

Lower Thames Crossing

5.4.1.6 Statement of Common Ground between (1) National Highways and (2) Natural England

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1 Introduction

1.1 Purpose of the Statement of Common Ground

- 1.1.1 This Statement of Common Ground (SoCG) has been prepared in respect of the Development Consent Order (DCO) application for the proposed A122 Lower Thames Crossing (the Project) made by National Highways Limited (National Highways) to the Secretary of State for Transport (Secretary of State) under section 37 of the Planning Act 2008.
- 1.1.2 This SoCG does not seek to replicate information which is available elsewhere within the Application Documents. All documents may be available on the Planning Inspectorate website.
- 1.1.3 The SoCG has been produced to confirm to the Examining Authority where agreement has been reached between the parties named below, and where agreement has not (yet) been reached. SoCGs are an established means in the planning process of allowing all parties to identify and so focus on specific matters that may need to be addressed during the examination.

1.2 Parties to this Statement of Common Ground

- 1.2.1 This SoCG has been prepared in respect of the Project by (1) National Highways, and (2) Natural England
- 1.2.2 National Highways became the Government-owned Strategic Highways Company on 1 April 2015. It is the highway authority in England for the strategic road network and has the necessary powers and duties to operate, manage, maintain and enhance the network. Regulatory powers remain with the Secretary of State. The legislation establishing National Highways made provision for all legal rights and obligations of the Highways Agency, including in respect of the Project, to be conferred upon or assumed by National Highways.
- 1.2.3 Natural England is a non-departmental public body. Its statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

1.3 Terminology

- 1.3.1 In the matters table in section 2 of this SoCG, “Matter not agreed” indicates agreement on the matter could not be reached, and “Matter under discussion” where these points will be the subject of on-going discussion wherever possible to resolve, or refine, the extent of disagreement between the parties. “Matter agreed” indicates where the issue has been resolved.
- 1.3.2 It is agreed that any matters not specifically referred to in Section 2 of this SoCG are not of material interest or relevance to Natural England. As such, those matters can be read as agreed, only to the extent that they are not of material interest or relevance to Natural England. However, if new matters arise Natural England reserves the right to comment on those matters as it considers appropriate.

1.4 Overview of previous engagement

- 1.4.1 A summary of the meetings and correspondence undertaken between the two parties in relation to the Project is outlined in Appendix C.

1.5 Status of the Statement of Common Ground

- 1.5.1 It is agreed that this statement is an accurate description of the matters raised by Natural England, and the current status of each matter.
- 1.5.2 It is agreed that Appendix C is an accurate record of the key meetings and consultation undertaken between (1) National Highways and (2) Natural England in relation to the matters addressed in this Statement of Common Ground.

2 Matters

2.1 Matters agreed, not agreed or under discussion

- 2.1.1 Table 2.1 details the matters which have been agreed, not agreed, or are under discussion between (1) National Highways and (2) Natural England.
- 2.1.2 It is acknowledged there are some matters where further discussion may take place during the detailed design stage of the Project to finalise detail, but the matter is agreed in principle. Matters to which this applies have an asterisk (*) next to them.

Table 2.1 Matters

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
DCO & Consents					
Securing Mechanisms	2.1.1	The agreement for Natural England to be a consultee under Schedule 2, Requirement 4 of the draft Development Consent Order (DCO) (relating to the second iteration of the Environmental Management Plan (EMP 2)) and Requirement 5 (landscaping) is welcomed.	Natural England will have a consultation role under Schedule 2, Requirement 4 of the draft Order (relating to EMP 2). The contractors responsible for the delivery of the Project will therefore consult Natural England on all matters related to their function in the EMP 2. Natural England will also be consulted on Schedule 2, Requirement 5 of the draft DCO (landscape).	Draft DCO (Application Document 3.1)	Matter Agreed
Securing Mechanisms	2.1.2	Natural England welcomes and agrees to the approach of an outline Landscape and Ecology Management Plan (oLEMP) advisory group.	An oLEMP advisory group will be set up to help inform decision making throughout the duration of the Landscape and Ecology Management Plan	oLEMP (Application Document 6.7)	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>Natural England has provided comments and feedback on the draft terms of reference of the Advisory Group and will continue to advise on this matter as part of its review of the DCO application documents.</p>	<p>(LEMP). The remit of the advisory group will be to discuss the implementation of the LEMP, to review the monitoring process and to agree changes to the LEMP (and/or its prescribed management activities) when they are required, or when successful achievements of targets have been met.</p> <p>Natural England has received and commented on the draft terms of reference for the group. National Highways has taken account of these matters in the DCO application version of the document.</p> <p>National Highways expects this matter to be agreed once the DCO application documents have been reviewed by Natural England.</p>		
Securing Mechanisms	2.1.3	<p>Natural England does not agree with the disapplication of its powers under Sections 28E and H of the Wildlife and Countryside Act (WCA) 1981. Natural England's concern is that significant detail on operations that may have direct or indirect impacts on SSSIs</p>	<p>National Highways is seeking to disapply Sections 28E and 28H of the WCA 1981 as part of the Project's draft DCO. National Highways has shared a legal note which applies to both the Lower Thames Crossing and the A417 'Legal note on the disapplication of</p>	Draft DCO (Application Document 3.1)	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>may be deferred to the post-consent stage. Natural England’s position is that its responsibilities under the Wildlife and Countryside Act should only ever be disapplied in exceptional circumstances.</p> <p>Natural England received National Highway’s ‘Legal note on the disapplication of SS.28E and 28H of the WCA 1991’ which applies to both the Lower Thames Crossing and the A417 ‘Missing Link’.</p> <p>Natural England provided its response to this legal note on 14/02/2022 in its Deadline 4 submission for the A417 Missing link NSIP. This is Natural England’s advice with regards to the matters contained in National Highways’ legal note, so should also be taken as Natural England’s position in response to this note with regard to its relevance to the LTC scheme.</p>	<p>SS.28E and 28H of the WCA 1991’. This explains why National Highways considers the disapplication of these provisions is appropriate and justified. Both parties are awaiting the Secretary of State’s decision on the A417.</p>		
Co-ordinating parallel consents and other AA	2.1.4	<p>Natural England considers that the consultation on the mitigation requirements and the permitting of them has been constructive, and that the</p>	<p>In accordance with the 2022 update of PINS advice note 10 (HRA relevant to NSIPs) sections 5.3 to 5.6, National Highways has consulted with</p>	<p>HRA Report (Application Document 6.5) SoCG between the Environment</p>	<p>Matter Agreed*</p>

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		proposed mitigation is feasible, subject to the Environment Agency concluding that it is likely that the permits will be authorised at the appropriate time to facilitate the effective implementation of the mitigation.	<p>Natural England and the Environment Agency with regard to the need for two Environment Agency permits in relation to mitigation measures proposed within the HRA, namely the discharge permit for the construction discharge from the Southern Portal compound; and the provision of a water control structure in the sea defences at Coalhouse Point to facilitate wetland creation.</p> <p>National Highways' SoCG with the Environment Agency (Application Document 5.4.1.1, SoCG item 2.1.4) sets out the Environment Agency's position that it is likely that the permits would be authorised at the appropriate time.</p>	Agency and Natural England (Application Document 5.4.1.1)	
Planning Statement/Policy					
Management Plan	2.1.5	Natural England has discussed with National Highways the need to fully consider the principles, aims and objectives of the Kent Downs Area of Outstanding Natural Beauty (AONB) Unit Management Plan, as part of the duty placed on public bodies to have regard to the purpose of conserving and	The principles, aims and objectives of the Kent Downs AONB Unit, including their management plan for 2021-2026, have been reviewed as part of Environmental Statement (ES) Chapter 7: Landscape and Visual (Application Document 6.1) and are detailed in ES Appendix	ES Chapter 7: Landscape and Visual (Application Document 6.1) ES Appendix 7.6: Kent Downs AONB Relevant Guidance	Matter Agreed*

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		enhancing the natural beauty of an AONB. Natural England will continue to provide advice on this matter as part of its review of the ES.	7.6: Kent Downs AONB Relevant Guidance (Application Document 6.3).	(Application Document 6.3)	
Management Plan	2.1.6	The Landscape ES Chapter Should be updated to refer to the 2021-2026 Management Plan for the Kent Downs AONB.	The landscape ES Chapter has been updated to include reference to the updated Kent Downs AONB Unit Management Plan for 2021-2026.	ES Chapter 7: Landscape and Visual (Application Document 6.1)	Matter Agreed
Route selection, model alternatives & assessment of reasonable alternatives					
Route location	2.1.7	<p>Natural England has raised significant concerns regarding the additional direct and indirect impacts to the Kent Downs AONB, Shorne and Ashenbank Woods SSSI, and ancient woodland that have resulted from the scheme amendments since the preferred route announcement by the Secretary of State.</p> <p>Natural England recognises that the impacts to SSSIs and ancient woodland have reduced as a result of its discussions with National Highways, although significant impacts remain. Whilst Natural England does not endorse the remaining impacts, it has held constructive</p>	<p>A robust and appropriate assessment of the route selection has been undertaken and is detailed in ES Chapter 3: Assessment of Reasonable Alternatives (Application Document 6.1).</p> <p>A Non-statutory public consultation was held in 2016 which included a detailed appraisal of the routes. Route 3 was progressed as it best met the scheme objectives and had the least environmental impact. A further assessment was undertaken in 2020 which assessed the balance of the environmental impacts of the Eastern Southern Link against the Western Southern link,</p>	Planning Statement (Application Document 7.2)	Matter Not Agreed

