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Dear Mr Smith

**Application by National Highways for an Order Granting Development Consent for the Lower Thames Crossing
Natural England's response to Deadline 5
Natural England User Code: 20034784**

Natural England is pleased to provide our Deadline 5 response for the Lower Thames Crossing Examination within the annexes appended to this letter.

For ease, we have provided our comments in the following Appendices to this letter:

Annex A: Response to Applicant's Air Quality Technical Note and Without Prejudice Assessment

Annex B: Response to Applicant's proposed Disapplication of the Wildlife & Countryside Act

Annex C: Response to the responses to Examiner's Questions 1

Annex D: Updated Statement of Common Ground

Annex E: Updated Principal Areas of Disagreement

Annex F: Comments on the Applicant's submissions at Deadline 4

Annex G: Comments on any information requested by the ExA and received by DL4

Annex H: Any further information requested by the Examining Authority under Rule 17 of the EPR

Annex I: Attendance at upcoming hearings (ISH8 Construction & Operational Effects (non-traffic) and ISH9 Environment & Biodiversity)

As mentioned previously, Natural England is keen to continue building on the significant pre-submission progress secured working in collaboration with the Applicant and reflected this in our statement of common ground.

Natural England hopes our Deadline 5 comments are helpful and we will continue to work collaboratively with the Applicant to try and resolve the matters provided below.

Yours sincerely

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Annex A

Natural England's response to the Applicant's Air Quality Technical Note and Without Prejudice Assessment

1. This response addresses issues arising from two documents submitted by the Applicant into Examination at deadline 2:
 - LTC Technical Note (Response to "Natural England advice on air quality impacts on European Sites" - 30 June 2023) - **termed the Technical Note or 'TN' herein** – Annex C.12 of V 2 of Statement of Common Ground with Natural England Doc 5.4.1.6 **REP2-008** - [TR010032-003221-National Highways - Other-5.4.1.6 Statement of Common Ground between \(1\) National Highways and \(2\) Natural England v2.0 tracked changes.pdf \(planninginspectorate.gov.uk\)](#), and
 - "Without Prejudice" assessment of the air quality effects on European sites following Natural England advice - Doc 9.57 - **termed the "without prejudice assessment", or 'WPA' herein REP2-068** [TR010032-003229-National Highways - Other- 9.57 Without prejudice assessment of the air quality effects on European sites following Natural England advice.pdf \(planninginspectorate.gov.uk\)](#)
2. Although the TN was made available to Natural England in advance of publication of Written Representations (18 July 2023), it was not possible for us to incorporate a response to it in that document. The TN indicated that the WPA would be placed into the Examination in due course, and this was submitted at Deadline 2 (3 August 2023). As both the TN and WPA consider similar issues, this response addresses them both.
3. Natural England welcomes the clarification around in-combination methodology within the TN and production of the "without prejudice assessment", considering NO_x and ammonia (NH₃) as pollutants in their own right, and addressing nitrogen deposition (Ndep) regardless of NO_x assessment. This goes some way to resolving our concerns with the air quality assessment, however, we have outstanding concerns with the Applicant's methodology, including in-combination methodology, and the conclusions arising. We do not yet consider there is sufficient evidence to exclude adverse effect on integrity (AEIOI) on any of the three Habitats Sites considered.
4. Concerns are listed first relating to the in-combination methodology, and then the assessment outlined in the WPA.

In-combination methodology

5. The TN identifies that the LTAM (Applicant's transport model) covers the entire UK, but in more detail in the area around the project. Assumptions regarding the setup of the model including the specific national growth forecasts/ traffic growth factors assumed, and the use of the DfT Transport Appraisal Guidance (TAG) to develop this model are not disputed by Natural England.

In-combination impacts within the traffic model

6. It is accepted that overall, the assessment takes account of a degree of in-combination (traffic) growth in the LTAM – though comments on the exclusion of certain developments are made at para 9 below.

7. However, for the Habitats Regulations Assessment (HRA) the in-combination traffic is calculated by “DS-DM” (where DS = all predicted development including LTC, and DM = the forecast of predicted development that would go forward *without the requirement for LTC to be constructed*¹). Therefore, the resulting in-combination numbers do not include traffic from developments that would go forward without the requirement for LTC to be constructed - but are not in the current (APIS² 2019-2021 or base year 2016) baseline. These projects are included in the future baseline. Natural England remains concerned that the assessment does not therefore fully address in-combination effects, as the effects caused by “new” development in the future baseline are not considered in-combination for the purposes of the HRA (which roads are screened into the assessment, for example). However, it is accepted that the model does include future forecast growth, and therefore some in-combination traffic.
8. As outlined in our Written Representations (**REP1-262** e.g. para 4.1.55) Natural England has concerns about the use of the “opening year” (2030) to assess operational impacts – as this would exclude impacts from traffic arising after 2030 and therefore potentially underestimate impacts to protected sites arising from the proposed development. The TN notes that the LTAM model assumes an opening year of 2030 and a “design year” of 2045. The design year was used to establish the duration of impacts across the designated sites. It is accepted therefore that additional projects that are predicted to come “online” between 2030 and 2045 are partly included in the assessment. However, it is not clear whether the assessment is made against the “worst case” impact (whether this is 2030 or 2045 or some intermediate year), which is a requirement under the HRA. Clarification on this would be welcome.
9. We also have concerns over the exclusion of some plans and projects from the in-combination traffic (as outlined in our Written Representations REP1-262 e.g. para 4.1.52). It is acknowledged that the LTAM includes projects that are “*under construction, with planning permission or a submitted planning application*” (per reference in footnote 1) but not developments that could come through via allocations in Local Plans or similar. The TN notes that the projects included in the LTAM were those “having a sufficient degree of certainty for inclusion” (referring to the TAG criteria as set out in Table A2 of Appendix A in Unit M4 Forecasting and Uncertainty). This sets out when certain types of local developments should be included in the transport modelling. It gives guidance as to whether certain local developments should be included, based on the certainty of them going ahead. Allocations within local plans are classed as “reasonably foreseeable” but are not considered part of the core scenario “**but may form part of the alternative scenarios**”.

¹ These include the road schemes shown in Table 4.1 of Doc 7.8 Traffic Forecasts Non-Technical Summary **APP-528** ([infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/TR010032/TR010032-001330-7.8 Traffic Forecasts Non-Technical Summary.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/TR010032/TR010032-001330-7.8%20Traffic%20Forecasts%20Non-Technical%20Summary.pdf)) and developments shown in Plate 4.1 of that document (i.e. “*proposed location and associated trips of new housing and other developments (such as employment, retail and leisure sites). These developments, either under construction, with planning permission or a submitted planning application, are included in the transport model*”).

² Air Pollution Information System – apis.ac.uk

10. As far as we are aware, the applicant has not undertaken alternative scenarios including local plan allocations, even though it is suggested as an option in the DfT TAG guidance. Inclusion of local plan allocations, whether or not they have planning consent or are in the planning system, is important to establish a precautionary level of potential future in-combination traffic. Well established principles derived from EU and UK case law provide that any assessment of the impact of plans and projects on designated sites must adopt 'a strict precautionary approach' as the general standpoint. In the ECJ case of Waddenzee (C-127/02) 2002, the Court decided when undertaking the appropriate assessment there should be "... no reasonable scientific doubt", so failure to consider local plan allocations as an alternative scenario does not adopt a sufficiently precautionary approach required by the Habitats Regulations in producing an adequate Reg 63 (appropriate) assessment.
11. Significant support is provided in paragraph C 8.7 of "The Habitats Regulations Assessment Handbook" which includes "*proposals in adopted plans*" and "*proposals in draft plans formally published or submitted for final consultation or adoption*" to be relevant 'plans or projects' for an in-combination assessment. Their consideration would depend on the timing or programming of proposals in the plan. However, given the timescale of the opening year and design year for LTC it is considered that it would be precautionary to include all allocations – front-loaded to 2030 where there is uncertainty on timing. This would overestimate the "true" in-combination emissions in 2030 but would capture all potential developments in the assessment.
12. It is accepted that developments without current or foreseen consent will be captured in "local growth factors" in the LTAM model, as outlined in the TN. However, such an approach does not appear to recognise the local importance of defined local plan allocations - especially if based on national data for traffic growth. It is not clear if, for example, the local growth factors reflect potentially greater-than-national-average predicted growth in the south-east where it is probable that extensive economic growth will occur.

Inclusion of "non traffic" developments in the in-combination assessment

13. The TN indicates that non-road in-combination projects are considered in the HRA (**APP-487**)- namely:
 - Thames Estuary and Marshes Ramsar site: paragraphs 6.2.122-6.2.125 of the HRA in **APP-487** - This identifies four sites; Tilbury 2 Port, and three gas fired power plants. The impact of these is provided in Table 6.10 in the HRA.
 - North Downs Woodland SAC: paragraphs 6.2.137-6.2.138 of the HRA in **APP-487** - An in-combination assessment was not made as impacts from the project alone were "inconsequential". The "Without Prejudice assessment" (WPA) corrects this – but indicates that no in-combination projects were identified.
 - Epping Forest SAC: paragraphs 7.2.58-7.2.62 of the HRA in **APP-487** – One in-combination project (an NSIP Heat & Power Project) is identified and impacts are included in the HRA.
14. It is not clear within the TN, WPA or original HRA/EIA cumulative impacts assessment (Chapter 16 of the Environmental Statement - **APP-154**) how these projects were identified, or others screened out of the in-combination assessment for the HRA. For example, no list of which LPA planning portals were searched, which key words were used to search planning portals/ permit registers, or what criteria

were used to exclude planning applications from further consideration is provided. It is not clear if any agricultural developments were identified, and if so, why they were excluded from further assessment. There are no references to nitrogen or ammonia in the assessments of any of the projects identified in the cumulative effects assessment (**APP-154**) for example.

15. It is accepted that the in-combination projects identified would be likely to have substantial air quality impacts (especially NO_x impacts) due to their size, nature and proximity to the relevant protected sites. However, smaller developments in the vicinity of the relevant protected sites would also have potential to have locally important impacts. It is not correct to conclude – as at 3.5.9 in the WPA – that relevant projects “would be broadly limited to industrial processes and intensive agricultural units. Both of these types of development are given permission (at least in part) via Environment Agency permitting”. The planning system permits smaller agricultural developments (for example, slurry infrastructure, livestock housing and anaerobic digestion) which can have a locally important emissions profile yet does not fall under the Environmental Permitting regime.
16. It is recommended that NE’s Impact Risk Zones are used to identify project types of differing sizes at different distances from protected sites. These could require a greater zone of search for some agricultural activities (such as livestock housing and slurry storage, or agricultural biomass combustion, depending on their size), than the distances identified in 3.5.10 of the WPA.
17. Clarification would also be welcomed on how it was established which projects identified during the in-combination search were in the environmental baseline, and which were not. For example, assuming all identified projects constructed after mid-year 2020 (the midpoint of the current APIS baseline) were not already in the baseline.

Assessment of NO_x, NH₃ and nitrogen deposition for each protected site

18. The agreement to undertake assessment of ammonia (NH₃) and nitrogen deposition (Ndep) even where NO_x is “imperceptible” is welcome, as is the agreement to consider NH₃ and NO_x as pollutants in their own right and not just components of Ndep.
19. The insistence that the assessment is “without prejudice”, and the statement within the TN that “*these pollutants do not require assessment*” implies that the applicant reserves the ability to contend that this additional assessment is not required. NE disagrees with that reservation, as all three pollutants have the potential to adversely affect the integrity of the three identified Habitats Sites. Therefore, an assessment is required to satisfy the requirements of the Habitats Regulations, in order to exclude that potential (Adverse Effect on Integrity - AEIOI), regardless of National Highways’ guidance. If AEIOI cannot be ruled out, suitable mitigation measures should be considered to allow a conclusion of no AEIOI to be reached.

