150m to be thinned under the Management Plan;
 - 60.2. no assessment of this issue has been undertaken;
 - 60.3. the assessment HE *has* sought to make in relation to the separate issue of impacts of air quality on the woodland / woodland invertebrates (see below) is inadequate. Those gaps and inadequacies feed equally into this issue of impacts on the areas to be thinned under the Management Plan;
 - 60.4. furthermore, if anything, the thinned woodland compartments ought to play a more important role for the qualifying species than unthinned woodland, due to their likely attractiveness for foraging SPA species / provision of invertebrates. So the risk of an adverse effect on integrity from air quality impact on the thinned areas is likely to be greater than for the existing woodland.
61. In relation to the 4th air quality target, there is, based on HE's own arguments, no question that this is relevant to the thinned areas.

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62. At REP10-003 (4.3.8-4.3.10) HE argues (incorrectly) that the air quality conservation objective target for each of the 3 qualifying species in NE's Supplementary Advice is not relevant to *the woodland* 0m-150m from the roads. HE states, incorrectly, that the SPA woodland 0m-150m from the roads would only be "supporting habitat" as referred to in NE's Supplementary Advice (REP5-034) if the qualifying species *physically used that habitat*, which (HE says) they do not. Full details of why this is incorrect are set out below.
63. It is however perfectly clear, from the benefits expected from the thinned areas (see HE's REP4-014) under the Management Plan, that qualifying species of the SPA would be expected to be present in the thinned areas. As such, even on HE's incorrect (and overly narrow) definition of SPA "supporting habitat", these management compartments are or will be HE-defined "supporting habitat".
64. Therefore, even on HE's narrow interpretation, it is clearly the case that NE's conservation objective air quality targets (in NE's Supplementary Advice REP5-034) apply / will apply to these thinned areas.
65. No assessment has been made by HE of the impact of the air quality data on the air quality conservation objective targets in relation to the areas to be thinned 0-150m from the roads. Nor could a proper assessment be made in any event since there is no comprehensive air quality data available showing levels of pollutants across areas of the SPA beyond the discrete transect points.
66. In the light of the air quality data that is available and the levels of nitrogen deposited in the areas to be thinned (based on Transects 1, 3 and 4 – see above), the Secretary of State could only be certain as to "no adverse effect on integrity" if he had positive evidence to support this. He does not.
67. We note that NE states at ExQ4 Q4.4.2 (REP10-016), in response to concerns that HE's purported compensatory habitat might be affected by air pollutants from the DCO Scheme: *"The land manager at Ockham and Wisley Commons, Surrey Wildlife Trust has a proven track record in the restoration of heathland habitat following tree clearance. Good quality habitat is now present in areas which were occupied by dense broadleaved and conifer woodland in the 1980s and 1990s. Natural England is confident that with appropriate measures in place that the heathland creation proposed by the applicant will have similar success and will significantly enhance habitat suitability for the Annex 1 birds."*
68. NE also says ExQ4 Q4.4.15 that *"In the event that a decision is made to create heathland or some other habitat in place of the existing woodland buffer raised nutrient levels may be a factor which would have to be taken into account when planning operations but it would not be an insurmountable problem. There are many cases where heathland and other habitats of biodiversity value have been created close to busy roads. These projects need careful planning and different management techniques in comparison with lower nutrient solutions. However, they are achievable"*.
69. This "management approach" cannot be relied upon by HE as addressing the risk of adverse effect on SPA integrity from air quality impacts on the SPA management compartments 3e, 3f, 9k and 9f / any other management compartments under the Management Plan:
 - 69.1. Such management does not fall into the category of measures which, under CJEU caselaw (eg C-521/12 *Briels and Others v Minister van Infrastructuur en Milieu*), can be taken into account under the "no adverse effect on integrity" test ie *"protective measures forming part of the project aimed at avoiding or reducing any direct adverse*

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effects for the site in order to ensure that it does not adversely affect the integrity of the site” (paragraph 28 C-521/12T.C. *Briels and Others v Minister van Infrastructuur en Milieu*). Instead such management falls within the category of “*protective measures provided for in a project which are aimed at compensating for the negative effects of the project on a Natura 2000 site*” [and which] “*cannot be taken into account in the assessment of the implications of the project provided for in Article 6(3)*” (paragraph 29 C-521/12T.C. *Briels and Others v Minister van Infrastructuur en Milieu*). This point is repeated by the CJEU at paragraph 125 of the Dutch nitrogen cases³.

69.2. In any event there is insufficient certainty as to the success of such management measures. “Certainty” of success of mitigation measures is a key legal requirement under the Dutch nitrogen cases. The CJEU ruled at paragraph 130 that “*The appropriate assessment of the implications of a plan or project for the sites concerned is not to take into account the future benefits of such ‘measures’ if those benefits are uncertain, inter alia because the procedures needed to accomplish them have not yet been carried out or because the level of scientific knowledge does not allow them to be identified or quantified with certainty.*” Such management measures are uncertain particularly given that:

69.2.1. the Management and Monitoring Plan (REP4-031) makes no reference to management or monitoring of the SPA for air quality impacts.

69.2.2. management practices to reduce the effects of high levels of nitrogen have not been fully researched in the UK. A review by the Countryside Council for Wales⁴ also identified that all measures have unintended consequences (see table in Annex 2). These unintended consequences would need to be fully assessed before such measures are introduced as they could in themselves threaten the integrity of the SPA in other ways.

70. Therefore the only conclusion that may lawfully be reached by the Secretary of State, based on absence of assessment and information before the Examination, is that he cannot conclude with certainty that there will be no adverse effect on the integrity of the SPA through air quality impacts on the “thinning” SPA Management Plan management compartments 3e, 3f, 9k and 9f under the Management Plan or indeed on other management compartments to be thinned / cleared under the Management Plan.

71. Indeed even HE’s own Habitat Regulations Assessment Guidance (LA115 (REP11-039), see Annex 1) has the effect of prohibiting a conclusion of no adverse effect on integrity in the circumstances above. This states that:

71.1. Paragraph 2.2.1 “*Recourse to the precautionary principle may be relevant when there:*

1) are “potentially negative effects”; or

³ Paragraph 125 of the judgement in *Coöperatie Mobilisation for the Environment UA, Vereniging Leefmilieu V College van gedeputeerde staten van Limburg and Stichting Werkgroep Behoud de Peel v College van gedeputeerde staten van Noord-Brabant* (In Joined Cases C-293/17 and C-294/17) <http://curia.europa.eu/juris/document/document.jsf?jsessionid=E2583630A2B1747FACAF53CC86BCA18D?text=&docid=207424&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=7892505>

⁴ Review of the effectiveness of on-site habitat management to reduce atmospheric nitrogen deposition impacts on terrestrial habitats CCW Science Series 1037. Stevens et al 2013.

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2) is "insufficiency of the data, which makes it impossible to determine with sufficient certainty the risk in question".

- 71.2. At paragraph 2.2.2 "Site conservation objectives should prevail where there is uncertainty."
- 71.3. Paragraph 2.2.3 "Adverse effects should be reported in the HRA in the absence of evidence to the contrary."

Given the air quality data available and increased levels of nitrogen to be deposited in the woodland from the DCO Scheme alone and in combination with other plans and projects (compared with the position where no DCO Scheme were to proceed), there cannot be certainty (as the no adverse effect on integrity test requires) that there will be no adverse effect on the integrity of the SPA through effects on woodland invertebrate prey

- 72. Beyond the areas within 150m from the roads to be thinned and cleared under the Management Plan, there is existing woodland. And until the areas to be thinned and cleared under the Management Plan are thinned and cleared then they are also woodland. An inadequate assessment has been undertaken and incorrect conclusions have been reached by HE and NE in relation to the now-acknowledged pathway of impact on SPA site integrity from air quality from the DCO Scheme (alone or in combination with other plans or projects) on the qualifying species' invertebrate prey source in this woodland 0m-150 from the roads.
- 73. Given the air quality data available and increased levels of nitrogen to be deposited in the woodland at certain transects (1, 3 and 4) from the DCO Scheme alone and in combination with other plans and projects (compared with the position where no DCO Scheme were to proceed), and gaps in the evidence presented, there cannot be certainty (as the no adverse effect on integrity test requires) that there will be no adverse effect on the integrity of the SPA through impacts on the woodland invertebrates.
- 74. HE's SIAA (REP4-018) clearly acknowledges that there *is* a pathway of impact between woodland in the 0m-150m zone (from the roads) of the SPA and the integrity of the SPA, based on the potential for the woodland to provide invertebrate prey items for the SPA's qualifying features, particularly nightjar. See for example SIAA 7.2.10, 7.2.17, 7.2.20, 7.3.23, 7.2.24. This is on the basis that (see for example HE's response to 4.4.13 REP10-004) "*Some of these mobile invertebrates may pass from the established woodland buffer into the adjacent heathland habitats and woodland edge and therefore potentially contribute to the nightjars' diets*".
- 75. The NE Supplementary Advice (REP5-034) includes for each of the qualifying species at Tables 1-3:
 - 75.1. A "food availability" conservation objective target that states: *Food availability: Maintain or restore the distribution, abundance and availability of key prey items at prey sizes preferred by all three of the qualifying features;*
 - 75.2. An "extent and distribution of supporting habitat for the breeding season" target, which includes feeding as part of the breeding cycle, that states: *Extent and distribution of supporting habitat for the breeding season: Maintain the extent, distribution and availability of suitable breeding habitat which supports each of the three qualifying features for all necessary stages of their breeding cycle (courtship, nesting, feeding and roosting).*

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- 75.3. An “air quality” conservation objective target that states: “*The structure and function of habitats which support the SPA population are sensitive to changes in air quality*”.
76. HE’s SIAA REP4-018 acknowledges clearly that these first two conservation objective targets could well be compromised through loss (via land take) of woodland invertebrates within the SPA as a result of the DCO Scheme alone (paragraphs 7.4.1- 7.4.8). On this basis HE and NE concluded that they cannot be certain that, due to land-take, there will be no adverse effect on integrity of the SPA from the DCO Scheme alone.
77. It is obvious therefore that these first two conservation objective targets are equally relevant to *air quality* impacts on the woodland. If air quality impacts of the DCO Scheme alone or in combination with other plans or projects were to impact negatively on the woodland invertebrates (through for example) pollutant impacts on woodland vegetation then a risk of adverse impacts on the integrity of the SPA could arise.
78. The Secretary of State must, when conducting an appropriate assessment, therefore ask himself whether the air quality data at RHS Table A (REP11-040) and RHS’ Modelling Note (REP11-041) could compromise these first two conservation objective targets and thereby adversely affect the integrity of the SPA through air quality impacts on woodland invertebrates in the 0m-150m zone from the roads.
79. The Secretary of State must also ask himself whether the third (air quality) conservation objective target could be compromised through the data at RHS Table A REP11-040 and RHS’ Modelling Note (REP11-041), thereby adversely affecting the integrity of the SPA.
80. HE’s position is that the *air quality* conservation objective target is irrelevant to the woodland 0m-150m from the road, as the air quality conservation target applies to “supporting habitat” and (HE says) the woodland 0m-150m from the SPA is not supporting habitat because the SPA birds are not found present in it (REP10-003, 4.3.8). HE states that only heathland of the SPA, where (they say) the birds are found present, is “supporting habitat”.
81. This argument is perverse. HE has fully acknowledged in its SIAA (REP4-018) the link between the invertebrates in the woodland and SPA site integrity so, on that basis, of course the woodland where the invertebrates live is supporting habitat:
- 81.1. First, there is insufficient survey information presented by HE to conclude that nightjar or woodlark do not use the woodland for feeding or other activities. Whether nightjar / woodlark use the woodland for feeding / other activities at this SPA is, based on the HE’s survey evidence, simply uncertain. See RHS’ REP8-054 (paragraphs 48-55). See also RHS’ REP11-038 where at 4.4.2 RHS also explains that the majority of the woodland within 150m of the A3/M25 is mixed woodland either “semi natural” or “plantation” (see HE’s AS006 Figure 3 Phase 1 Habitat Plan) and therefore potentially important habitat for feeding nightjar (see Alexander and Cresswell 1990, REP10-031).
- 81.2. In any event, even if the qualifying species do not themselves use the SPA woodland 0m-150m from the roads, the woodland is still “supporting habitat” within the terms of NE’s Supplementary Advice because the woodland provides the SPA birds with a source of invertebrate prey. This is beyond doubt given the following:
- 81.3. HE has stated on numerous occasions that the woodland 0-150m from the roads *is* SPA supporting habitat eg 7.2.10 of REP4-018 “*Whilst the mixed woodland to be lost as a result of the Scheme does not directly support the qualifying species as a nesting or foraging habitat, it does form a supporting habitat of the SPA and does contribute*

