

Date: 19 September 2023  
Our ref: 449064  
Your ref: TR010032



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**By email only, no hard copy to follow**

Dear Mr Smith

**Application by National Highways for an Order Granting Development Consent for the Lower Thames Crossing  
Natural England's response to Deadline 4  
Natural England User Code: 20034784**

Natural England is pleased to provide our Deadline 4 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: Post event submissions, including submission of oral comments made at the hearings during the weeks commencing 4 and 11 September 2023
- Annex B: Responses to the Examination Questions 1 (sent under separate cover)
- Annex C: Updated Statement of Common Ground
- Annex D: Updated Principal Areas of Disagreement
- Annex E: Comments on the Applicant's submissions at Deadline 3
- Annex F: Comments on any information requested by the Examining Authority and received by Deadline 3
- Annex G: Natural England's response to the Action Points from Issue Specific Hearing 6
- Annex H: Any further information requested by the Examining Authority under Rule 17 of the EPR

Natural England is looking forward to 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 4 comments are helpful and we will continue to work collaboratively with the Applicant to try and resolve the matters provided below.

Yours sincerely

James Seymour  
Deputy Director, Sussex and Kent Team

John Torlesse  
Deputy Director, West Anglia Team

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## **Annex A.1**

### **Natural England's comments following Issue Specific Hearing Project Design**

Natural England has no comments to make on the topics nor the evidence presented by the Applicant and Interested Parties in relation to Issue Specific Hearing 4. We may wish to provide comments once the Applicant has provided their post hearing submissions and responses to the Action Points.

## **Annex A.2**

### **Natural England's comments following Issue Specific Hearing 4 Traffic & Transportation**

Natural England have reviewed published transcript of the discussion that took place during Issue Specific Hearing 4 around the need for mitigation along the wider transport network and have the following observations.

#### **Air Quality**

We have previously expressed concerns within our Written Representation (Examination Document REP1-262, Paragraphs 4.1.49-4.1.57) and have sought clarity as to whether all allocated developments within Local Plans which will generate traffic have been appropriately accounted for within the calculations to inform the Environmental Assessment and Habitats Regulations Assessment. These concerns remain.

#### **Mitigation**

As detailed by Mr Young on Page 89 of the Hearing transcript, we understand the Applicant and Kent County Council (as the local highways authority), agree that traffic mitigation is required at Blue Bell Hill. Given that any works to improve the motorway junction and Blue Bell Hill are likely to result in additional impacts to the Kent Downs Area of Outstanding Natural Beauty and potentially the North Downs Woodland Special Area of Conservation (and the underpinning Wouldham to Detling Escarpment Site of Special Scientific Interest), if these are necessary mitigation for transport impacts resulting from the Lower Thames Crossing, then it may be appropriate for these to be considered as part of the cumulative assessment, or as part of the current Application itself.

We may wish to provide comments once the Applicant has provided their post hearing submissions and responses to the associated Action Points.

### **Annex A.3**

#### **Natural England's comments following Issue Specific Hearing 5 Tunnelling**

Natural England has no comments to make on the topics nor the evidence presented by the Applicant and Interested Parties in relation to Issue Specific Hearing 5. We may wish to provide comments once the Applicant has provided their post hearing submissions and responses to the Action Points.

## Annex A.4

### Natural England's written comments following Issue Specific Hearing 6 Mitigation, compensation and land requirements Friday 8 September 2023

Following our attendance at Issue Specific Hearing 6 on the 8 September, we are pleased to provide our written observations in relation to the topics. We appreciate that it was not possible to discuss topics 5 (Ancient woodland), 7 (Shorne Woods SSSI) and 9 (Delivery) during the hearing and these have been deferred to a subsequent session; we have however provided our initial comments for these matters which we hope will be helpful to inform the discussion at the deferred hearing.

#### 1. Mitigation, Compensation and Enhancement

a)	<b>Distinctions between Mitigation, Compensation and Enhancement</b>
i	<p>The ExA would like to understand how the three terms have been applied to the EIA biodiversity assessment and whether the assessment is explicitly clear about the amount and location of mitigation, compensation and enhancement areas proposed.</p> <p>In terms of biodiversity, Natural England recognises and supports the mitigation hierarchy embedded within the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment<sup>1</sup> (included at Appendix A.1 to this response) along with Paragraph 180 of the National Planning Policy Framework<sup>2</sup> and Section 4.3 of the National Policy Statement for National Networks<sup>3</sup>. These all require the Applicant to demonstrate how they have exhausted all opportunities to avoid or fully mitigate impacts through route selection, scheme design and working practices (for example) before progressing to compensation. Natural England does not have any comments to make in relation to the way the Applicant has distinguished mitigation, compensation and enhancement within their submitted documents.</p> <p>Natural England welcomed the approach taken during the early stages of the project and the decision made by the Secretary of State at the preferred route announcement<sup>4</sup> with a bored tunnel (in preference to a bridge or submerged tunnel) avoided direct impacts to the South Thames Estuary and Marshes Site of Special Scientific Interest (SSSI) and the Thames Estuary and Marshes Special Protection Area and Ramsar site. Since the preferred route announcement in 2017, design changes have meant that direct impacts to ancient woodland, Shorne and Ashenbank Woods SSSI and the Kent Downs Area of Outstanding Natural Beauty (AONB) (amongst other environmental assets) have increased.</p> <p>As mentioned during our oral evidence, one area of clarity that we have previously sought from the Applicant is during the pre-application stage and within our Written Representations (Examination Document REP1-262) is to understand which area(s) of habitat are being created for particular impacts; such an approach will help provide clarity that the impacts are fully mitigated or compensated for and provide a clear distinction from the biodiversity net gain elements. We note the habitat losses and gains detailed within Tables 8.31 (south of the River Thames) and 8.35 (north of the River Thames) of Chapter 8 Terrestrial Biodiversity of the Environmental Statement (Examination Document APP-146). It is however difficult to track where the individual areas of habitat impacted are mitigated or</p>

<sup>1</sup> <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf>

<sup>2</sup> <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>3</sup> <https://www.gov.uk/government/publications/national-policy-statement-for-national-networks>

<sup>4</sup> <https://www.gov.uk/government/consultations/lower-thames-crossing-route-options>

	<p>compensated for on the ground within the submitted documents.</p> <p>We have welcomed the progress which has been made by the Applicant in confirming which parcels of habitat are being proposed for the direct loss of habitat within the Shorne and Ashenbank Woods SSSI as included within Annex C.9 of version 2.0 of our Statement of Common Ground (Examination Document REP2-008). The Applicant has previously stated to Natural England that it is not possible for them to provide a similar plan showing which areas are mitigating or compensating for each parcel of land impacted across the scheme. We remain concerned that it is not currently possible to readily read across from the environmental impacts to how these are being mitigated or compensated for. We are keen to work with the Applicant to try and resolve this and are in the process of trying to compile examples of good practice which we hope will help the Applicant and Examining Authority and will aim to provide these as soon as possible.</p> <p>Whilst this Hearing focused on ecological impacts, given the impacts to woodland in Kent which are a key component of the special qualities of the Kent Downs AONB, our advice remains that it is not possible to compensate for the residual landscape impacts to the AONB. As such, our advice as detailed within our written representations remains that the Applicant should revisit proposals and explore additional mitigation measures.</p>
ii	<p>Are there any notable disparities in the application material around what constitutes mitigation, compensation or enhancement that could have implications for the ExA's assessment?</p> <p>Natural England are not aware of any discrepancies or disparities in the application material.</p>

b)	<b>Extent and Type of Landscaping</b>
i	<p>There is a "landscape scale" strategy proposed for mitigating and compensating the loss of habitats, but the ExA would like to explore if this is the most appropriate method for mitigating and compensating for impact.</p> <p>Natural England has advocated, both during our pre-application advice to the Applicant and within our Written Representations (for example within Section 12 of our Written Representation, Examination Document REP1-262), that mitigation and compensatory ecological and landscape measures should deliver a holistic, landscape scale approach given the nature and scale of the impacts.</p> <p>The nature of the project means that impacts will occur at a landscape scale and our advice remains that considering the habitat provision at a landscape scale approach allows the Project to follow the Lawton Review principles of more, bigger, better and more joined up habitats recommended in the review of England's Wildlife Sites<sup>5</sup> (included in Appendix A.2 with this response). In addition, a landscape scale approach is also endorsed within the recently published Environmental Improvement Plan 2023<sup>6</sup> (included in Appendix A.3 with this response).</p> <p>By looking at the landscape scale, and working with the local landscape character, the</p>

<sup>5</sup> Making Space for Nature:

[https://webarchive.nationalarchives.gov.uk/ukgwa/20130402170324mp\\_/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf](https://webarchive.nationalarchives.gov.uk/ukgwa/20130402170324mp_/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf)

<sup>6</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1168372/environmental-improvement-plan-2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1168372/environmental-improvement-plan-2023.pdf)