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		<p>discussions regarding mitigation and compensation measures that would be required if the scheme is granted consent.</p> <p>Natural England recognises that the Secretary of State needs to consider the project in terms of the tests set out in the NPSNN relating to impacts on SSSIs, ancient woodland, and Areas of Outstanding Natural Beauty.</p>	<p>including an assessment of Landscape Character Areas and impacts to the AONB. The impacts of the Western Southern Link remain less significant than the overall balance of impacts of the Eastern Southern Link. Full details of the route selection process can be found in ES Chapter 3: Assessment of Reasonable Alternatives (Application document 6.1).</p> <p>Impacts on SSSIs and ancient woodland are assessed within the Planning Statement (Application Document 7.2) as it is a National Policy Statement for National Networks (NPSNN) test (paragraphs 5.28, 5.29, and 5.32). Impacts to SSSI and ancient woodland as a result of utilities works have significantly reduced since they were first presented to Natural England in summer 2019.</p> <p>It is National Highways' view that the NPSNN test has been met, and that the benefits of the Project clearly outweigh both the impacts that it is likely to have on the features of the site</p>		

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			that make it of special scientific interest, and any broader impacts on the national network of SSSIs.		
Impacts	2.1.8	<p>Natural England does not endorse the loss of and damage to ancient woodlands and SSSIs, which are afforded significant protection in planning policy (sections 5.28, 5.29, and 5.32 of the NPSNN).</p> <p>Following the preferred route announcement by the Secretary of State, the scheme amendments have increased the area of SSSI and ancient woodland that is to be impacted. Natural England recognises that the impacts to SSSIs and ancient woodland have reduced as a result of its discussions with National Highways, although significant impacts remain.</p> <p>Whilst Natural England does not endorse the remaining impacts, it has held constructive discussions regarding mitigation and compensation measures that would be required if the scheme is granted consent.</p>	<p>Impacts on SSSIs and ancient woodland are assessed within the Planning Statement (Application Document 7.2) as it is a NPSNN test (paragraphs 5.28, 5.29, and 5.32). Impacts to SSSI and ancient woodland as a result of utilities works have significantly reduced since they were first presented to Natural England in summer 2019.</p> <p>As detailed in 2.1.6, it is National Highways' view that the NPSNN test has been met.</p>	Planning Statement (Application Document 7.2)	Matter Not Agreed

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		Natural England recognises that the Secretary of State needs to consider the project in terms of the tests set out in the NPSNN relating to impacts on SSSIs, ancient woodland, and Areas of Outstanding Natural Beauty.			
Impacts	2.1.9	<p>Natural England does not endorse the direct loss of and impacts to AONBs, which are afforded significant protection in planning policy (sections 5.150 to 5.155 of the NPSNN).</p> <p>Whilst Natural England has had constructive discussions with National Highways to identify measures that will help mitigate the impacts, it considers a significant adverse residual landscape and visual impact in relation to the AONB will remain at year 15. Natural England recommends that the ES is updated to detail how the residual impacts are to be reduced.</p>	<p>Mitigation for the landscape and visual impacts on the AONB is embedded in the design and reported in the Environmental Statement (ES Chapter 7: Landscape and Visual, Application Document 6.1). It is also shown in the Environmental Masterplan (Figure 2.4, Application Document 6.2). The residual effects, after allowing time for the establishment of planting mitigation, are summarised in ES Chapter 7: Landscape and Visual (Application Document 6.1) and reported in ES Appendix 7.9- Schedule of Landscape Effects (Application Document 6.3).</p> <p>Design refinements, including utilities updates, have resulted in a reduction in the reported significance of effect since December 2020. The effect in</p>	<p>ES Chapter 7: Landscape and Visual (Application Document 6.1) Environmental Masterplan (Figure 2.4, Application Document 6.2). ES Appendix 7.9- Schedule of Landscape Effects (Application Document 6.3)</p>	Matter Under Discussion

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			<p>the design year (year 15) has reduced from a large adverse effect reported in December 2020, to a moderate adverse effect.</p> <p>Constructive engagement on this matter is ongoing.</p>		
Location of South Portal	2.1.10	The relocation of the southern tunnel entrance approximately 350 metres south, further away from the South Thames Estuary and Marshes SSSI and the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar Site is welcomed.	National Highways welcomes Natural England's support for this change.	N/A	Matter Agreed
Land and Compulsory acquisition					
Common Land	2.1.11	Whilst Natural England has accepted that National Highways does not intend to re-register land as common land following completion of works in this area, Natural England and National Highways have agreed that Section 193 of the Law and Property Act 1925 (public access rights) will be applied to the fields to the west and east of the Lower Thames Crossing alignment in Orsett Fen (excluding the highway, maintenance access and drainage pond), following	In response to Natural England's request, National Highways has included a draft DCO Provision (Article 54) which applies section 193 of the Law of Property Act 1925 (public access rights) to Fen Land A and B in Orsett Fen (water vole mitigation and open mosaic habitat) following completion of the habitat mitigation works.	Draft DCO (Application Document 3.1)	Matter Agreed

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		<p>completion of the habitat mitigation works, which are for water vole mitigation and open mosaic habitat (known as Fen Land A and B).</p> <p>Natural England accepts that the DCO provision has been updated to reflect this.</p>			
Common Land	2.1.12	<p>Natural England has requested a long-stop date to apply to the commencement of Section 193 rights on Fen Land A and B. Section 193 rights should be applied to Fen Land A within 12-18 months of the creation of the water vole habitat. Natural England agrees with the provision in section 54 of the draft DCO (Application Document 3.1).</p>	<p>National Highways has included the following provision in Article 54 of the draft DCO, which has been agreed with Natural England. 'Designation of Fen Land' (Application Document 3.1):</p> <p><i>(a) In relation to Fen land A, the later of 12 months from the date of completion of the provision of water vole mitigation on that land or 18 months from the date of completion of the provision of water vole mitigation on that land where the undertaker determines, following consultation with Natural England, that period is reasonably necessary to allow for the establishment of the water vole mitigation; and</i></p> <p><i>(b) In relation to Fen land B, the day after the completion of the</i></p>	Draft DCO (Application Document 3.1)	Matter Agreed

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			<i>provision of open mosaic habitat and grassland on that land.</i>		
Common Land	2.1.13	Natural England has highlighted the importance of continued public access being maintained across Fen Land A and B throughout the construction phase of the Project.	National Highways has committed not to prevent public access to Fen Land A or B throughout the construction phase of the project unless the prevention of public access is reasonably required for (i) construction purposes; or (ii) health and safety purposes; or (iii) to allow for the protection of any environmental mitigation. National Highways will inform Natural England as soon as is reasonably practicable of any prevention of public access to Fen land A and Fen land B during the construction period (and the basis on which public access is being prevented). Following a notification that public access is being prevented, Natural England may request an update on when any prevention is expected to cease, and National Highways will provide a response as soon as is reasonably practicable. This commitment is included within the Stakeholder Actions	SAC-R (Application Document 7.21)	Matter Agreed

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			and Commitments Register (SAC-R) (Application Document 7.21).		
Common Land	2.1.14	Natural England is content that the replacement land provided for Orsett Fen in conjunction with the access rights being created on land being used for water vole mitigation and open mosaic habitat provided for Orsett Fen would be no less advantageous to the public and those with rights of common than the existing Common Land provision.	National Highways welcomes Natural England's confirmation that they agree that the replacement land provision in Orsett Fen in conjunction with the creation of new rights of public access is no less advantageous than the existing provision, as required under Section 131 of the Planning Act 2008.	Planning Statement (Application Document 7.2) Statement of Reasons (Application Document 4.1)	Matter Agreed
Wider Network Impacts					
Bluebell Hill Junction	2.1.15	Natural England's view is that the Blue Bell Hill junction improvements should be included and assessed within National Highways' ES as part of the cumulative effects assessment.	Improvements to the A229 at the junctions with the M2 and M20 are not part of the proposed Lower Thames Crossing project and are therefore assessed in ES Chapter 16: Cumulative Effects Assessment Application Document 6.10). Any future development of the A229, as proposed by Kent County Council, would be subject to the requirements of the National Planning Policy Framework which only allows for development in AONBs	Wider network impacts management and monitoring plan (Application Document 7.13) ES Chapter 16: Cumulative Effects Assessment (Application Documents 6.1)	Matter Agreed*