Methodology – Likely Significant Effects

20. The methodology outlined in Section 3.3 of the WPA to establish Likely Significant Effects (LSEs) is broadly acceptable (i.e. LSEs are ruled in when the 1% of the relevant critical load/critical level “trigger” is met alone or in-combination, regardless of whether the site exceeds its critical load or level). However, the assessment undertaken does not follow this methodology. For example, at para 5.1.9 (referencing Table 5.3) in the WPA, LSE is excluded for impacts of ammonia at the Thames Estuary and Marshes SPA / Ramsar site, even though the proposed development would add up to 7% of the critical level of ammonia during construction.

However, LSE is excluded on the grounds that the critical level is not exceeded overall. Such consideration of the Predicted Environmental Concentration against the relevant critical levels/ loads is relevant but should be made at the Appropriate Assessment stage. Although it is likely that a site that would remain below its critical level/ load would exclude AEOI at Appropriate Assessment, the addition of >1% of the relevant threshold of any pollutant would require that assessment as there could be a risk to integrity - especially if a site is just below its critical level/load.

21. It is noted that Table 5.3 (and indeed all the assessment tables in the WPA) do not present the “DS-DM” change as a % of the relevant critical level/load, which would be useful.

Methodology – Critical levels for ammonia

22. Table 3.1 in the WPA lists the critical levels for ammonia used in the assessment for the three Habitats Sites - Thames Estuary and Marshes SPA / Ramsar site, Epping Forest SAC and North Downs Woodlands SAC.
23. The identification of 1µg/m³ for Epping Forest SAC and 3µg/m³ for Thames Estuary & Marshes SPA are considered appropriate. However, a critical level of 3µg/m³ is identified for North Downs Woodlands SAC – which is classed as “W1f lowland deciduous woodland”. It is unclear why bryophytes are not considered to be integral to such woodland (broadleaved deciduous woodland – similar to the qualifying feature of *Fagus* woodland, which records bryophytes as integral, and *Carpinus* and *Quercus* mesic deciduous forest which is a feature of the overlying Wouldham to Detling Escarpment SSSI, which also records bryophytes as integral). Therefore, on a precautionary basis at least, NE would recommend the application of 1µg/m³ for North Downs Woodlands SAC.

Methodology – Critical loads for nitrogen deposition

24. Table 3.2 of the WPA lists the identified critical loads for areas of the protected sites within 200m of the Affected Road Network (ARN). The critical loads selected are the 2011 critical loads rather than the 2022 versions. Natural England would expect this assessment to be undertaken against the 2022 critical loads for nitrogen deposition. This is based on the requirement for “no reasonable scientific doubt”, consistent with case law (C – 127/02 *Waddenzee* 7th September 2004)¹.
25. NE accepts that it is reasonable for a “line to be drawn” and we do not require reassessment of those aspects that have been previously concluded and agreed based on the 2011 critical loads (as per the Statement of Common Ground - **REP2-008**). For example, we do not require reassessment of the SSSIs assessed within the Environmental Statement. However, unresolved environmental assessment carried out following the inclusion of the critical loads on APIS (post May 2023) should be undertaken with reference to the new critical loads.
26. For the Thames Estuary & Marshes SPA / Ramsar site (assigned as “Coastal and floodplain grazing marsh” and given the critical load class of “Low and medium altitude hay meadows”) the 2022 critical load range is now 10-20kgN/ha/yr – not 20 kgN/ha/yr as assigned in Table 3.2.
27. The “*Fagus* Woodland” at Epping Forest SAC is recorded on APIS as “*Fagus* forest on non-acid and acid soils” and the lower critical load of 10kgN/ha/yr (2022 range 10-15 kgN/ha/yr) is appropriately assigned.
28. It is unclear why at North Downs Woodlands SAC, the “w1f lowland deciduous

¹ <https://curia.europa.eu/juris/liste.jsf?language=en&num=C-127/02>

woodland”² habitat type is classed as coniferous woodland in Table 3.2. It is accepted that for screening, the most precautionary habitat type in the SAC should be used (i.e., the qualifying feature of *Taxus baccata* woodland with a 2022 critical load range of 3-15kgN/ha/yr – rather than 5 kgN/ha/yr). However, for the Appropriate Assessment it would be appropriate to use the 2022 critical load range for the w1f deciduous woodland/ broadleaved deciduous woodland of 10-15kgN/ha/yr.

Methodology – Assessment of Effect on Integrity/ Appropriate Assessment methodology

29. Paragraph 3.4.2 of the WPA refers to the “DMRB LA105” document, and the “loss of one species metric”/ 0.4kgN/ha/yr as the threshold for progressing the assessment and establishing AEOI. This appears to contradict the statement at 3.4.6 that that the “loss of one species” criterion is not used alone to assess effects on integrity, as other factors in the detailed site investigation are taken into account. The detailed site investigation is only undertaken if the 0.4kgN/ha/yr criterion is exceeded. Therefore, there is no way AEOI could be concluded if the 0.4 threshold was not exceeded, regardless of other ecological factors.
30. This approach is not consistent with the approach to undertaking an appropriate assessment in Natural England’s published guidance NEA001³ – as numerical thresholds are considered inappropriate to establish AEOI. There is not confidence “beyond scientific doubt” that addition of any quantum of Ndep if a site is exceeding its critical load would not undermine the conservation objectives. Overall, Natural England does not support the use of this metric as a defined threshold, and it should only be used in an appropriate assessment alongside other data to support wider ecological consideration.
31. It should also be noted that the report where the “0.4kgN/ha/yr” figure was developed⁴ highlighted that the figures calculated were highly habitat-specific. There are data gaps, local site conditions and management interactions affecting canopy structure, and natural variation within a habitat should be carefully considered when applying these relationships to a new habitat. No woodland habitats are included in the identified section of the report – so its application at Epping Forest or North Downs Woodlands in particular should be avoided.
32. In addition, the site investigation to identify N-sensitive species in the exceeding area (as outlined in 3.4.5 of the WPA) is not sufficient to establish whether there would be an AEOI. The current absence of sensitive species does not imply that they could never be there, or that adding further N would not continue to undermine the conservation objectives -particularly if the objective is to restore the site, including increasing species diversity.

² Note that as outlined in para 35, Natural England considers that the woodland type is W8a woodland (*Fraxinus excelsior* – *Acer campestre* – *Mercurialis perennis* woodland *Primula vulgaris* – *Glechoma hederacea* sub-community), but the above points apply as the critical load for “broadleaved woodland” is the same.

³ Natural England, June 2018. NEA001 Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulation

⁴ Table 21 of NECR210 - Caporn, S., Field, C., Payne, R., Dise, N., Britton, A., Emmett, B., Jones, L., Phoenix, G., S Power, S., Sheppard, L. & Stevens, C. 2016. Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance. Natural England Commissioned Reports, Number 210.

Relevant habitat types

33. The identified habitat type at **Thames Estuary & Marshes SPA / Ramsar** is appropriate and has been previously agreed.
34. Natural England agrees that the identified habitat type at **Epping Forest SAC** forms part of the qualifying feature of *Fagus* (beech) woodland. However, the lack of N-sensitive species (para 4.3.7) does not imply the area/site is not N-sensitive.
35. We note the applicant's 2023 re-assessment of the area closest to the associated road network at **North Downs Woodlands SAC**. This identified primarily ash (*Fraxinus*) and maple (*Acer*) – justifying the “W1f - lowland deciduous woodland” classification. Yew is found in the understorey, and the ground is shaded where yew occurs. The applicant considers that this woodland type does not form part of either of the qualifying features (H9130 *Asperulo-Fagetum* beech forests, and H91J0 *Taxus baccata* woods of the British Isles).
36. Our assessment of the woodland closest to the road is that it is a NVC “W8” woodland (ref no. 613, *Fraxinus excelsior* – *Acer campestre* – *Mercurialis perennis* woodland *Primula vulgaris* – *Glechoma hederacea* sub-community) and agrees that it does not form part of the qualifying beech (W12) or yew (W13) NVC types. However, approximately 250m – 260m away from the ARN (blue hatching on Figure One overleaf) there is an area of W12a woodland (ref no. 608 *Fagus sylvatica* (European beech) – *Mercurialis perennis* sub community), which is regarded by Natural England to comprise the beech SAC feature. This feature should be considered in further assessment, as although it is located outwith the 200m distance from the ARN, it is sufficiently close that there could be >1% pollutant impact, and therefore LSE.
37. Lack of N-sensitive species within the applicant's site survey (para 4.3.11) does not imply that the area/site is not sensitive to further additions of nitrogen deposition (or ammonia/ NOx), as such species could be affected by the existing and historic pollution levels in the area. For example, British Bryological Society records (via the National Biodiversity Network Atlas) indicate evidence of 25 bryophyte species in the woodland from 2007, though there are no more recent records. A reduction in pollution (potentially delayed by the proposed development) could result in the reestablishment or establishment of more N-sensitive species as the site recovers, reflective of the qualifying features.



Figure One. NVC map of the North Downs Woodland SAC.



608 = W12a. (*Fagus sylvatica* – *Mercurialis perennis* sub community).



609 = W13a (*Taxus baccata* – *Sorbus aria* subcommunity).

611 = W8a (*Fraxinus excelsior* – *Primula vulgaris* – *Glechoma hederacea* sub-community) / W13a (*Taxus baccata* – *Sorbus aria* subcommunity).

614 = W13a (*Taxus baccata* – *Sorbus aria* subcommunity).



613 = W8a (*Fraxinus excelsior* – *Primula vulgaris* – *Glechoma hederacea* sub-community)

Assessment of Thames Estuary and Marshes Ramsar site and SPA

Screening/ LSE

38. Natural England accepts that potential impacts at Thames Estuary & Marshes SPA / Ramsar will occur from construction traffic only, with no impact from operational traffic.
39. The assessment tables within the WPA (such as Tables 5.2 to 5.4 for Thames Estuary) do not show a % change in relation to the critical level (CL)/critical load (CLo), which is the key metric for whether a Likely Significant Effect (LSE) can be excluded or not (>1% means LSE cannot be excluded). However, Natural England accepts that the decisions made do take this into account.
40. The “project alone” assessment concludes:
- NO_x - LSE cannot be excluded as the CL is exceeded in places and the project generates >1% of CL – Natural England agrees with the conclusion (but not the reasoning, as an increase of >1% alone is sufficient).
 - NH₃ – LSE can be excluded as the CL is not exceeded – **Natural England disagrees** as the project will add >1% of the NH₃ CL.
 - Ndep – LSE excluded as the CLo is not exceeded – **Natural England disagrees** as the project will add >1% of the CLo.
41. Although appropriate assessment (AA) should have been undertaken on grounds of >1% for all pollutants, an in-combination assessment was undertaken for NH₃ and Ndep. Natural England’s concerns with the in-combination assessment methodology are listed above (paragraphs 5-17). The conclusion remained that LSE could be excluded in-combination. **Natural England disagrees** with this conclusion, as the “project alone” results meant LSE could not be excluded.
42. In addition, were the 2022 critical loads for Ndep applied to the “Coastal and floodplain grazing marsh” habitat type at Thames Estuary & Marshes SPA / Ramsar (as outlined at paragraph 26), the lower CLo would be 10-20kgN/ha/yr rather than 20 kgN/ha/yr as assigned in Table 3.2 and 5.4 of the WPA. Table 5.4 indicates the “DS” deposition would be between 17-18kgN/ha/yr which is below the “old” lower CLo, but above the 2022 lower CLo.