	<p>mitigation and compensation measures have the potential to help contribute to wider restoration and enhancement opportunities identified in the National Character Areas, the Kent Downs AONB Management Plan, local nature conservation priorities and the emerging Nature Recovery Network priorities contributing to the Government's objectives.</p> <p>Given the linear nature of the project and the direct and indirect impacts that will result from the scheme and the wider affected road network a landscape scale approach, building ecological and landscape resilience through connecting and buffering existing habitats is likely to be more effective and help contribute to wider nature recovery objectives. We therefore support the Applicant's approach to working at a landscape scale.</p>
ii	<p>Whilst the type of species planting will be developed between all relevant parties during the development of the Landscape and Ecology Management Plan post consent, the Applicant will be asked to explain where it proposes to use non-native species and why this decision has been taken, especially if it includes designated/ protected areas?</p> <p>Natural England has advocated, both during the pre-application phase and in our Written Representation (Examination Document REP1-262) that, for habitats being created as mitigation or compensation for areas of high biodiversity value or protected landscape impacts, native species of local provenance should be the specified planting palette. This will help to ensure their biodiversity and landscape value and will be reflective of the local landscape character and conservation priorities.</p> <p>We welcome the recent acknowledgment from the Applicant at Deadline 2 (Examination Document REP2-046), in response to our Written Representation that all planting within the Kent Downs AONB will be native species of local provenance. We remain concerned regarding the use of non-native species on the Thong Lane Green Bridge (as detailed within the Design Principles, Examination Document REP3-310) and expect the habitat creation for ancient woodland and SSSI impacts to be created using native species of local provenance. We are open to discussion on whether other areas could be considered for the same approach.</p>

c)	<b>Biodiversity Net Gain (BNG)</b>
i	<p>The Applicant will be asked to explain why, albeit not policy at present, it cannot commit to a minimum of 10% net gain.</p> <p>Please see our comments in (c)(ii) below in relation to our advice on 10% biodiversity net gain.</p>
ii	<p>Following comments from IPs, can the Applicant provide an update on whether it is considering a greater percentage of BNG, and what the implications are for increasing the BNG, e.g. to the land requirements, to the scheme cost, etc?</p> <p>Natural England's headline position on BNG is to encourage National Highways to aim for a 10% gain in post construction biodiversity units.</p> <p>We note and welcome the applicant's comment on page 26 of its response to Natural England's Written Representation (Examination Document REP2-046) that:</p> <p>'It is expected that the forecast Metric performance would improve during detailed design' and that 'design refinements would seek to: further reduce habitat loss during construction, and in doing so reduce trading issues associated with woodland; minimise time lags</p>

	<p>between habitat loss and creation; and maximise the condition and distinctiveness of habitats created.'</p> <p>This implies it would not increase land take or significantly increase scheme costs to aim for 10%. We appreciate that the Applicant is not under a mandatory obligation to achieve 10%. However, we support the principle of maximising the ecological benefit from a scheme of this scale and significance.</p> <p>We welcome the Applicant's statement at Issue Specific Hearing 6 that they will maintain their mitigation and compensation proposals at the detailed design stage in order to maximise their post-construction biodiversity units.</p> <p>In our Written Representation (Examination Document REP1-262), we emphasised the importance of the trading rules in biodiversity net gain. Trading rules are established to ensure losses are compensated for through creating or enhancing habitats on a 'like-for-like' basis, and of equal or higher value. We understand the Applicant's position that they are not meeting trading rules due to the loss of high distinctiveness habitat lowland mixed deciduous woodland being offset in the metric by medium distinctiveness woodland (Examination Document REP2-046). Under mandatory application of the metric, this could be offset by enhancement of medium distinctiveness woodland. We appreciate that the Applicant is not in a mandatory space on BNG. We advise that the Applicant's BNG proposals are aligned as closely as possible with guidance and industry best practice, and any outstanding non-adherence to rules and principles be clearly and transparently reported.</p>
iii	<p>Can the Applicant clarify if when calculating BNG it included in the metric any biodiversity mitigation proposed for this Project or that is currently in place for any other development (thus double counting)? Furthermore, do any of the change requests made by the Applicant so far impact the BNG calculations?</p> <p>We accept the Applicant's clarification on the double counting issue set out in their response to our written representation (Examination Document REP2-046). This confirms that biodiversity units generated from mitigation and compensation for protected species and protected sites impacts can be counted within a development's BNG up to the point of achieving no net loss in biodiversity. Additional units to ensure a project delivers 10% or more than no net loss should be generated from other habitat creation or restoration.</p> <p>We note the Applicant's statement at Issue Specific Hearing 6 that changes to date in the order limits reduce the baseline pre-construction biodiversity units and therefore have minimal effect on the BNG calculation.</p> <p>Given the Applicant's Minor Refinement Consultation and their recent request for the removal of NDep compensation land at Blue Bell Hill and Burham, it would appear appropriate for the BNG metric calculations to be rerun to provide clarity on how this impacts the scheme.</p>
iv	<p>The Applicant will be requested to discuss whether the metric used for BNG could be re-run using the latest metric (4.0) as requested by Natural England.</p> <p>Natural England has stated in our Written Representation (Examination Document REP1-262) that we would welcome the Applicant re-running their net gain calculation at detailed design stage with the most current metric at the time (currently 4.0). Our advice to shift to 4.0 is on the basis that the Applicant would then be working with the most up-to-date metric available. 3.1 will be 2+ years old by detailed design stage and it is our understanding that 4.0, released March 2023, will remain the current metric for several years before any further</p>



	<p>updates are undertaken.</p> <p>A summary of the differences between 3.1 and 4.0 is available online<sup>7</sup> (included at Appendix A.4 of this response). The online document states that the majority of changes are focused on providing an enhanced user experience and are unlikely to have significant impact on the range of outputs generated. This indicates that using the 4.0 will not greatly affect the land take and habitat compensation required by the scheme.</p> <p>The exception as our Written Representation (Examination Document REP1-262) highlights, is that the new metric now includes a number of more refined habitat classifications, including a provision for both 'Rural' and 'Urban' individual trees which was not part of 3.1.</p> <p>The Applicant's response to our written representation (Examination Document REP2-046) states that it will require significant work for them to apply the new classifications. It is likely that a shift from 3.1 to 4.0 will not require new field surveys but may require additional desk-based work. If a shift to 4.0 generates a disproportionate level of work, we accept the ongoing use of 3.1. We would welcome confirmation from the Applicant that they will rerun the figures through whatever metric is adopted (3.1 or 4.0) after detailed design.</p>
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## 2. Green Bridges

a)	<b>Purpose of Green Bridges</b>
i	<p>What is the overall purpose of the Green Bridges in this Project and what determined their location?</p> <p>Given the significant new and additional landscape scale severance that the Project will result in, we have advised throughout our discussions that measures to reduce these impacts should be secured. There is a growing evidence base on the effectiveness of green bridges as a mitigation technique and we feel that, for a scheme of this scale and nature the bridges should follow and achieve good practice.</p> <p>Natural England advises that high quality green bridges should be an integral component of the mitigation strategy for the project providing links to habitats either side of the route for wildlife and people as part of a landscape scale mitigation strategy. Key to their success will be their location, design following good practice and ensuring they all link directly into high quality habitats either side of the scheme.</p> <p>For the green bridges south of the River Thames, we consider that much greater scope for delivering landscape mitigation within the Kent Downs AONB can be achieved, alongside the ecological connectivity, through innovative design following good practice examples such as the A21 Scotney Castle green bridge that the Applicant has implemented within the High Weald AONB at Lamberhurst.</p> <p>We understand that the Applicant decided upon the location of the green bridges along the route where they can 'promote connectivity of sensitive landscapes and habitats for animals</p>

<sup>7</sup> Summary of Changes The Biodiversity Metric Version 3.1 to 4.0 March 2023 Natural England Joint Publication JP03  
<https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjN98PU3aSBAXUbUKEAHTwZDPkQFnoECCAQAQ&url=https%3A%2F%2Fpublications.naturalengland.org.uk%2Ffile%2F6055663386755072&usg=AOvVaw1OwRVUKYdG2n6EeuFSrYDZ&opi=89978449>

	<p>such as bats, badgers and dormice, as well as mitigating landscape severance and providing an improved experience for walkers, cyclists and horseriders’ (Paragraph 3.37 Project Design Code Part C, Design Rationale, Examination Document APP-509).</p> <p>Similarly, 3.38 of the Design Code details that ‘The design and integration of each green bridge has been tailored to suit the surrounding landscape character, specific engineering constraints, its use by humans and the types of flora and fauna that it needs to accommodate’ which we support in principle.</p> <p>Apart from these elements, we are not aware of any detailed assessment having been provided of the locations for the green bridges to maximise their environmental (landscape and ecological connectivity) based upon survey information and consideration of alternative locations. During Issue Specific Hearing 6, the Applicant stated that all seven green bridges would be multifunctional including roads, habitats and walker, cyclist and horse rider opportunities with their location having been selected by:</p> <ul style="list-style-type: none"> <li>• Their adjacent habitat;</li> <li>• Species requirements; and</li> <li>• Local landscape character.</li> </ul> <p>The Applicant stated during the Hearing that their location was selected where evidence of species crossing was noted during the surveys – it would be helpful for details of this information to be shared in full as we have not been able to locate detailed information in relation to current crossing points for species.</p> <p>Natural England advises that well designed green bridges (following good practice guidelines) have the potential to deliver ecological and landscape connectivity and wider environmental outcomes and ecosystem services such as water and air quality regulation, aesthetic and cultural benefits alongside the ecological and landscape benefits.</p>
ii	<p>The ExA wants to understand what best practice design guidance has been used to inform the size, design and functionality of the green bridges and whether that guidance has been effectively deployed to this Project.</p> <p>Natural England has welcomed the commitment from the Applicant to provide a number of green bridges within the submitted documents but remain concerned as to their effectiveness. We have advised that the green bridge design should maximise their ecological and landscape connectivity for people and wildlife. In their current design and form, as detailed within our Written Representation (Application Document REP1-262), it remains unclear from the information provided, how the green bridges will achieve the Applicant’s objectives detailed within the Design Principles (Examination Document APP-516 and REP3-110) and the General Design Report (Examination Document APP-509 to 511).</p> <p>The Natural England 2015 publication ‘Green Bridges: A literature review (NECR181)<sup>8</sup> (included at Appendix A.5 of this response) has reviewed green bridge designs from the United Kingdom and the rest of the world looking at their effectiveness and makes recommendations for good practice.</p> <p>Section 4.8 of NECR181 details that ‘In terms of specific design considerations the overall function of the green bridge will drive most of the decisions, as the size of the structure must be determined based on the requirements of the expected species use and need for</p>

<sup>8</sup> <https://publications.naturalengland.org.uk/publication/6312886965108736>

separation between wildlife and human access'. During the Hearing, the Applicant mentioned that the target species for the green bridges (depending on the bridge location) were bats, badgers and dormice.