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			<p>in exceptional circumstances and where it can be demonstrated that it is in the public interest.</p> <p>National Highways is currently in joint discussions with relevant authorities about the proposed improvement works at this location in accordance with the license obligations to work with others to align national and local plans and investments, balance national and local needs and support better end-to-end journeys for road users.</p>		
Sustainability					
Legacy & Benefits	2.1.16	Natural England welcomes the opportunity to attend the legacy and benefits workshops, and is a member of the environment-focussed legacy and benefits steering group. Natural England has, however, not been able to fully engage with this group as much as it would wish due to resourcing constraints.	Natural England has been invited to attend the legacy and benefits workshops, the first of which was held in December 2019, and is a member of the environment focussed legacy and benefits steering group.	N/A	Matter Agreed
Legacy & Benefits	2.1.17	Natural England welcomes the stakeholder engagement being undertaken through the legacy and benefits steering group, and supports the identification of	National Highways welcomes Natural England's positive support for the legacy and benefits workstream.	N/A	Matter Under Discussion

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		landscape scale projects to provide wider benefits.	The green infrastructure study, along with ideas proposed at legacy workshops held in December 2019 have been used as the starting point for legacy discussions. Topic-specific steering groups have been set up, the first of which were held on 26.01.2021, which Natural England is a member of.		
Environmental Impact Assessment (EIA) Methodology					
Assessment methodology	2.1.18	Environmental assessments should follow the avoid, mitigate, compensate hierarchy.	The avoid, mitigate, compensate assessment hierarchy has been followed.	ES Chapter 4- EIA Methodology (Application Document 6.1)	Matter Agreed
Mitigation	2.1.19	Natural England has advised that a landscape-scale approach to mitigating the environmental impacts of the Project should be taken.	The landscape scale approach taken by the project is based on Natural England’s advice and guidance received from the Defra family at Statutory Consultation in the document ‘Defra Family Potential Environmental Legacy Projects’.	ES Chapter 8- Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed
Mitigation & compensation	2.1.20	Notwithstanding its advice in relation to the loss of SSSIs and irreplaceable habitat (SoCG item 2.1.8), Natural England recognises there is a commitment to a significant package of mitigation and	The compensation and mitigation strategy has been developed through extensive engagement with Natural England.	ES Chapter 8- Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed*

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		compensation measures that will be required should the scheme be consented. The package of measures, which will help build resilience at a landscape scale, is welcomed, subject to further discussion about green bridges (see SoCG item 2.1.35).			
Post-development management	2.1.21	<p>Natural England recognises the importance of the ongoing maintenance of the compensation and mitigation measures. It supports the use of indicators of success, with agreed ecological targets, against which the effectiveness of the mitigation and compensation will be measured. National Highways has successfully used this approach for the A21 Pembury to Tonbridge dualling in Kent, and Natural England recommends a similar approach is adopted for the LTC.</p> <p>Natural England is continuing to have constructive discussions, and agrees that the oLEMP Advisory Group is an appropriate mechanism to</p>	<p>Following construction, monitoring of newly created habitats would be undertaken in accordance with the LEMP. This would outline the required maintenance operations and frequency of monitoring surveys, to measure progress towards defined success criteria for each habitat. Natural England will be a member of the LEMP Advisory Group.</p>	oLEMP (Application Document 6.7)	Matter Under Discussion

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		address this matter during detailed design.			
Biodiversity net gain (BNG)	2.1.22	Given the scale of the development, Natural England would expect the Project to deliver BNG in line with the Government’s 25 Year Environment Plan. This should be calculated using the Defra biodiversity metric.	The Project has an aspiration to maximise its biodiversity value. BNG has been calculated using the Defra biodiversity metric and presented in the DCO application. Further details are provided in ES Chapter 8:Terrestrial Biodiversity (Application Document 6.1).	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Agreed
BNG	2.1.23	Natural England has requested to see the BNG figures that have been calculated for the DCO application. Natural England welcomes National Highways’ positive approach to BNG on the Project, and the ongoing, constructive engagement on this matter.	National Highways has shared summary BNG outputs with Natural England and continues to discuss the approach.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion

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Landscape and Visual					
Visual					
Methodology	2.1.24	The viewpoint and photomontage locations and methodology have been agreed with Natural England.	Methodology agreed.	ES Chapter 7: Landscape and Visual (Application Document 6.1)	Matter Agreed
Methodology	2.1.25	The cumulative visual impacts of the widened A2 corridor should be considered in combination with High Speed 1.	High Speed 1 is considered as part of the baseline and the visual assessment in ES Chapter 7: Landscape and Visual (Application Document 6.1), which considers the increased visibility of this High Speed 1.	ES Chapter 7: Landscape and Visual (Application Document 6.1)	Matter Agreed
Impacts	2.1.26	Section 5.151 of the NPSNN states that ‘The Secretary of State should refuse development consent in these areas [protected landscapes including AONBs] except in exceptional circumstances and where it can be demonstrated that it is in the public interest’. Whilst Natural England has had constructive discussions with National Highways to identify measures that will help mitigate the impacts, the construction of a highway and junction both within and in the immediate	National Highways agrees that there is a significant impact on local landscape character within the Kent Downs AONB as detailed within ES Chapter 7: Landscape and Visual (Application Document 6.1). Measures have been taken to minimise damage to Kent Downs AONB where practicable. The impact on the Kent Downs AONB is assessed within the Planning Statement (Application Document 7.2) as it is a NPSNN test (paragraphs 5.151 & 5.152). National	ES Chapter 7: Landscape and Visual (Application Document 6.1) Planning Statement (Application Document 7.2)	Matter Not Agreed

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		setting of the Kent Downs AONB will result in significant landscape and visual impacts to the AONB that cannot be fully mitigated.	Highways' view is that the Project meets the NPSNN test.		
Impacts	2.1.27	<p>The existing vegetation along both sides of the A2, and the central reservation, including mature trees, currently allows the transport infrastructure to be well screened and accommodated in the landscape. Part of this vegetation was provided as mitigation for High Speed 1. The removal of this vegetation, particularly in the central reservation, will make the widened road and wider transport corridor significantly more visually intrusive in the AONB, and reduce the current wooded context within which it sits, negatively impacting landscape character.</p> <p>Natural England recognises that National Highways is seeking to mitigate the impacts to the AONB, and constructive discussions are continuing on this matter (see also 2.1.29).</p>	<p>Measures have been taken to minimise impacts on the Kent Downs AONB where practicable. Discussions with Statutory Undertakers have resulted in a reduction in woodland loss, including HS1 mitigation, and ancient woodland loss since impacts were first presented to Natural England in 2019. The minimum areas of retained vegetation are detailed in the Environmental Masterplan (Application Document 6.2, Figure 2.4).</p> <p>National Highways agrees that the Project will result in the loss of vegetation within the central reservation, which is assessed in the views from the road assessment (ES Appendix 7.13, Application Document 6.3).</p> <p>Several securing mechanisms have been included to further reduce the impact on the</p>	<p>Environmental Masterplan (Application Document 6.2, Figure 2.4). Views from the road assessment (ES Appendix 7.13, Application Document 6.3). Code of Construction Practice (ES Appendix 2.2, Application Document 6.3) Design Principles (Application Document 6.5)</p>	Matter Under Discussion

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			<p>AONB, including:</p> <ul style="list-style-type: none"> - Design Principle LSP.01 'Retention of existing vegetation' (Application Document 6.5) <p>and Register of Environmental Actions and Commitments (REAC) (ES Appendix 2.2, Application Document 6.3) commitments:</p> <ul style="list-style-type: none"> - LV001 'Trees and vegetation retention', - LV013 'Designated/protected trees and hedgerows, utilities' - LV028 'Protection of retained woodland, trees and hedges', - LV029 'Landscape planting' - LV030 'Veteran and ancient tree fencing' 		
Impacts	2.1.28	Natural England is concerned that the widened transport corridor of the A2 and the High Speed 1 rail line and associated street furniture will be clearly visible to recreational users within the AONB and its setting.	National Highways' assessment shows that proposed planting would, once established, help to screen views of the widened transport corridor for recreational users, for example as shown in the photomontage view at Brewers Road Green Bridge (Application Document 6.2, Figure 7.19).	Photomontages (Figure 7.19, Application Document 6.2)	Matter Under Discussion
Mitigation	2.1.29	Notwithstanding Natural England's significant concerns with regard to the scale of the direct and indirect impacts on	Measures have been taken to minimise damage to the Kent Downs AONB where practicable. Discussions with	ES Chapter 7: Landscape and Visual	Matter Under Discussion