Appropriate assessment

43. Only NO_x was assessed within the AA, despite Ndep and NH₃ also exceeding 1% of their respective CLo and CL.
44. The NO_x CL (30µg/m³) would be exceeded at one point of the protected site during the construction period, for up to 2 years (para 6.2.3/ 6.2.4 of the WPA). However, Table 5.2 indicates that >1% exceedance would persist over the 5-year construction period, with a maximum change of 6-7% over 4 of the 5 construction years (and 1.5% in the 5th year). It is unclear how far from the roadside this exceedance (above 1%) would extend.
45. Table 6.1 of the WPA indicates that 0.8ha of the Ramsar site would experience changes in NO_x >1% (for at least some of the construction period) though it is unclear where the evidence for this figure is provided. In particular, it is unclear if concentrations have only been assessed within 200m from the roadside (so 0.8ha is the area of the site within 200m from the road), although there could be impacts >1% beyond this distance.

46. It is also unclear why in-combination impact is discounted (e.g. para 6.2.9 of the WPA), when the in-combination impact causes an exceedance of the NO_x CL when the current background is below the CL. It is acknowledged that APIS is likely to underestimate NO_x concentrations very close to the roadside, as it provides an average over an entire 1km x 1km grid square – therefore the current background may already be exceeding the CL. However, the information presented in Table 6.2 of the WPA indicates that the in-combination impact (though not the project alone) tips the concentration from below 30µg/m³ to above 30µg/m³ which potentially undermines the conservation objective. It is noted however that Table 6.1 reports the most recent (2019-2021) APIS background, and Table 6.2 the 2017-2019 APIS background, which may affect this. Therefore, more evidence should be provided on the assumed NO_x additions in terms of spatial extent and timescale.

47. A review of the assessment against the protected site attributes (Supporting Habitat: Air Quality) is provided in Table 6.3 of the WPA. This indicates (in italics, with NE comments following):

- *The effect of the Project increasing the concentrations of NO_x over the critical level is limited to two construction years.*

NO_x concentration would be increased >1% for the entirety of the 5yr construction as a result of the project alone. It is also possible that the in-combination projects would result in exceedance of the critical level at e.g. years 3-5 as well - though evidence is not provided on timing of in-combination impacts.

- *(This) would not alter the suitability of the habitat (freshwater and coastal grazing marsh) for the qualifying features.*

No evidence is provided why an exceedance of the NO_x CL for between 2- 5 years, when it is currently below this level, would not affect habitat for the qualifying features.

- *The target to maintain air quality would not be affected over such a short period with the later construction years recording NO_x concentrations lower than the critical level, hence meeting the target of maintain.*

The conservation objective to maintain NO_x below the CL would be undermined by the project alone (for at least 2 years) and in-combination for potentially the 5-year duration of development, as the CL would be exceeded where it is currently not exceeded (per APIS).

48. It is therefore not possible to conclude (as per para 6.2.15) on the basis of the evidence provided that the conservation objectives of the Thames Estuary SPA / Ramsar would not be undermined by the construction of the Project alone or in-combination with other plans and projects. Natural England disagrees at present with the conclusion that AEOI can be excluded on the basis of NO_x concentrations. Also, Ndep and NH₃ should have been considered in the AA as indicated at paragraph 38 above.

49. In general, however, Natural England considers that, were further evidence provided in the assessment (including consideration of Ndep and NH₃), it is likely that adverse effect could be excluded from all three pollutants for the Thames Estuary & Marshes

SPA / Ramsar site. This is because the Ramsar site (and underpinning SSSI) at the relevant location is designated primarily for its importance to bird species – and is likely to form supporting habitat to the SPA species although it is not designated as part of the SPA at the location at Filborough Marshes where the ARN traffic is relevant. The consideration is therefore whether the higher nitrogen could cause a shift in the vegetation (species/ communities or saltmarsh zonation) that could make the site less suitable for the SPA qualifying features. For example, whether the additional N could lead to an increase in tall, coarse grass species such as Sea Couch (*Elymus athericus*) which is less palatable to wildfowl (e.g. Olff et al 1997⁶). This potential expansion, and the area affected by the ARN, relates to the “densely vegetated upper marsh” that is recorded as more sensitive in APIS.

50. Although the evidence as to whether coarse grasses such as *Elymus spp* are affected by nitrogen is varied, in general abiotic factors such as elevation and sedimentation (Nolte 2019⁷) and livestock mediated factors such as grazing intensity appear to be more relevant to its expansion (Bockelmann, 2002⁸). Therefore, if *Elymus* is not primarily N-limited, eutrophication by atmospheric N deposition probably plays only a minor role, especially over the limited 5-year construction period. Encouragement of grazing to influence sward height and composition could help minimise changes in succession.

Assessment of Epping Forest SAC Screening/ LSE

51. Natural England accepts that potential impacts at Epping Forest SAC will occur from operational traffic only, with no impact from construction traffic.
52. The “project alone” assessment concludes:
- **NO_x** – LSE cannot be excluded as the CL is exceeded and >1% of the CL is emitted – Natural England agrees with this conclusion (but not the reasoning, as an increase of >1% alone is sufficient).
 - **NH₃** – LSE cannot be excluded as the CL is exceeded and >1% of the CL is emitted – Natural England agrees with this conclusion (but not the reasoning, as an increase of >1% alone is sufficient).
 - **Ndep** – LSE cannot be excluded as the CLo is exceeded and >1% of the CLo is emitted – Natural England agrees with this conclusion (but not the reasoning, as an increase of >1% alone is sufficient).

Appropriate Assessment

53. Predicted NO_x, NH₃ and Ndep increases are >1% of their relevant CLs and CLo over some of the site – and in the case of NH₃ over the entirety of the site within 200m of the road (Plate 6.2 in the WPA). NE does not recognise the distinction between

⁶ Olff, H., Leeuw, de L., Bakker, J.P., Platerink R. J. & van Wijnen H. J. (1997). Vegetation succession and herbivory in a salt marsh: Changes induced by sea level rise and silt deposition along an elevational gradient. *Journal of Ecology*, Vol. 85, No. 6 pp. 799-814.

⁷ Nolte, S., Waner, A., Stock, M., & Jensen K. (2019) *Elymus athericus* encroachment in Wadden Sea salt marshes is driven by surface-elevation change. *Applied Vegetation Science*, Vol. 22. No. 3, pp. 454 – 464.

⁸ Bockelmann, A.C. (2002). Ordinary and successful: The invasion of *Elymus athericus* in European salt marshes. Doctor of Philosophy, Groningen. Available online [Ordinary and successful: The invasion of *Elymus athericus* in European salt marshes — the University of Groningen research portal \(rug.nl\)](https://www.rug.nl/research/portal/ordinary-and-successful-the-invasion-of-elymus-athericus-in-european-salt-marshes)

>/<0.4kgN/ha/yr for Ndep as outlined at paragraph 30 above but notes that contribution from LTC is greater nearer the road. NH₃ and Ndep impact beyond 200m should be modelled to gain a better understanding of the true footprint of exceedance of this pollutant, which could affect the percentages presented in Table 6.5. It is acknowledged that NO_x impact alone drops below 1% within 200m of the road.

54. Paragraph 6.2.18 of the WPA indicates that the site is likely exceeding its CLs for NO_x and NH₃ already, which is not reflected in the APIS background levels close to the M25 – which is accepted by NE as APIS does not present locally high pollution levels. However, Natural England does not accept that the absence of N sensitive species or vegetation trends indicates that the habitat is resilient to such pollutants, or that no further change/ harm is anticipated (para 6.2.18). We consider it indicates that there has been long term pollution at the site and that its recovery, including re-establishment of sensitive species typical of the qualifying features is hindered by the pollution, including any additional pollution from the LTC.
55. Table 6.6 of the WPA indicates that NO_x and Ndep concentrations in the “base year” are predicted to decline by the opening year as a result of changes to the vehicle fleet. The proposed development would not bring pollution levels back up to the base year levels. However, the proposed development would “slow” this reduction in emissions and therefore potentially delay any ecological recovery arising. The delay in emission reduction between the DS and DM scenarios has been estimated at 4 years (which is why a 4-year speed limit has been identified by the Applicant as mitigation).
56. No such reduction in NH₃ concentration is predicted – and effects on emissions as a result of the changing fleet are much less certain than for NO_x (recognised in para 6.2.30). Natural England accepts that an increase in electric vehicles will reduce NH₃, but not that such a change will necessarily occur in the operational timescale of LTC.
57. Although the increment to be added to Epping Forest as a result of the proposed development would be small, and the area affected small, limiting assessment of Ndep and ammonia to 200m from the road is likely to underestimate this area. We consider that the exceedances cannot be discounted as they could affect ecological recovery/ restoration in the affected areas which are parts of the qualifying features of the SAC.
58. **Natural England therefore disagrees** with the conclusion in para 6.2.35 of the WPA that the project alone and in-combination would result in no adverse effect on the integrity of the Epping Forest SAC in view of its conservation objectives, as a result of a reduction/degradation in habitat. We consider that the project undermines the conservation objective to restore the site below its CL for NO_x, NH₃ and CLo for Ndep, and would delay any benefit to the site of improvements in the vehicle fleet. Therefore, mitigation is required.

Assessment of North Downs Woodlands SAC

Screening/ LSE

59. Natural England accepts that potential impacts at North Downs Woodlands SAC will occur from operational traffic only, with no impact from construction traffic.

60. The “project alone” assessment concludes:
- NO_x – LSE excluded as the project does not generate >1% of the CL alone – Natural England agrees with this conclusion.
 - NH₃ – LSE excluded as the project does not generate >1% of the CL alone, assuming a CL of 3µg/m³ – **Natural England disagrees**, as a CL of 1µg/m³ would apply (at least precautionarily) and emissions from the project alone would exceed 1% of this (0.02µg/m³= 2%).
 - Ndep - LSE cannot be excluded as the CLo is exceeded and >1% of the CLo is emitted – Natural England agrees with this conclusion (but not the reasoning, as an increase of >1% alone is sufficient).
61. An in-combination assessment was undertaken for NO_x as the project alone did not generate 1% of the NO_x critical level. An in-combination assessment was also undertaken for NH₃ for the same reason, though NE believes the project alone would require appropriate assessment. No other (non-road) in-combination plans or projects were identified (para 5.1.31). The in-combination assessment therefore concluded that LSE from NO_x (and NH₃) could be excluded as the project does not generate >1% of the CL in-combination.
62. Natural England’s concerns with the in-combination assessment methodology are listed at paragraph 5-17 above. We **therefore disagree** that LSE from NO_x and NH₃ can be excluded.

Appropriate assessment

63. Only Ndep was assessed within the AA. Natural England considers NH₃ should also be considered as there was an increase of >1% of the bryophyte critical level of 1µg/m³. An amendment of the in-combination assessment could also mean NO_x would require further consideration in the AA if it exceeded 0.3µg/m³ (1% of the CL) in-combination.
64. Ndep would increase by >1% but less than 0.4kgN/ha/yr resulting from the project alone (0.2kgN/ha/yr – Table 5.13). Natural England does not recognise that input <0.4kgN/ha/yr could not lead to AEOI. As noted at paragraph 31 above, this “loss of one species” metric was not developed for woodland ecosystems.
65. Although the area of the SAC affected is small, the calculation was only undertaken <200m from the road. It is accepted that the impact would be greatest at this point, but the impact >1%, (and therefore with possible LSE) could extend beyond this distance. In this case, the woodland closest to the road (W8) is not qualifying feature of the SAC (paragraph 35-36 above) but such qualifying feature habitat is located approximately 250m from the road, so there is potential for road-emitted pollutants to adversely affect this area. Natural England advise that there is no aspiration to extend either the SAC-qualifying beech or yew woodland to the section of the site currently dominated by the ash-field maple W8 woodland, to add resilience and diversity to the woodland (especially in light of losing large amounts of ash across the Downs to ash dieback). Also, whilst W8 woodlands are not a feature of the SAC, they do form part of the underpinning SSSI, and any extension of SAC habitats to the detriment of SSSI habitats would lead to a decline in the extent of SSSI features. Such promotion of the SAC-qualifying beech or yew features would only be pursued if the site was heavily degraded with a lack of correct species, which is not the case at this location. Any expansion would be expected through natural colonisation,

which may occur, as there are many yew and beech saplings in the wider wood – but it would not be a managed process.