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to the overall invertebrate resource within the wider SPA.” Further examples are at paragraphs 7.4.3-7.4.7 SIAA (REP4-018)⁵. There are numerous other examples also in REP4-014. In all cases HE acknowledges this because HE recognises that the woodland is a *source of invertebrate prey* for the SPA birds. The following are some of the many paras from HE’s documents where this is recognised:

81.3.1. REP4-014: 1.1.2, 1.4.3, 2.1.7, 3.5.3, 5.1.7;

81.3.2. REP4-018: 7.2.10, 7.2.19, 7.2.21, 7.4.4, 7.4.5, 7.4.6, 7.4.7

81.4. HE in REP11-007(6.1.35) draws attention to the wording within the Supplementary Advice (REP5-034) which states “*within this SPA the principal habitats supporting these qualifying species are lowland heathland and rotationally managed coniferous plantation woodland*”. HE states that this shows that the SPA woodland 0m-150m from the roads is *not* “supporting habitat”. Again, this is not correct. Lowland heathland and rotationally managed coniferous plantation woodland are the breeding areas for the 3 qualifying species and so there is no surprise that this is a focus. But the wording is that these 2 habitat types are the “principal” supporting habitats, making absolutely clear that *other* habitats are also covered as supporting habitats.

81.5. HE in REP11-007 (6.1.42) claims that the APIS website states that nightjars are not sensitive to nitrogen impacts on coniferous woodland only. But as explained by RHS in REP11-038 response to ExQ4 Q4.4.13 APIS is focussing only on breeding nightjar so this does not address the point.

81.6. Most importantly, however, HE’s argument (that the woodland is not “supporting habitat”) is completely inconsistent with the CJEU caselaw given that HE has already acknowledged in REP4-018 the link between the invertebrates of the woodland and the integrity of the SPA:

81.6.1. The adverse effect test of regulation 63 of the Conservation of Habitats and Species Regulations 2017 relates to effects of the plan or project on “site integrity”. As referred to at the Annex, case C-164/17 confirms that “*In accordance with Article 4(1) of the Birds Directive, the designation of a territory as an SPA for the conservation of a species entails the lasting preservation of the constitutive characteristics of the habitat in that area, the survival of the species in question and its reproduction being the objective justifying the designation of that area*”. The concept of integrity is also defined by the European Commission (see Annex): “*The ‘integrity of the site’ can be usefully defined as the coherent sum of the site’s ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated*” (underlining added). The woodland is within the SPA boundary and it is acknowledged by both NE and HE that the woodland provides a food resource for the SPA’s qualifying species and that there is a pathway of impact from air quality to the SPA’s qualifying features via air quality impacts on the woodland vegetation and thereby on the woodland invertebrates (for NE

⁵ The SIAA acknowledged the role of the woodland invertebrates to the integrity of the SPA: 7.2.10 of REP4-018:

7.2.10 “Whilst the mixed woodland to be lost as a result of the Scheme does not directly support the qualifying species as a nesting or foraging habitat, it does form a supporting habitat of the SPA and does contribute to the overall invertebrate resource within the wider SPA.”

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see the third paragraph to its answer to ExQ4 Q4.4.2 at REP10-016; and for HE see paragraph 2.2.12 of its REP7-008). Hence, taking into account the meaning of the integrity test, it would absolutely be expected that there should exist air quality targets on the entirety of the SPA, including the woodland.

81.6.2. The CJEU court judgment in *C-461/17 Holohan v. An Bord Pleanála [2019]* in any event puts the matter beyond doubt. In *Holohan* the CJEU concluded “*Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an ‘appropriate assessment’ must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site” (emphasis added). Since HE and NE agree the existence of the pathway of impact to the SPA qualifying species via the woodland invertebrates, then *Holohan* makes clear that an assessment of air quality impacts on the woodland invertebrates must be undertaken and on that basis there is no logical basis for disregarding the air quality conservation objective targets in relation to those invertebrates.*

82. The question that the Secretary of State therefore must address in his appropriate assessment is whether the air quality impacts from the DCO Scheme alone or in combination with other plans or projects could affect the invertebrates in the woodland and thereby risk an adverse effect on the integrity of the SPA, taking into account the 3 conservation objective targets above.

83. The answer simply is that there is indeed a real risk of this:

83.1. HE accepts that the woodland 0m-150m from the roads contains invertebrates which are a prey resource for the SPA birds (eg 7.2.23 SIAA REP4-018)

83.2. There are clear and undisputed ecological mechanisms by which nitrogen deposition can affect invertebrates i.e. via changes in plant communities in the woodland upon which the invertebrates rely but also through chemical changes in the leaves of plants upon which the invertebrates feed, chemical changes which have been proven to have several effects upon the survival of insects (REP6-024 and REP8-054).

83.2.1. This is acknowledged by HE at REP7-008 2.2.20 “*It is relatively straightforward to accept, on basic ecological principles, that a shift in vegetation composition as a result of nitrogen deposition will bring associated shifts in invertebrate biodiversity; many invertebrate species being more closely associated with particular plant communities. It does not follow however that any such shift would lead to a change in the overall biomass of the invertebrate resource of the SPA or represent a threat to the integrity of the Thames Basin Heaths SPA. As some vegetation becomes more dominant as a result of increased nitrogen deposition, certain invertebrates species will benefit, and whilst the composition may vary, the overall invertebrate biomass is likely to remain stable, therefore providing a continued invertebrate resource to the wider SPA”;*

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- 83.2.2. HE also states at 2.2.12 REP7-008 "... whilst the forecast changes in nitrogen deposition rates may have a very small effect on the assemblage (i.e. composition) of invertebrate species in the woodland buffer, it will not have a material effect on the overall biomass (i.e. abundances) of invertebrates.....;
- 83.2.3. RHS has presented detailed critiques of the potential impacts of elevated levels of nitrogen on invertebrate populations based on peer reviewed literature (REP6-024 and REP8-054). See also RHS' REP11-038 comments on responses to ExQ4 Q4.4.13 in relation the Leiden University and the Kurze et al papers); and
- 83.2.4. HE acknowledges at 7.2.33 SIAA (REP4-018) that "*significant increases in nitrogen deposition resulting from the Scheme ...could lead to a reduction intheir [the SPA birds'] invertebrate resource.*" HE acknowledged early on that that there will be "*significant increases*" in air pollutants on woodland within the SPA from the DCO Scheme (3.2.14 SoCG REP8-022).
- 83.3. The SPA's qualifying bird species do have feeding preferences so that if nitrogen deposition were to affect certain invertebrate prey in the woodland, this could adversely affect the birds:
- 83.3.1. The composition of the invertebrate biomass and the relative abundance of different specific prey items and size relied upon by each of the SPA interest features are crucial to site integrity (see paragraphs 32-39 RHS' REP8-054, in particular 37, 38 and 39, which show how NE's own conservation objective food availability targets focus on the "*key prey items*" at "*prey sizes preferred by [nightjar / woodlark / Dartford warbler]*");
- 83.3.2. Many of the papers quoted by HE in para 4.7.11 - 4.7.14 of REP4-018 also support the evidence that nightjar prefer certain prey species such as moths.
- 83.3.3. REP4-018 eg 4.7.11 states that nightjar feed primarily on flying insects such as moths and beetles.
- 83.3.4. See also RHS REP11-038 where at 4.4.2 RHS states "*For example, the fact that nightjar are nocturnal, aerial feeders favouring moths as prey is well established in the literature (see for example <https://www.bou.org.uk/the-secret-lives-of-nightjars/> where it is stated 'Moths are a key component of the Nightjar diet (Cramp 1985, Sharps 2013) and we were interested to find out if Nightjars were foraging in the habitats with the greatest moth biomass*".
- 83.4. It is known that the SPA is already suffering from excessive levels of nitrogen. This is clear from RHS's Table A. Also, under the Thames Basin Heaths SPA Site Improvement Plan dated 3 November 2014⁶, it is stated on page 4/20 under "Air Pollution: impact of atmospheric nitrogen deposition" that the measure required is "*Agree and implement Nitrogen management/mitigation strategies at all sites*". At page 12/20 it is stated that between 2014-2020 there should be an action to "*control,*

⁶ Site Improvement Plan: Thames Basin 03/11/2014 available at <http://publications.naturalengland.org.uk/publication/6249258780983296>

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*reduce and ameliorate atmospheric nitrogen impacts". On page 1/20 the plan states that "the plan provides a high level overview of the issues (both current and predicted) affecting the condition of the Natura 2000 features on the site(s) and outlines the priority measures required to improve the condition of the features". Para 4.4.2 of REP4-018 (footnote) makes clear that air quality "is a priority issue for all 3 qualifying features of the SPA according to the TBH Site Improvement Plan" and this is confirmed by Table 5. TBH Site Improvement Plan states on page 12/20 "Nitrogen deposition exceeds the site-relevant critical load for ecosystem protection. The aerial pollution may be promoting changes in species composition of mires towards *Molinia* and sedge dominated systems rather than *Sphagnum* dominated; spread of *Molinia* into wet and dry heath also appears to be promoted by high nitrate levels. This is most likely to be a current issue at Chobham Common but may represent a chronic adverse impact over the complex as a whole."*

- 83.5. The additional nitrogen to be deposited on the SPA woodland in 2022 by the DCO Scheme at transects 1, 3 and 4, both alone and in combination with other plans and projects, as compared with where the DCO Scheme does not proceed, are significant and take the SPA further away than would otherwise be the case from the required critical load of 10Kg N/ha/yr which the SPA's conservation objectives targets (REP5-034) require the SPA to be at or below.
- 83.6. Insufficient evidence has been provided by HE or NE to justify their conclusions that there is certainty as to an absence of adverse effect on site integrity from air quality impacts on woodland invertebrates:
- 83.6.1. No data / evidence has been provided as to the dependency of the SPA birds on invertebrates in the woodland 0m-150m from the roads, e.g. what proportion of the qualifying species' prey comes from the woodland and what invertebrate species are important for the qualifying species at this site;
- 83.6.2. No data / evidence has been provided as to which invertebrates are present in the woodland at this site (i.e. the invertebrate prey resource) and which may be affected by nitrogen;
- 83.6.3. No data / evidence has been presented on the extent to which woodland invertebrate prey of the birds are already being harmed or affected by the existing excessive levels of nitrogen present at this site above the critical load;
- 83.6.4. No data / evidence has been presented on how / in what way the composition of invertebrates in the woodland might change as a result of the forecast changes in nitrogen deposition levels and how this might relate to the differing prey item and size requirements of the qualifying species;
- 83.6.5. No data / evidence has been presented that the SPA qualifying species are generalist feeders, when the literature and NE's conservation objective targets show that the birds have prey preferences;
- 83.6.6. No data / evidence has been presented to explain how SPA birds might switch their feeding preferences to invertebrate species which benefit from high levels of nitrogen;