The Natural England NECR181 publication details the *minimum* recommended widths of the 'green' elements of the bridges as follows (if there are grey elements to a bridge, the width of the 'green' elements should be in addition to these):

- Bridges with aims to achieve connections at a landscape/ecosystem level should be over 80 metres in width;
- Bridges which aim to achieve connections for species at a population level should be approximately 50 metres wide (the published guidance recommendations range from 25-80 metres with an average of 50 metres);
- Bridges below 20 metres in width are not recommended as their use has been found to be lower; and
- A width to length ration of over 0.8 is recommended.

The submitted Design Principles (Examination Document APP-516 and REP3-110) details that the design of the green bridges (our emphasis) 'shall *consider* the guidance set out in the Summary of Findings within the Natural England (2015) report, Green Bridges: A Literature Review (NECR181)' (Clause STR.08).

The Design Principles also provide details of the minimum width of the green elements to be provided on each bridge which are as follows:

Bridge	Total width of green element
Brewers Road (Clause S1.17)	11.5 metres (10 metres planting zone to the east, 1.5 metres to the west)
Thong Lane South (Clause S2.12)	21.5 metres (20 metres planting zone to the east, 1.5 metres to the west)
Thong Lane North (Clause S3.18)	Unknown 'The planting green zones shall be maximised. Their width shall vary across the length of the bridge but shall have a 7m minimum width at pinch points. The WCH routes may be located within the planting zones'
Muckingford Road (Clause S10.10)	14 metres (7 metres planting zone to the east, 7 metres to the west)
Hoford Road (Clause S10.11)	6 metres (3 metres planting zone to the north, 7 metres to the south)
Green Lane (Clause S11.11)	6 metres (3 metres planting zone to the east, 3 metres to the west)
North Road (Clause S12.18)	14 metres (7 metres planting zone to the east, 7 metres to the west)

With the possible exception of the Thong Lane North green bridge, the design of the bridges proposed are all significantly less than the minimum recommended widths within NECR181 for landscape and species connectivity and are below the minimum 20 metres of habitat in one block meaning they are unlikely to function.

During the Hearing, the Applicant referred to their consideration of the Landscape Institute's Green Bridge Technical Guidance Note<sup>9</sup> (included in Appendix A.6 of this response) in the design of their green bridges. The Landscape Institute's guidance

<sup>9</sup> [https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2016/01/TGN9\\_15Green-Bridges-Guide\\_LI-300dpi.pdf](https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2016/01/TGN9_15Green-Bridges-Guide_LI-300dpi.pdf)

complements the Natural England publication and reiterates the following good practice information for the design of green bridges on Page 10:

**'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'.

The Landscape Institute Technical Note also provides guidance on four types of green bridge, namely:

- **Natural Bridges** these are the largest of the four types providing ecosystem connectivity for a variety of species and should be 70-100metres in width;
- **Wildlife Bridges** these are similar to the 'Natural Bridges' but are smaller in size and designed to facilitate movement across infrastructure and may be targeted to specific species. They should be 40 to 50 metres in width;
- **Mixed Use Bridges** these are bridges where access is the primary aim and species use is an additional benefit rather than core purpose. If species and access requirements are proposed, the width of the species elements need to be species specific and in addition to the width set aside for access; and
- **Modified Grey Bridges** these provide a limited level of mitigation to adapt an existing or proposed grey bridge and should not be considered as an alternative to the other three types of bridge but will have some beneficial impacts to improving permeability. The guidance suggests these may be appropriate for forestry or farm accesses or in urban areas and are not recommended for tarmacked roads. Such bridges are 'less likely to provide any landscape value, but may have wider biodiversity benefits, such as providing plants for pollinating species'.

Taking the Brewers Road and Thong Lane South Green Bridges as an example, the Design Principles (Examination Document APP-516) detail in Clause S1.04 that:

'The bridges shall be designed to meet the following criteria:

- To provide connectivity of habitats for species including dormice, badgers, reptiles, bats and great crested newts between Shorne Woods and Ashenbank Woods, Jeskyns and Cobham Park, and to strengthen the woodland character, new green bridges shall be provided for the replacement of Thong Lane and Brewers Road crossings. Landscape shall be designed to provide continuity of habitat between the bridges along the main highway's corridor as far as reasonably practicable.
- To act as local landmarks and to signal entry into the Kent Downs AONB for drivers, the vegetation on the bridges shall be visible on the horizon on their approach to the area from the east for Brewers Road green bridge, and from the west for Thong Lane green bridge south.
- To provide a bridge with soil depth suitable to establish appropriate shrubs and intermittent tree species, reflective of the surrounding character and species makeup of the Kent Downs AONB. Variations in soil depth on the bridge can provide diversity in planting species and heights.
- To provide a high-quality experience for users crossing the bridge through vegetation and woodland planting. The green bridge shall improve recreation

- access across the A2/M2/Lower Thames Crossing corridor.
- To provide planting on the green bridge that links into woodland planting to the edge of Gravesend in the west and the gateway to Shorne Woods Country Park in the east as part of a wider 'wooded circle' connecting Shorne Woods and Claylane Wood.'

Given these criteria, using the Landscape Institute's Guidance, a Natural, Wildlife or Mixed Use Green Bridge would be the recommendations. The designs that are proposed by the Applicant appear to be 'Modified Grey Bridges' which do not meet the minimum recommended widths within the Natural England literature review or the Landscape Institute Technical Note, falling below the minimum 20metres in width for habitat provision (in addition to any access elements) and the recommended 50-80metres for landscape and species connectivity.

As the bridges, in addition to the ecological function, are also to provide a 'high quality' experience for recreational users, other matters such as noise attenuation, lighting, pollution, and user experience all need to be further considered.

Natural England remains concerned that the Green Bridges, in their current form, do not appear to follow the current good practice recommendations. We therefore recommend that the Applicant provides further clarity on how they will maximise the green elements of all bridges to build landscape scale connectivity for people and wildlife impacted by the proposal, delivering a design which more closely aligns to good practice which is more likely to be effective.

For the bridges in Kent, notwithstanding the strong policy presumption against transport infrastructure, including significant widening, within the AONB detailed in Paragraph 5.152 of the National Policy Statement for National Networks (NPSNN)<sup>10</sup>, and Paragraph 5.153 details that:

'Where consent is given in these areas [National Parks, the Broads and AONBs], 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 recommend that the green bridges, an essential mitigation element, should be delivered to 'high environmental standards' and that the Applicant is required to deliver a robust landscape mitigation and enhancement package.

iii	<p>What is the target species for each of the green bridges and how are they specifically provided for?</p> <p>During the Examination, the Applicant mentioned that the target species (depending upon the particular bridges) were bats, dormice and badgers.</p> <p>However, within the Design Principles (Examination Document APP-516, REP3-110), additional species are specifically referenced as follows:</p> <table border="1" data-bbox="335 1870 1508 1915"> <thead> <tr> <th data-bbox="335 1870 646 1915">Bridge</th> <th data-bbox="646 1870 1508 1915">Species for which the green bridge is designed.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Bridge	Species for which the green bridge is designed.		
Bridge	Species for which the green bridge is designed.				

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Brewers Road (Clause S1.04)	Dormice, badgers, reptiles, bats and great crested newts
Thong Lane South (Clause S1.04)	Dormice, badgers, reptiles, bats and great crested newts
Thong Lane North (Clause S2.04)	No target species appear to be mentioned
Muckingford Road (Clause S10.01)	Terrestrial mammals, reptiles, amphibians, and bats
Hoford Road (Clause S10.03)	Terrestrial mammals and bat commuting corridor
Green Lane (Clause S11.11)	Bat commuting
North Road (Clause S12.13)	No target species appear to be identified

As detailed in our response for 2(a)(ii) above, given the restricted width of habitat to be provided on the bridges which falls below the minimum recommendations, it is unclear how the bridges will be effective in providing connectivity for species alongside the wider landscape and access objectives. Given the differing habitat requirements for these species, it may not be possible to provide suitable habitat for each species within the limited areas currently provided for habitat creation. We would therefore recommend the Applicant provides greater clarity on how the bridges will be effective for the target species alongside the wider objectives.

In addition to the differing requirements for each species, we remain concerned that for some of the green bridges, the connectivity of habitat for species will be limited. For example, Clause S.1.04 of the Design Principles (Examination Document APP-516, REP3-110) details that:

‘The bridges shall be designed to meet the following criteria:

- To provide connectivity of habitats for species including dormice, badgers, reptiles, bats and great crested newts between Shorne Woods and Ashenbank Woods, Jeskyns and Cobham Park, and to strengthen the woodland character, new green bridges shall be provided for the replacement of Thong Lane and Brewers Road crossings. Landscape shall be designed to provide continuity of habitat between the bridges along the main highway’s corridor as far as reasonably practicable.’

Whilst this is welcomed, as Natural England advised during the Hearing, there is no habitat connectivity provided across the Darnley Lodge Road to link into habitats to the south of the widened A2 corridor and the existing green bridge which provides habitat connectivity over the High Speed 1 rail line. Whilst the Applicant detailed during the Hearing that they are providing a betterment as the A2 currently severs these habitats, the substantial woodland belt within the central reserve (which is to be removed) is likely to provide habitat connectivity for bats. Given the lack of connectivity over Darnley Lodge Lane, the bridge is likely to have limited effectiveness and the Applicant’s objective to achieve habitat connectivity for non-volant species is unlikely to be met. Our advice remains that the Applicant should provide further clarity on how complete habitat connectivity for the bridges will be met.