66. No N-sensitive species were identified in the applicant's 2023 site investigation, but Natural England disagrees that this indicates that the habitat is considered to be resilient to this impact. The proposed development could delay ecological recovery, resulting from reduced NO_x and Ndep arising from the improvement in the vehicle fleet. The time of this delay has not been calculated.
67. **Natural England therefore disagrees** with the conclusion in para 6.2.84 of the WPA that the effects of the Project alone and in-combination would result in no adverse effect on the integrity of the North Downs Woodlands SAC in view of its conservation objectives, as a result of reduction/ degradation in habitat. Insufficient evidence has been presented to conclude that the increase in Ndep, NH₃ and NO_x would not undermine the conservation objectives of the site because:
- The full footprint of exceedance >1% for Ndep has not been calculated.
 - The impact of NH₃ on integrity has not been assessed.
 - The in-combination assessment has not addressed the full extent of traffic from in-combination plans and projects, or appropriately screened "non-road" developments – so is likely to underestimate the in-combination contribution to NO_x, NH₃ and Ndep.
68. No mitigation to reduce the impact has been proposed, as the applicant has excluded AEOI.
69. Notwithstanding the above, however, overall it is considered that AEOI on North Downs Woodlands SAC as a result of the proposed development is likely to be able to be excluded, depending on the extent of impacts arising from a revisit of the in-combination assessment. This is because the qualifying features of the SAC are not in the area experiencing the greatest addition of nitrogen (gaseous or deposited), and therefore the conservation objectives for these features would not be undermined by the pollution arising from the proposed development. However, evidence to support this conclusion, especially in relation to the in-combination impacts and impacts arising from ammonia, has not yet been provided by the applicant.

Mitigation

70. Without prejudice mitigation (a 4-year speed limit in place on the M25) has been identified for Epping Forest SAC by the Applicant. This would reduce impacts "at source" caused by the proposed development, so pollution would be reduced despite uncertainty over the spatial extent of impacts. However, the AA has been undertaken without this mitigation in place. Please see our further comments on mitigation at ExAQ11.11.1 below.
71. Natural England considers that AEOI cannot be excluded for NO_x, NH₃ or Ndep at Epping Forest SAC without mitigation being in place.
72. No mitigation has been developed for impacts at North Downs Woodlands SAC or Thames Estuary & Marshes SPA / Ramsar. It is not possible to indicate at present which pollutants could cause an AEOI at these sites (and therefore any mitigation that would be appropriate) as AA has not been undertaken for all pollutants, the in-combination assessment does not fully represent potential in-combination impacts (from traffic and non-road developments) and the full spatial extent of impact at the sites is not determined. As indicated in the relevant sections above, however, it is possible that the modelled pollution at both sites would not result in AEOI, and therefore not require mitigation.

Annex B: Response to Applicant's proposed to Disapply the Wildlife & Countryside Act

Natural England's Response on the Disapplication of WCA 1981 Sections 28E and 28H in relation to SSSI:

The point of dispute

The point in dispute relates to the following wording contained in the Development Consent Order:

'53 (1) The following provisions do not apply in relation to the construction of any work or the carrying out of any operation required for the purpose of, or in connection with, the construction of the authorised development and within any maintenance period defined in article 36(13), any maintenance of the authorised development-...

(c) sections 28E (duties in relation to sites of special scientific interest) and 28H (statutory undertakers, etc.: duty in relation to carrying out of operations) of the Wildlife and Countryside Act 1981(a)'

The SSSIs affected by the project are Shorne and Ashenbank Woods SSSI and a potential SSSI at North Thames Estuary and Marshes.

We acknowledge the Applicant's response (Paragraph 8, REP2-077) to our written representations (REP 1-262, paragraphs 2.1-2.10) concerning the disapplication of Sections 28E and 28H of the Wildlife and Countryside Act (WCA) 1981. We do not consider that the Applicant's response is persuasive and still maintain that the disapplication should not apply.

A417 Missing Link- relevant precedent

This disapplication point has already been contested before the Secretary of State in relation to the A417 Missing Link case. Unlike the other DCO's referred to by the Applicant in REP2-008 Appendix C.6 (the A14 and A303) (where there was no potential SSSI point and the point was not challenged by Natural England), this A417 Missing Link Case also had a potential SSSI progressing through the examination and is therefore the most relevant to refer to.

The relevant submissions and extracts from the A417 Missing Link case are appended (see list of appendices listed below) but we flag the most pertinent extracts to support our position below:-

The ExA said:

8.8.16: The Replacement Land would be part of the de-trunking which would allow land that was previously de-registered with the original A417, being returned to Common Land. The de-trunking and landscaping process (referred to in the Applicant's submission as 're-purposing') also offers wider opportunities to re-provide land which creates habitats that are appropriate to the current use of the Common

*Land and the surrounding SSSI, potentially improving the SSSI in the future. This was touched upon in Chapter 5 in the biodiversity section and in the DCO Chapter 7 in relation to Article 3 and the disapplication of powers related to SSSI. In this regard the land would be put to calcareous grassland and could subsequently, potentially, become part of the SSSI habitat. **Should that happen and it becomes SSSI then with the disapplication proposed it would mean NE would not have control over the works within this area. We have expressed the view that control should be retained for NE in such circumstances and therefore removed the disapplication requested by the Applicant in this regard.***

9.4.14: *...Furthermore, we consider that **no convincing evidence has been submitted to the Examination to demonstrate that the provisions of s28E, H and I of WACA 1981 represent a significant impediment to the delivery of the Proposed Development.** NE expressed that the dDCO could, if made, provide for the “reasonable excuse” for works to be undertaken within a SSSI in any event.*

9.4.15. *Given the national shift towards greater environmental protection and biodiversity enhancement, we take a precautionary approach and advocate to SoST that the requested disapplication of s28E and H of WACA 1981 are removed from the Applicant’s preferred DCO in order to protect potential future SSSI land within the Order Limits. The rDCO (Appendix D) has those elements removed from Article 3.*

(emphasis added).

The Secretary of State agreed:

185. The Secretary of State also notes that the de-trunking and landscaping process offers opportunities to create habitats that are appropriate to the current use of the existing Common Land and surrounding SSSI, potentially improving the SSSI in future. The ExA notes that the land could potentially become part of the SSSI habitat in future and have removed the disapplication proposed so that NE would retain control over this area. The ExA concluded that this demonstrates that there is a strong public benefit as this would improve the quality of the land [ER 8.8.16].

Natural England’s understanding of the Applicant’s position

Synthesising the Applicant’s position from its various submissions (REP2-008 para 2.1.9, matter 2.1.3) and Appendix C.9 and REP2-077 para 8), our understanding is that the Applicant takes issue with the disapplication on three overarching bases:

1. For future SSSIs it is a “grey area” whether the reasonable excuse defence would apply and NSIP’s should not be “frustrated or delayed by potential SSSI designations”.
2. For current SSSIs there has been a complex consenting process, the risks are secured subject to appropriate mitigation and NE has had a chance to comment.
3. They have a reasonable excuse defence anyway but find it preferable to disapply.

Natural England’s position

Natural England’s position remains as follows:-

1. In relation to potential SSSIs, SSSIs are of key environmental importance. That is reflected both in their statutory protection, and through policy protection (see e.g. NPSNN para 5.28, Draft NPSNN 5.55-5.56 and the NPPF (2023) paras 11(b)(i) fn7 and 180(b)). Natural England maintains that reliance on the DCO process (to replace the statutory and policy protections in place) is misplaced for the following reasons:-
 - a. This is a significant DCO considering a large variety of matters. There is not therefore a clear crystallised focus on the potential SSSI. Whilst in many places, the Applicant has considered the potential SSSI in so far as it has compensated for the loss of those existing habitats, there are some aspects of the potential SSSI that have not been given due regard at this pre consent stage. If there has been a failure to have regard then this could be further challenged by NE as a damaging operation (for example, the footpath FP200 upgrade to bridleway at Bowaters scrubland as indicated in REP 1-262, para 7.5.15).
 - b. The ExA will need to make a recommendation, and the Secretary of State will need to make a decision on the DCO. At those key advisory / decision making points, they cannot lawfully treat something as a SSSI if it is not an SSSI. It is important therefore to ensure that statutory provisions can apply in the future if the SSSI is designated, rather than relying on the DCO which will be an inadequate substitute. Bypassing this statutory protection risks a failure to consider all of the environmental issues and a potential consequence would be a deterioration or loss in nationally valuable habitat.
2. In relation to current SSSIs:
 - a. Natural England's position is that the reasonable excuse defence exists provided s.28I is complied with. There is therefore no need to disapply the provisions.
 - b. As indicated in the A417- Missing Link NSIP decision, disapplication of Section 28H is unreasonable and irrational. The statutory protection afforded to SSSIs should not be removed.
 - c. We maintain that the lack of detail on operations with potential direct or indirect impacts on existing SSSIs hinders our ability to conduct a comprehensive assessment on such sites. Much crucial detail is left

unresolved until after consent is granted. This lack of clarity could have significant repercussions for SSSIs and their designated features which would mean that disapplication would potentially allow owners or occupiers to consent to works on SSSI land with major, inadequately mitigated impacts. While mitigation and compensation are welcome, they must be meaningful, or they hold no value. Without a thorough assessment we cannot determine the true effect of mitigation on existing designated SSSI's.

3. The suggestion that retaining SSSI designation would hinder the delivery of NSIPs is overstated. As in the A417 Missing Link no real evidence has been presented of any *actual* substantive delay caused by the retention of these provisions. To the extent the Applicant were not to rely on the 28P(4) defence, the potential timeframes for delay are insignificant. Section 28H(3)(b), for example, stipulates a 28-day notice period before works can proceed if Natural England has not assented. S.28E contains on specific timeframe but given that consent would simultaneously be sought under S.28H it is hard to see how radically different timescales would apply.

For those reasons, we do not believe the 'necessary and expedient' test in Section 120 of the Planning Act 2008 has been satisfied, as seen in the A417 Missing Link precedent.

Conclusion

In conclusion, the duties under sections 28E and 28H of the WCA should not be disappplied in this DCO. These duties are crucial for environmental conservation, and in any event Section 28(I), can effectively serve the interests of all parties involved.

Appendices relied on

- Appended to SOCG REP2-008 annex C.6 is a legal submission prepared on behalf of National Highways by Burges Salmon and BDB Pitmans for the A417 Missing Link examination.
- Attached to this submission at Appendix A is Natural England's response to that submission from the A417 DCO process.
- Attached to this submission at Appendix B are relevant extracts from the A417 Missing Link examination.

Appendix A – Natural England’s response to the Applicant’s submission from the A417 DCO process

This response is provided overleaf.

Date: 14 February 2022
Our ref: 380359
Your ref: TR010056



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BY EMAIL ONLY

Dear Sirs,

NSIP: A417 Missing link - Deadline 4
User Code: TR010056
Further advice on Disapplying SSSI Consents
Comments on Ullen Wood lighting proposals

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

Further advice on Disapplying SSSI Consents

This letter provides NE's advice in response to the joint advice note prepared by Burges Salmon LLP, dated 19 January 2022.