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- 83.6.7. No data / evidence has been provided as to how NE has come to the view that changes in air quality are unlikely to / will not give rise to “*measurable effects*” (REP10-016). No reference has been made to any of the published scientific data. By contrast the RHS has presented detailed critiques of the potential impacts of elevated levels of nitrogen on invertebrate populations based on the peer reviewed literature (REP6-024 and REP8-054);
- 83.6.8. No data / evidence has been provided to support NE’s view at 4.4.12 of REP10-016 that small changes in prey availability, should they occur, are unlikely to have any measurable impact on nightjar since “*They will simply select other areas for feeding*”. There is no assessment of where the ‘other’ feeding areas may be and the energy cost to the birds of flying to these new sites;
- 83.6.9. No data / evidence has been provided, based on the forecasted levels of nitrogen deposition in the woodland, to support HE’s view (REP7-008, 2.2.12) that the nitrogen deposition effect it now acknowledges on the invertebrate assemblage (i.e. composition) in the woodland would be “*very small*”;
- 83.6.10. No data / evidence has been provided, based on the forecasted levels of nitrogen deposition in the woodland, for HE’s view (REP7-008) that the effect on overall invertebrate biomass “*is likely to remain stable, therefore providing a continued invertebrate resource to the wider SPA*” (2.2.20); and that “*...the forecast changes in nitrogen deposition will not have a material effect on the overall biomass (i.e. abundances) of invertebrates*” (2.2.12) and that “*...any changes in air quality within the woodland buffer ... will not result in a perceptible reduction in the invertebrate biomass within the SPA for the SPA qualifying species*” (2.2.26);
- 83.6.11. No data / evidence has been provided, based on the forecasted levels of nitrogen deposition in the woodland, for the assertion made by NE that “*aerial pollution effects, should they occur, in the woodland buffer will not that measurable effects on the Annex 1 bird species*”[sic] (e.g. REP10-016 NE (4.4.15));
- 83.6.12. No data / evidence has been provided for HE’s SoCG assertion (REP8-022, 3.2.7) that “*although a shift in vegetation composition as a result of changes in nitrogen deposition rates could bring associated minor shifts in invertebrate assemblage, these would be associated with sensitive lower plants/lichen species*”. There is no evidence to show that any effects are confined to lower plants, neither has any evidence been presented to show which invertebrates are affected, consequently there is no evidence to show that these changes will not affect the feeding resource of the SPA birds. HE has presented no evidence to show which lichens / lower plants are even present in the woodland <150m from the roads or how these species will be affected and the knock-on effects on invertebrate populations; and
- 83.6.13. No data / evidence has been presented for HE’s SoCG assertion (REP8-022, 3.2.7) that “*invertebrate assemblages associated with sensitive lower plants/lichen species are not a key component in the foodweb supporting the SPA qualifying species*”. RHS by contrast has presented evidence

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which demonstrates that effects on invertebrates may arise through changes in the concentration of nitrogen in the plants upon which they feed (REP008 054 Appendix entitled 'Further evidence relating to the effects of nitrogen on invertebrates'). These impact pathways are not confined to lower plants.

84. By way of further illustration of the uncertainties in the conclusions on this point before the Examination:

84.1. HE's position has been mercurial throughout the examination:

84.1.1. In REP7-008 HE acknowledged (2.2.12) that there could be an AQ impact on the *invertebrate assemblage* in the woodland buffer "*from the forecast changes in nitrogen deposition rates in this DCO Scheme*", although HE stated there would be no material effect on the *overall invertebrate biomass (ie abundances)*;

and yet HE then amended its position to:

84.1.2. (REP7-008 2.2.26) "*Although the physical loss of woodland may result in a reduction in the invertebrate biomass, it can be concluded beyond reasonable scientific doubt that any changes in air quality within the woodland buffer as a result of the Scheme will not result in a perceptible reduction in the invertebrate biomass within the SPA for the SPA qualifying species.*"

and yet then amended its position to:

84.1.3. (REP8-022 (the NE / HE SoCG) 3.2.7) "*It should be noted, as set out in Highways England's response to RHS's REP6-024 submission (TR010030/Volume 9.86 which is submitted at D7), that although a shift in vegetation composition as a result of changes in nitrogen deposition rates could bring associated minor shifts in invertebrate assemblage, these would be associated with sensitive lower plants/lichen species which are not a key component in the foodweb supporting the SPA qualifying species. Therefore, it is the opinion of Highways England that the overall invertebrate biomass available to the SPA qualifying species would remain stable*".

and yet then amended its position further to:

84.1.4. (REP9-003, page 10) the "*established woodland buffer will continue to function in the same way as it currently does and provide the same invertebrate resource as it currently does.*"

84.2. NE's position is also unclear:

84.2.1. At REP10-016 NE makes clear its uncertainties (4.4.2) "*The particular sensitivities of invertebrate assemblages to nitrogen deposition has not been studied in detail. It could be predicted that there may be small changes in the balance between particular species or species groups if for example nitrogen deposition encouraged growth of bramble and this replaced bracken. However, whether this is likely to result in a measurable change in overall abundance of invertebrates is much more difficult to*

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predict and would depend on a wide range of other factors". NE does not list what these other factors might be. Clearly there is doubt here.

- 84.2.2. At REP10-016 NE (4.4.12) seems to acknowledge that (directly contrary to HE's claims) there *could* be small changes in overall *invertebrate abundance* and talks about the likelihood of effects on the SPA birds. Likelihood, of course, does not amount to the standard of certainty required (see Annex to this document): NE states: "... *it seems highly unlikely that small changes in invertebrate abundance in the woodland buffer will make any measureable difference to overall food availability for these birds. Dartford warbler are extremely unlikely to be affected at all as they feed almost exclusively on invertebrates living in their immediate territory (usually a fairly small area of dense gorse or mature heather). Similarly, woodlark are extremely unlikely to be affected. They do not generally feed on invertebrates associated with woodland, rather they feed almost exclusively on species associated with warm, open ground such as ants and ground beetles. Nightjar can range over quite large areas to feed. So small changes in prey availability, should they occur, are unlikely to have any measurable impact on nightjar....*".
- 84.2.3. At REP10-016 NE (4.4.13) again seems to acknowledge that (directly contrary to HE's claims) there *could* be small changes in overall invertebrate biomass and now talks about its belief (again not meeting the required standard of certainty): "*As stated above Natural England does not believe that small changes in invertebrate biomass in the woodland buffer, should they occur, would have measurable effects on the ability of the site to support nightjar.*"
- 84.2.4. At REP 10-016 (4.4.15) NE then states "*NE is confident that aerial pollution effects, should they occur, in the woodland buffer will not have measurable effects on the Annex 1 bird species*". But this is inconsistent with NE's statement at REP10-016 4.4.2 (above).

85. Furthermore:

- 85.1. All these statements above have been made at Deadline 10 or before i.e. *before* the arrival of the fuller air quality data provided at deadline 10 (REP10-007) and before the RHS production of Table A (REP11-040) and RHS' Modelling Note (RE11-041). Hence the statements have not been informed by the fullest air quality data.
- 85.2. Neither have these statements been informed by the need for the SPA woodland to be restored to at or below the critical load of 10 kg N/ha/yr, which the DCO Scheme is (by reference to Transects 1, 3 and 4) making much more unlikely than would otherwise be the case. HE has argued throughout that this conservation objective target does not apply to the woodland and hence HE has certainly not addressed this. The Secretary of State's conclusions as to adverse effect on integrity from an air quality pathway must be informed by the exceedance over critical load suffered by this SPA, the Site Improvement Plan's requirements and the fact that the air quality data at transects 1, 3 and 4 show that the DCO Scheme draws the SPA yet further away from meeting the critical load.

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- 85.3. In the well-known Dutch Nitrogen case the CJEU at paragraph 103 stated⁷: “*In circumstances such as those at issue in the main proceedings, where the conservation status of a natural habitat is unfavourable, the possibility of authorising activities which may subsequently affect the ecological situation of the sites concerned seems necessarily limited.*” The CJEU in this way is indicating the additional caution that the CJEU requires to be exercised at appropriate assessment where the SPA is in unfavourable condition. Ockham Common (which is the land to the east of the A3) is in “unfavourable (recovering)” condition⁸ and hence this CJEU requirement applies.
86. The above analysis demonstrates that the Secretary of State cannot conclude, with certainty / with “*no reasonable scientific doubt as to the absence of such effects*” as the caselaw requires, that there will be no adverse effect on the integrity of the SPA through air quality impacts on woodland invertebrates.
87. HE seeks to make a new argument in REP11-007 (6.1.43-6.1.45) that the *existing invertebrate baseline* in the woodland is the correct basis on which to measure any impact of the DCO Scheme on the SPA. HE argues on this basis that since the DCO Scheme’s operational nitrogen rates will be lower than the existing baseline there is no issue. This is obviously wrong and displays a fundamental misunderstanding of the Wild Birds Directive whose purpose is (Article 1(2)) “*to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1*”. In addition the Secretary of State’s appropriate assessment must be made in light of the SPA’s conservation objectives (see regulation 63(1) of the Conservation of Habitats and Species Regulations 2017) which refer to both maintenance and restoration of the various listed functions and processes and population. The conservation objectives also include reference to the conservation objective targets that specify the need to restore the SPA’s air quality to at or below critical load. So the baseline is not (as HE claims) the “existing invertebrates”. The baseline instead is the health of the SPA, including the levels of invertebrates in the woodland, if the levels of nitrogen deposition at the SPA were at or below its critical load.
88. As already pointed out above, HE’s own Habitat Regulations Assessment Guidance (LA115 (REP11-039 and see Annex 1) has the effect of prohibiting a conclusion of no adverse effect on integrity in these circumstances.
89. Reference has been made to the Guildford case (*Compton Parish Council v Guildford Borough Council* [2019] EWHC 3242 (Admin), eg RE6-024, Freeths Annex paragraph 37). The difference between the Guildford case and the present DCO Scheme, as made clear by the judgment, are that:
- 89.1. In the present case HE and NE have at the outset in this case simply taken the view that all land within the SPA between 0m and 150m from the road can be disregarded for air quality impact assessment purposes since only air quality impacts on heathland are relevant and the nearest heathland is at 150m from the road. This approach finds no support whatsoever in the Guildford case. The approach adopted in the Guildford

⁷ Paragraph 103 of the judgement in *Coöperatie Mobilisation for the Environment UA, Vereniging Leefmilieu V College van gedeputeerde staten van Limburg and Stichting Werkgroep Behoud de Peel v College van gedeputeerde staten van Noord-Brabant* (In Joined Cases C-293/17 and C-294/17) <http://curia.europa.eu/juris/document/document.jsf?jsessionid=E2583630A2B1747FACAF53CC86BCA18D?text=&docid=207424&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=7892505>

⁸

<https://designatedsites.naturalengland.org.uk/SiteUnitList.aspx?SiteCode=S1001052&SiteName=&countyCode=&responsiblePerson=&unitId=&SeaArea=&IFCAArea=>

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case was instead (as one would expect) to consider at what distance from the roads the air pollutant increases would be significant and then consider how those significant increases might affect the integrity of the SPA.

- 89.2. Crucially, in the Guildford case there was no acknowledgement in the shadow appropriate assessment that: (i) loss of invertebrates in the woodland within the SPA between the road and the heathland due to land-take *will* amount to an adverse effect on SPA site integrity so clearly acknowledging the relevance of the woodland invertebrates to site integrity; nor (ii) was there recognition that the Management Plan envisages thinning and clearing of woodland in the SPA 0m-150m zone from the roads. These two very significant differences mean that the Guildford case cannot be regarded as applying to the DCO Scheme since these two points make absolutely clear that the woodland 0m-150m from the roads *is highly relevant* to the integrity of the SPA.

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THE SECRETARY OF STATE ALSO CANNOT COMPLETE AN APPROPRIATE ASSESSMENT SINCE NO ASSESSMENT HAS BEEN PROVIDED BY HE OR NE OF THE EFFECT ON SPA INTEGRITY FROM THE LOSS OF OR CHANGES TO THE EXISTING WOODLAND 0M-150M FROM THE ROADS SO AS TO DELIVER IN THESE AREAS SO-CALLED “COMPENSATORY HABITAT”

90. The assessment undertaken on impacts of the DCO Scheme on the integrity of the SPA by NE and HE is deficient in a further respect.
91. This is because no assessment been made by HE or NE of the effect on SPA integrity from the loss of or changes to the existing woodland 0-150m from the roads so as to deliver in these areas so-called “compensatory habitat”, given that HE and NE have at the same time stressed the relevance to SPA site integrity of the woodland as a resource for invertebrate prey for the SPA qualifying species and as a “buffer” from the roads.
92. HE has made clear in REP4-018 the impact on SPA integrity from land-take for the DCO Scheme of the woodland 0m-150m from the roads (see 7.4.1 – 7.4.8), through removal of the woodland buffer and removal of an invertebrate resource.
93. The removal or thinning of woodland to create so-called compensatory habitat needs also to be factored into that assessment and has not been.