Additionally, the Project Design Report Part D (Examination Document APP-509) in paragraph 4.5.10 details that (our emphasis):

‘Habitat link between ancient woodland north and south of A2/ M2 Corridor and HS1  
As part of the HS1 works, green bridges were built for the Brewers Road crossing and to link Thong Lane with the byway west of Ashenbank Wood, with a larger green bridge in between. These bridges link land both sides of HS1, however movement is then interrupted

	<p>by the A2. The Project has been designed to rectify this by integrating these crossings into <b>complete green corridors</b> between the areas of ancient woodland north and south of the A2/M2 Corridor and HS1'</p> <p>This appears to differ from the Applicant's response (Examination Document REP2-046) to our Written Representation in Section 12 (responding to paragraphs 12.1.6 and 12.1.7 of our Written Representation, Examination Document REP1-262) in which they acknowledge that habitat connectivity will not be achieved for all bridges. They indicate that 'Natural England's comment about full habitat connectivity between the green bridges at Thong Lane South and Brewers Road with existing habitats south of the A2/M2 and HS1. Although the Project design does not provide fully contiguous habitats south of these green bridges, they do still provide a betterment to the current situation where there is clear habitat severance between Shorne Wood to the north and Ashenbank Wood to the south. The provision of new bridges which provide green corridors providing animals with shelter, foraging and linear green features to follow, particularly for commuting bat species looking to cross the two existing major linear infrastructure features, provide a clear mitigation in the existing habitat fragmentation'.</p> <p>It remains unclear how the bridge will be effective in providing landscape connectivity for species and we therefore recommend that further clarity is provided by the Applicant.</p> <p>In addition to delivering benefits for species, Natural England considers that well designed green bridges which would be expected of a scheme of this nature have multiple benefits including biodiversity, landscape and recreational. For the bridges along the A2 corridor, Natural England considers these to be a key mitigation measure for the impacts to recreational users within the Kent Downs Area of Outstanding Natural Beauty. Well designed bridges following good practice have the potential to result in reducing the severance impacts for recreational users within the valued area of the AONB, providing high quality walking, cycling and horse-riding routes through the AONB to offer habitats.</p> <p>Given these concerns, Natural England advises the design of the bridges, as a minimum, to meet the Applicant's objectives within the submitted design principles (Examination Document APP-516) based upon good practice guidance and remain concerned that for several of the bridges, the connectivity for species will be limited and falls short of best practice.</p>
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b)	<b>Maintenance and Monitoring</b>
i	<p>The ExA needs to understand how realistic the longevity/robustness of the planting is on the green bridges for biodiversity purposes given the restriction on landscaping growth and the proximity of vehicles.</p> <p>Well designed and managed green bridges should result in an ecologically robust habitat establishing for the medium to long-term. One example implemented by the Applicant for the A21 at Lamberhurst, maintaining the historic link to Scotney Castle. Created approximately 20 years ago, this bridge demonstrates that through effective, inventive design, high quality landscape and ecological benefits can be achieved and sustained in the medium term with no reason to currently doubt that this cannot be continued in the long term.</p> <p>Key to the achievement of the long-term robustness of the habitats on the green bridge will be the design of the structures, the width of the habitat, the depth of soil, water capture and retention, species selection and long-term management.</p> <p>Larger areas of habitat tend to support a greater diversity of species, are more resilient and better able to provide ecosystem and wider provisioning services. During Issue</p>

	<p>Specific Hearing 6, the Applicant themselves concurred with the principle that larger habitats deliver greater resilience through their approach to buffering existing habitats as part of their mitigation and compensation strategy for impacts. As such, given our comments in response to matter 2(a)(ii) regarding the limited area of habitat to be created on each of the bridges, the robustness of the habitats and their long-term effectiveness are likely to be adversely impacted. Given these concerns, Natural England recommends that the Applicant provides much greater clarity on how the limited habitat provision will meet the multiple objectives within the Design Principles in the long-term.</p> <p>Natural England notes the concerns from the Local Highway Authorities and the Local Planning Authorities responsible for enforcing the requirements of the Order raised during Issue Specific Hearings 6 and 7 in relation to the responsibility for management of highway structures to be installed as part of the scheme. From these discussions, it appears there is a degree of uncertainty as to who is responsible for managing which elements of the green bridges in perpetuity, either the Applicant or the Local Highway Authority. The longevity and robustness of the green bridges will be dependent on their long-term management and monitoring to ensure they meet their objectives. Given the apparent uncertainty, Natural England recommends the Applicant provides a definitive answer as to who will be responsible for the management of the green elements of the green bridges and how this will be funded in-perpetuity. This will help provide confidence that the longevity of the green bridges is secured and the mitigation delivered.</p> <p>On a related note, Natural England welcomes the Applicant's recent commitment in their response (Examination Document REP2-046) to our Written Representation (Examination Document REP1-262) to manage all habitats created as part of the project in perpetuity and note their intention to update the outline Landscape Ecology and Management Plan to reflect this. We would expect the green bridges to be part of the long-term management proposals to ensure they meet their ecological and landscape objectives.</p>
ii	<p>What monitoring is expected to occur / be required and by whom to determine the effectiveness of the Green Bridges for biodiversity enhancement purposes and how is this secured in the DCO?</p> <p>Natural England welcomed the Applicant's confirmation during Issue Specific Hearing 6 that they propose to monitor the habitat establishment on each of the green bridges. As we stated during the Hearing, we would expect a more holistic approach to monitoring given the multiple objectives that the Applicant expects the green bridges to deliver. Our advice remains that the monitoring should be extended to cover the target species and the wider landscape and recreational user elements to ensure their success.</p> <p>The monitoring should include specific surveys of target species to understand if they are successfully using the structures and be undertaken at appropriate points during both the habitat establishment and the operational phases of the project. The monitoring information should be shared with appropriate bodies and remedial action taken if they are not achieving the specific objectives.</p> <p>We would of course be pleased to work with the Applicant to provide guidance on the type and frequency of monitoring at the detailed design stage, should consent be granted.</p>

### 3. Ancient Woodland Impact

a)	<b>Methodology</b>
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i	<p>What criteria is used to determine whether a tree is classed as veteran or ancient and are the criteria used robust?</p> <p>Natural England is satisfied with the Applicant’s approach to classifying veteran or ancient trees.</p> <p>For information, there is relevant guidance in the following:</p> <p>Veteran Tree Management Handbook Veteran Trees: A guide to good management - IN13 (<a href="https://publications.naturalengland.org.uk/publication/75035">naturalengland.org.uk</a>)<sup>11</sup> (included at Appendix A.7 of this response). The Veteran Trees handbook notes that</p> <p>‘The term veteran tree is one that is not capable of precise definition but it encompasses trees defined by three guiding principles:</p> <ul style="list-style-type: none"> <li>• trees of interest biologically, aesthetically or culturally because of their age;</li> <li>• trees in the ancient stage of their life;</li> <li>• trees that are old relative to others of the same species.</li> <li>• the girth of a tree is not a reliable criterion because different species and individuals of tree have very different life spans and grow at different rates’.</li> </ul> <p>The National Planning Policy Framework<sup>12</sup> defines, in the glossary, an ancient or veteran tree as ‘a tree which because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value’.</p> <p>We also note also National Highways own technical guidance on this topic set out in LA108 of the Design Manual for Roads and Bridges<sup>13</sup> (included in Appendix A.8 of this response) which defines veteran trees as ‘a tree that has decay features, such as branch death or hollowing which contribute to its biodiversity, cultural and heritage value. Note: All ancient trees are veteran trees, but not all veteran trees are ancient.’</p>
ii	<p>The ExA would like clarity on whether physical surveys of woodland have been completed to show the full extent of affected habitat or has the level of importance assigned to trees been based on an agreed methodology with Natural England.</p> <p>Natural England provided high level advice at pre-application stage to the Applicant on the broad suite of ecological surveys to be undertaken; we have not provided bespoke advice on woodland or tree surveys nor the level of importance assigned to these features. We have recommended that the Applicant ensures that their assessment of value follows the latest good practice guidance from the Chartered Institute of Ecology and Environmental Management<sup>14</sup> (included in Appendix A.9 of this response).</p>
iii	<p>The ExA will ask the Applicant to explain how it intends to create the replacement for lost ancient woodland, noting issues such as the benefits of translocating soils, and whether it has considered how success would be monitored and any deficiencies addressed.</p> <p>Natural England advise that monitoring and remedial management during the establishment phase of all habitats is a vital element of mitigation for any project. Natural England has worked collaboratively with the Applicant on the A21 Pembury to Tonbridge</p>

<sup>11</sup> Veteran Trees: A guide to good management (IN13) 2000

<https://publications.naturalengland.org.uk/publication/75035>

<sup>12</sup> [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/nppf-2019.pdf)

<sup>13</sup> LA 108 Biodiversity March 2020

<sup>14</sup> CIEEM Good Practice Guidance for Habitats and Species Version 3 May 2021 [cieem.net/wp-content/uploads/2021/05/Good-Practice-Guide-April-2021-v6.pdf](https://www.cieem.net/wp-content/uploads/2021/05/Good-Practice-Guide-April-2021-v6.pdf)