Disapplying SSSI Consent is listed as a 'matter outstanding' in Natural England's Statement of Common Ground (SoCG) with National Highways. Section 1.1 of the SoCG contains an accurate summary of NE's advice on the legal position. This is repeated below for ease of reference:

Since Highways England is a body to which s.28G of the Wildlife and Countryside Act 1981 (WCA 1981) applies (a s.28G authority), this situation would not be governed by s.28E WCA 1981. Even if s.28E WCA 1981 did apply, it is not legally possible to disapply a requirement to obtain consent under s.28E in a DCO in England.

As such and if applicable (which it is not in this case), the usual s.28E notice/consent process would need to be followed. Instead, it is for the Secretary of State (SOS) (as the decision-maker in relation to the DCO and also as a s.28G authority) to give notice to Natural England under s.28I WCA 1981 if the operations to be permitted by the DCO are likely to damage any of the flora, fauna or geological or physiographical features by reason of which the SSSIs are of special interest.

Natural England then has 28 days (beginning with the date of the notice) to provide its advice, following which the SOS may decide whether to grant the DCO. The SOS must take Natural

England's advice into account in deciding whether to grant the DCO and what (if any) protective provisions should be included in the DCO.

If the DCO is granted, Highways England can then carry out the operations permitted by it in reliance on the reasonable excuse defence in S.28P(4)(a) WCA 1981, which says that if the operations in question were permitted by a s.28G authority which has acted in accordance with section s.28I (i.e. followed the correct process for obtaining Natural England's advice, as outlined above), then this will be a reasonable excuse for any failure by a s.28G authority to obtain Natural England's assent (under s.28H WCA 1981) before carrying out any damaging operations.

As stated at 1.1. of the SoCG under 'Natural England position', NE considers that, if S28I advice is obtained in this way, NH can then carry out the operations permitted by it in reliance on the reasonable excuse defence in S.28P(4)(a) WCA 1981, which says that if the operations in question were permitted by a s.28G authority which has acted in accordance with section s.28I (i.e. followed the correct process for obtaining Natural England's advice, as outlined above), then this will be a reasonable excuse for any failure by a s.28G authority to obtain Natural England's assent (under s.28H WCA 1981) before carrying out any damaging operations.

While we take the point that other owners/occupiers may have S28E duties, as acknowledged by Burges Salmon in their note (see paragraph 8.4), the reasonable excuse defence (that the damaging operation has been permitted by a public body acting in accordance with section 28I) is capable of applying to operations which would otherwise constitute an offence under both S28E and S28H.

This [Planning Inspectorate guidance note](#) sets out on p.6 the process for dealing with potential impacts on SSSIs in relation to NSIPs. As per the guidance document, under S28I, the Secretary of State must notify NE before authorising the carrying out of operations likely to damage the special interest features of a SSSI.

Paragraph 8.7 of the Burges Salmon advice confirms that they do agree with the above assessment, while stating that it is 'preferable' to use the disapplication route instead. Natural England cannot follow the logic of the arguments raised here; and the suggestion that the requirements under S28I were not drafted with the DCO examination and consenting process in mind is clearly rebutted by the Planning Inspectorates own guidance note (see above).

During the DCO consenting process, there will be a proper examination of the impacts of the Project on SSSIs (as referred to in paragraph 8.9 of the Burges Salmon advice) and S28I will operate to ensure that, in line with its general statutory duty in relation to SSSIs, NE has input into what is finally agreed with regard to DCO obligations relating to SSSIs.

There is a suggestion within the Burges Salmon advice note that disapplication of S28E (and/or S28H) would mean that, should a new SSSI(s) be notified within the Order area, National Highways could still carry out works that may affect the new SSSI(s), by relying on the disapplication. This highlights a concern for NE that impacts on any such new SSSI(s) would not have been considered/mitigated for (and legally secured) at the DCO consenting stage. NE has a general statutory duty in relation to SSSIs and that general duty would be better served through the S28I route in this situation – as this would mean that any impacts on new SSSI(s) would need to be considered/mitigated/mitigation secured through the S28E/S28H consenting/assenting route.

Natural England does not agree with Burges Salmon's analysis at Paragraph 6.3 of its advice note. While SoS has the *power* under s.120 to disapply statutory provisions which relate to any matter for

which provision may be made in the order, it is not required to do so on application by an applicant - rather, the decision is at the discretion of the Sos, acting reasonably in all the circumstances of the case. In this case, there is an established process for dealing with SSSIs in relation to NSIPs, as described above and set out in the Planning Inspectorate's own advice note (i.e. Sos to obtain S28I advice) and NE would argue that it would not be reasonable for the Sos to disapply S28E (and/or S28H) in these circumstances.

Further arguments about the operation of s.150 in these circumstances are not relevant, because S28E/S28H are not (as described above) the correct consenting route in this case - rather, S28I is the operative provision.

Finally, paragraphs 7.1-7.2 refer to previous occasions where S28E has been disapplied. We are not aware of the facts/circumstances of these cases - however, NE's general position on the interaction between the SSSI consenting regime and the NSIP consenting regime remains as outlined in the SoCG.

The position set out above is based on advice received from Natural England's Legal Service Team. Any further correspondence on this matter can be directed to me in the first instance.

Comments on Ullen Wood lighting proposals

Gloucestershire County Council has raised concerns around the Ullen Wood roundabout being unlit. The consultants working on this scheme have indicated that lighting the roundabout would have significant environmental impacts, including on the landscape of the Cotswolds Area of Outstanding Natural Beauty and on the bat mitigation currently proposed. These impacts are a cause for concern. Natural England's responses to this NSIP to date have all been based on the scheme being unlit in its entirety.

Gloucestershire County Council has suggested that the below ground infrastructure required to light the roundabout is installed as a part of the roundabout construction, but not turned on unless there is a serious need. If this approach is taken, then Natural England needs to understand the mechanism for making this decision in the future, and we would want to be reassured that environmental impacts would be taken into consideration. We would also want to be reassured that all available steps are being taken to further manage down the residual safety risks, e.g. reducing speed limits and rumble strips. The inclusion of these measures as a part of the road would make it less likely that the lighting will ever be needed.

Yours faithfully



Hayley Fleming
Senior adviser - Planning for a Better Environment
West Midlands Area Team



Appendix B – A417 Missing Link Extracts

Secretary of State Decision Letter (TR010056-001898)

SoS decision states the following:

“185 - The Secretary of State also notes that the de-trunking and landscaping process offers opportunities to create habitats that are appropriate to the current use of the existing Common Land and surrounding SSSI, potentially improving the SSSI in future. The ExA notes that the land could potentially become part of the SSSI habitat in future and have removed the disapplication proposed so that NE would retain control over this area. The ExA concluded that this demonstrates that there is a strong public benefit as this would improve the quality of the land [ER 8.8.16].”

Examining Authority Report - (TR010056 - 001892)

“5.3.81- When measured against paragraph 180 of the NPPF, which is important and relevant as relating to internationally recognised environment resources, the significant loss of established and matured habitat is a substantial impact. The mitigation and compensation for SSSI, whilst welcomed, would not produce the quality of habitat required for many years to come, reducing the weight that can be attributed to it.”

“5.3.82- When measured against the NPSNN paragraphs 5.25, 5.32 and 5.35, significant adverse harms cannot be avoided resulting in the loss of land and features within a SSSI and the deterioration, or indeed some loss, of irreplaceable habitats. Mitigation is necessary and compensation is proposed as a last resort. These harms weigh significantly and heavily against the Order being made”

“Biodiversity

7.2.17-We conclude that the Proposed Development would cause substantial harm to Sites of Special Scientific Interest (SSSI) land within the Order Limits, would cause loss of veteran trees and result in the deterioration of ancient woodland (irreplaceable habitat). There are also impacts upon other habitats, including the loss of tuffaceous vegetation in Norman's Brook that is unavoidable and requires off-site compensation.

7.2.18- We are of the opinion that the extensive mitigation, enhancement and compensation package would deliver habitat in the future, although would take time to establish and mature to a level to truly remedy the immediate and harmful loss.

7.2.19- We conclude that both direct and indirect effects are unavoidable with the route chosen. The harm to biodiversity and ecology assets weighs against the Order being made and we give them substantial weight. Therefore, development consent should not be granted unless the need for, and benefits of, the Proposed Development would clearly outweigh the loss.”

“8.8.16- The Replacement Land would be part of the de-trunking which would allow land that was previously de-registered with the original A417, being returned to Common Land. The de-trunking and landscaping process (referred to in the Applicant’s submission as ‘re-purposing’) also offers wider opportunities to re-provide land which creates habitats that are appropriate to the current use of the Common Land and the surrounding SSSI, potentially improving the SSSI in the future. This was touched upon in Chapter 5 in the biodiversity section and in the DCO Chapter 7 in relation to Article 3 and the disapplication of powers related to SSSI. In this regard the land would be put to calcareous grassland and could subsequently, potentially, become part of the SSSI habitat. Should that happen and it becomes SSSI then with the disapplication proposed it would mean NE would not have control over the works within this area. We have expressed the view that control should be retained for NE in such circumstances and therefore removed the disapplication requested by the Applicant in this regard.”

“9.4.14 - Furthermore, we consider that no convincing evidence has been submitted to the Examination to demonstrate that the provisions of s28E, H and I of WACA 1981 represent a significant impediment to the delivery of the Proposed Development. NE expressed that the dDCO could, if made, provide for the “reasonable excuse” for works to be undertaken within a SSSI in any event.”

“9.4.15 – Given the national shift towards greater environmental protection and biodiversity enhancement, we take a precautionary approach and advocate to SoST that the requested disapplication of s28E and H of WACA 1981 are removed from the Applicant’s preferred DCO in order to protect potential future SSSI land within the Order Limits. The rDCO (Appendix D) has those elements removed from Article 3.”

Annex C: Response to the responses to Examiner's Questions 1

ExQ1	Question
Q4.1.15	<p>Modelled Traffic Effects: Lower Thames Area Model and Future Development Proposals</p> <p>The applicant's response to this question, and Q4.1.11 does not address Natural England's concerns that traffic assumed in the model informing the Habitats Regulations Assessment meets the "no reasonable scientific doubt" requirements of the Habitats Regulations to exclude adverse effects on integrity. It is not clear that the core scenario included in the applicant's model represents the worst-case scenario - due to the level of "uncertainty" that limits what can be included in the core scenario. A precautionary approach (appropriate for HRA) would include development that is foreseeable but not necessarily with that same level of certainty. Inclusion of a national high traffic growth assumption to compensate for exclusion of e.g. local plan allocations is not sufficiently locally relevant.</p>
Q5.2.1	<p>Air quality – effects on designated sites</p> <p>As outlined in Natural England's response to this question, we have no concerns with the use of the APIS background, though would expect the most recent background to be used (2019-2021 rather than 2017-2019).</p>
Q5.2.4	<p>Nitrogen Deposition</p> <p>Natural England is aware of the applicant's NH₃ model, and that it has been peer reviewed by IAQM. We accept its use in the assessment; however, we have concerns with the assumptions used around NH₃ emissions from vehicles travelling at reduced speed which is not listed in the factors used to calculate emissions/ ratios of NO_x to NH₃ (listed as the year being assessed, dominant road type, various vehicle types (e.g., diesel cars, petrol cars, Heavy Goods Vehicles) – but not including speed). This is outlined in our response on the speed limit mitigation (Q11.11.1, below).</p> <p>In response to 5.2.4b (on the nitrogen deposition sites) – we acknowledge that the Applicant accepts that the proposed development would adversely affect SSSIs and local nature sites (including ancient woodland and veteran trees) as a result of air quality impacts. This considered the impact of Ndep only – not NH₃ or NO_x. Natural England does not endorse the impact on SSSIs/ local nature sites as a result of Ndep and considers the matter agreed that the proposed development will adversely affect these sites. Our position is outlined in our SOCG issue 2.1.62, 2.1.64 and 2.1.98 (Examination Document REP2-008).</p>
Q5.2.5	<p>Modelling NO₂</p> <p>Natural England notes that the impact on Shorne and Ashenbank Woods SSSI as a result of applying the revised verification factor would remain as major adverse, and a significant effect. It is likely that a greater area of the SSSI would be affected by Ndep as a result of the increased road emissions, though the applicant's methodology has not assessed any area further than 200m from the road. Compensation for nitrogen deposition based on the earlier assessment has been provided by the applicant.</p>