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THE DCO SCHEME CANNOT BE CONSENTED SINCE THE “NO ALTERNATIVE SOLUTIONS” DEROGATION TEST IS FAILED

94. **The analysis presented by HE in REP4-014 on the no alternative solutions test is wholly deficient**
95. It is clear from the evidence (and gaps in evidence) before the Examining Authority that the Secretary of State, as the competent authority, must conclude under regulation 63 Conservation of Habitats and Species Regulations 2017 that he cannot be certain that there will be no adverse effect on the integrity of the Thames Basin Heaths SPA from the DCO Scheme either alone or in combination with other plans or projects, through both land-take from the SPA and through air quality impacts on the SPA.
96. It follows therefore that the Secretary of State must consider the no alternative solutions test; and must do so in the context of both land take and air quality impacts.
97. This is confirmed by CJEU caselaw which makes clear that consideration of “alternative solutions” under Article 6(4) of the Habitats Directive (implemented by regulation 64(1) of the Conservation of Habitats and Species Regulations 2017) must be informed by a robust assessment under Article 6(3) of the Habitats Directive. In its ruling in case C-304/05 *Commission v Italian Republic*, paragraph 83, the Court stated that:

“Article 6(4) of Directive 92/43 can apply only after the implications of a plan or project have been studied in accordance with Article 6(3) of that directive. Knowledge of those implications in the light of the conservation objectives relating to the site in question is a necessary prerequisite for application of Article 6(4) since, in the absence thereof, no condition for application of that derogating provision can be assessed. The assessment of any imperative reasons of overriding public interest and that of the existence of less harmful alternatives require a weighing up against the damage caused to the site by the plan or project under consideration. In addition, in order to determine the nature of any compensatory measures, the damage to the site must be precisely identified” (see also C-399/14, C-387&388/15, C-142/16).

98. This conclusion is also supported by HE’s own HRA guidance (LA 115,, REP11-039) which states at paragraph 1.4 that *“this document shall be implemented forthwith on all projects involving Habitats Regulations assessment on the motorway and all-purpose trunk roads according to the implementation requirements of GG 101 [Ref 5.N]”*. Paragraph 5.1 goes onto state:

“Formal assessment and reporting of alternative solutions shall be undertaken where the SIAA:

- 1) concludes that there are adverse impacts of greater than negligible magnitude; or*
- 2) contains insufficient information on any impact”.*

99. The Secretary of State must therefore satisfy himself that no feasible less damaging alternative exists:

- 99.1. The National Networks National Policy Statement states (emphasis added):

“4.24 If a proposed national network development makes it impossible to rule out an adverse effect on the integrity of a European site, it is possible to apply for derogation from the Habitats Directive, subject to the proposal meeting three tests. These tests are that no feasible, less-damaging alternatives should exist, that there are imperative reasons of overriding public interest for the proposal going ahead, and that adequate

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and timely compensation measures will be put in place to ensure the overall coherence of the network of protected sites is maintained.”

99.2. HE’s HRA guidance agrees. LA 115’s Figure 5.2 (REP11-039) states that the relevant question is *“Are there feasible alternatives which result in less harm to interest features?”*

99.3. The European Commission’s Managing Natura 2000 Guidance dated November 2018 states at page 58 in relation to the No Alternative Solutions test (emphasis added):

“Subsequently, the competent authorities should examine the possibility of resorting to alternative solutions which better respect the integrity of the site in question. All feasible alternatives that meet the plan or project aims, in particular, their relative performance with regard to the site’s conservation objectives, integrity and contribution to the overall coherence of the Natura 2000 network have to be analysed, taking also into account their proportionality in terms of cost. They might involve alternative locations or routes, different scales or designs of development, or alternative processes.”

“It is for the competent national authorities to ensure that all feasible alternative solutions that meet the plan/project aims have been explored to the same level of detail. This assessment should be made against the species and habitats for which the site has been designated and the site’s conservation objectives.”

100. HE has set out its analysis of the no alternative solutions test in its document REP4-014. HE concludes at 3.6.3 that:

“No feasible, less-damaging alternatives have been identified during option appraisal and design evolution that would meet the objectives of the Scheme but result in a lesser effect on the integrity of the SPA. As such this satisfies the test set out in the Habitats Directive and Habitats Regulations”.

101. The analysis presented by HE in REP4-014 is however wholly deficient and therefore the conclusion reached at 3.6.3 is incorrect and flawed because:

101.1. HE has limited its consideration of alternative solutions by reference to impacts on the SPA via *“land take, severance and disturbance effects”* only (see paragraph 3.4.23 REP4-014) and thereby has failed to take into account air quality effects of any potential alternative;

101.2. it fails to consider the RHS Alternative. The RHS Alternative is described fully in REP1-044. In summary the RHS Alternative is essentially the DCO Scheme with two key differences:

101.2.1. retention of an improved Wisley Lane entry to A3 Northbound carriageway (**“Wisley left turn”**); and

101.2.2. addition of south facing slips at the Ockham Roundabout (**“South Facing Slips”**).

HE’s REP4-014 merely makes reference to the Wisley left turn. Paragraph 3.5.8 (second bullet point) of REP4-014 refers to *“side roads and private means of access (PMAs)”* and expands upon this at Appendix B where it makes a single reference to

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the Wisley left turn element of the RHS Alternative at B.1.3(4). Nowhere in this document however is there any consideration of the South Facing Slips element of the RHS Alternative. Furthermore, nowhere in this document is there any appraisal of the RHS Alternative as a whole, or any component thereof (e.g. just the South Facing Slips), in relation to the risk of air quality impacts on the integrity of the SPA.

102. The Secretary of State therefore does not have before him the evidence necessary to conduct the required appraisal of the existence of any alternative solution to the DCO Scheme.
103. **Why the RHS Alternative is an alternative solution**
104. In any event it is clear from the information provided by RHS to the Examining Authority that the RHS Alternative *is* an alternative solution to the DCO Scheme.
105. The RHS Alternative is presented as incorporating both the above elements (Wisley left turn and the South Facing Slips). However, each of the two elements is self-standing (does not require the other element) and therefore, for example, the South Facing Slips could be delivered without the Wisley left turn; or vice versa.
106. Background to the RHS Alternative
107. The RHS Alternative was developed to address deficiencies in the HE proposals at the Preferred Route Announcement stage (which subsequently resulted in the DCO Scheme) and to achieve a more simplistic and efficient road layout and approach. The objective was to develop an alternative which:
 - 107.1. would not result in the loss of the most important RHS Garden land and trees;
 - 107.2. would not result in an increase in vehicle travel and emissions;
 - 107.3. would not require difficult and unusual journeys;
 - 107.4. would not result in RHS (and other Wisley Lane) traffic diverting through local villages such as Send and Ripley;
 - 107.5. would be capable of retaining bus access for the Site and the local area; and
 - 107.6. would be easy to sign and follow (thereby avoiding driver confusion and stress).
108. In particular, the RHS Alternative minimises U-turning movements at J10 and the Ockham roundabout where possible. This is achieved through the retention of a 'Wisley Left Turn', with improved highway geometry and weaving characteristics (eg a longer weaving length which slightly exceeds the weaving standard), and the addition of South Facing Slips at Ockham.
109. As set out in REP1-044, the overall conclusion was that, compared to the RHS Alternative, the DCO Scheme would result in;
 - 109.1. significant additional travel;
 - 109.2. confusing access to the Garden and others bound for Wisley Lane;
 - 109.3. additional traffic through local villages which currently uses the A3; and
 - 109.4. a significant overall worsening of access to the Garden.

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110. It is now undisputed with HE (see REP10-003, section 3) that the following traffic flow benefits / vehicle kilometre savings will result from the South Facing Slips component of the RHS Alternative:
 - 110.1. Compared to the DCO Scheme, there would be less traffic on the local road network (“LRN”) and Strategic Road Network (“SRN”) as a result of the South Facing Slips;
 - 110.2. Flows through Ripley (with South Facing Slips) would be broadly unchanged compared to the Do Minimum;
 - 110.3. Based on HE’s own modelling, when compared to the DCO Scheme, the South Facing Slips would reduce the annual travel on the LRN by 1,049,000 vehicle kilometres;
 - 110.4. When the same comparison is undertaken including the effects on the SRN the reduction in annual travel from the South Facing Slips would be 1,740,000 vehicle kilometres.
111. Further traffic flow benefits / vehicle kilometre savings will also result from the retention of a Wisley Lane connection to the A3 northbound. For example vehicle kilometre savings and traffic flow benefits will arise from the removal of u-turns at the Ockham roundabout although the wider benefits of these savings are not accounted for because HE has not modelled the Wisley left turn.
112. The RHS Alternative (both components) will also lead to journey time savings. With regard to journey times estimates, in all cases for Wisley Lane traffic, whether HE data or RHS data is used, the RHS Alternative results in improved journey times against the DoMinimum and DCO Scheme for all round-trips in the AM peak hour, Inter-peak hour and PM peak hour:
 - 112.1. For those travelling to/from the south, the RHS Alternative would provide significant journey time savings over the DCO Scheme of between 6 to 14 minutes.
 - 112.2. For those travelling to/from the north, the RHS Alternative would provide significant journey time savings of around 3 to 3½ minutes.
113. The RHS Alternative is feasible / meets the project aims:
114. According to the European Commission, an alternative solution is one that is “feasible” and “meets the plan or project aims” and “better respect the integrity of the site in question” (see above).
115. The RHS Alternative is clearly a “feasible” alternative “which meets the project aims”.
116. The DCO Scheme’s “client scheme requirements” are set out at 3.3.3 of REP4-014.
117. HE has raised no concerns about the RHS Alternative’s ability to meet the following scheme requirements at 3.3.3 ie:
 - 117.1. Route Operation – item 1
 - 117.2. Customer – item 2(a)-(c)
 - 117.3. Capacity – items 1 and 2
 - 117.4. Social – items 4, 5 and 6
 - 117.5. Environment – items 7, 8, 9, 10, 11

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118. Furthermore, the RHS Alternative will even go *further* towards achieving certain items listed in the client scheme requirements than the DCO Scheme. Please refer to Annex 3 of this document.
119. HE however claims that the Wisley left turn element of the RHS Alternative is unsafe. HE states that this means that the RHS Alternative does not meet HE's "safety" client scheme requirement (see HE's REP11-007 in relation to ExQ4 4.2.1; and HE's response to ExQ4 4.4.1 (REP10-004)).
120. The client scheme requirements listed in paragraph 3.3.3 REP4-014 include:
- 120.1. "Safety: reduce annual collision frequency and severity ratio on the main line A3, slip roads and M25 J10 gyratory."
121. HE states in its answer to ExQ4 Q4.4.1 (REP10-004): "*Accordingly the so called RHS alternative is not a feasible alternative to the Scheme for the purposes of the Habitats Directive. It is not an alternative which would meet the objectives of the Scheme (as defined by the Client Scheme Requirements – i.e. the requirements for the Scheme as set by the Department for Transport) whilst giving rise to lesser impacts on a European site. The Client Scheme Requirements include a requirement in respect of safety that the Scheme should 'Reduce annual collision frequency and severity ratio on the main line A3, slip roads and M25 junction 10 gyratory' (see REP4-014 at page 6)*".
122. HE states in REP11-007 (6.1.11) that "*Here the RHS Alternative Scheme emerged as an alternative option during engagement between Highways England and RHS and, as stated above, it was considered by Highways England in the Side Roads Report and reported in the Consultation Report, but those reports – and Highways England's further evidence to the examination such as [REP8-047 pp29-31] - make it clear that the retention of a left-in / left-out solution for Wisley Lane is unacceptable on safety grounds. It was therefore perfectly proper, and indeed reasonable, for Highways England to reject the RHS Alternative Scheme on safety grounds and, having done so, it ceased to be an 'alternative solution' for the purposes of articles 6(4)*".
123. HE is incorrect to claim that the Wisley left turn component of the RHS Alternative is not acceptable on safety grounds or that the RHS Alternative will not "*reduce annual collision frequency and severity ratio on the main line A3, slip roads and M25 Junction 10 gyratory*".
124. The Wisley left turn component *is* safe:
- 124.1. HE has relied on accident records in an attempt to show that the existing Wisley Lane left turn onto the A3 northbound carriageway is inherently unsafe and therefore that this element of the RHS Alternative is unsafe. But this conclusion is not justified by the evidence presented to the DCO (see REP5-053 and REP7-040):
- 124.1.1. HE supplied RHS with their additional, later, accident data which they referred to in the BDB Pitmans letter of the 24/12/19 and which RHS reproduced in REP5-048. At Issue Specific Hearing 2 in January 2020 HE suggested that, despite earlier references to much lower numbers, there were some 20 accidents specifically related to weaving, from the Wisley Lane connection with the A3 for the five-year period 1/12/13 to 30/11/18.
- 124.1.2. As reported in REP5-053 HE had, however, incorrectly assumed that all 20 accidents on the northbound carriageway of the A3 between Wisley

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Lane and J10 off-slip were weaving accidents specifically related to the Wisley Lane junction. That assumption is misconceived.