	<p>scheme where an ‘indicators of success’ approach was adopted with success. This focused both on the habitat establishment and key species groups to understand how the habitat was functioning; given the scale of impacts associated with this project we would strongly advocate the Applicant continuing this good practice approach.</p> <p>We welcome the Applicant’s commitment to manage all of the mitigation and compensation habitat in perpetuity in their Deadline 2 response to Natural England’s written representation (Examination Document REP2-046), which states “...<i>the commitment to management of mitigation and compensation measures in perpetuity will be added to the outline Landscape and Ecology Management Plan (oLEMP) [REP1-173] at its next revision</i>”.</p> <p>However, we note that the subsequent revision of the oLEMP, submitted at deadline 3 (Examination Document REP3-106/107) does not include a reference to ‘in perpetuity’ management though it does state at 4.3.3 that “<i>commitments in the LEMP that apply during operation of the Project (such as long-term management and maintenance of landscape/ecology typologies specified in the LEMP) would be retained by National Highways once the contractor has fulfilled their contractual obligations.</i>”</p> <p>We recommend that the wording in the next iteration of the oLEMP be amended to state ‘in perpetuity’ rather than ‘long term management’ as previously agreed by the Applicant.</p> <p>We welcome the Applicant’s proposals for soils translocation and the use of deadwood and coppiced stools wherever possible as part of the compensation package so that these precious materials are not lost.</p> <p>We appreciate the evidence regarding the effectiveness of ancient woodland soils translocation is limited and we therefore recommend that the Applicant undertake a monitoring programme wherever soils translocation is undertaken to help build the evidence base as to whether this approach is ecologically effective. Ancient woodland soils translocation should follow best practice standards which should be included in the soil strategy and LEMP for the project.</p>
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<b>b)</b>	<b>‘The Wilderness’</b>
i	<p>There is some conflict over whether The Wilderness should be regarded as ancient woodland. The ExA would like to hear from the Applicant and relevant IPs who have a view on this and what evidence they have to support their case either way.</p> <p>On the basis of evidence submitted to date, the Ancient Woodland Inventory (AWI) update project has concluded that the Wilderness woodland is long-established but not ancient woodland. However further evidence has recently been submitted and is being assessed. We will update the Examiner when this current assessment is complete.</p> <p>Long established woodland is defined in Defra’s ‘Keepers of time: ancient and native woodland and trees policy in England<sup>15</sup>’ (included in Appendix A.10 of this response):</p> <p>‘Long established woodland has been present since at least 1893. While not ancient, these woodlands are still very important. They have had many decades to develop rich biodiversity and they often contain important old-growth features and deliver a range of</p>

<sup>15</sup> ‘Keepers of time: ancient and native woodland and trees policy in England’ Government’s statement on England’s ancient and native woodland and ancient and veteran trees May 2022 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1079036/Keepers\\_of\\_time\\_woodlands\\_and\\_trees\\_policy\\_England.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1079036/Keepers_of_time_woodlands_and_trees_policy_England.pdf)

	<p>ecosystem services.’</p> <p>As background, if an area of woodland is thought to be ancient, supporting evidence such as old map information, place names, ecological surveys, and aerial photography can be submitted to Natural England’s AWI team where it will be reviewed. If the evidence is accepted, the area will be added to the publicly available inventory<sup>16</sup> (included in Appendix A.11 of this response). The AWI is not exhaustive and areas below 2 hectares are not generally captured.</p>
ii	<p>Clarity is to be provided by the Applicant on the decision process to introduce a retaining wall to the south of this area and its potential impact to the area during construction and during the operation period?</p> <p>Natural England has no comments regarding this question for the Applicant.</p>

c)	<b>Calculation of Replacement Woodland</b>
i	<p>What guidance was/should be followed in relation to the quantity, form and location of ancient woodland replacement?</p> <p>Natural England’s Ancient Woodland Inventory Handbook<sup>17</sup> defines ancient woodland as ‘any area that has been wooded continuously since at least 1600 AD’.</p> <p>Ancient woodland is an irreplaceable habitat. It is protected by the National Planning Policy Framework which states in Paragraph 180(c):</p> <p>‘development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists’<sup>18</sup>.</p> <p>This protection is also included in the National Networks National Policy Statement<sup>19</sup> which states in Paragraph 5.32:</p> <p>‘Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.’</p> <p>As ancient woodland loss cannot be compensated, avoidance of impact is the most important mitigation approach.</p>

<sup>16</sup> <https://www.data.gov.uk/dataset/9461f463-c363-4309-ae77-fdcd7e9df7d3/ancient-woodland-england>

<sup>17</sup> <https://publications.naturalengland.org.uk/publication/4876500800634880>

<sup>18</sup> Paragraph 180c, National Planning Policy Framework, 2023  
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>19</sup> Paragraph 5.32, National Networks National Policy Statement

	<p>Where compensation is required, Natural England’s advice to the Applicant has been to apply the principles set out in Natural England and the Forestry Commission’s joint standing advice<sup>20</sup> (included in Appendix A.12 of this response), taking a case- by-case approach informed by expert ecological judgement. The standing advice highlights that compensation could include measures to:</p> <ul style="list-style-type: none"> <li>• create new native woodland or wood pasture and allow for natural regeneration.</li> <li>• improve the condition of the woodland</li> <li>• remove invasive species.</li> <li>• restore or manage other ancient woodland, including plantations on ancient woodland sites, wood pasture and parkland.</li> <li>• connect woodland and ancient and veteran trees separated by development with green bridges, tunnels or hedgerows.</li> <li>• produce long-term management plans for new woodland and ancient woodland - including deer management.</li> <li>• manage ancient and veteran trees to improve their condition</li> <li>• plant or protect individual trees that could become veteran and ancient trees in future.</li> <li>• monitor the ecology of the site over an agreed period.</li> </ul> <p>As stated in our Written Representation, (Examination Document REP1-262) the Applicant has accepted our advice to help buffer remaining areas of woodland, helping to build resilience and connectivity at a landscape scale. We support this approach.</p> <p>Natural England remains concerned regarding the lack of detail as to how the woodland will be created, given the ambiguity within the Control Documents, and how the Project will ensure that the woodland functions ecologically. We understand the Applicant is to provide some greater clarity on the wording of the securing mechanisms and we will provide further advice once this has been shared.</p>
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#### 4. Nitrogen Deposition Compensation

a)	<p><b>Mitigation Hierarchy and Site Selection</b></p>
i	<p>The ExA needs to understand how the Nitrogen Deposition compensation approach aligns with the mitigation hierarchy?</p> <p>Natural England welcomed the Applicant’s consideration of air quality impacts to SSSIs, ancient woodland and other habitats of conservation concern in 2021. We have included copies of our pre-advice to the Applicant on the Nitrogen Deposition Compensation approach within Appendix A.13 and A.14 to this letter.</p> <p>Our advice, as with all environmental impacts, was that the avoid, mitigate, compensate hierarchy should be followed for nitrogen deposition impacts. Given this, we recommended mitigation measures were fully explored by the Applicant in our advice during 2021. We understand that whilst some mitigation measures, such as enforcing the existing speed limit on the M2 in Kent, would reduce the impacts the Applicant was not able to rule out all impacts so a wider strategy was proposed including:</p> <ul style="list-style-type: none"> <li>• Habitat creation to increase the overall extent of the habitat network and increase connectivity and resilience between existing designated sites / habitat areas.</li> </ul>

<sup>20</sup> <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

	<ul style="list-style-type: none"> <li>• Habitat management measures to enhance condition of existing habitat areas: <ul style="list-style-type: none"> <li>○ Within affected designated sites / habitats.</li> <li>○ Within other unaffected existing habitat areas.</li> </ul> </li> <li>• Nutrient neutrality measures to reduce nitrogen inputs into the affected designated sites / habitats.</li> </ul> <p>Natural England supported the broad approach and principles proposed by the Applicant in our response to their proposals.</p>
ii	<p>The Applicant will be asked to clarify how the size of the Nitrogen Deposition compensation area(s) has been determined and what their criteria were for selecting sites?</p> <p>Natural England has not provided detailed advice on the scale of habitat provision to compensate for the nitrogen deposition impacts to sites that are not subject to the Habitats Regulations Assessment. We understand that the Applicant's approach was to ensure that at least as much habitat would be created to that which is impacted by nitrogen deposition associated with the scheme.</p> <p>A number of options were suggested by the Applicant, and Natural England recommended they pursue a landscape-scale cluster-based approach providing large areas of habitat in close proximity to existing habitats of conservation value, building resilience and habitat connectivity which the Applicant has proposed.</p>
iii	<p>What site surveys have been carried out on the proposed Nitrogen Deposition compensation sites to determine their suitability?</p> <p>We would defer to the Applicant on the detail of any specific surveys that have been undertaken for the sites to determine their suitability.</p> <p>Natural England provided advice on the criteria that the Applicant proposed to use to inform the assessment, which included proximity to the affected sites, and the sensitivity to the broader habitat network. In addition to these, we recommend the following were considered:</p> <ul style="list-style-type: none"> <li>• Soil type, and how this relates to vegetation communities and habitat creation (including the potential for soil remediation).</li> <li>• The use of natural regeneration in preference to tree planting as a preferred method for habitat creation, as this encourages local, native species better adapted to local conditions, and provides a more natural composition of woodland species in relation to soil types.</li> <li>• The consideration of the benefits of providing a mosaic of habitats, including the creation of grassland habitats where this will complement and increase the resilience of non-woodland habitats, such as semi-natural grassland within the affected Sites of Special Scientific Interest.</li> </ul>
iv	<p>The Applicant will be asked to set out where and why areas of land for Nitrogen Deposition have been reduced.</p> <p>Whilst this is a matter for the Applicant, Natural England notes that the Applicant has recently submitted a formal change request reducing the area of nitrogen deposition habitat to be created at Burham and Blue Bell Hill in Kent.</p> <p>Given these habitats were also part of the Applicant's commitment to deliver landscape enhancements for the Kent Downs Area of Outstanding Natural Beauty, we would</p>

	recommend that the Applicant provides an updated assessment of the beneficial landscape impacts resulting from this amendment.
v	<p>The ExA would like to hear from Stakeholders about whether the Applicant's approach to Nitrogen Deposition is robust.</p> <p>A technical note on the 'Effects of Nitrogen Deposition on designated sites/habitats requiring mitigation/compensation' was shared with Natural England in November 2021. This set out the Applicant's approach to the consideration of nitrogen deposition impacts and their approach to mitigation and compensation. Whilst we were not able to comment on the robustness of the approach to nitrogen deposition compensation, we advised the Applicant that we could support the broad approach being taken if it was able to achieve their overarching principles of ensuring impacts could be mitigated or fully compensated.</p> <p>This advice was provided recognising that a substantial package is being proposed, in recognition that the full effects of the air quality impacts on the affected sites are not fully understood given their complexity. From our discussions with the Applicant, we are encouraged that these aims can be achieved, and we remain committed to continuing to discuss the measures as they are further developed with the Applicant.</p>

b)	<b>Habitat Make-Up</b>
i	<p>It is reported that the mosaic of habitats for nitrogen deposition sites is expected to achieve a ratio of approximately 70% woodland to 30% other associated habitats. Is this approach well founded?</p> <p>Natural England's advice to the Applicant has been that the Compensatory Habitat provision, if the scheme were to be consented, should maximise the biodiversity and landscape benefit contributing to wider nature recovery objectives where compatible. Given the mix of habitats that are to be affected, we support a mosaic approach of grassland, scrub, woodland habitat provision with a significant contribution to be made through natural regeneration.</p> <p>Such an approach should help to ensure that the habitats impacted by air quality associated with the scheme are compensated whilst helping to deliver wider nature recovery objectives.</p> <p>We also continue to recommend that the Applicant considers whether there would be wider benefits that these sites can deliver for local communities through careful design.</p>