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		<p>the Kent Downs AONB (SoCG items 2.1.7 and 2.1.9), it recognises that National Highways has proposed measures to help reduce the impacts, which Natural England is continuing to discuss and advise on.</p> <p>Whilst these measures will help mitigate the impacts, Natural England considers a significant adverse residual landscape and visual impact in relation to the AONB will remain at year 15. Natural England recommends that the ES is updated to detail how the residual impacts are to be reduced.</p> <p>Natural England will continue to engage in constructive discussions on this matter up to and including detailed design.</p>	<p>Statutory Undertakers have resulted in a reduction in woodland loss, including a reduction in ancient woodland loss since impacts were first presented to Natural England in 2019.</p> <p>The potential for mitigation alongside the A2/M2 is limited due to restricted space for planting and the constraints of the utility corridors. National Highways has included substantial areas of land for woodland planting within vicinity of the A2/M2 corridor and wider AONB.</p> <p>Residual significant effects are reported within ES Chapter 7: Landscape and Visual (Application Document 6.1).</p>	<p>(Application Document 6.1).</p>	
Mitigation	2.1.30	<p>Natural England requested further detail on the design of the proposed acoustic barrier due to potential additional urbanising impact on the Kent Downs AONB.</p> <p>Natural England welcomes the removal of the Park Pale acoustic barrier from the design,</p>	<p>Following engagement with Natural England and the AONB Unit, the Park Pale barrier has been removed from the design.</p>	N/A	Matter Agreed*

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		subject to other noise attenuation measures being included at the detailed design stage (see item 2.1.32).			
Tranquillity					
Methodology	2.1.31	The tranquillity baseline noise monitoring locations have been agreed with Natural England.	Baseline locations agreed.	ES Chapter 7: Landscape and Visual (Application Document 6.1).	Matter Agreed
Impacts	2.1.32	<p>Natural England expressed concern that there would be a reduction in tranquillity and people’s enjoyment of the AONB during construction and after completion of the Project, from both noise and increased lighting.</p> <p>Natural England was also concerned that there would be very limited, if any, noise attenuation for users of the green bridges.</p> <p>Natural England welcomes the commitment to install low noise road surfacing, subject to assurances that this or other suitable measures in the future will be provided in perpetuity. This would be to ensure that there is not an increase in</p>	<p>National Highways' assessment shows that there would be localised impacts on tranquillity during construction and following completion of the Project. As detailed in REAC commitment NV013 'Road Surfacing', low-noise road surfaces would be installed on all new and affected roads, including all new sections of the A2/M2 and the A2/LTC junction as part of the upgrade works to reduce road traffic noise by up to -3.5 decibels (dB). Low noise road surfacing is also proposed for the local roads crossing the A2, this will reduce road traffic noise by up to -2.5 decibels (dB).</p> <p>National Highways has considered Natural England’s</p>	ES Chapter 7: Landscape and Visual (Application Document 6.1).	Matter Under Discussion

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		traffic-generated noise in the AONB against current levels.	request for low noise road surfacing to remain in perpetuity, however REAC Commitment NV013 does not commit to this. National Highways' view is that over time, conditions on the road network could change, and therefore different surfacing treatments may be required in the future. This matter will be discussed further at a future meeting with Natural England.		
Indirect effects					
Methodology	2.1.33	The methodology for assessing the indirect effects on the Kent Downs AONB has been agreed with Natural England.	Methodology agreed.	ES Chapter 7: Landscape and Visual (Application Document 6.1).	Matter Agreed
Green bridges					
Mitigation	2.1.34	Natural England supports the creation of green bridges. Their design should focus on reducing the impact of increased severance exacerbated by the proposed Lower Thames Crossing for both wildlife and recreational users.	National Highways welcomes Natural England's support for the creation of green bridges.	ES Chapter 7: Landscape and Visual (Application Document 6.1).	Matter Agreed
Mitigation	2.1.35	Exemplary design and the provision of dedicated	Green bridges have been individually designed to provide	ES Chapter 7: Landscape and	Matter Under Discussion

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		<p>green/living bridges should be included to address the severance resulting from the new and existing strategic road network for people (WCH routes), landscape, habitats and wildlife. Natural England was originally concerned that the design and linking habitat provided limited habitat connectivity across the widened transport infrastructure, including the High Speed 1 rail line, the impact of which was increased by the removal of much of the previously implemented mitigation planting.</p> <p>Natural England's view is that an objective for each green bridge should be set out in the Environment Statement. It has advised National Highways that the Brewers Road green bridge should focus on both ecological and WCH connectivity, and the Thong Lane green bridge south on the WCH experience.</p> <p>Natural England is broadly supportive of the design of the Brewers Road green bridge, but it recommends the WCH path is separated from the carriageway</p>	<p>the greatest benefit at each particular crossing location. Several meetings have been held to discuss green bridge designs, most recently at the joint meeting with Kent Downs AONB Unit and Natural England on 16.05.2022.</p> <p>A site visit was held to discuss green bridges on 28.07.2022. National Highways is currently considering Natural England's requests with regard to Brewers Lane green bridge and Thong Lane green bridge south with environment, landscape and highways specialists, with the aim of reaching agreement through ongoing discussions.</p>	<p>Visual (Application Document 6.1).</p>	

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		<p>by a substantial strip of species-rich grassland with a low wooden barrier. Natural England also recommends the strip of vegetation along Halfpence Lane (unmanaged hedgerow to the south/south-eastern side) is extended to provide connection to Ashenbank Wood. An objective should also be introduced for the trees to eventually 'close the canopy' over Halfpence Lane, enabling greater habitat connectivity for species such as dormice.</p> <p>Regarding Thong Lane green bridge south, Natural England agrees that the WCH route should be on the eastern side of the bridge. However, Natural England considers it should pass through a substantial band of natural habitat. Natural England has recommended a narrow band of woody/scrub habitat is provided on the western side to signal the entry to the AONB. On the eastern side, it has recommended that a wider, more substantial area of species-rich grassland</p>			

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		<p>transitioning to scrub/woodland is provided, through which the WCH route will pass. An objective should also be introduced for the trees to eventually ‘close the canopy’ over the realigned Thong Lane. These matters were discussed at a constructive site visit with National Highways on 28.07.2022.</p> <p>Natural England agrees that if these changes are implemented, the green bridge designs will help reduce the impacts of severance for both wildlife and recreational users. However, for a scheme of this size Natural England considers the approach could be more exemplary, to help further reduce the large residual visual impacts to the AONB.</p>			
Mitigation	2.1.36	Natural England is concerned that local roads will be a dominant feature on the green bridges.	Efforts have been taken to reduce the dominance of local roads on green bridges, for example, Thong Lane South green bridge has been increased by 10m to give the green corridor much greater width than the highway.	Design Principles (Application Document 6.5)	Matter Under Discussion

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			<p>The adjacent "lane" character will be retained as far as possible for users of the bridge. For example, contractors will be required to use hedgerow planting and encouraged to use timber vehicle restraint systems that will be more appropriate to context and reduce the "urbanisation" of the route as far as it is safe to do so. For example, Design principle STR.11 'Green bridge vehicle restraint systems (VRS)' states: <i>"To help maintain the rural lane character of the landscape over green bridges, where it is identified that VRSs are required (in addition to structural parapets), VRSs shall be a timber National Highways certified system for the level of use identified."</i></p>		
Mitigation	2.1.37	<p>Natural England has provided its literature review for green bridges, which provides detailed recommendations on the minimum parameters needed for these structures to be effective. The review also highlights ways in which multiple outcomes, including landscape, recreation,</p>	<p>Natural England's literature review has been noted and considered alongside the various constraints of the sites.</p>	N/A	Matter Under Discussion

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		<p>biodiversity and wider natural capital benefits can be achieved.</p> <p>Natural England is continuing to have constructive discussions with National Highways on the design of the green bridges.</p>			
Design of retaining wall materials	2.1.38	<p>Natural finishes appropriate to the AONB should be used in the construction or facing of retaining structures and bridge headwalls. Natural England has suggested that the discussions the Kent Downs AONB Unit and Natural England have had with National Highways on the M2 Junction 5 flyover may be helpful in supporting this.</p>	<p>National Highways has considered feedback from Natural England and the Kent Downs AONB in relation to the M2 Junction 5 flyover. Design principles (Application Document 6.5) have been included to commit to the use of natural finishes appropriate to the AONB including: STR.03 (Project Enhanced Structures: Thong Lane green bridge north (Work No 3B)) STR.06 (Project Enhanced Structures: consistent design approach) STR.07 (Bridge structures)</p>	Design Principles (Application Document 6.5)	Matter Agreed*
Finish to structures and street furniture within the AONB	2.1.39	<p>Natural England has advised there should be greater consideration of the materials used, with particular regard to the Kent Downs AONB guidance on the selection and use of colour in developments. This should include all street</p>	<p>Design Principle STR.06 Project Enhanced Structures: consistent design approach (Application Document 6.5) has been updated to include Materials shall be self-finished, (as far as technically practicable whilst complying</p>	Design Principles (Application Document 6.5)	Matter Under Discussion