124.1.3. As shown in REP5-048;

- 12 of the 20 accidents were Shunt-type incidents, which are typical of congested conditions (such as those currently witnessed on the approach to Junction 10) whereby approach traffic collides with the rear of slower moving or stationary traffic;
- 5 of the accidents were a result of a mainline lane change, some of which again could be indicative of traffic switching lanes as they approach slowing traffic;
- only 2 of the 20 accidents in the five year period referred to by HE were marked as being specifically related to weaving movements from Wisley Lane, and one of these is indicated as this being a 'possibility'; and
- with regard to severity, neither of these 2 weaving accidents resulted in a Serious or Fatal casualty.

124.1.4. Despite the existing layout of the current Wisley Lane connection with the A3 northbound, 2 Slight accidents over a period of 5 years does not suggest, as claimed by HE, that there is a significant safety issue as a consequence of this existing connection to the A3.

124.2. HE's safety concern as regards the Wisley left turn principally derives from the "weaving length" between the left turn on-slip and the junction 10 offslip. This is clear from REP2-014 (page 78).

124.3. But this concern is not justified because it is now agreed that the existing weaving length of 865m will be *improved* by the RHS Alternative and that the resulting weaving length will *exceed* the DMRB 1km standard for weaving lengths (this is now agreed in the SoCG between HE and RHS (REP8-031)).

124.4. In REP11-007, HE argues that a further deficiency is that vehicles wishing to travel north on the A3 would cross two lanes of traffic. However this particular feature is not precluded within the highways standards (REP3-044 page 5) and there is no other highway design standard which the RHS Alternative Scheme has not met in respect of this lane configuration.

125. Moreover the RHS Alternative will "*reduce annual collision frequency and severity ratio on the main line A3, slip roads and M25 Junction 10 gyratory*"; and is likely to do so more than the DCO Scheme:

125.1. First, since the RHS Alternative is essentially the DCO Scheme but with the retention of an improved Wisley Lane connection to the A3 northbound carriageway and South Facing Slips at Ockham Roundabout, the benefits which derive from the DCO Scheme in respect of highway safety, will also be derived from the RHS Alternative.

125.2. Secondly, the RHS Alternative will be safer than the DCO Scheme because the RHS Alternative (specifically the South Facing Slips) reduces the number of vehicle kilometres travelled on both the LRN and SRN (see the significant per annum vehicle

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kilometre savings from the South Facing Slips explained above). The safety benefits of driving fewer kilometres under the RHS Alternative will be significant. These savings have not however been accounted for by HE. In order to determine the net safety effect of the RHS Alternative, HE should have undertaken a full and proper assessment of the overall effects of the RHS Alternative, but HE has not done this.

- 125.3. Thirdly, the RHS Alternative will be safer than the DCO Scheme because of the RHS Alternative's removal of unnecessary u-turning movements at Junction 10 and the Ockham Roundabout. U-turning movements at roundabouts are the most onerous movements and have the most significant highway impact because they have a bearing on all arms of an interchange (REP1-044 section 5.4). Where approach arms join the circulatory section of roundabouts, conflict points for potential accidents occur. The RHS Alternative will remove u-turning movements at Junction 10 and Ockham Roundabout which will deliver a reduced number of accidents. By contrast the sign-posted DCO Scheme requires multiple new u-turning movements for trips to and from the south. Again, these savings have not however been accounted for by HE.
- 125.4. Fourthly the RHS Alternative has the effect of avoiding traffic travelling through Ripley and Send. This is beneficial because, although HE has not been able to validate conditions within their traffic models, Ripley already suffers from congestion (REP3-043 pages 3 and 4) and routing traffic through villages (as would result from the DCO Scheme) would lead to a greater interaction with pedestrians (REP5-053 page 28).
- 125.5. Fifthly the RHS Alternative delivers a simpler road system with simpler signing and routing compared with the complexity of the DCO Scheme signage. As RHS stated in REP1-044 (sections 6.13 to 6.15) this simpler signage would be expected to result in less driver stress.
126. HE also argues (see its answer to ExQ4 4.4.1 (REP10-004)) that *"In terms of the impact on the SPA 'WIS12' (a 'left-out' arrangement involving a direct access slip road from Wisley Lane to A3 northbound) would be greater than 'WIS11' (a southern link road option which forms part of the Scheme)"*.
127. This is not correct.
128. RHS has already explained in full in REP7-040 (paragraphs 24-32) and again in REP8-054 (paragraphs 92 to 95) that the RHS Alternative will lead to no additional impact on the integrity of the SPA through land take than the DCO Scheme. This is because the tiny sliver of additional land within the SPA which will be lost through the Wisley left turn component of the RHS Alternative is land meeting NE's definition of "site fabric" and hence its loss has no relevance to the integrity of the SPA. This land is merely roadside verge with street furniture and sign posts.
129. NE's definition of "site fabric" is found on page 16 of NE's traffic emissions guidance document (REP10-029, see footnote). The definition is repeated here for ease: *"'Site-fabric' is a general term used by Natural England to describe land and/or permanent structures present within a designated site boundary which are not, and never have been, part of the special interest of a site, nor do they contribute towards supporting a special interest feature of a site in any way, but which have been unavoidably included within a boundary for convenience or practical reasons. Areas of site-fabric will be deliberately excluded from condition assessment and will not be expected to make a contribution to the achievement of conservation objectives."*
130. *The RHS Alternative better respects the integrity of the Thames Basin Heaths SPA*

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131. HE argues that the RHS Alternative has a greater impact on the integrity of the SPA than the DCO Scheme because of the loss of a tiny sliver of additional land within the SPA which will be lost through the Wisley left turn aspect of the RHS Alternative. For the reasons given above at paragraph 127, this is not correct.
132. For the avoidance of doubt, there is no land take of the SPA associated with the South Facing Slips aspect of the RHS Alternative.
133. The RHS Alternative (whether with or without the Wisley Lane “left out”) does however better respect the integrity of the SPA than the DCO Scheme in relation to air quality impacts.
134. In HE’s REP3-017 (paragraph 5.3.3.2) it was stated that:
- “It is also recognised that the incorporation of south-facing slip roads could potentially generate some environmental benefits, but these have not yet been assessed as part of this exercise. These could potentially include reduced noise and emissions in Ripley, if the slip roads led to rerouting of traffic away from Ripley. However, it is unlikely that these benefits would be particularly significant as apart from those trips originating in the south and destined specifically for Wisley Lane, relatively few journeys would have the need to exit the A3 northbound at Ockham. It is assumed that most trips for example originating from Guildford and destined for West and East Horsley (which are the main built-up areas likely to generate trips via Ockham) would use the A25 and A246 as a more direct route....”*
135. However, since then, HE has carried out traffic modelling of the South Facing Slips which has confirmed some of the kilometre saving benefits which would arise as a consequence of this particular component of the RHS Alternative Scheme, see paragraph 110 above.
136. Furthermore HE has now provided in REP10-004 (in answer to ExQ4 Q4.4.16), based on its traffic modelling, calculations of the Nitrogen deposition from the RHS Alternative at 4 of the HE transects alongside the A3 (transects 3, 4, 5 and 6).
137. These figures have been corrected by RHS to reflect a (non-precautionary) estimate of the additional contribution of ammonia since HE had failed to provide this “ammonia” information in response to this question. The corrected figures from RHS are found at Table B (REP11-038, page 15) in the row relating to question 4.4.16.
138. HE states at 4.4.16 of REP10-004 that *“the difference in nitrogen deposition rates when comparing the Applicant’s scheme and the RHS Alternative is small and can be considered de minimis at the receptor points representing the supporting habitats for the qualifying features”*.
139. This is not correct.
140. The figures in Table B show that, when the proxy contribution of ammonia is taken into account, the RHS Alternative brings significant, not *de minimis*, nitrogen deposition benefits (improvements) in 2022 compared with the DCO Scheme for all locations on transects 3 to 6 (up to a 4.2% reduction in relation to the critical load of 10 kg N/ha/yr at receptor R149 on Transect 4). The Transect locations can be seen at Baker Consultants Ltd’s Figures 1-4 (REP11-042, -043, -044 and -045).
141. This reduction is simply because of the fewer traffic movements on the A3 associated with the RHS Alternative compared with the DCO Scheme.

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142. The RHS Alternative therefore brings about significant improvements that will help drive down nitrogen deposition levels within the SPA by comparison to the position under the DCO Scheme.
143. As shown on RHS's Table A (REP11-040), this is particularly important for transects 3 and 4, where the DCO Scheme alone will have a significant (>1%) adverse impact on nitrogen deposition out to more than 25m from the road on transect 3 and more than 75m from the road on transect 4; and in combination will have a significant (>1%) adverse impact on nitrogen deposition even further into the SPA from the road (see also the Table 2 and 3 in AQC Modelling Note REP11-041).
144. The improvements in Table B seen with the RHS Alternative compared with the DCO Scheme are significant because:
 - 144.1. they apply to the woodland areas of the SPA which is acknowledged to provide an invertebrate resource for the qualifying species of the SPA, with invertebrates known to be sensitive to nitrogen deposition;
 - 144.2. the improvement seen at transect 3 (0 to just over 25m from the road) relates to a part of the SPA identified for woodland thinning under the Wisley & Ockham Commons Management Plan 2010 - 2020 (see Baker Consultants Ltd's Figure 1, management area 3f) so as to provide enhanced habitat for the SPA qualifying bird species; and
 - 144.3. the improvement seen at transect 4 (0 to just over 75m from the road) relates to a part of the SPA identified for woodland thinning under the Wisley & Ockham Commons Management Plan 2010 - 2020 (Figure 1, management areas 9f and 9k in REP11-042) so as to provide enhanced habitat for the SPA qualifying bird species.
145. The improvements in nitrogen deposition seen with the RHS Alternative compared with the DCO Scheme in Table B are also significant because;
 - 145.1. the improvement seen at transect 4 (0m to just over 75m from the road) relates to a part of the SPA identified for woodland clearance under SPA Enhancement Area E2 (see Baker Consultants Ltd's Figure 2, E2) so as to provide enhanced habitat for the SPA qualifying bird species.
146. The extent of impact of the improvement in nitrogen deposition seen with the RHS Alternative compared with the DCO Scheme cannot in fact be fully known since HE has not provided isopleth charts showing the full air quality impacts of either the DCO Scheme or the RHS Alternative on the SPA. Data are merely provided for a small number of transects. See REP1-043 para 23, page 9.
147. The SPA already suffers (and will still suffer in 2022) significant exceedances of the critical load (see Table A, where the exceedances only show the contribution of ammonia up to 30m from the road and hence the figures beyond 30m are a significant underestimate). The improvements in nitrogen deposition caused by the RHS Alternative, compared with the DCO Scheme, will have a beneficial effect in reducing the adverse effects of excessive levels of nitrogen deposition upon the SPA. Examples of such effects are deleterious changes in vegetation structure and composition and effects on invertebrates. It is acknowledged by HE that the SPA qualifying features feed on the woodland invertebrates.
148. In conclusion, the RHS Alternative (reflecting both the Wisley left turn and the south facing slips) is an alternative solution i.e:

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- 148.1. it is feasible and will meet the “client’s requirements”, including the client scheme “safety” requirement; and
 - 148.2. it will have the effect of better respecting the integrity of the SPA compared with the DCO Scheme since fewer kilometres per year will be driven under the RHS Alternative with fewer vehicle emissions and consequently reductions in deposition of nitrogen to the SPA alongside the A3, where the critical load will still be exceeded by a large margin in 2022. There is much to be done to meet the air quality conservation objective target applicable to this SPA (see NE’s Supplementary Advice REP5-034), and the RHS Alternative is an alternative solution that helps (more so than the DCO Scheme) to move conditions in the SPA in the direction of meeting the air quality conservation objective targets.
149. Equally the South Facing Slips element of the RHS Alternative, when taken alone, is also an alternative solution i.e. it is feasible, will meet the “client’s requirements” and will have the effect of better respecting the integrity of the SPA. It is noted that HE has not sought to argue that the South Facing Slips are not “feasible” and so it is common ground that the South Facing Slips are an “alternative solution” for the purpose of regulation 64 of the Conservation of Habitats and Species Regulations 2017.

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INADEQUATE AND INVALID COMPENSATORY HABITAT MEANS THAT THE REQUIREMENT OF REGULATION 68 OF THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017 CANNOT BE MET

150. There are four reasons why the HE-proposed compensatory habitat is inadequate and invalid and does not fulfil the requirements of regulation 68 of the Conservation of Habitats and Species Regulations 2017 to ensure that the overall coherence of the Natura 2000 network is protected.
151. First, HE has not made provision for compensatory habitat in respect of the impacts of air quality. HE have incorrectly concluded that there will be no adverse impacts due to air quality and as a result have failed to provide adequate compensation measures for this.
152. Secondly, large areas of the purported compensatory habitat is land already subject to the SPA's Wisley and Ockham Commons Management Plan (REP10-019) and so the proposed compensation represents either "no gain" or a "downgrade" by reference to the requirements of the Management Plan. These areas cannot be counted as valid compensation.
153. Thirdly, there will be air quality impacts from the DCO Scheme (see RHS's Table A / RHS' Modelling Note) on certain SPA enhancement areas, the impacts of which have not been sufficiently assessed and as such the technical feasibility of delivery of these areas as compensatory habitat has not been demonstrated. These areas cannot therefore be regarded as valid compensation.
154. Fourthly, when assessing the benefits of the SPA enhancement areas as compensatory habitat, no discount has been applied by NE or HE to reflect the fact that the SPA enhancement areas relate to woodland which, according to NE and HE, already has benefits to the integrity of the SPA.
155. Each of these points is now considered in turn.
156. **HE has incorrectly concluded that there will be no adverse impacts due to air quality and as a result has failed to provide compensation measures to reflect this**
157. HE's has failed to provide any compensation measures for air quality impacts. HE's "*strategy and approach*" to compensatory measures has been based on the incorrect assumption that "*there will be no adverse effect on the integrity of the Thames Basin Heaths SPA as a result of degradation of habitats (by changes in air quality and/or hydrology)....*" (paragraph 5.1.1 (REP4-014)).
158. HE's compensation land and SPA enhancement area ratios are calculated by reference only to land-take from the SPA: "*A SPA compensation land ratio 1:1 for the 5.9ha of permanent land take, and an SPA enhancement area ratio of 3:1 for the permanent and temporary land take is proposed. This is additional to the restoration of the areas of temporary land take*" (paragraph 5.1.17 (REP4-014)).
159. Additional compensation measures are required for the impacts of air quality. In the absence of such compensation measures, HE's compensation measures are inadequate.
160. **Large areas of the purported compensatory habitat is land already subject to the SPA's Management Plan and so the proposed compensation represents either "no gain" or a "downgrade" by reference to the requirements of the Management Plan**

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161. Baker Consultants Ltd's Figures 3 (REP11-044) and 4 (REP11-045) and Baker Consultants Ltd's Table 1 (REP11-046) show that the proposed compensatory measures in HE's SPA Enhancement Areas E1-E8 (as described in REP4-014) are:
- 161.1. in large part already envisaged under the Wisely and Ockham Commons Management Plan 2010-2020 (REP10-019); and
 - 161.2. in some cases represent a "downgrade" from what is envisaged in the Wisely and Ockham Commons Management Plan 2010-2020 (e.g. the compensatory measure is to thin woodland whilst the Management Plan specifies woodland clearance).
162. To this extent, HE's purported compensatory measures within the SPA Enhancement Areas are invalid as compensatory habitat for the purpose of regulation 68 of the Conservation of Habitats and Species Regulations 2017 because they are not additional to the existing management of the SPA.
163. Compensatory measures under regulation 68 of the Conservation of Habitats and Species Regulations 2017 must be measures which are "additional" to the management of the European site. Paragraph 5.4.1 of the European Commission's Managing Natura 2000 guidance dated November 2018 states:
- 163.1. *"Compensatory measures should be additional to the actions that are normal practice under the Habitats and Birds Directives or obligations laid down in EU law. For example, the implementation of conservation measures under Article 6(1), or the proposal/designation of a new area already inventoried as being of Community importance, constitute 'normal' measures for a Member State. Thus, compensatory measures should go beyond the normal/standard measures required for the designation, protection and management of Natura 2000 sites"* and
 - 163.2. *"The compensatory measures constitute measures specific to a project or plan, additional to the normal duties stemming from the Birds and Habitats Directives."*
164. This point is also fully acknowledged by HE. HE has included as Appendix C to REP4-015 meeting minutes from a meeting on 16 March 2018 between HE, NE, Surrey Wildlife Trust and others. At section 4 of those minutes it is stated, when discussing compensatory measures (underlining added):
- "It was noted that clearance of woodland/tree cover to achieve this would require agreement from the Forestry Commission. Patrick Stephens noted that Forestry Commission could support this approach subject to agreed areas/proportions of canopy cover being maintained and new areas of planting within the replacement land being provided. [NAME REDACTED] referring to the EC guidance (Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC 2012) on this noted at 1.4.1 that to be allowable the SPA enhancement must not be something that would have been done as 'normal practice' under the Habitats and Birds Directives or obligations laid down in EC law. SWT confirmed that their obligations were to 'maintain' the SPA and SSSI and hence additional enhancement did not form part of 'normal practice'....."*
165. Baker Consultants Ltd's Figures 3 and 4, in conjunction with its Table 1, shows that, of the total of 47.6ha of the HE-proposed SPA enhancement areas E1-E8, 23.96ha amounts to no "gain" and 2.15ha amounts to a "downgrade" compared with the Wisley and Ockham Commons Management Plan 2010-2020. Hence a total of 26.11ha out of 47.6ha (55%) of the SPA enhancement areas cannot be considered "additional" and therefore cannot be considered

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acceptable as valid compensation for the purpose of regulation 68 of the Conservation of Habitats and Species Regulations 2017.

166. NE requires HE to provide an SPA “*enhancement area ratio of 3:1 for the permanent and temporary land take*” (paragraph 5.1.17 REP4-014). This is not achieved by HE’s proposals.
167. Once the “no gain” and “downgrade” aspects of HE’s proposed SPA enhancement areas are taken into account, HE is in fact delivering just over half of the required ratio. HE is delivering an enhancement area ratio of less than 2:1.
168. HE’s ExQ3 answer 3.8.2 (REP7-004) states:

“.....As explained in 5.1.13 of the HRA Stage 3-5 [REP4-014], Highways England have worked with Natural England, Forestry Commission, RSPB, Surrey Wildlife Trust and Surrey County Council to design a Suite of compensatory measures for the adverse effects of the Scheme on the SPA”.

And

“As recorded in Item 4.0 of the meeting minutes of 16 March 2018 in the HRA Annex B consultation report [REP4-016], the suite of compensatory measures fall outside ‘normal practice’ and would not have occurred as part of the existing management of the SPA.....”

169. NE states in its SoCG with HE (3.2.8 of REP8-022) that:

“It is perhaps important to point out that the proposed SPA enhancement works set out in Appendix 7.19 are additional to existing plans for habitat maintenance and management and, at present, there is no legal obligation on the part of Surrey Country Council or Surrey Wildlife Trust to undertake any of the proposed enhancement works, i.e. expansion of heathland, creation of ‘wood pasture’ and enhancement of retained woodland.”

170. HE states in its SoCG with HE (3.2.8 of REP8-022) that:

“As has been recorded in Habitats Regulations Assessment Annex B [APP-041], in Item 4.0 of the meeting held on the 16th March 2018 the Surrey Wildlife Trust confirmed that the intention of the current management plan for the Ockham and Wisley Commons SSSI component of the SPA is to maintain existing areas of heathland, rather than creating new areas of heathland by removing additional areas of the coniferous woodland.

Natural England confirmed this again by email on the 31st January 2020 ‘The current management plan for Ockham and Wisley Commons SSSI produced by Surrey Wildlife Trust, which Natural England has endorsed, is primarily focussed on the maintenance of the current areas of open heathland, and in particular the enhancement of the quality of the habitat so that it meets the basic objectives set by Natural England, so that the feature can be described as being in a ‘favourable’ condition. The current Countryside Stewardship agreement between Natural England and Surrey Wildlife Trust, which runs for 10 years, is also focussed on the management of the existing open heathland resource. It does not seek to extend the open heathland area through the felling of mature trees’.

Therefore, Highways England can confirm with a high degree of confidence that the removal of conifer trees to extend the open heathland is not part of the current management of the site or required to achieve Favourable Conservation Status”.

171. HE states at 4.1.2 and 4.1.8 of REP9-014:

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“As Natural England has explained in response 2.4.7d within Natural England’s response to the ExA’s second written questions [REP5-032], the achievement of favourable condition for the Ockham and Wisley Commons SSSI component part of Thames Basin Heaths SPA is dependent upon improvement of the condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland”.

172. These last four statements cited above are all either (at worst) incorrect or (at best) highly misleading. The Management Plan clearly envisages both woodland clearance and thinning to increase habitat quantity and quality. As is shown through Baker Consultants Ltd’s Figures 3 and 4 and its Table 1, 55% of the measures proposed by HE as SPA enhancement areas cannot be considered “additional” compared with the Management Plan. It is entirely unclear how NE has reached the conclusion that *“the achievement of favourable condition for the Ockham and Wisley Commons SSSI component part of Thames Basin Heaths SPA is dependent upon improvement of the condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland”.*
173. **There will be air quality impacts from the DCO Scheme (see RHS’ Table A / RHS’ Modelling Note) on certain SPA enhancement areas, the impacts of which have not been sufficiently assessed and as such the technical feasibility and effectiveness and appropriate location of delivery of these areas as compensatory habitat areas has not been demonstrated. These areas cannot be regarded as valid compensation**
174. RHS’s REP8-054 paragraphs 96-108 set out clearly why HE had, at that stage, presented no proper assessment of the technical feasibility and effectiveness and location of HE’s proposed compensatory habitat despite the need for HE to do so (see in particular paragraph 101 of RHS’ REP8-054). This material is not repeated again here.
175. As was indicated by RHS at paragraphs 104 and 105, the key questions, which had not then (and have still not been) addressed adequately by HE, are:
 - 175.1. taking into account the predicted DCO Scheme (alone and in-combination) nitrogen deposition levels at the locations of the proposed SPA enhancement areas, will the proposed SPA enhancement actually secure as is required (and as is promised by HE at paragraphs 5.1.37 and 5.1.38 REP4-014) that *“the carrying capacity or food potential are increased by a quantity corresponding to the loss affected by the project”;* and
 - 175.2. to what extent will the SPA’s air quality conservation objective targets be compromised in the proposed SPA enhancement areas which are affected by nitrogen deposition from the DCO Scheme alone or in combination with other plans or projects.
176. There is now fuller air quality data available, which RHS has also corrected. See RHS Table A (REP11-040) and AQC’s Note (REP11-041).
177. Baker Consultants Ltd’s Figure 2 shows HE’s proposed SPA enhancement areas E1-E8. Figure 2 also shows the transects and the distances from the road along the transects.
178. RHS’s Table A (REP11-040) shows corrected air quality figures and RHS’s AQC Note (REP11-041) shows corrected figures for transect 4, since (as explained in the RHS Note and in RHS’ comments on EXQ4 Q4.3.3 REP11-038) HE’s figures on transect 4 cannot be relied upon. Note however that the RHS corrected figures for transect 4 are still likely to be an

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underestimate of the real levels (as the figures are based on modelling (redone by AQC) using HE's inappropriate speeds for the A3 southbound onslip – see REP11-038 response at 4.3.3).