Q5.2.6	<p>Assessment</p> <p>Construction impacts to the Thames Estuary and Marshes SPA / Ramsar site are considered in the Applicant's "Without Prejudice assessment". This identifies exceedances of the critical level of NOx (30µg/m³) during the construction period (alone and in combination). In addition, the (2022) lower critical load for Ndep for the identified relevant habitat type would be exceeded (although the assessment applies the 2011 critical load which is not exceeded). This does not necessarily imply there will be an adverse effect on site integrity – or that the conservation objectives would be undermined. Natural England's comments on the "Without Prejudice" assessment are outlined at Annex A of this response at Deadline 5.</p>
Q5.2.7	<p>Mitigation</p> <p>Natural England does not wish to comment further on this question.</p>
Q5.2.8	<p>Additional Monitoring Sites</p> <p>As outlined under our response to Q11.11.1, it is required that ammonia and NOx monitoring (and calculation of Ndep) at Epping Forest SAC is undertaken, with results to be shared with Natural England. This would be in accordance with a monitoring plan, to be agreed with Natural England, for an initial period of four years of LTC operation, with pre-operation monitoring also undertaken for at least 1 year prior to commencement of construction. This monitoring plan would ensure that the speed limit mitigation reduces nitrogen deposition and NOx and ammonia concentrations, and that levels of the three pollutants at year 4 are no higher than the pre-operational values. If this is not demonstrated for any of the pollutants, the speed limit mitigation would require to remain in place until the emissions reduce to levels at opening year ("Do-minimum" scenario). Monitoring with a corrective feedback mechanism to ensure the mitigation identified is certain will need to be secured through an appropriately worded REAC commitment. Natural England is happy to work with the Applicant on appropriate wording.</p>
Q6.1.2	<p>East Tilbury landfill</p> <p>Natural England does not wish to comment further on this question.</p>
Q9.1.1	<p>Noise and Vibration – Survey Baseline</p> <p>Natural England does not wish to comment further on this question.</p>
Q9.1.6	<p>Receptors</p> <p>Natural England does not wish to comment further on this question.</p>
Q9.2.1	<p>Survey Timescales (noise and vibration)</p> <p>Natural England does not wish to comment further on this question.</p>
Q9.2.2	<p>Long/short term effects (noise and vibration)</p> <p>Natural England does not wish to comment further on this question.</p>

Q9.4.1	Mitigation
	Natural England does not wish to comment further on this question.
Q9.4.4	Mitigation
	Natural England does not wish to comment further on this question.
Q9.4.8	Road Surfacing
	<p>Natural England remains concerned that the use of low noise surfacing as an integral mitigation measure for impacts to tranquillity within the Kent Downs Area of Outstanding Natural Beauty is not secured for the lifetime of the Project (as raised in Paragraph 6.1.61 of our Written Representation, Examination Document REP1-262).</p> <p>We note the Applicant's response to Q9.4.8 (Examination Document REP4-192) confirming that Commitment NV013 in the Register of Environmental Actions and Commitments (Examination Documents REP3-104) is to be updated at Deadline 5 with the updated wording 'intended to secure the replacement of surfaces on the strategic network so that the noise emissions performance is no worse than that laid for scheme opening'.</p> <p>We welcome the Applicant's approach and will provide our further advice on this matter once we have been able to review the amended wording to Commitment NV013.</p>
Q9.5.1	Monitoring baseline
	Natural England does not wish to comment further on this question.
Q9.5.2	Monitoring Approval/Timescales
	Natural England does not wish to comment further on this question.
Q10.2.2	Infiltration Ponds
	Natural England does not wish to comment further on this question.
Q10.4.2	Maintenance of Drainage Works
	Natural England does not wish to comment further on this question.
Q10.4.4	Indirect Effects
	Natural England does not wish to comment further on this question.
Q10.5.4	Watercourse Maintenance
	Natural England does not wish to comment further on this question.

Q10.6.1	<p>Water Discharge</p> <p>Natural England does not wish to comment further on this question.</p>
Q10.6.4	<p>Discharge to the Thames</p> <p>Natural England does not wish to comment further on this question.</p>
Q10.6.5	<p>Mammal Ledges</p> <p>Natural England may respond to the Applicant's response at a future deadline.</p>
Q11.1.1	<p>Saline lagoon fauna and flora</p> <p>Natural England notes the Applicant's response to this question, which correctly references our Deadline 3 submission which updated the ExA on the location of saline lagoon species errantly reported close to the Bowaters sluice. We did, however, also observe that the hydrological conditions within the ditch network appeared to be suitable for such species, and invited the Applicant to demonstrate that this was not the case through further aquatic invertebrate sampling (which we would be happy to advise further upon). The Applicant appears not to have addressed this point, and we would be grateful for their position on our request further modest and localised additional field work.</p>
Q11.1.2	<p>Tunnelling vibration on the marine environment</p> <p>Natural England notes the Applicant's response to this question, and they appear to have evidenced that vibration levels will be low enough that any displacement of invertebrate fauna within the marine environment will not occur. This being the case, Natural England would be content to accept a conclusion of 'no adverse effect to site integrity' within an HRA context, for land functionally linked to the Thames Estuary & Marshes SPA / Ramsar site. We appreciate that a conclusion of 'no likely significant effect' was previously agreed and recorded within our Statement of Common Ground, however we wish to update our position with respect to this impact pathway. As per our advice relating to underwater noise, an impact pathway is plausible (there is the possibility of an effect) and hence should be screened in for LSE, but we anticipate a conclusion of 'no adverse effect on site integrity' can be reached without the need for mitigation. As for underwater noise therefore, this is a procedural risk rather than an ecological risk, for the Competent Authority (the Examining Authority) to consider.</p>
Q11.2.1	<p>Species Surveys Limitations</p> <p>Natural England will provide our advice on survey limitations as part of our response to draft Protected Species License documents, which are referred to by the Applicant.</p>
Q11.4.1	<p>Short term Habitat Loss</p> <p>Natural England will response to this issue as appropriate when we respond to the Applicant's draft licence applications.</p>

Q11.4.2	<p>Categorisation of Bird Species</p> <p>Natural England notes the Applicant's response to this question. We will consider their position and reply at a future deadline.</p>
Q11.4.3	<p>Breeding and Wintering Birds – Thames Estuary and Marshes SPA</p> <p>Natural England welcomes the clarity provided by the Applicant. Whilst we acknowledge the difficulty in timing restrictions where breeding and non-breeding bird species are notified features of a designated site, Natural England would expect phased working or timing of the works to periods where disturbance would be less impactful to be more fully explored. This approach applies to all works, not just the wetland creation works.</p>
Q11.5.1	<p>Badgers</p> <p>Natural England will consider the response made by the Applicant in answer to this question and will respond at a future deadline.</p>
Q11.5.2	<p>Monitoring of Success</p> <p>As detailed in Natural England's Written Representation (Examination Document REP1-262) and our advice during Issue Specific Hearing (as confirmed in Examination Document REP4-324), we consider a holistic approach to monitoring the establishment and functioning of all mitigation and compensation habitats (for biodiversity and landscape) should be secured.</p> <p>The Applicant's response to Q11.5.2 (Examination Document REP4-194) refers to the monitoring required as part of the necessary protected species licences. They state that 'the monitoring requirements committed to within the draft protected species licence applications provide a robust approach to monitoring the success of species groups'. However the Project will result in significant impacts to non-licensable species, and this is where a holistic, indicators of success approach considering the condition of habitat and how it is functioning for a broad range of species groups will provide a more robust approach to ensuring the effectiveness of the mitigation and compensation strategy. We will be pleased to continue working with the Applicant to try and agree a more holistic monitoring approach building upon good practice from other projects the Applicant has commissioned.</p>
Q11.5.3	<p>Indigenous Planting</p> <p>Natural England welcomes the clarification provided by the Applicant in relation to how they will source native species of local provenance.</p>
Q11.5.4	<p>Design Principles</p> <p>Natural England does not wish to comment further on this question.</p>
Q11.6.1	<p>West Tilbury Main Culvert</p> <p>Natural England does not wish to comment further on this question.</p>

Q11.9.2	<p>Updated HRA Report</p> <p>Natural England notes the Applicant’s response and position with respect to the ‘without prejudice’ submissions, and that they do not intend to update the HRA. As we have set out elsewhere, we consider that the HRA should be updated, but we do not wish to add further comments here.</p>
Q11.9.3	<p>Apparently Unreferenced Effects on the Southern North Sea Special Area of Conservation</p> <p>Natural England does not wish to comment further in relation to this question.</p>
Q11.9.7	<p>Caveats on Mitigation: Adequacy of Security</p> <p>Having reviewed the Applicant’s response, Natural England remain concerned regarding the significant degree of ambiguity provided within the various securing mechanisms and control documents (as detailed more fully within our Written Representation, Examination Document REP1-262).</p> <p>We note that the Applicant states in their response to Q11.9.7 (Examination Document REP4-194) that ‘In relation to the phrase “where reasonably practicable” more widely within the application, this wording is used to provide a positive requirement to incorporate measures relating to “maximising biodiversity value”...’. Natural England welcomes the Applicant’s commitment to maximising the biodiversity value through their detailed design but remain concerned that this does not provide sufficient certainty as to the minimum level of mitigation and compensatory measures for ecological and landscape impacts that will be secured and delivered.</p> <p>As detailed in our Deadline 4 advice (Examination Document REP4-324), following a discussion with the Applicant on the 31 August 2023 we understood that they were going to be providing greater clarity on the wording of the securing mechanisms. This important point has not been confirmed by the Applicant in their response to Q11.9.7. We would welcome clarity from the Applicant on this matter.</p> <p>In addition, Natural England advised there is a lack of certainty in the mitigation measures across the breadth of environmental mitigation measures as detailed within Section 3 and Annex E of our Written Representation (Examination Document REP1-262). The securing mechanisms where we remain concerned about the use of ‘where reasonably practicable’ as detailed within Annex E to our Written Representation include a significant number of landscape specific mitigation measures for impacts to the Kent Downs AONB. Given this, we advise that the Applicant’s response to Q11.9.7 does not provide sufficient certainty as to what ecological and landscape mitigation/compensation measures will be delivered and would welcome greater clarity being provided.</p>

Q11.9.8

In-combination Assessment Methodology

The HRA Report [APP-487] states that it considered the list of plans and projects within ES Chapter 16: Cumulative Effects for the purposes of the in-combination assessment but notes that this was “amended for the HRA to ensure compliance” with that process. Several IPs have raised concerns in relation to the methodology for the selection of projects for the in-combination assessment and the ExA notes that there is ongoing discussion with NE in relation to the data used for traffic modelling.

- please can the Applicant provide a list of the other plans and projects that were considered in the HRA in-combination assessment;
- please can NE and relevant IPs confirm if they are satisfied that the in-combination assessment correctly identifies other plans and projects that could potentially contribute to in-combination effects; and
- please can NE and the Applicant provide an update on resolving the queries around the traffic modelling data used for the in-combination assessment?