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		<p>furniture (such as the lighting columns, gantries and other infrastructure), to ensure that all structures in the AONB will be finished appropriately. Natural England welcomes the ongoing constructive discussions on this matter, and is confident that agreement can be reached by detailed design.</p>	<p>with DMRB standards), minimising maintenance while being consistent and appropriate to the colour palette required in the Kent Downs AONB'. Design principle S1.09 also commits to 'Retaining structures and bridge abutments within the Kent Downs AONB and its setting, shall be either green walls, earth banks, or clad with hard materials in accordance with the Kent Downs AONB Landscape Design Handbook, to be reflective of the local vernacular'. National Highways welcomes the constructive engagement on this matter to date and is confident agreement will be reached by detailed design.</p>		
Environmental Masterplan					
Mitigation	2.1.40	<p>Natural England would like early sight of the Environmental Masterplan, and will continue constructive discussions once the submitted document is made available.</p>	<p>The Environmental Masterplan (Figure 2.4, Application Document 6.2) was issued to Natural England on 05.06.2020 and 01.12.2020. The updated Geographic Information Systems (GIS) layer containing the environmental design was</p>	<p>Environmental Masterplan (Figure 2.4, Application Document 6.2)</p>	<p>Matter Agreed*</p>

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			issued to Natural England on 28.04.2022.		
Mitigation	2.1.41	<p>Natural England does not support the use of non-native species in planting mixes provided for conservation purposes, including for the proposed compensatory planting for impacts on SSSIs and ancient woodland, where the species mix should reflect the native species composition of the affected sites.</p> <p>Natural England also encourages the use of natural regeneration as a preferred method for habitat creation, and welcomes National Highways' support for the use of this approach to help establish these new woodland areas. Natural England is continuing to have constructive, ongoing discussions with National Highways (and Forestry England in relation to Hole Farm), and is confident that these matters will be resolved by the detailed design stage.</p>	<p>Taking advice from Forestry England, National Highways has included some non-native broadleaved species in its species mixes to provide resilience to climate change.</p> <p>National Highways has committed to use only native species within the AONB, and on green bridges.</p> <p>Discussions on the planting mixes at Hole Farm are ongoing.</p> <p>Discussions on the precise details regarding the establishment and management of ecological mitigation and compensation are ongoing and National Highways is confident that agreement with Natural England will be reached as part of the detailed design process.</p>	Environmental Masterplan (Figure 2.4, Application Document 6.2)	Matter Under Discussion
Mitigation	2.1.42	Natural England has had constructive discussions concerning Kent County	The Shorne Woods Country Park car park has been requested by Kent County	Design Principles (Application Document 6.5)	Matter Under Discussion

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		<p>Council's proposals for a car park on the western side of Shorne Woods Country Park. Natural England has stated its support for a 'low key' car park (subject to an assessment of the potential impacts on the SSSI), where it can be demonstrated that this would help facilitate wider access to the WCH network in the area. Natural England is concerned about the potential for increased recreation pressure on the SSSI, given the proposed car park's location immediately adjacent to the designated site, in an area where parking is currently not provided.</p> <p>Natural England would therefore not support a proposal for a more substantial car park (with proposed infrastructure including greater parking provision, and additional parking for facilities such as horseboxes), as this may result in increased pressure on the SSSI.</p> <p>Natural England would expect the potential recreation impacts to the SSSI from a car park</p>	<p>Council and Shorne Woods Country Park. Currently parking in this area is inadequate, and people therefore park on pavements, access only roads, cycle paths and verges, which is a safety issue. A car park in this location forms an important part of the Lower Thames Crossing WCH strategy and would provide connectivity to the wider WCH network, including access via the green bridge to the south of the A2/M2.</p> <p>National Highways considers that the car park would not result in additional pressure on the SSSI as its intention is to manage existing pressures, and any additional visitors would be spread across the new WCH network and recreational opportunities.</p> <p>Discussion on this matter is ongoing.</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) ES Chapter 13: Population and Human Health (Application Document 6.1)</p>	

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		proposal to be assessed as part of the ES.			
Terrestrial Biodiversity					
Scope of assessment					
Methodology	2.1.43	Natural England welcomes the consideration in the ES of the impacts to designated sites that may result from this Project, both within the application boundary and the wider area of influence.	The study area for terrestrial and marine biodiversity encompasses the Project's Zones of Influence. Statutory designated sites have been assessed up to 2km from the Order Limits, with an expanded study area for European Sites designated for bats within a 30km radius.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) ES Chapter 9: Marine Biodiversity (Application Document 6.1)	Matter Agreed*
General Methodology					
Impacts	2.1.44	For all adverse impacts, a comprehensive habitat balance sheet containing data before, during and post construction/operation should be included within the ES, including the timeframe for habitat maturity. Natural England has also advised that the submission should clearly set out which land has been identified to compensate for specific, high value receptors (e.g., acid grassland).	Tables 8.30 & 8.33 in ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) detail habitat losses and gains in Kent and Essex. Appendix 8.21 biodiversity metric calculation explains the process behind the loss/gain calculation. National Highways also presented areas of impact, mitigation and compensation across the scheme to Natural England at a meeting on 18.05.2022.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed*

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Invertebrates					
Methodology	2.1.45	The ecological survey methodology has been agreed with Natural England.	Methodology agreed	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed
Methodology	2.1.46	Natural England advised that Essex Field Club data should be requested and included in the baseline data for the terrestrial biodiversity ES chapter.	Data has been received from Essex Field Club and has been included in the baseline of ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed
Methodology	2.1.47	Natural England advised that the recently notified Langdon Ridge SSSI should be included in the impact assessment.	Langdon Ridge SSSI has been included in the assessment of impacts to statutory and non-statutory designated sites that fall within the Zone of Influence for the Project. Full details are provided in ES Appendix 8.1: Designated Sites (Application Document 6.3).	ES Appendix 8.1: Designated Sites (Application Document 6.3).	Matter Agreed
Baseline data	2.1.48	Natural England was concerned, given the changes to the Order Limits since invertebrate surveys were undertaken, that the baseline surveys may not be sufficiently robust. Natural England also asked if any granularity could be provided to the survey data.	It is not possible to provide greater granularity to the survey data because of the way the data was collected. However, assigning the highest valued invertebrate assemblage found within the survey area to the whole survey area rather than	Appendix 8.3 Terrestrial Invertebrates (Application Document 6.3)	Matter Agreed*

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		<p>Additional surveys have now been carried out at Natural England's request in areas such as the vicinity of the northern portal.</p> <p>Natural England has requested clarification regarding the baseline data which is being relied upon for the inclusion of areas more recently added to the DCO boundary (such as Nitrogen deposition compensation areas). Natural England supports the application of the precautionary principle where uncertainties exist.</p>	<p>discrete areas within it ensures a precautionary approach to the assessment.</p> <p>Following discussion with Natural England, additional invertebrate surveys have been undertaken to provide more detail where requested.</p> <p>The full survey report is included in Appendix 8.3 Terrestrial Invertebrates (Application Document 6.3).</p> <p>Baseline ecological surveys, including UKHabs and protected species surveys, have been undertaken for all Nitrogen deposition compensation sites. Areas of existing high quality habitat (including invertebrate habitat) will be retained in line with the objectives of the Nitrogen deposition compensation to build on existing biodiversity value.</p>		
Baseline data	2.1.49	Natural England had concerns about the invertebrate baseline at Goshems Farm (a former local wildlife site), which is based on the Ingrebourne Valley Limited (IVL) restoration	The invertebrate baseline at Goshems Farm has been discussed at length with Natural England. In the absence of any other consented proposal, National	Appendix 8.3 Terrestrial Invertebrates (Application Document 6.3)	Matter Under Discussion

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		<p>plan (planning permission reference 17/00412/FUL, which has undischarged planning conditions relating to ecological provision).</p> <p>However, Natural England now welcomes the precautionary approach taken by National Highways, as detailed in item 2.1.48, subject to confirmation from Thurrock Council that application 17/00412/FUL represents the reference planning framework for this area.</p>	<p>Highways' view is that the use of the IVL restoration plan (planning permission reference 17/00412/FUL) is an appropriate approach.</p>		
Mitigation	2.1.50	<p>Natural England requested additional mitigation for terrestrial and aquatic invertebrates, due to direct impacts to high quality habitats around the north portal. Natural England has also advised that indirect effects to other parts of the ditch network will need to be mitigated to retain interest in situ.</p> <p>Natural England recognises National Highways has now included additional invertebrate habitat at Tilbury Fields and west of Coalhouse Fort. Natural England agrees this is likely to</p>	<p>National Highways welcomes Natural England's support for the additional invertebrate habitat at Tilbury Fields. Tilbury Fields has been included in the design to respond to Natural England's request for additional invertebrate mitigation. This large area of open mosaic habitat links to other areas of high quality retained invertebrate habitat identified as part of the invertebrate baseline.</p> <p>An additional area of invertebrate habitat has also</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)</p> <p>ES Appendix 8.3: Terrestrial Invertebrates (Application Document 6.3)</p>	Matter Agreed*