179. It can be seen that SPA enhancement area E2 is located at 75m from the A3 along transect 4. At that point the nitrogen deposition data from the DCO Scheme alone in 2022 shows a 4.7% increase relative to the critical load of 10 kg N/ha/yr. In other words, the nitrogen deposition will increase from 20.63 kg N/ha/yr in 2022 without the DCO Scheme to 21.10 kg N/ha/yr in 2022 with the DCO scheme (from Table 2 in AQC's Note REP11-041 for the nitrogen deposition including ammonia). Both these values are well above the critical load of 10 kg N/ha/yr. At that same point the DCO Scheme in combination with other plans and projects (see Table 3 in AQC's Note REP11-041) shows an increase of 6% relative to the critical load.
180. Since HE has chosen not to provide isopleth (contour) air quality data, there is no information available to show how the levels seen at E2 (at transect 4) will spread across wider parts of the SPA.
181. SPA enhancement area E2, in the vicinity of transect 4, is (according to 5.1.49-5.1.52 REP4-014) proposed to be cleared for heathland restoration. This is also shown on Baker Consultant Ltd's Figure 2. According to 5.1.38 REP4-014 this will provide more nesting and foraging habitat for the qualifying species.
182. A full assessment is therefore needed as to how the levels of nitrogen in SPA enhancement area E2 from the DCO Scheme (alone and in combination) will affect the ability of E2 to function in the manner intended by HE, taking into account in particular the air quality conservation objective targets in NE's Supplementary Advice (REP5-034).
183. No such assessment has been undertaken.
184. In HE's response to ExQ4 Q4.4.1(4), HE relies upon "*mechanisms within the SPA management and monitoring plan*" which "*allow for adaptive management within the SPA enhancement and SPA compensation area where required*" as an answer to this issue. See also HE's ExQ3 answer 3.8.2 (REP7-004):
- "It is acknowledged that this newly created area of heathland closer to the A3 would be exposed to higher levels of nitrogen deposition than the existing areas of heathland and may require a greater level of management (as recorded in Item 2 of the meeting minutes on 27 March 2018 in the HRA Annex B consultation report [REP4-016]). However, the SPA management and monitoring plan [AS-014] allows for adaptive management where required, through the long-term provision of works and monitoring targets and under discussion with the steering group....."*
185. NE also states in response to ExQ4 Q4.4.15 (see NE's response in REP10-016) that:
- "In the event that a decision is made to create heathland or some other habitat in place of the existing woodland buffer raised nutrient levels may be a factor which would have to be taken into account when planning operations but it would not be an insurmountable problem. There are many cases where heathland and other habitats of biodiversity value have been created close to busy roads. These projects need careful planning and different management techniques in comparison with lower nutrient solutions. However, they are achievable".*
186. These are wholly inadequate responses.

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187. First the fuller air quality data from HE has only become available since deadline 10 (REP10-007) and have only been corrected by RHS in deadline 11 (REP11-040) and so these answers have been provided in the absence of that information and so have not taken it into account.
188. Secondly NE's conservation objective targets in its Supplementary Advice (REP5-034) apply to the SPA enhancement areas (including E2). This is the case even based on HE's overly-narrow definition of SPA "supporting habitat" since HE predicts that the E2 will "provide more nesting and foraging habitat for the qualifying species" (REP4-014 5.1.38). As such the air quality conservation objective target (as well as the other conservation objective targets listed therein) will apply to E2.
189. HE's and NE's response that "we can monitor and manage our way out of the problem" is clearly inadequate. If management were a solution to air quality impacts on the supporting habitats of this SPA then there would be no need for NE to set targets and plans to restore levels of nitrogen to the appropriate critical load. Yet this is clearly what NE has concluded is necessary, see NE's air quality conservation target in NE's Supplementary Advice (REP5-034); and see NE's Site Improvement Plan dated 2014 for the SPA which states that between 2014-2020 there should be an action to "*control, reduce and ameliorate atmospheric nitrogen impacts*". HE's paragraph 4.4.2 of REP4-018 (see footnote) also makes clear that air quality "*is a priority issue for all 3 qualifying features of the SPA according to the TBH Site Improvement Plan*".
190. As RHS explained in REP9-013 (paragraphs 38 and 39):
 - 190.1. it is clear that HE does see the presence of nitrogen in heathland areas as problematic, see the SPA management and monitoring plan (REP4 031) at 7.4.3.4 and 7.4.3.9;
 - 190.2. yet, there is nothing in the management plan which is intended to address the impacts of nitrogen from the DCO Scheme in combination with other plans or projects on compensation land. There is no mention of monitoring of N levels in the soil or other indicators of eutrophication. Hence there is no plan for managing nitrogen;
 - 190.3. HE's management and monitoring plan states that "*the aim of the suggested monitoring programme is to ascertain whether the measures of success listed above have been achieved*" (e.g. paragraphs 7.3.6.3 and 7.4.6.4 REP4-031). However, none of the objectives / measures of success for each habitat type mention air pollution. HE's approach for species monitoring also provides that results will be analysed "*with reference to 'measures of success described in this document'*" (paragraph 7.11.1.4 REP4-031) and air pollution is not mentioned there either. Given that HE fails to mention air quality in any of the objectives/ measures of success there is clearly no certainty that any impacts of air quality will be considered.
191. In any event, even if the plan is "adapted" as HE is suggesting, the management and monitoring plan provides very little assurance as to what measures will be taken, for example HE states "*Highways England's appointed monitoring party will carry out the monitoring visits and feed back to the steering group*" (paragraph 7.5.6.5 REP4-031).

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When assessing the benefits of the SPA enhancement areas as compensatory habitat, no discount has been applied by NE or HE to reflect the fact that the SPA enhancement areas relate to woodland which, according to NE and HE, already has benefits to the integrity of the SPA

192. In the SoCG between NE / HE at 3.2.18 (REP8-022), NE states:

“Natural England has consistently advised against the removal of the woodland ‘buffer’ in areas of the site alongside the M25 and A3. There is strong evidence that the retention of belts of mature trees provides an effective mechanism to disperse vehicle emissions away from sensitive habitats alongside busy roads. As stated previously, the achievement of favourable condition for this component part of Thames Basin Heaths SPA is dependent upon improvement of condition of the existing heathland resource, not expansion of heathland through large-scale felling of woodland.”

193. In REP4-018 HE also states (7.4.4) that *“The land take [i.e. from the woodland between 0-150m from the roads] will therefore result in a reduction in the supporting habitats of the SPA (for example providing a woodland buffer between the roads and the open heathland areas)”*; and in REP4-018 HE states (7.4.5(2)) *“...The adverse effects from the permanent land take would result in a permanent reduction in the extent of habitat contributing to the overall fabric of the SPA, including contributing to the overall fabric of the SPA, including contributing to the invertebrate food resource for all three qualifying species during the breeding season...”*.

194. Creation of compensatory habitat within the woodland 0m-150m from the roads means that the existing woodland habitat in those areas will no longer exist (if cleared) or will be changed (if thinned). This will occur at SPA enhancement areas E2, E4, E5 and E1 (see Baker Consultants Ltd’s Figure 2 REP11-043).

195. Therefore the NE and HE-assumed “buffer role” of the existing woodland will be lost or diminished in these areas and the role of the woodland as an invertebrate resource for the SPA birds will change in these areas.

196. When assessing the supposed benefits of the compensatory habitat in the SPA enhancement areas against the objective “ensuring that the overall coherence of the Natura 2000 network is protected”, a discount must be applied to reflect the loss of or change to the existing NE and HE-supposed benefits in these areas of the woodland. No such discount has been applied.

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PLANNING INSPECTORATE'S REPORT ON THE IMPLICATIONS FOR EUROPEAN SITES

197. RHS' REP8-045 contained RHS' comments on the Planning Inspectorate's Report on the Implications for European Sites ("**RIES**") dated 9 April 2020 (PD-013).
198. RHS has not seen any update on this Report and hence its comments in REP8-045 stand. Of course, however, due to the passing of further deadlines, the RIES dated 9 April 2020 is now even more outdated than it was at the time of REP8-045.

**FREETHS LLP
ON BEHALF OF RHS
10 JULY 2020**

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ANNEX 1 KEY COURT OF JUSTICE OF THE EUROPEAN UNION CASELAW AND RELEVANT GUIDANCE

1. The Court of Justice of the European Union (“CJEU”) caselaw makes clear that consideration of “alternative solutions” under Article 6(4) of the Habitats Directive (implemented by regulation 64(1) of the Conservation of Habitats and Species Regulations 2017) must be informed by a robust assessment under Article 6(3) of the Habitats Directive. In its ruling in case C-304/05 *Commission of the European Communities v Italian Republic*, paragraph 83, the Court stated that:

“Article 6(4) of Directive 92/43 can apply only after the implications of a plan or project have been studied in accordance with Article 6(3) of that directive. Knowledge of those implications in the light of the conservation objectives relating to the site in question is a necessary prerequisite for application of Article 6(4) since, in the absence thereof, no condition for application of that derogating provision can be assessed. The assessment of any imperative reasons of overriding public interest and that of the existence of less harmful alternatives require a weighing up against the damage caused to the site by the plan or project under consideration. In addition, in order to determine the nature of any compensatory measures, the damage to the site must be precisely identified’ (see also C-399/14, C-387&388/15, C-142/16)”.

2. The CJEU has been clear as to the robust manner in which an appropriate assessment under Article 6(3) must be conducted:
 - 2.1. An appropriate assessment must precede the DCO Scheme’s approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects *in view of the site’s conservation objectives*⁹.
 - 2.2. An appropriate assessment must ensure that *all aspects* of the DCO Scheme which can, either individually or in combination with other plans or projects, affect the conservation objectives of any European site *are identified in the light of the best scientific knowledge in the field*¹⁰.
 - 2.3. An appropriate assessment *may not have lacunae and must contain complete, precise, and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the proposals on the protected site(s) concerned*¹¹.
3. The CJEU has also been clear as to the strictness of the “no adverse effect on site integrity” test:
 - 3.1. As to the meaning of the “integrity” of the site, the Court stated in its ruling in case C-258/11, paragraph 48:

⁹ Paragraph 53 of the judgment in *Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw, Natuurbeheer en Visserij* (C-127/02) - <http://curia.europa.eu/juris/showPdf.jsf?jsessionid=9A8BC9FFD4CD3D767F9B47A756DD06FA?text=&docid=49452&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=2229622>

¹⁰ Paragraph 54 of the judgement in *Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw, Natuurbeheer en Visserij* (C-127/02) - <http://curia.europa.eu/juris/showPdf.jsf?text=&docid=49452&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=646546>

¹¹ Paragraph 44 of the judgement in *Sweetman v An Bord Pleanala* (C-258/11) - <http://curia.europa.eu/juris/document/document.jsf?text=&docid=136145&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=645773>

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“Article 6(3) of the Habitats Directive must be interpreted as meaning that a plan or project not directly connected with or necessary to the management of a site will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of SCIs, in accordance with the directive. The precautionary principle should be applied for the purposes of that appraisal”.