## 5. Shorne Woods SSSI Impact

a)	<b>Shorne Woods SSSI</b>
i.	<p>The ExA notes the concerns raised in representations that recreational facilities proposed at the Shorne Woods Country Park could have a negative effect on the SSSI. Have the effects of the proposed facilities been assessed?</p> <p>Natural England advised the Applicant during the pre-application period, and our advice remains (as detailed within our Written Representation, Examination Document REP1-262) that a low key car park facility (that is a car park without a cycle hub, horsebox parking, kiosk and associated facilities) at Thong Lane may be acceptable as part of an integrated access management strategy for recreation using the public rights of way network linking the various recreational sites in the area. We welcomed the provision of the Applicant's</p>

	<p>additional considering the impacts to Shorne and Ashenbank Woods SSSI from the proposed car park and public right of way upgrades provided at Deadline 1 within the Environmental Statement Addendum (Examination Document REP1-181).</p> <p>We have provided our detailed response to the Applicant's updated recreational impacts assessment in the Environmental Statement Addendum within our Deadline 2 response (Examination Document REP2-090) and consider that further detail is still required to understand the nature and scale of the impacts. In summary, this is:</p> <ul style="list-style-type: none"> <li>• Details of the likely number of vehicles using the car park each day</li> <li>• Clarity on the number of additional visitors likely to be using the car park and recreating within the SSSI facilitated by the additional parking provision</li> <li>• An indication of the breakdown of activity users will be undertaking (walking, cycling, horse riding)</li> <li>• Details of the mitigation measures required for any impacts resulting from the users of the car park.</li> </ul> <p>We look forward to receiving this clarity from the Applicant and will of course be pleased to update the Examining Authority once this is available.</p>
ii.	<p>What can be done to further minimise the effect on the SSSI during the detailed design period?</p> <p>We will continue working with the Applicant to try and understand the scope for amendments to further minimise the impacts to Shorne and Ashenbank Woods SSSI and these could include, for example:</p> <ul style="list-style-type: none"> <li>• Consideration of alternative routes/locations for the utility diversions;</li> <li>• Minimising land take for both the works and the wayleaves required;</li> <li>• Trenchless installation of utilities;</li> <li>• Re-consideration of alternative ways of diverting utilities; and</li> <li>• Redesign of the Thong Lane Car park and footpath surface upgrades.</li> </ul>
iii.	<p>Can the Applicant explain its understanding in relation to the boundary of the SSSI and any implications for the assessment should the boundary not be where the Applicant has assumed it to be in the assessment?</p> <p>Natural England welcomes the Applicant's consideration of the boundary error identified in our Written Representation (Examination Document REP1-262, paragraph 5.1.2 and we are currently in the process of trying to ensure the digital dataset is correct to help inform the detailed design stage.</p> <p>Our advice at Deadline 3 (Examination Document REP3-193) confirmed that we welcome the Applicant's revised calculations for SSSI habitat loss, whilst acknowledging that this additional area has been disturbed during the A2 and Channel Tunnel Rail Link/High Speed 1 rail works. In order to provide clarity on which areas of woodland creation are specifically being created for SSSI impacts (acknowledging our in-principle objection to the SSSI impacts and habitat loss), we recommend that the Applicant updates their Figure 1.1 - Shorne and Ashenbank Woods SSSI Compensation Areas (drawing number HE540039-CJV-EBD-SZP_EN000000_-DR-LE-00001) within Annex C.9 of our current Statement of Common Ground (Examination Document REP2-008) to reflect the additional areas of SSSI habitat impact. This will help ensure that the habitat provided for SSSI loss can be safeguarded against future development.</p>

## 6. Habitats Regulations Assessment

a)	<p><b>Update on the Position</b></p>
i)	<p>The ExA is aware of the current views of IPs on the HRA conclusions for Internationally Protected Sites but would like Applicant and any other IP to provide a succinct update for each site as to where progress may have been made in agreeing conclusions and mitigation and compensation.</p> <p>The three Habitats sites affected by the project are Thames Estuary and Marshes Special Protection Area (SPA) / Ramsar site, Epping Forest Special Area of Conservation (SAC) and North Downs Woodlands SAC. A brief update is provided on each below.</p> <p><b>Thames Estuary and Marshes SPA / Ramsar site</b></p> <p>The three impact pathways relevant to this site are i) effects on functionally linked land, ii) underwater noise and iii) air quality.</p> <p><u>Functionally Linked Land</u></p> <p>The Applicant has identified the need for mitigation to address the loss of, and disturbance to, land functionally linked to the SPA/Ramsar site. This is to be provided in the form of two land parcels at Coalhouse Point, Essex, and the fields south of the Metropolitan Police firing range, Kent, which will provide replacement functionally linked habitat. Natural England is satisfied that these parcels can feasibly deliver the required habitats, but that their design is not yet sufficiently detailed, nor adequately controlled within the submission, as set out within our Written Representation.</p> <p>With the view to reach agreement on this matter, a workshop was held with the Applicant on Wednesday 6 September 2023. At the meeting, progress was made and it was agreed that a further Technical Note would be prepared by the Applicant which would provide more detailed designs (to address gaps including habitat availability for target species across tidal ranges and seasons, and ‘draw down’ zones between periods of inundation), habitat management needs including responsibilities and corrective feedback mechanisms, as well as comprehensive cross-referencing to securing mechanisms to improve clarity on the certainty of delivery. This Technical Note may be sufficient to move Natural England from a position of ‘minded to agree’ to ‘confirmed agreement’ on the key Habitats Regulations Assessment (HRA) conclusion of ‘no adverse effect on site integrity.’ Natural England would need the Detailed Design secured in some way in any permission, perhaps via signposting from the HRA. We anticipate reviewing a draft of this note over the coming weeks ahead of submission into the Examination.</p> <p><u>Underwater Noise</u></p> <p>The impact pathway concerns noise generated by the tunnel boring machines travelling through the water column and causing a disturbance effect to SPA / Ramsar site bird species (such as divers, grebes and cormorant) foraging underwater. Natural England has reviewed the Applicant’s Technical Note on the underwater noise impact pathway (Annex C.8 to version 2.0 of our Statement of Common Ground (Examination Document REP2-008)), which is helpful in providing information to understand the pathway in more detail, however in our opinion this level of analysis is what would typically be seen in the context of an Appropriate Assessment. The test of Likely Significant Effect (LSE) needs to allow for the possibility of an effect. The Applicant argues that because additional noise generated cannot be heard above background levels, there is no possible effect, however clearly there is a possible effect if noise levels breached background levels (and thus a pathway does exist via noise travelling through the water column). The argument over matters of scale is best addressed within an Appropriate Assessment, and therefore Natural England has advised the Applicant at our recent workshop on Wednesday 6 September 2023 that underwater noise should not be screened out. Natural England is</p>



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As set out within our Written Representation (Application Document REP1-262), Natural England has concerns over the Applicant’s air quality modelling methodology, and towards resolving these concerns, the Applicant has prepared a ‘Without Prejudice’ (WP) assessment (Examination Document REP2-068). Whilst our review of this (and related) report is ongoing, we note that the Thames Estuary and Marshes SPA / Ramsar site has been screened in for Appropriate Assessment. We will provide a comprehensive review of this ‘WP’ assessment at Deadline 5.

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Natural England disagreed with the Applicant’s original decision to screen out North Downs Woodlands SAC because the modelled increase in NOx was only marginally below threshold levels and our linked concerns regarding methodology. We note that the Applicant’s Technical Note and ‘Without Prejudice’ assessment (Examination Document REP2-068) have now screened in North Downs Woodlands SAC for Appropriate Assessment, and we will provide a detailed response at Deadline 5 as indicated above.

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For all three Habitats sites listed above, Natural England remains concerned regarding the HRA in-combination assessment. We expect to provide a further written update at Deadline 5.