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		provide appropriate mitigation, to be confirmed upon review of the updated ES.	been included to the west of Coalhouse Fort to mitigate for the loss of the ditch adjacent to the IVL mitigation site. National Highways has completed additional surveys, as requested by Natural England, the results of which are detailed in ES Appendix 8.3: Terrestrial Invertebrates (Application document 6.3).		
Mitigation	2.1.51	In light of the Port of Tilbury's proposed Freeport, and the subsequent changes made by National Highways to its initial Tilbury Fields proposal, Natural England recognises that National Highways' aim is that the updated design will continue to provide the overall functionality achieved by the original design.	The objective of the Tilbury Fields design is to provide improved connectivity for invertebrates. The previous Tilbury Fields design included 44 hectares (ha) of open mosaic habitat, and the updated Tilbury Fields design includes 44.5ha of open mosaic habitat. The updated design provides the same overall functionality of habitat connectivity for invertebrates through connecting the IVL ecological mitigation area to other existing habitats.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed*
Mitigation	2.1.52	In relation to the Tilbury Fields design, whilst the invertebrate interest is of particular	Due to the nature of the interaction with the Freeport and the re-design of Tilbury	ES Chapter 8: Terrestrial Biodiversity	Matter Agreed

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		<p>importance, the Project should also consider opportunities to restore and enhance riverside habitats which are scarce in the area.</p> <p>Natural England accepts that, due to the emergence of the Freeport development, and subsequent re-design of Tilbury Fields, it is no longer possible to provide low-lying wetland riverside habitats in this riverside location. Natural England appreciates both the step-change away from former low lying contours, which has already been made through the permitted restoration scheme at Goshem’s Farm, and also the balance of opportunity for the retention, in-situ, of excavated materials (and their beneficial re-use).</p>	<p>Fields, it is not possible to restore riverside habitats in this location.</p> <p>However, riverside habitats for example ditch banks and scrapes, will be created as part of the HRA wetland creation mitigation located at Coalhouse Point.</p>	<p>(Application Document 6.1)</p> <p>Habitats Regulations Assessment (Application Document 6.5)</p>	
Mitigation	2.1.53	<p>Natural England has been advised that the design now includes a maximum height of 24.0m AOD. Natural England agrees that the aspirations for biodiversity potential at Tilbury Fields could be achieved with this proposal. The placement, accessibility, topography (to</p>	<p>The design now includes a maximum height of 24.0m AOD. National Highways welcomes Natural England’s agreement that the aspirations for biodiversity potential at Tilbury Fields could be achieved with this proposal.</p>	<p>Environmental Masterplan (Figure 2.4, Application Document 6.2)</p>	Matter Agreed*

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		help mitigate the effects of wind exposure on invertebrate habitat) and aspect of critical substrates, including PFA will however, be important.			
Mitigation	2.1.54	<p>Pulverised fuel ash (PFA) is an ecologically important and locally characteristic substrate for invertebrate open mosaic habitats.</p> <p>Although Natural England welcomes the general approach to Design Principle LSP.22 ‘Approach to Open Mosaic Habitat’ (Application Document 6.5), which commits to the use of PFA, it would expect a commitment to using a higher total volume and proportion of PFA as the substrate in the creation of open mosaic habitat. This is in recognition that it is a finite resource with unique chemical and physical properties, which significantly elevate its ecological importance above other inert substances.</p> <p>Natural England welcomes the ongoing constructive discussions on this matter, and is confident that agreement can be reached by detailed design.</p>	<p>Design Principle LSP.22 ‘Approach to Open Mosaic Habitat’ (Application Document 6.5) commits to using PFA and sands and gravels generated by the construction works to provide approximately 10% of overall area of the open mosaic habitat substrate to mimic the substrate in areas where the habitat is currently found within the Order Limits.</p> <p>National Highways is prepared to discuss in more detail with Natural England how PFA could be deployed as a key substrate to a greater degree in areas where the substrate is currently found within the Order Limits.</p>	Design Principles (Application Document 6.5)	Matter Under Discussion

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Mitigation	2.1.55	<p>Natural England requested further information on invertebrate impacts in the context of its SSSI scoping study, including an understanding of the baseline for the new Tilbury Fields site. This was to enable Natural England to understand the uplift in terms of provision for invertebrates.</p> <p>Natural England has attended several meetings with National Highways to discuss the invertebrate assessment. Natural England is supportive of the revised Tilbury Fields proposals, subject to detailed design and appropriate use of key substrates (including PFA as detailed in item 2.1.54).</p>	<p>Several meetings have been held to discuss the invertebrate assessment within the context of Natural England's SSSI scoping study.</p> <p>In the previous design, the land now allocated for Tilbury Fields was classified as 'return to agriculture' and therefore the uplift to provide open mosaic habitat for invertebrates is sufficient and appropriate.</p>	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Agreed*
Terrestrial Biodiversity	2.1.56	<p>Following the publication, in 2019, of an update to the Joint Nature Conservation Committee's Guidelines on the selection of SSSIs for invertebrate features, Natural England is looking across the Thames Estuary to assess the case for any possible new SSSI designations. Whilst Natural England's assessment of</p>	<p>National Highways has worked collaboratively with Natural England on this matter. National Highways has provided their survey data to Natural England and has undertaken additional invertebrate surveys to support Natural England's SSSI scoping study. National Highways has developed their</p>	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)	Matter Under Discussion

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		<p>evidence is not yet finalised, it has highlighted that sites in and around the Project appear to hold important assemblages of invertebrates as well as important bird and vascular plant populations.</p> <p>Natural England welcomes the collaborative joint working with National Highways on this matter, and as part of this has shared with them Natural England’s area of interest. Natural England recognises that National Highways’ avoidance, mitigation and compensation measures have been designed to provide a package to address the impacts on the important invertebrate assemblage. Natural England will continue to work with National Highways to help advise on the results of the additional surveys that have been undertaken.</p> <p>Natural England and National Highways are also continuing to hold constructive discussions on the measures that may be needed to address impacts on important bird and vascular plant populations.</p>	<p>invertebrate mitigation strategy so that it is sufficiently robust should a site near the north portal be designated for its invertebrate interest. National Highways is committed to ongoing engagement with Natural England on the detailed design of all ecological mitigation and compensation to provide the best outcomes for wildlife including invertebrates, birds and vascular plants.</p>		

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Ramsar					
Impacts	2.1.57	<p>Natural England was concerned that the proposed tunnelling could potentially result in impacts to the ground water quality and quantity of the Ramsar site.</p> <p>Based upon its review of the modelling undertaken by National Highways, Natural England concurs with the conclusion of no LSE.</p> <p>Natural England has advised National Highways that the monitoring of groundwater levels, flow and quality within the Ramsar site should be undertaken throughout the construction phase to ensure that any unexpected impacts to the site can be managed.</p>	<p>The conclusion of ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) and the HRA (Application Document 6.5) is no likely significant effects (LSE) in relation to disturbance or habitat loss resulting from the Project.</p> <p>Further to engagement with Natural England, National Highways has agreed to undertake monitoring as detailed in REAC commitment RDWE018a 'ground protection tunnel': "...Water and flow monitoring within the tunnel would be undertaken for the periods that the ground improvement tunnel is being used for construction purpose, in consultation with the Environment Agency, to verify compliance with the tunnels design specification regarding maximum permissible rates of water ingress."</p>	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) HRA (Application Document 6.5) Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)	Matter Agreed
Impacts	2.1.58	Natural England welcomes the change to the design of the South Portal discharge, which	National Highways has changed the operational surface water discharge design	N/A	Matter Agreed