- 3.2. The European Commission Guidance on Managing Natura 2000 dated 21 November 2018¹² states with reference to the paragraph above from C-258/11 (on page 50) *“The logic of such an interpretation would also be relevant tohabitats of species”.*
- 3.3. In the case of C-164/17 *Grace and Sweetman v An Bord Pleanála* the Court of Justice ruled at paragraphs 34 and 35 in relation to "integrity"¹³:

“[34] In the first place, it should be noted that, in order for the integrity of a site not to be adversely affected for the purposes of the second sentence of Article 6(3) of the Habitats Directive, the site needs to be preserved at favourable conservation status; this entails the lasting preservation of the site’s constitutive characteristics that are connected to the presence of a natural habitat type whose preservation was the objective justifying the designation of that site in the list of sites of Community importance, in accordance with the directive (see, to that effect, judgments of 21 July 2016, Orleans and Others, C 387/15 and C 388/15, EU:C:2016:583, paragraph 47 and the case-law cited, and of 17 April 2018, Commission v Poland(Bia?owie?a Forest), C 441/17, EU:C:2018:255, paragraph 116).

[35] In accordance with Article 4(1) of the Birds Directive, the designation of a territory as an SPA for the conservation of a species entails the lasting preservation of the constitutive characteristics of the habitat in that area, the survival of the species in question and its reproduction being the objective justifying the designation of that area.”

- 3.4. The Managing Natura 2000 guidance also states (page 50):

As regards the connotation or meaning of ‘integrity’, this clearly relates to ecological integrity. This can be considered as a quality or condition of being whole or complete. In a dynamic ecological context, it can also be considered as having the sense of resilience and ability to evolve in ways that are favourable to conservation.

And

The ‘integrity of the site’ can be usefully defined as the coherent sum of the site’s ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated.

- 3.5. HE’s own Habitats Regulations Assessment guidance LA115 Rev 1 dated 2020, which must *“be implemented forthwith on all projects involving Habitats Regulations*

¹² The European Commission Guidance on Managing Natura 2000 dated 21 November 2018-
https://ec.europa.eu/environment/nature/natura2000/management/docs/art6/Provisions_Art_6_nov_2018_en.pdf

¹³ Paragraph 34 and 35 of the judgement in *Grace and Sweetman v An Bord Pleanála* (C-164/17)
<http://curia.europa.eu/juris/document/document.jsf?text=&docid=204392&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=7902874>

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assessment on the motorway and all-purpose trunk roads according to the implementation requirements of GG 101 [Ref 5.N] states:

- 3.5.1. At Page 10: *“Precautionary principle: The conservation objectives prevail where there is uncertainty or harmful effects are assumed in the absence of evidence to the contrary.”*
- 3.5.2. At paragraph 2.2 *“The precautionary principle shall be applied in reporting through all HRA stages.”*
- 3.5.3. Paragraph 2.2.1 *“Recourse to the precautionary principle may be relevant when there:

1) are “potentially negative effects”; or
2) is “insufficiency of the data, which makes it impossible to determine with sufficient certainty the risk in question”.”*
- 3.5.4. At paragraph 2.2.2 *“Site conservation objectives should prevail where there is uncertainty.”*
- 3.5.5. Paragraph 2.2.3 *“Adverse effects should be reported in the HRA in the absence of evidence to the contrary.”*

4. As regards a conclusion of *“no adverse effect on integrity on a European site”* the CJEU caselaw makes clear that:

4.1. this test is only reached where the competent authority is *certain* (through the HRA assessment process) that there will be no resulting adverse effect on the integrity of any European site(s) either alone or in combination with any other plan or project¹⁴;

and

4.2. certainty arises where the competent authority (through the HRA process) *has no reasonable scientific doubt as to the absence of such effects*¹⁵.

5. In the well known Dutch Nitrogen cases the CJEU at paragraph 103 stated¹⁶:

“In circumstances such as those at issue in the main proceedings, where the conservation status of a natural habitat is unfavourable, the possibility of authorising activities which may subsequently affect the ecological situation of the sites concerned seems necessarily limited.”

6. The CJEU also stated in the Dutch Nitrogen cases at paragraph 130:

¹⁴ Paragraph 40 of the judgement in *Sweetman v An Bord Pleanala* (C-258/11) - <http://curia.europa.eu/juris/document/document.jsf?text=&docid=136145&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=645773>

¹⁵ Paragraph 40 of the judgement in *Sweetman v An Bord Pleanala* (C-258/11) - <http://curia.europa.eu/juris/document/document.jsf?text=&docid=136145&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=645773>

¹⁶ Paragraph 103 of the judgement in *Coöperatie Mobilisation for the Environment UA, Vereniging Leefmilieu V College van gedeputeerde staten van Limburg and Stichting Werkgroep Behoud de Peel v College van gedeputeerde staten van Noord-Brabant* (In Joined Cases C-293/17 and C-294/17) <http://curia.europa.eu/juris/document/document.jsf?jsessionid=E2583630A2B1747FACAF53CC86BCA18D?text=&docid=207424&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=7892505>

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“The appropriate assessment of the implications of a plan or project for the sites concerned is not to take into account the future benefits of such ‘measures’ if those benefits are uncertain, inter alia because the procedures needed to accomplish them have not yet been carried out or because the level of scientific knowledge does not allow them to be identified or quantified with certainty.”

7. In *C-461/17 Holohan v. An Bord Pleanála [2019]* the CJEU concluded:

*“Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an ‘appropriate assessment’ must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has **not** been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site” (emphasis added).*

8. In REP11-007, HE refers at 6.1.7 to the court decision in *R (on the application of Plan B Earth) v Secretary of State for Transport [2020 EWCA Civ 214]*. HE states that the appropriate standard of review by a court where there is a breach of the Habitats Directive is “Wednesbury irrationality”. This is however irrelevant to the standard applying to the decision to be made by *the Secretary of State* in this case. He must make his decision based on the strict standards applicable under the European caselaw above.

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ANNEX 2

Review of the effectiveness of on-site habitat management to reduce atmospheric nitrogen deposition impacts on terrestrial habitats CCW Science Series 1037, Stevens et al 2013

- The table below is based on a review by the Countryside Council for Wales¹⁷ of the effectiveness of on-site habitat management measures methods to remove nitrogen from terrestrial habitats (the measures do not reduce nitrogen deposition).
- The table shows the management measures and unintended consequences.
- This evidences that unintended consequences could threaten the SPA in other ways.

N removal management	Unintended consequences
Turf stripping	<ul style="list-style-type: none"> • Disposal of cut turves risks moving the pollution problem elsewhere • Removal of species of high conservation interest • Alteration of hydrological regimes • Reduction of some rare species • Loss of desirable seed bank • Disturbance soil food-webs and may affect important micro-organisms such as mycorrhizas • Turf striping is likely to result in significant C emissions, particularly in more organic soils (Alonso et al. 2012)
Rotavating	<ul style="list-style-type: none"> • Removal of species of high conservation interest • Disturbance soil food-webs and may affect important micro-organisms such as mycorrhizas • Rotavation is likely to result in significant C emissions, particularly in more organic soils (Alonso <i>et al.</i> 2012)
Grazing	<ul style="list-style-type: none"> • Loss of grazing intolerant species • Changes in species composition • Loss of ground nesting birds • Changes in N cycling due to grazing rates • Supplementary feeding is a source of nutrients and a seed source of undesirable plant species
Cutting and removal of arisings	<ul style="list-style-type: none"> • Loss of cutting intolerant species • Changes in species composition • Loss of ground nesting birds if cuts are not timed appropriately • Timing and frequency of cutting may adversely affect seed production and species composition
Burning	<ul style="list-style-type: none"> • Changes in ground flora composition; loss of species • Impacts on habitat/food/breeding requirements for birds, mammals, invertebrates etc • Pollution swapping (transfers to atmospheric N or leaching)

¹⁷ Review of the effectiveness of on-site habitat management to reduce atmospheric nitrogen deposition impacts on terrestrial habitats CCW Science Series 1037. Stevens et al 2013.

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ANNEX 3

1. The RHS Alternative will go *further* towards achieving certain items listed in HE's client scheme requirements (set out at 3.3.3 of REP4-014) than the DCO Scheme.
2. Item 6 of the "Social" client requirement than the DCO Scheme:
 - 2.1. In relation to item 6: "Take account of the concerns of local communities and other key stakeholders raised during the consultations":
 - 2.2. Surrey County Council has been concerned that the DCO Scheme, without mitigation, would have unacceptable impacts within the village of Ripley and on Old Lane. As demonstrated by HE's modelling of the SFS component of the RHS Alternative (REP8-040), the RHS Alternative would result in a scheme which has no impacts in Ripley over and above the DoMinimum scenario and flows on Old Lane would be reduced.
3. The RHS Alternative will also go *further* towards achieving items 7 and 9 and 11 of the "Environment" client requirement than the DCO Scheme:
 - 3.1. In relation to item 7: "Support compliance with the UK's legally binding limits and targets on air quality and water quality status and support targets to cut greenhouse gas emissions and objectives for local air quality management areas":
 - 3.2. Based on HE's own modelling, when compared to the DCO Scheme, the South Facing Slips element of the RHS Alternative will reduce the annual travel on the Local Road Network by 1,049,000 vehicle kilometres. When the same comparison is undertaken including the effects on the Strategic Road Network the reduction in annual travel from the South Facing Slips would be 1,740,000 vehicle kilometres.
 - 3.3. The air quality assessment for the DCO Scheme (APP-050) shows that the DCO Scheme will increase vehicle kilometres travelled and therefore increase emissions of nitrogen oxides, PM₁₀ and CO₂ (APP-050, Table 5.13, page 34). The reduced traffic kilometers with the RHS Alternative will therefore reduce emissions of these pollutants and help offset increased pollutant emissions that arise with the DCO Scheme. The RHS has shown (using HE's data) that *"the RHS Alternative Scheme would reduce the excess CO₂ emissions that the DCO Scheme would give rise to by more than 16%"* (see REP3-050, page 10). The RHS Alternative will therefore do more to support targets to cut greenhouse gas emissions than the DCO Scheme will.
 - 3.4. In relation to item 9: "Recognise the significance of designated heritage assets close to the route of the scheme, including at Painshill Park and at Wisley Gardens through incorporating suitable mitigation and/or design measures to avoid or reduce significant harm":
 - 3.5. The RHS Alternative will contribute very significantly to this aim, far more so than the DCO Scheme.
 - 3.6. Once operational, the RHS Alternative will reduce the journey times for visitors and workers travelling to and from the Garden at Wisley, as opposed to the DCO Scheme that will generally increase journey times. So, whereas the DCO Scheme is anticipated to have a negative impact upon the level of visitors to the Garden (as set out in REP6-024 and further in REP11-047 Montagu Evans submission), the RHS Alternative will have a neutral, or even positive, impact during the operational phase,

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and potentially a lesser impact during the construction phase. Whilst not removing the risk entirely, under the RHS Alternative is estimated to save the RHS £6.4 million in income generation and £3.2 million in operating surplus by comparison to the DCO scheme. These funds can be retained by the RHS for maintaining the heritage asset at the Garden at Wisley.

- 3.7. In relation to Item 11: “Ensure through good design, that an appropriate balance is achieved between functionality and the scheme’s contribution to the quality of the surrounding environment, addressing existing problems wherever feasible, avoiding, mitigating or compensating for significant adverse impacts and promoting opportunities to deliver positive environmental outcomes”:
- 3.8. As noted above, the RHS Alternative will lead to fewer kilometers per annum being driven than the DCO Scheme which supports, better than the DCO Scheme, the aim of “delivering positive outcomes”.