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**7. Delivery**

a)	<b>Delivery, Maintenance, Management and Monitoring</b>
i	<p>How will/should mitigation, compensation and enhancements be secured in the DCO?</p> <p>Given the nature and scale of the landscape and ecological impacts, Natural England expects a substantial package of measures to be delivered. As detailed within our Written Representation (Examination Document REP1-262), we have significant concerns</p>

	<p>regarding the lack of clarity and certainty as to what will be delivered by the Applicant should consent be granted.</p> <p>This, along with the deferral of significant amounts of the necessary detail to the post consent, detailed design stage, provides Natural England with a significant degree of discomfort and may mean that what is delivered does not reflect the collaborative, solutions focused progress we have made on many matters.</p> <p>Natural England's advice remains that a much greater degree of clarity on what measures are to be provided where should be provided within the Control Documents. This, alongside a greater degree of clarity on the role of the Advisory Group and dispute resolution process should help ensure that the Applicant can deliver their environmental commitments.</p> <p>Natural England welcomes the Applicant's commitment to revisit the wording of the various securing mechanisms within the Control Documents (as advised verbally to Natural England on 31 August 2023). We look forward to working with the Applicant on their amendments to the securing mechanisms are hopeful that progress can be made on this matter.</p>
ii	<p>Who will be responsible for implementing maintenance, monitoring and management (short or long term) of the range of measures along the length of the Proposed Development and how will associated funding for the responsible authority be secured? The ExA is of a view that the person or people involved should be suitably qualified in maintenance of species.</p> <p>Natural England considers that the Applicant should retain overall responsibility for ensuring that the environmental mitigation, monitoring and maintenance strategy is fully implemented in perpetuity (that is for the lifetime of the project) to achieve the scheme objectives, even if the actual works are contracted to a different body. We welcome the confirmation from the Applicant during the hearing that this will be the case.</p> <p>Whoever undertakes and oversees the works should be suitably qualified, experienced in ecological and landscape mitigation for major development (and where required licenced for species work). It is likely that the skills and experience of those undertaking and overseeing the works will change through the lifetime of the project and this should be reflected within the strategy that the Applicant proposes.</p> <p>To guide this, a robust management and monitoring plan should be agreed with relevant Interested Parties and reviewed regularly to ensure the agreed outcomes are achieved for wildlife and landscape.</p> <p>The Applicant should fund the management of all habitats created to mitigate or compensate the ecological and landscape impacts for the lifetime of the scheme. This should include the preparation and updating of management plans, the management works and also habitat and species monitoring to ensure that the scheme objectives are met and then sustained in the long-term.</p> <p>During Issue Specific Hearing 6 and 7, Natural England noted that concerns were raised by Interested Parties (primarily local authorities) regarding who would be responsible for the maintenance and management of the habitats on all of the green bridges. There appears to be a lack of certainty over whether the management responsibilities for habitats on the green bridges will fall to the Local Highway Authorities or remain with the Applicant and, if they do fall to the Local Highway Authorities, funding will be provided. Given the green bridges are integral mitigation measures, we recommend that the Applicant resolves this are of concern and the long-term management and associated funding is clarified.</p>

b)	<b>Post Consent Surveys</b>
i	<p>The EIA sets out a number of surveys which are to be undertaken post consent but prior to construction, to inform the level and design of biodiversity mitigation.</p> <p>There are concerns raised about the time delay between surveys being undertaken, construction commencing, mitigation being delivered and in some cases mitigation maturing to a level of being effective. The ExA wants to explore the implications of this with the Applicant and relevant IPS</p> <p>Natural England acknowledges that surveys will need to be updated given the significant time lag from the Application being submitted and the detailed design being implemented post consent. We note that the Applicant has proposed to update the ecological surveys post consent and we would expect these to inform the detailed design to maximise the avoid and mitigate elements of the hierarchy which the Project can deliver.</p> <p>On a related point, Natural England welcomed clarity during Issue Specific Hearing 6 from the applicant that, if at the detailed design stage, the impacts can be reduced the areas of habitat creation will remain as detailed within the Application delivering a betterment.</p> <p>Natural England encourages and supports the early creation of landscape and ecological habitat creation, where the scheme design and order limits permit. Given the significant timelag for habitats and landscape mitigation to reach their target condition and effectiveness, early planting and establishment helps to reduce this timelag from the point of impact to functioning. As such, we would support the Applicant committing to early establishment; this also helps to reduce the risk to the delivery timetable from the Project, should consent be granted.</p>
ii	<p>The ExA also wants to explore the potential risks of a harmful effect being discovered in post consent surveys that cannot be mitigated or there is a requirement for mitigation which would be beyond the worst- case scenario assessment in the EIA or even beyond the order limits.</p> <p>From recent experience working with the Applicant on other highways schemes (for example the A21 Pembury to Tonbridge project), the Advisory Group approach can have an invaluable role in reacting and responding to changes in circumstances. When there is a trusting, collaborative working relationship the Advisory Group approach works well and allows for a better environmental outcome to be achieved through agreement. This relies upon a flexible, open, trusting and collaborative approach from all parties and we would hope that the Applicant will adopt good practice from other schemes.</p> <p>We are in the process of working with the Applicant to hopefully prepare a good practice summary from work on the Applicant's A21 widening project which may form a useful document to support the Advisory Group and would be pleased to update the Examining Authority if progress is made with the Applicant at a subsequent deadline.</p>

## **Annex A.5**

### **Natural England's comments following Issue Specific Hearing 7 The draft Development Consent Order**

As detailed in our oral submission at Issue Specific Hearing 7, we provided a number of comments which are summarised below.

#### **Disapplication of legislation**

Natural England will use best endeavours to provide our updated advice in relation to the Applicant's proposal to disapply Natural England's responsibilities under the Wildlife and Countryside Act 1981 (as amended) at Deadline 5.

#### **Securing mechanisms**

Following a discussion with the Applicant on the 31 August 2023, we understand that they are considering how to provide greater clarity and certainty regarding the securing mechanisms which was a significant concern raised by Natural England in our Written Representation (Examination Document REP1-262). We welcome this consideration and will of course be pleased to provide further details once the Applicant has provided further details.

#### **Arbitration**

Natural England has revisited our comments within Paragraphs 4.1.1-4.1.2 of our Deadline 2 response (Examination Document REP2-090) regarding our suggested amendments to require an independent authority to provide advice to the Secretary of State for technical matters. We are now satisfied that this is no longer required and that it is appropriate for the Secretary of State to make decisions with their specialist colleagues supporting them.

#### **Explanatory memorandum**

As detailed during Issue Specific Hearing 7, we welcomed the clarity provided by the Applicant in their updated Explanatory Memorandum (Examination Document REP1-044) in which Section 5.16 defines 'materially new or materially different'. Whilst we are generally supportive of the amendment, we remain concerned on two matters.

Firstly, it is unclear from the amendments how the decision will be made as to whether the changes give rise to 'materially new or different changes'. In the spirit of openness and transparency, we recommend that there needs to be some consultation and agreement with relevant interested parties rather than this being a decision resting solely with the Applicant.

In addition, as detailed within Section 7.4 of our Deadline 2 response (Examination Document REP2-046), there is a potential for the removal of one environmental impact to result in a new or worsening impact to another environmental asset. We would therefore welcome the definition of 'materially new or different' being updated to ensure that there should be an avoidance, removal or reduction of impact(s) for all environmental impacts identified within the Environmental Statement for the definition to apply.

For both matters, it may be appropriate for these to be secured through an updated definition within the Explanatory Memorandum and we would be pleased to work with the Applicant, if appropriate, to agree this.

**Annex B: Natural England's response to the Examiner's Questions 1**

For ease, this has been sent under separate cover using the table format requested by the Examining Authority.

### **Annex C: Updated Statement of Common Ground**

Natural England has been working with the Applicant to update our Statement of Common Ground which we hope to be able to agree for submission at Deadline 5.

## **Annex D: Updated Principal Areas of Disagreement**

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

## **Annex E: Comments on the Applicant's submissions at Deadline 3**

### **Revised outline Landscape and Ecology Management Plan**

The Applicant, in response to comments in Paragraphs 3.1.19 and 3.1.24 of our Written Representation (Examination Document REP1-262) confirmed their 'commitment to management of mitigation and compensation measures in perpetuity will be added to the outline Landscape and Ecology Management Plan (oLEMP) [REP1-173] at its next revision' (Examination Document REP2-046, Page 10).

The most recent oLEMP submitted at Deadline 3 (Examination Document REP3-107) does not appear to have been updated to reflect this change and we look forward to the document being updated to confirm that all landscape and ecological mitigation and compensation will be secured and managed by the Applicant in-perpetuity (that is for the lifetime of the road).

Natural England notes that the habitat prescription for open mosaic habitat, LE8.1, has been updated to increase the provision of pulverised fuel ash (PFA) substrate from 10% to 20% of the low nutrient, free-draining grassland component of the open mosaic habitat type. We welcome this change. The Examining Authority will be aware however that Natural England made other comments on the open mosaic habitat prescription generally (and for Tilbury Fields specifically) within our Written Representation (Examination Document REP1-262, paragraphs 7.2.19-27). We understand that the Applicant is considering these proposed changes, and we will be happy to review any further changes forthcoming.

### **Design Principles**

Natural England notes the proposed changes made to the Design Principle for open mosaic habitat, LSP.22 within Application Document REP3-111, to specify a minimum 20% overall area substrate of pulverised fuel ash (PFA). We welcome this change.

### **Environmental Statement Addendum**

Natural England welcomes the confirmation within the Environmental Statement Addendum (Examination Document REP3-125) that the photomontage for Viewpoint S-05a has been amended.

Having reviewed the updated photomontages and visualisations for Viewpoint S-05a at winter year one and summer year fifteen (Examination Document REP3-103), Natural England considers the visibility of the High Speed 1 infrastructure and trains appears to be greater than presented within the Landscape and Visual Impact assessment. Natural England has been unable to find an update on whether these changes to the visualisations alter the Applicant's assessment of landscape and visual impacts and the effectiveness of the mitigation measures proposed. We would welcome clarity being provided by the Applicant in relation to these potential changes.

### **Applicant's response to Interested Parties comments made on the draft Development Consent Order at Deadline 2**

Natural England welcomes the Applicant's response within Examination Document REP3-144 following our previous comments on arbitration within Paragraphs 4.1.1-4.1.2 of our Deadline 2 response (Examination Document REP2-090). Our previous advice suggested amendments to require an independent authority to provide advice to the Secretary of State for technical matters. As mentioned during Issue Specific Hearing 7, having revisited our previous comments, we are now satisfied that this is no longer required and that it is appropriate for the Secretary of State to make decisions with their specialist colleagues



supporting them.

**Annex F: Comments on any information requested by the Examining Authority and received by Deadline 3**

Natural England has no comments to make in relation to any additional information requested by the Examining Authority at Deadline 3 that is not covered elsewhere in this response.