In our Deadline 4 response, Natural England advised that we would provide a more detailed response to this question. Below is our response to this question, followed by a response to the Applicant’s response to the question.

Natural England’s Answer to Q11.9.8

Natural England has previously raised concerns with the in-combination methodology. We do not consider that the assessment identifies all relevant “traffic generating plans/projects” (for example, local plan allocations) or “non-road plans/ projects” (for example, agricultural developments in the vicinity of the identified Habitats Sites).

The applicant has outlined further details around their traffic modelling data in their 30 June Technical Note (TN). Natural England accepts that:

- 1) the assessment takes account of a degree of in-combination (traffic) growth in the LTAM and future forecast growth, and that
- 2) use of an opening year of 2030 and a “design year” of 2045 allows establishment of the duration of impacts across the designated sites. Therefore, some additional projects that are predicted to come “online” between 2030 and 2045 are partly included in the assessment, and that
- 3) some non-road in-combination projects are considered in the HRA: 4 for Thames Estuary and Marshes Ramsar site (Tilbury 2 Port, and 3 gas fired power plants) and one at Epping Forest SAC (an NSIP Heat & Power Project). None were identified for North Downs Woodland SAC. It is agreed that these projects would be likely to have substantial air quality impacts (especially NOx impacts) due to their size, nature and proximity to the relevant protected sites.

However, Natural England still has concerns that:

- 4) the in-combination numbers do not include traffic from developments that would go forward without the requirement for LTC to be constructed - but are not in the current (APIS 2019-2021 or base year 2016) baseline. These projects are included in the “future baseline” (i.e. what would happen in 2030 without LTC) but have not been assessed in terms of their in-combination impacts on the protected sites, and that
- 5) the applicant has not undertaken modelling of alternative scenarios including local plan allocations, even though it is suggested as an option in the DfT TAG guidance (TAG criteria as set out in Table A2

	<p>of Appendix A in Unit M4 Forecasting and Uncertainty which sets out when certain types of local developments should be included in the transport modelling). Inclusion of local plan allocations, regardless whether they have planning consent or are in the planning system, is important to establish a precautionary level of potential future in-combination traffic. This allows appropriate assessment to be undertaken with "... no reasonable scientific doubt" (as required by Waddensee (C-127/02) 2002), and that</p> <ol style="list-style-type: none"> 6) including developments without current or foreseen consent within "local growth factors" does not appear to recognise the local importance of defined local plan allocations - especially if the growth factors are based on national data for traffic growth. It is not clear if, for example, the local growth factors reflect potentially greater-than-national-average predicted growth in the south-east where it is probable that extensive economic growth will occur, and that 7) it is not clear whether the assessment is made against the "worst case" impact (whether this is the opening year 2030 or the design year of 2045 or some intermediate year), which is a requirement under the HRA. Clarification on this would be welcome, and finally that 8) it is not clear how the non-road developments were identified or others screened out. For example, no list of which LPA planning portals were searched, which key words were used to search planning portals/ permit registers, or what criteria were used to exclude planning applications from further consideration is provided. In particular, it is not clear if any agricultural developments were identified, and if so, why they were excluded from further assessment. <p><u>Natural England's Response to the Applicant's Response</u></p> <ul style="list-style-type: none"> • Natural England has concerns with the list of non-road in combination projects identified, in that it does not include agricultural developments which could have a locally important impact on Ndep and ammonia concentrations at the relevant sites. We also have concerns with the data used in the road traffic in-combination assessment, which is outlined in our comments on the Applicant's 'Without Prejudice' assessment in Annex A above in this Deadline 5 response.
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Q11.10.1	<p>Conservation Status of the Thames Estuary and Marshes SPA and Ramsar site</p> <p>Natural England does not wish to comment further with respect to this question and the answer given by the Applicant.</p>
Q11.10.3	<p>Dust Control</p> <p>Natural England does not wish to comment further with respect to this question and the answer given by the Applicant.</p>
Q11.10.6	<p>Coalhouse Fort Mitigation</p> <p>Natural England notes the Applicant's response to this question, and we will respond at a future deadline.</p>

Q11.11.1	<p>Air Quality and M25 Junctions 26-27 Speed Limit It is noted that the reduction in speed limit between M25 Junctions 26 and 27 is only suggested to take effect for a duration of four years from the year of opening of the Proposed Development. What confidence</p>
	<p>does the Applicant have that the speed limit would only be required for four years and has this measure been agreed with Natural England?</p> <p>In our Deadline 4 response, Natural England advised that we would provide a more detailed response to this question. Below is our response to this question, followed by a response to the Applicant's response to the question.</p> <p><u>Natural England's Answer to Q11.11.1</u></p> <p>The modelling provided by the applicant indicated that at the opening year, the proposed development would result in an additional pollution loading (NOx and resulting Ndep) to the Epping Forest SAC that would not occur were the development not to go ahead (the "do minimum" scenario). The predicted NOx emissions from the proposed development would decline from 2030-2045, corresponding to predicted changes in the vehicle fleet and improved emission factors. By 2034, the NOx emissions associated with LTC would have declined to the emissions associated with the "do minimum" scenario at opening year. Therefore, the proposed development can be considered to "delay" the predicted decline in NOx emissions (and associated Ndep) by 4 years, and so potentially delay any associated ecological recovery in order to meet the conservation objectives.</p> <p>Natural England therefore agreed the 4-year mitigation would be acceptable.</p> <p>It should be noted that evidence for a similar delay in NH3 emission reduction has not yet been provided, following from evidence provided within the "without prejudice assessment" that this pollutant would exceed 1% of its relevant critical level over the vast majority of the SAC within 200m of the road, at the opening year. Natural England accepts that an increase in electric vehicles will reduce NH3 - but not that such a change will necessarily occur to the necessary extent in the operational timescale of LTC, or that it would decline to the "do minimum" emission level within 4 years, without further evidence.</p> <p><u>Natural England's Response to the Applicant's Response</u></p> <p>Natural England has reviewed the Applicant's response to ExAQ 11.11.1 and we advise that this doesn't change our response to the question. We are content that from the point of view that Ndep arising from NOx would decline alongside NOx – so 4 years is acceptable as far as NOx is concerned.</p> <p>However, it should be noted that:</p> <ol style="list-style-type: none"> 1) Ammonia concentrations associated with the road were only calculated by the applicant at Deadline 2 in the Applicant's 'Without Prejudice' assessment. They exceed 1% of the ammonia critical level at all points in the Epping Forest SAC within 200m from the road. This information was not available to Natural England at the time we agreed with the Applicant that: a) that a speed limit that would reduce NOx emissions from the scheme to the same as the do minimum scenario (without the mitigation) was acceptable mitigation or b) that 4 years of this mitigation would be acceptable.

- 2) It is accepted that ammonia emissions will decline as NOx emissions decline. However, it is unclear that they will decline at the same rate. Therefore, it is unclear if ammonia from the scheme will decline to ammonia emissions at opening year in the “do minimum” scenario (i.e. were LTC not to go ahead) within 4 years – and also if the ammonia contribution to Ndep will do the same within 4 years.
- 3) It is accepted that the Applicant’s model calculates ammonia as a ratio of NOx, and so therefore if NOx emissions from the mitigated scheme are zero (the same as the “do minimum” scenario) ammonia emissions will also be zero. However, it is unclear if this is the case in real life – that vehicles travelling at 60mph emit less ammonia and less NOx in the same proportions than vehicles travelling at 70mph. Therefore, it is not clear if the ammonia emissions from the mitigated scheme will be reduced to the same as the “do minimum” scenario.
- 4) The calculation of predicted decline of NOx over time was based on the fleet composition assuming petrol/diesel cars would be phased out from 2030 in favour of electric vehicles. The Prime Minister’s recent statement (21st September 2023) indicating that these vehicles will be permitted to be sold until 2035 is considered likely to change that fleet composition. A greater proportion of the fleet is expected to emit ammonia and NOx in 2030 onwards than if only electric cars could be sold after 2030. Uncertainty is therefore introduced that the NOx levels of both the scheme and the do minimum scenario will decline at the rate predicted. It is thus unclear if NOx emissions from the unmitigated scheme would decline to those from the “do minimum” opening year within 4 years, or whether having more NOx emitting vehicles in both fleets would mean it could take longer, so mitigation could be required for longer. It is also unclear if ammonia emissions would drop similarly.
- 5) To address some of these areas of uncertainty over the identified (without prejudice) mitigation, it is suggested that ammonia and NOx monitoring (and calculation of Ndep) at Epping Forest SAC is undertaken, with results to be shared with Natural England. This would be in accordance with a monitoring plan, to be agreed with Natural England, for an initial period of four years of operation, with pre-operation monitoring also undertaken for at least 1 year prior to commencement of construction. This monitoring plan would ensure that the speed limit mitigation reduces nitrogen deposition and NOx and ammonia concentrations, and that levels of the three pollutants at year 4 are no higher than the pre-operational values. If this is not demonstrated for any of the pollutants, the speed limit mitigation would be required to remain in place.

We note the applicant’s insistence in its answer to ExAQ11.11.1 that the speed limit mitigation is not required – for 4 years or any period of time. This is because they have excluded the potential for adverse effects on integrity on Epping Forest SAC from the unmitigated scheme as a result of NOx and Ndep (and also, in their without prejudice assessment, as a result of ammonia concentrations). This is due to the small area of the site affected and the lack of N-sensitive species in the affected area. Natural England does not agree with this conclusion, because the project undermines the conservation objective to restore the site below critical levels of NOx, NH3

	<p>and critical load of Ndep, and would delay any benefit to the site of improvements in the vehicle fleet.</p> <p>With respect to the monitoring of ammonia, Natural England understands that this has taken place for other roads projects. We are aware of two projects: New Forest Local Plan and Shrewsbury Northwest Relief Road. The Shrewsbury scheme is not yet consented, and so the monitoring was undertaken by the applicant's consultants to gain a better understanding of potential ammonia emissions from their (new) road and therefore the extent of ammonia that would need to be mitigated for in their proposed mitigation. For that project, Natural England has advised the Local Planning Authority that a "mitigation and monitoring scheme" be enforced as a condition of consent or a s106 is required (as appropriate), which will include air quality monitoring (and vegetation monitoring) to investigate the amount of air pollution emitted by the new road and the amount that is being reduced by the mitigation scheme. Thus, this is consistent with our advice above for the Lower Thames Crossing NSIP project.</p> <p>The New Forest Local Plan monitoring was to assess whether nitrogen deposition, acid deposition and levels of nitrogen oxides (NOx) and ammonia from traffic emissions associated with two local plans (New Forest District Council Development Plan and New Forest National Park Authority Local Plan) are having an adverse effect on the integrity of the New Forest SAC, SPA and Ramsar site. There was uncertainty over the potential for in-combination traffic growth, and so commitments were placed in both local plans to monitor and, if necessary, mitigate adverse air quality effects on the New Forest during the Local Plan period. Monitoring would be undertaken every three years over a seven-year period starting in 2021, with further surveys planned in 2024 and 2027, and possible extension for a further two survey events in 2030 and 2033. On this basis, the Habitats Regulations Assessments (HRAs) undertaken for each of the Local Plans were able to conclude that there would be no adverse effects on the integrity of any European sites. Thus this case is also consistent with our advice above for the Lower Thames Crossing NSIP project.</p> <p>Monitoring with a corrective feedback mechanism to ensure the mitigation identified is certain will need to be secured through an appropriately worded REAC commitment. Natural England is happy to work with the Applicant on appropriate wording.</p>
Q11.11.3	<p>Air Quality and M25 Junctions 26-27 Speed Limit (asked to the Applicant)</p> <p>Natural England still requires that mitigation be in place to ensure the integrity of Epping Forest SAC – as outlined in our response to Q11.11.1. Further information is provided in our response to the Applicant's 'Without Prejudice' assessment, at Annex A to this Deadline 5 response.</p>
Q12.2.2	<p>Nitrogen Deposition Site</p> <p>Whilst Natural England has no specific comments to make regarding the Applicant's response to Q12.2.2 (Examination Document REP4-200), we will be pleased to provide further advice in relation to the removal of the Blue Bell Hill and Burham sites from the Order Limits once the Applicant has updated their Environmental Statement.</p>