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		has ensured there is no land take in the Ramsar site.	to prevent land take in the Ramsar site.		
Impacts	2.1.59	<p>Sufficient safeguards should be in place to ensure that the discharge water quality and quantity from the South Portal compound are appropriate, and that there is a mechanism to ensure that these standards will be met.</p> <p>Natural England has provided details of the water quality indicators which need to be met for any discharge, and subject to these being met, Natural England agrees that the REAC commitment RDWE033 adequately resolves this matter. This matter is therefore now agreed.</p>	<p>It is agreed that water discharged into the Thames Estuary and Marshes Ramsar site from the South Portal construction compound will be permitted by the Environment Agency.</p> <p>The Environment Agency will determine the appropriate water quality standards and discharge rates through their permitting process. The assumption for the assessment is that clean water is discharged at greenfield runoff rates.</p> <p>This is secured by commitment RDWE033 'Discharge from construction of South Portal' in the REAC.</p>	Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)	Matter Agreed
Woodland					
Impacts	2.1.60	Natural England does not endorse the loss of and damage to ancient woodlands and SSSIs, which are afforded significant protection in planning policy (sections 5.28, 5.29, and 5.32 of the NPSNN).	National Highways recognises the level of policy protection given to SSSIs and ancient woodland. The project has been designed to minimise adverse effects on these habitats. Where adverse effects	ES Chapter 3: Assessment of Reasonable Alternatives (Application Document 6.1, Chapter 3)	Matter Not Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>Notwithstanding this advice, Natural England recognises there is a commitment to a significant package of mitigation and compensation measures that will be required should the scheme be consented.</p> <p>Given the greater impacts as a result of scheme refinements since the preferred route announcement, the ES should clearly demonstrate how the environmental impacts of the proposed Project compare with alternative options, including those previously discounted.</p>	<p>are unavoidable, National Highways' strategy to address these impacts is considered to be in line with discussions with Natural England. Alternative design options are set out in the Assessment of Reasonable Alternatives ES Chapter (Application Document 6.1, Chapter 3).</p> <p>Significant improvements have been made since the Supplementary Consultation in 2020. Ancient woodland compensation planting has been proposed as part of the mitigation strategy and supports improved habitat connectivity within the wider landscape.</p>		
Impacts	2.1.61	<p>Natural England requested information on the exact area of ancient woodland loss and received an update in a presentation by National Highways on 13.07.2022. Natural England will continue to advise on this matter as part of its review of the DCO application documents.</p>	<p>Areas of ancient woodland loss have been presented to Natural England and are detailed in ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)</p>	Matter Agreed*
Impacts	2.1.62	<p>Natural England welcomes the detailed and ongoing</p>	<p>The effect of Nitrogen deposition changes from the</p>	<p>ES Chapter 8: Terrestrial</p>	Matter Agreed*

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>assessment of the effects of Nitrogen deposition on sites designated for their wildlife importance. Natural England is pleased that the assessment, following advice it provided, has been revised to include the consideration of ammonia.</p> <p>Natural England’s advice on compensation for nationally and locally designated sites and areas of ancient woodland has been provided in the context that, should the scheme be approved, the compensation areas will be a necessary part of the package of measures needed to address the impacts from Nitrogen deposition. Natural England supports the approach being taken and will continue to advise on the detailed design of these areas, and welcomes National Highways’ ongoing commitment to engaging with stakeholders and landowners.</p> <p>Natural England is also continuing to have constructive discussions with National Highways on the assessments</p>	<p>Project on nationally and locally designated sites and ancient woodland has been fully assessed using Design Manual for Roads and Bridges LA105 (Highways England, 2019) and reported in ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) Compensation has been included and agreed with Natural England for unmitigable Nitrogen deposition effects.</p> <p>The assessment of Nitrogen deposition on European sites is set out in the Habitats Regulations Assessment (Application Document 6.5) (see SoCG items 2.1.91 and 2.1.95).</p>	<p>Biodiversity (Application Document 6.1)</p>	

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		for SACs, as detailed in SoCG items 2.1.91 and 2.1.95.			
Mitigation	2.1.63	Natural England considers that, given the time for woodland to establish, any woodland creation should be created as early in the project as possible, particularly for impacts to SSSIs and ancient woodland.	Advanced woodland planting would be undertaken as early in the programme as practicable, as set out in REAC commitments LV029 and TB001 (Code of Construction Practice, ES Appendix 2.2, Application Document 6.3). This would largely be restricted to areas that are set back from the Project route and which are not affected by any enabling or main works construction areas, haul routes, utilities diversions or permanent works (examples of this would be some of the areas of proposed woodland planting between Brewers and Great Crabbles Wood, woodland planting adjacent to Jeskyns Community Woodland and new areas of woodland associated with the M25 junction 29 ancient woodlands). REAC Commitment LV029 'Landscape Planting' (Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)) states:	Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
			<p><i>“Planting identified on the Environmental Masterplan (Figure 2.4, Application Document 6.2) would be undertaken at the earliest practicable opportunity.</i></p> <p><i>Where planting is being undertaken to landscape or provide environmental mitigation on land used temporarily for the authorised development, planting for the implementation of environmental mitigation would be undertaken at the earliest practicable planting season after completion of that part of the construction works and in accordance with the LEMP.</i></p> <p><i>Planting on land taken solely for environmental mitigation purposes would be undertaken at the earliest practicable planting season following commencement of authorised development and in accordance with the LEMP.”</i></p>		
Compensation	2.1.64	The NPSNN recognises, in paragraph 5.32, that ancient woodland is an irreplaceable habitat, and that 'Once lost it cannot be recreated.'	National Highways acknowledges that it is not possible to replace ancient woodland. The landscape strategy for new areas of	Code of Construction Practice (ES Appendix 2.2,	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>Whilst Natural England does not endorse the impacts to ancient woodland, it has held constructive discussions with National Highways regarding the mitigation and compensation measures that would be required if the scheme is granted consent.</p> <p>Natural England considers the proposed compensation measures will be of particular benefit where they help build nature recovery, and Natural England supports the landscape-scale approach that has been taken to identifying the proposed compensation areas, with its aim of enhancing the resilience of the affected sites by strengthening the ecological connectivity between them.</p>	<p>woodland planting aims to link areas of retained ancient woodland to improve connectivity and reduce fragmentation effects, which would provide wider biodiversity benefits (further details are available in ES Chapter 7: Landscape and Visual (Application Document 6.1)). REAC Commitment TB028 'Ancient Woodland Soil Translocation' states that areas identified on the Environmental Masterplan for compensatory ancient woodland planting to offset the loss of ancient woodland would be inoculated, where reasonably practicable, with soils from ancient woodland sites within Order Limits (as identified on ES Figure 8.01, Application Document 6.2) that would be disturbed by construction activity.</p>	<p>Application Document 6.3) ES Figure 8.01 (Application Document 6.2)</p>	
Compensation	2.1.65	<p>Natural England has advised that National Highways should clearly identify which land is specifically compensating for SSSI loss within the ES, to ensure its protection into the future.</p>	<p>The ES has been updated to differentiate between SSSI compensation and ancient woodland compensation. This was presented to Natural England in a meeting on 13.07.2022 and is reflected in</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).</p>	Matter Agreed*

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
			ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).		
Birds					
Impacts	2.1.66	<p>Natural England has advised that sensitive periods for overwintering and breeding birds associated with the designated sites (SPA, Ramsar and SSSI) should be avoided.</p> <p>Constructive discussions on this matter are ongoing, particularly around where avoidance of one season (e.g. SPA) may introduce a consequent disturbance pathway into another (e.g. SSSI), and it is expected that agreement can be reached once the DCO application documents have been reviewed.</p>	<p>REAC commitments HR001 'Seasonal constraints to construction of discharge from construction of South Portal' and HR002 'Seasonal constraints to works at the northern tunnel entrance compound drainage pipeline and outfall' both reference undertaking works in April, May, June and July to avoiding disturbance to passage and overwintering birds.</p> <p>The seasonal constraint is specific to the overwintering bird features of the SPA Ramsar as mitigation in the HRA. The Terrestrial Biodiversity ES Chapter assesses impacts on breeding birds and has concluded no significant effects and so no seasonal constraint mitigation is required.</p> <p>National Highways continues to discuss this matter with Natural England.</p>	<p>HRA (Application Document 6.5) ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1). Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)</p>	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
Impacts	2.1.67	<p>Natural England advised it wished to understand impacts to breeding, passage and wintering birds in the context of its SSSI scoping study, in particular, the proposal to upgrade the footpath between Coalhouse Fort and Bowaters Battery to a bridleway.</p> <p>A meeting on this topic was held on 06.07.2022.</p> <p>Natural England does not support these proposals due to the presence of breeding bird species sensitive to disturbance. Upgrade works, for example habitat clearance and surfacing, would be likely to result in disturbance, as would increased usage of the route through the operational phase.</p> <p>Constructive discussions on this matter are ongoing, and Natural England's aim is for this matter to be resolved before or as part of the examination process.</p>	<p>Thurrock Council requested the upgrade of the section of Footpath 200 to a bridleway to provide a connection between Bridleway 187 at Coalhouse Fort and Bridleway 58. This is detailed in the SoCG with Thurrock Council (Application Document 5.4.4.11). A meeting was held with Natural England on 06.07.2022 to discuss this proposal in the context of Natural England's SSSI scoping study.</p> <p>Potential impacts from habitat loss and disturbance to birds have been identified within the Terrestrial Biodiversity ES chapter 8 (Application Document 6.1). Following this concern raised by Natural England, it is considered that the mitigation design for habitat creation immediately north of Bowater sluice can be refined to provide additional contiguous scrub habitat which would offset the small amount of loss and potential disturbance as a result of the footpath upgrade.</p> <p>Constructive discussions on this matter are ongoing, and</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).</p> <p>SoCG between National Highways and Thurrock Council (Application Document 5.4.4.11).</p>	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
			both parties expect this matter to be resolved before or as part of the examination process.		
Mitigation	2.1.68	Timing restrictions should be in place to ensure activities resulting in significant disturbance are undertaken outside sensitive periods of the year. This requirement should be included as part of the overall mitigation measures. Where, despite best efforts, this is not possible, additional mitigation measures may be required.	The appropriate timing of works to minimise adverse effects on ecology is a mitigation measure included in Section 8.6 of ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1). REAC commitment TB004 'Breeding birds' (Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)) commits to timing vegetation clearance and structure removal outside the bird nesting season wherever possible. The protected species licences also provide detail on the timing of works to avoid key sensitive periods within species life cycles. REAC Commitment TB014 'Natural England licences' commits to 'All required Natural England licences and associated working practices and method statements [being] in place prior to any related construction works starting in areas where licensable species occur.'	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1). Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)	Matter Agreed*