## **Annex G: Natural England's response to the Action Points from Issue Specific Hearing 6**

We are pleased to provide our response to the Action Points from Issues Specific Hearing 6 below for those matters directed to Natural England.

### **Action Point 1: Mitigation Route Map Best Practice Examples** (Natural England)

*To provide advice/examples of best practice for setting out clear audit system (often referred to as a "Mitigation Route Map") for each proposed biodiversity enhancement/mitigation/compensation. To be shared with the Applicant ASAP and then provided to the ExA as part of post hearing submissions.*

#### Natural England Response

Given the time constraints, we have not been able to share examples of other schemes demonstrating good practice in terms of auditing the areas of habitat lost and how these are mitigated or compensated for. We hope to provide an update at Deadline 5.

As mentioned during Issue Specific Hearing, we welcome the progress which has been made by the Applicant in confirming which parcels of habitat are specifically being proposed for the direct loss of habitat within the Shorne and Ashenbank Woods SSSI as included within Annex C.9 of version 2.0 of our Statement of Common Ground (Examination Document REP2-008) and would support a similar approach being adopted for all habitats and species impacts.

We note that the submitted Land Plans (Examination Documents APP-006, 007 and 008) include land parcel numbers and we have suggested below a tabular format (ideally a spreadsheet) which we consider would aid Interested Parties and the Examining Authority to map the impact through to the mitigation and/or compensation provision.

We would be pleased to work with the Applicant to try and find a solution which works for all parties and provides the certainty around mitigation and compensation delivery.

Land Parcel number (to be impacted)	Species supported	Habitat supported	Area to be impacted	Mitigation/ Compensation land parcel number	Area to be created	Habitat to be created	Species	Other mitigation benefits
<i>AB-01</i>	<i>Dormice</i>	<i>Ancient and long-established semi-natural woodland</i>	<i>6.2ha</i>	<i>YZ-02</i>	<i>18.5ha</i>	<i>Mixed woodland</i>	<i>Dormice Bats</i>	<i>Open space</i>

**Action Point 2 Landscape Scale Strategy** (Kent Downs AONB Unit, Natural England)  
'Give consideration to providing comments as to whether the land within the Order Limits is sufficient to provide the proposed mitigation and compensation for the loss of habitats having regard to the proposed "landscape scale" strategy.'

Natural England Response

Based upon the information submitted, Natural England considers that the Order limits are sufficient for the mitigation and compensation required. We will be pleased to continue working with the Applicant to maximise the ecological and landscape benefits from the mitigation and compensation land through detailed design.

We have suggested in our Written Representation (Examination Document REP1-262) that, given the significant residual impacts to the Kent Downs AONB, consideration should be given to additional mitigation measures including a green bridge, following good practice design, at Park Pale. In addition, we have suggested that as part of a landscape conservation approach for dormice, habitat linkages over Halfpence Lane and Darnley Lodge Lane from the green bridges at Brewers Road and Thong Lane South should be considered more fully.

**Action Point 7 Potential double counting of mitigation: Hole Farm** (Applicant and Natural England)

Applicant to 'Address questions raised about the potential for the 'double counting' of mitigation and/ or compensation to be provided at Hole Farm. Please make reference to the fact that this site appears to have already been purchased with plans to create a community woodland which does not appear to be contingent on the construction of LTC so will be provided in any event.'

Natural England to 'Provide a response to the Applicant's commentary' at Deadline 5.

Natural England Response

Natural England can confirm we will provide our response to the Applicant's update once this has been provided at Deadline 5 as requested.

**Action Point 8 Potential double counting of mitigation: Kent nitrogen sites (arising from Bluebell Hill and Burham)** (Applicant and Natural England)

Applicant to response to 'Potential double counting of mitigation: Kent nitrogen sites (arising from Bluebell Hill and Burham) Please address questions raised from Kent CC about the potential for the 'double counting' of mitigation and/ or compensation in relation to sites proposed to be acquired and managed by the LTC undertaker and sites managed by others pursuant to Stewardship schemes. Please make reference to the fact that the originally justified land take at Bluebell Hill and Burham has been reduced, but that part of the land is suggested as moving into Stewardship that would provide equivalent management outcomes. Please clarify whether the LTC project places any reliance on the management of land through Stewardship? If it does, having regard to the potentially temporary and reversible nature of Stewardship outcomes, please explain how land in Stewardship could contribute towards the delivery of any outcomes required to address the effects of the proposed. If there is no reliance being placed on the Stewardship then please explain why the nitrogen deposition land being removed from LTC at Burham and Bluebell Hill is not being replaced elsewhere. What has changed?'

Natural England to consider 'If there is any reliance placed on Stewardship by the LTC proposed development, please provide a response to the Applicant's commentary' at Deadline 5

Natural England Response

Natural England can confirm we will provide our response to the Applicant's update once this has been provided at Deadline 5 as requested.

**Action Point 10: Green Bridges: Best Practice** (Natural England)

'Please provide a copy of Natural England's publication/literature review in respect of best practice for Green Bridges across the UK and Europe.

Natural England Response:

We have provided a copy of the Natural England Commissioned Report 181 'Green Bridges: A literature review<sup>21</sup>' (included in Appendix A.5) with our Deadline 4 response. The aim of the commissioned research was to identify and analyse evidence to inform understanding of the cost-effective design and positioning of green bridges and similar infrastructure (including retro-fitting green features to existing grey bridges) to address landscape, access and ecological severance, connectivity and integration issues on the road and rail transport network, and to maximise the delivery of landscape benefits and ecosystem services.

**Action Point 11: Green Bridges: Ecological Matters** (Applicant and Natural England)

Applicant to 'Provide comments as to whether the proposed Thong Lane and Brewers Road A2 green bridges could cause a detriment to wildlife (through potential for additional roadkill incidents) given the narrow landscaped area and the at grade exit onto the proposed Darnley Lodge Lane 2-way local connection.'

Natural England to 'Comment on whether greater connectivity north-south (in association with that which exists over HS1) from the proposed green Thong Lane bridge over the A2 would result in an ecological benefit, even if this is not an ideal solution'.

Natural England response

In its current design, Natural England's advice remains that the Thong Lane green bridge over the A2 will provide limited ecological benefit due to the lack of habitat connectivity, particularly for non-volant species. Given:

- the limited width of habitat to be provided on the bridge itself;
- the lack of connectivity over Darnley Lodge Lane;
- the lack of habitat connectivity between the A2 and Darnley Lodge Lane;
- associated impacts such as traffic noise and lighting; and
- no 'green' habitat linkage from the bridge to the existing, established green bridge over the High Speed 1 rail line.

It is unclear how the bridge will deliver ecological benefits or connectivity for species or a high-quality experience for recreational users within the Kent Downs AONB. We will be pleased to continue working with the Applicant to explore options for better design of the green bridges to maximise their ecological landscape and wildlife benefit.

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<sup>21</sup> <https://publications.naturalengland.org.uk/publication/6312886965108736>

**Action Point 14: Agenda Item 8 Provide written comments setting out areas of agreement and disagreement in respect of Agenda Item 8 (Natural England)**

Whilst, due to time constraints, we were not able to provide a verbal update on the Habitats Regulations Assessment during Issue Specific Hearing 6, we have provided a written update in Annex A to this letter with all other matters for Hearing 6.

For ease, we have included this below:

a)	<p><b>Update on the Position</b></p>
i	<p>The ExA is aware of the current views of IPs on the HRA conclusions for Internationally Protected Sites but would like Applicant and any other IP to provide a succinct update for each site as to where progress may have been made in agreeing conclusions and mitigation and compensation.</p> <p>The three Habitats sites affected by the project are Thames Estuary and Marshes Special Protection Area (SPA) / Ramsar site, Epping Forest Special Area of Conservation (SAC) and North Downs Woodlands SAC. A brief update is provided on each below.</p> <p><b>Thames Estuary and Marshes SPA / Ramsar site</b> The three impact pathways relevant to this site are i) effects on functionally linked land, ii) underwater noise and iii) air quality.</p> <p><u>Functionally Linked Land</u> The Applicant has identified the need for mitigation to address the loss of, and disturbance to, land functionally linked to the SPA/Ramsar site. This is to be provided in the form of two land parcels at Coalhouse Point, Essex, and the fields south of the Metropolitan Police firing range, Kent, which will provide replacement functionally linked habitat. Natural England is satisfied that these parcels can feasibly deliver the required habitats, but that their design is not yet sufficiently detailed, nor adequately controlled within the submission, as set out within our Written Representation.</p> <p>With the view to reach agreement on this matter, a workshop was held with the Applicant on Wednesday 6 September 2023. At the meeting, progress was made and it was agreed that a further Technical Note would be prepared by the Applicant which would provide more detailed designs (to address gaps including habitat availability for target species across tidal ranges and seasons, and 'draw down' zones between periods of inundation), habitat management needs including responsibilities and corrective feedback mechanisms, as well as comprehensive cross-referencing to securing mechanisms to improve clarity on the certainty of delivery. This Technical Note may be sufficient to move Natural England from a position of 'minded to agree' to 'confirmed agreement' on the key Habitats Regulations Assessment (HRA) conclusion of 'no adverse effect on site integrity.' Natural England would need the Detailed Design secured in some way in any permission, perhaps via signposting from the HRA. We anticipate reviewing a draft of this note over the coming weeks ahead of submission into the Examination.</p> <p><u>Underwater Noise</u> The impact pathway concerns noise generated by the tunnel boring machines travelling through the water column and causing a disturbance effect to SPA / Ramsar site bird species (such as divers, grebes and cormorant) foraging underwater. Natural England has reviewed the Applicant's Technical Note on the underwater noise impact pathway (Annex C.8 to version 2.0 of our Statement of Common Ground (Examination Document REP2-008)), which is helpful in providing information to understand the pathway in more detail, however in our opinion this level of analysis is what would typically be seen in the context of an Appropriate Assessment. The test of Likely Significant Effect (LSE) needs to allow</p>

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**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.