Q12.2.3	Photomontage Reliability 1
	<p>Natural England welcomes the clarity provided by the Applicant in relation to the approach taken for structures within the Photomontages in the absence of detailed designs being available.</p> <p>We note that the Applicant refers to their approach on other projects stating 'A review of post-construction changes to visual amenity forms part of the National Highways Post-Opening Project Evaluation team assessment of where the Project was delivered in accordance with the commitments stated in the relevant Project Register of Environmental Actions and Commitments (REAC). This includes a review of photomontages, alongside review of the landscape and visual impact schedules'.</p> <p>Natural England welcomes confirmation that such reviews of the expected versus delivered impacts takes place for the Applicant's schemes. Given the sensitive landscape in which the Lower Thames Crossing falls, we consider it would be appropriate for the Applicant to provide examples of these reviews to give confidence in the approach being taken for this project.</p>
Q12.2.4	<p>Photomontage Reliability 2</p> <p>Natural England welcomes the clarity provided by the Applicant in relation to the error for Viewpoint S-05a.</p>
Q12.2.6	<p>Landscape Character – Regrading of Sensitivity and Effects</p> <p>Having reviewed the Applicant's Answer to Q12.2.6, given the limited changes to the Project design between the 2020 and 2022 submissions, it is still unclear why the assessments have changed significantly. We would recommend that the Applicant provides clarity on the scheme changes that have facilitated the changes in the assessment.</p>
Q12.3.2	<p>Representative Viewpoints – Regrading of Sensitivity and Effects</p> <p>As with Q12.2.6, having reviewed the Applicant's answer to Q12.3.2, given the limited changes to the Project design between the 2020 and 2022 submissions, it is still unclear why the assessments have changed significantly. We would recommend that the Applicant provides clarity on the scheme changes that have facilitated the changes in the assessment.</p>
Q12.3.5	<p>Additional Photomontages</p> <p>Natural England welcomes the confirmation from the Applicant that they will submit new winter year 1 and summer year 15 photomontages from Viewpoint S-03 at Deadline 5. We will be pleased to provide our further comments once these are shared.</p>

Annex D: Updated Statement of Common Ground

Natural England has been able to update its Statement of Common Ground, and this will be submitted by the Applicant for Deadline 5.

Annex E: Updated Principal Areas of Disagreement

Natural England considers that our updated Statement of Common Ground submitted at Deadline 5 continues to reflect our areas of agreement, ongoing discussion and disagreement and do not wish to submit a Principal Areas of Disagreement document.

Annex F: Comments on Applicant's Submissions at Deadline 4

Natural England notes that a number of the Examination Documents have been updated to reflect the outcome of the Minor Refinement Consultation and the recently accepted changes to the project. We note that a number of documents will be updated to reflect the removal of the land at Burham and Blue Bell Hill from the Order Limits and expect this to fully reflect the consideration of landscape benefits to the Kent Downs AONB which were to be delivered alongside the NDep compensation.

This is important given the requirements of the requirements of the National Policy Statement for National Networks (NPSNN) which in Paragraph 5.152 details that 'There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and Areas of Outstanding Natural Beauty, unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly. Planning of the Strategic Road Network should encourage routes that avoid National Parks, the Broads and Areas of Outstanding Natural Beauty'. In addition, Paragraph 5.153 goes on to say that (our emphasis) 'Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project **will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment**. Where necessary, the Secretary of State should consider the imposition of appropriate requirements to ensure these standards are delivered'.

As such, we would welcome clarity being provided by the Applicant to ensure that, despite the removal of a significant area with a dual purpose of NDep compensation and landscape enhancement, that the scheme meets the requirements of the NPSNN.

Further, Natural England notes that a significant number of additional documents have been submitted with respect to the Hole Farm woodland planting project. These documents are noted and are in the public domain under planning application reference 23/00862/FUL with Brentwood Borough Council. With respect to ISH6 actions 6 and 7, and the Applicant's submission (Examination Document REP4-213 and related), Natural England does not wish to make any specific comments at this stage, other than to confirm our pre-application engagement with the Applicant regarding the Hole Farm woodland planting project, but is happy to answer any questions as may assist the ExA.

Annex G: Comments on any information requested by the ExA and received by DL4

Summary of submissions following Issue Specific Hearing

REP4-182 Post-event submissions, including written submission of oral comments, for ISH6

Having reviewed the Applicant's written summary of their oral evidence presented during Issue Specific Hearing 6 (Examination Document REP4-182), we provided our advice during the Hearing itself and followed this up in greater detail within our Deadline 4 response (Examination Document REP4-324). We welcome the commitment from the Applicant to continue engaging with Natural England on:

- The use of the Biodiversity Net Gain metric 4.0 (or the most current version) at the detailed design stage (Paragraph 3.3.6);
- Further consideration of updating the Biodiversity Net Gain calculation using Metric 4.0 (Paragraph 3.3.17); and
- The indicators of success and species monitoring (Section 4.2.9).

We look forward to working with the Applicant to try and resolve these matters before the close of the Examination.

Natural England has reviewed the additional information provided by the Applicant their post hearing submissions (in Annexes A-G) and would make the following observations.

Annex A Post-hearing submissions on Agenda Item 3: Mitigation, Compensation and Enhancement

Paragraph A.3.8 responds to Natural England's oral submission regarding the consideration of updating the Biodiversity Net Gain calculations using the current Metric 4.0. The Applicant considers it is not appropriate to do this as the number of assumptions would increase and this would require a significant amount of time to resolve.

We note the Applicant's response to our oral submission regarding the consideration of updating the Biodiversity Net Gain calculations using the current Metric 4.0. The Applicant considers it is not appropriate to do this as the number of assumptions would increase and this would require a significant amount of time to resolve. Natural England's position on this remains unchanged; if a shift to 4.0 generates a disproportionate level of work, we accept the ongoing use of 3.1. We still request confirmation from the Applicant that they will rerun the figures through whatever metric is adopted (3.1 or 4.0) after detailed design.

Notwithstanding our position on the metric version, it remains our view that the Applicant should take steps to achieve a 10% biodiversity net gain for the Project as a whole.

Annex B Post-hearing submissions on Agenda Item 4: Green bridges

We note that the Applicant has provided examples of existing green bridges across the road network in the United Kingdom as comparisons with those proposed for the Lower Thames Crossing Project (Paragraphs B.2.6-B.2.8). Whilst the Lower Thames Crossing bridges may be comparable in the width of 'green' that is to be provided, none of the bridges appear to meet the *minimum* requirements for habitat width summarised in our Deadline 4 response (Examination Document REP4-324) based upon the good practice guidance within the Natural England report 'Green Bridges: A literature review' (Examination Document REP4-329) nor the Landscape Institute Technical Note (Examination Document REP4-330). We note that the bridge installed by the Applicant on the A21 at Scotney Castle is not included within the comparison of industry best practice (although this is referenced within Section B.6). Given the Scotney Castle bridge falls within the High Weald Area of Outstanding Natural Beauty (AONB) and was primarily to maintain the historic landscape connectivity, we

consider this would be a good practice comparator to the Green Bridges within the Kent Downs AONB.

The Applicant considers in Paragraph 8.3.2 that 'As evidenced in response to B.2, the scale and type of multi-functional green bridge structures proposed for the Lower Thames Crossing project align with current industry best practice and technical feasibility for green bridges within the UK'.

As detailed within the Applicant's oral evidence during Issue Specific Hearing 6, it was stated (and confirmed in Paragraph 4.1.7 of the Applicant's Post-submission written submission of oral comments Examination document REP4-182) that:

'EL [Emma Long] noted that the Green Bridges have been individually designed by the Applicant to respond to site-specific conditions, in order to provide the greatest benefit at each particular crossing location with reference to the Landscape Institute Technical Note for Green Bridges...'

Natural England confirmed within our Deadline 4 response (Examination Document REP4-324), that the Landscape Institute Green Bridge Technical Note confirms the Natural England Green Bridges Literature Review good practice recommendations, and on Page 10 states that:

'Width and length Bridges aiming to achieve connections at a landscape/ ecosystem level should be over 80m in width. Bridges aiming to achieve connections for species at a population level should be around 50m (published guidance recommendations range from 25m-80m, with an average of 50m). Bridges below 20m in width are not recommended as frequency of use has been found to be lower. The length will largely be determined by the number of roads/ railway lines that are crossed. The length will also be influenced by topography as the access ramps should not be too steep. A width to length ratio over 0.8 is recommended'.

Natural England welcomes the Applicant's confirmation during Issue Specific Hearing 6 (confirmed in Paragraph 4.15 of Examination Document (REP4-182) that the green bridges in Kent are also to deliver landscape mitigation for impacts to the Kent Downs Area of Outstanding Natural Beauty (AONB) by maintaining 'landscape connectivity across the widened A2 corridor and reduce severance, as well as for WCH [walkers, cyclists, horse riders] experience'. Given this we would expect their design to follow industry good practice as recommended by the Landscape Institute.

As mentioned in our Deadline 4 response, all the Green Bridges, with the possible exception of Thong Lane North, do not meet the minimum recommended width of habitat for landscape or ecological connectivity and fall below significantly below the 20metres which is not recommend as they are less likely to be successful. Given the significant deviation from the Landscape Institute's Good Practice Guidelines for Green Bridges, we advise that the Applicant provides further clarity on how 'the Lower Thames Crossing project align with current industry best practice'. Such information is required to ensure they are effective in meeting the Applicant's objectives whilst also delivering the multiple benefits to a high environmental standard as required by the National Policy Statement for National Networks (Paragraph 5.153).

Natural England welcomes the confirmation that the Applicant will undertake monitoring of the Green Bridges as part of the European Protected Species Mitigation Licence requirements. However, as detailed within our oral submissions during Issue Specific Hearing 6 and within Section 13 of our Written Representation (Examination Document REP1-262), Natural England considers that a more holistic indicators of success approach,

such as the good practice demonstrated by the Applicant on the A21 Pembury to Tonbridge scheme should be adopted. In addition to the monitoring requirements appended to protected species licences, we consider that the way all habitats created as mitigation or compensation function from an ecological and landscape perspective should be monitored. This should include monitoring of a broader suite of species groups in addition to the protected species licensing requirements. We are keen to continue working with the Applicant to ensure that an effective, holistic monitoring and management feedback programme is secured.

Annex H: Any further information requested by the Examining Authority under Rule 17 of the EPR

Natural England has no comments to make in relation to any further information requested by the Examining Authority under Rule 17 of the EPR that is not covered elsewhere in this response.

Annex I: Attendance at upcoming hearings (ISH8 Construction & Operational Effects (non-traffic) and ISH9 Environment & Biodiversity)

Natural England wishes to attend Issue Specific Hearings 8 (Construction & Operational Effects (non-traffic) and 9 (Environment & Biodiversity). We anticipate attending in person and online. We will review the agendas for these hearings when they are released, and may adjust our attendance and / or representation accordingly.

Natural England does not wish to attend the Accompanied Site Inspection on 20th October to the HS2 Chiltern Compound.