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
Protected Species Licensing					
Protected Species Licensing	2.1.69	Natural England agrees with National Highways' approach of drafting one Protected Species Licence per receptor, which covers the whole Project.	Noted.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Agreed
Badgers	2.1.70	Natural England has agreed the Letter of No Impediment (LoNI) for badgers, subject to updates to Order Limits.	A LONI has been received for badgers for the Project, however the application is currently being updated to reflect changes to the Order Limits.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion
Bats	2.1.71	Natural England and National Highways have discussed the impact assessment and mitigation strategy for bats to support the draft application for a protected species licence. Natural England is supportive of the approach proposed by National Highways, although a LONI would not be issued until the final draft application has been received and reviewed by Natural England.	National Highways is awaiting final survey results for bats and is updating the application to reflect changes to the Order Limits.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion
Dormice	2.1.72	Consent has been provided by Natural England for works to enhance habitats for dormice in Shorne Woods Country Park (as part of Shorne and Ashenbank Woods SSSI).	National Highways notes that consent for works to enhance habitats for dormice in Shorne Woods Country Park has been provided by Natural England to the landowner.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
Dormice	2.1.73	Natural England and National Highways have discussed the impact assessment and mitigation strategy for dormice to support the draft application for a protected species licence. Natural England is supportive of the approach proposed by National Highways, although a LONI would not be issued until the final draft application has been received and reviewed by Natural England.	National Highways is updating the application for dormice to reflect changes to the Order Limits.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion
Great Crested News	2.1.74	Natural England and National Highways have discussed the impact assessment and mitigation strategy for great crested newts to support the draft application for a protected species licence. Natural England is supportive of the approach proposed by National Highways, although a LONI would not be issued until the final draft application has been received and reviewed by Natural England.	National Highways is updating the application for great crested newts to reflect changes to the Order Limits. Changes are likely to affect two meta-populations, but not significantly.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion
Water Voles	2.1.75	Natural England and National Highways have discussed the impact assessment and mitigation strategy for water voles to support the draft application for a protected	Discussions between National Highways and the Essex Wildlife Trust are ongoing regarding the off-site receptor area strategy including mink control.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		species licence. Natural England is supportive of the approach proposed by National Highways, subject to effective mink control, although a LONI would not be issued until the final draft application has been received and reviewed by Natural England.	National Highways is updating the application to reflect changes to the Order Limits.		
Water vole mitigation	2.1.76	Natural England's view was that the proposed water vole mitigation at Coalhouse Point was not appropriate due to the poor condition of the sea wall. Natural England welcomes the relocation of this water vole mitigation to an alternative site in the Mardyke catchment.	Following engagement with Natural England and the Environment Agency, the water vole mitigation has been moved from Coalhouse Point to an alternative site in the Mardyke Catchment.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1).	Matter Agreed
Marine Biodiversity					
Impacts	2.1.77	The originally proposed works for the East Tilbury Jetty would have impacted on land functionally linked to the Thames Estuary and Marshes SPA/Ramsar. There were also potential impacts on the SPA/Ramsar from impact pathways such as noise, lighting and pollution.	The East Tilbury Jetty has been removed from the Order Limits.	N/A	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		Natural England welcomes the removal of the East Tilbury Jetty from the Order Limits.			
Impacts	2.1.78	Natural England had advised that any existing obligations regarding monitoring of the East Tilbury Jetty specified in the existing planning application and marine license should be adhered to. Natural England agrees that this comment is superseded and welcomes the removal of the East Tilbury Jetty from the Order Limits.	The East Tilbury Jetty has been removed from the Order Limits.	N/A	Matter Agreed
Geology & Soils					
Agricultural Land Classification					
Methodology	2.1.79	The Agricultural Land Classification Assessment Methodology has been agreed with Natural England	Methodology agreed	ES Chapter 10: Geology and Soils (Application Document 6.1)	Matter Agreed
Population and Human Health					
WCH	2.1.80	Natural England has advised that any diversions of WCH routes should not degrade the experience of users and the connectivity of the Public Right of Way network. Natural England is continuing to have constructive and helpful	The Design Principles (Application Document 7.5) state that all severed WCH routes would be re-linked across the Project unless better quality routes can be provided in the vicinity, the route can be rationalised to better link	Design Principles (Application Document 7.5)	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		discussions with National Highways regarding the WCH network and its integration with the green bridges at Thong Lane South and Brewers Road.	communities with the places they want to go, or re-aligned routes provide better connectivity into the existing WCH network. Consideration has been given to the experience of users and maintaining connectivity with the creation of pleasant routes between Shorne Woods Country Park, Ashenbank Wood and Jeskyns Community Woodland linked with existing routes from Gravesend (Application Document 7.5, Design Principle PEO.09 'WCHs south of the Thames'). Public Rights of Way NS167 and NS169 would be integrated into a new circular WCH route connecting around the A2/Lower Thames Crossing junction. Between Claylane Wood and Shorne Woods Country Park, this would be via the new green bridge at Thong Lane.		
WCH	2.1.81	Natural England supports the upgrading of WCH routes and the proposal to reinstate any Public Rights of Way affected by the proposal, with the exception of item 2.1.67 relating to the	National Highways welcomes Natural England's support and acknowledges ongoing discussions regarding item 2.1.67.	ES Chapter 13: Population and Human Health (Application Document 6.1)	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		upgrade of the footpath between Coalhouse Fort and Bowaters Battery to a bridleway.			
Road drainage and water environment					
Ground Investigation					
Methodology	2.1.82	The ground investigation methodology has been agreed with Natural England.	Methodology agreed	ES Chapter 14: Road Drainage and the Water Environment (Application Document 6.1)	Matter Agreed
Hydrogeology					
Methodology	2.1.83	The hydrogeology methodology has been agreed with Natural England.	Methodology agreed	ES Chapter 14: Road Drainage and the Water Environment (Application Document 6.1)	Matter Agreed
Drainage					
Impact	2.1.84	Natural England was concerned that no confirmation appeared to have been provided that the existing sewer facilities have capacity to accommodate discharges from welfare facilities at the North Portal. However, Natural England agrees that this comment is superseded and that REAC	REAC commitment RDWE005, 'Construction water management' states that 'Wastewater generated from the compound welfare facilities would be discharged to sewer, subject to the agreements with the utility providers, or in locations where a sewer connection is not reasonably practicable, collected and taken	ES Chapter 14: Road Drainage and the Water Environment (Application Document 6.1) Code of Construction Practice (ES Appendix 2.2,	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		commitment RDWE005 is appropriate.	off site by tanker for disposal at a licensed treatment facility' (ES Appendix 2.2, Application Document 6.3).	Application Document 6.3)	
Mitigation	2.1.85	Naturalistic edges to planting, using native, site-appropriate species should be created, for example around attenuation ponds and wetland areas, to avoid an overly engineered appearance.	Design principle LSP.17 'Integration of infiltration basins and retention ponds' commits that 'Infiltration basins and retention ponds shall not appear utilitarian or urban and shall be designed to appear as naturalistic elements within the wider setting that take account of existing topography, gradients and field boundaries. Planting shall be provided to soften edges where this is appropriate to the context.'	Design Principles (Application Document 7.5)	Matter Agreed*
Cumulative Effects					
Methodology	2.1.86	Impacts from transport and utilities works should be considered cumulatively.	Agreed. Transport and utilities works have been considered cumulatively.	ES Chapter 16: Cumulative Effects Assessment (Application Document 6.1)	Matter Agreed
Methodology	2.1.87	Natural England advised that the assessment of cumulative effects should include a review of the London Resort Nationally Significant Infrastructure Project on the Swanscombe Peninsula,	ES Chapter 16: Cumulative Effects Assessment (Application Document 6.1) has considered the cumulative landscape and visual impacts of the London Resort.	ES Chapter 16: Cumulative Effects Assessment (Application Document 6.1)	Matter Agreed

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>given the potential for inter-project effects.</p> <p>Natural England notes the application was withdrawn by the applicant in March 2022, with the applicant stating their intention to submit a new application.</p>			
HRA (Habitats Regulation Assessment)					
HRA Screening	2.1.88	Natural England is in agreement with the HRA screening conclusions, apart from items 2.1.89 on underwater noise and 2.1.91 relating to North Downs Woodland Special Area of Conservation (SAC). Natural England is continuing to hold constructive discussions with National Highways on these matters.	National Highways welcomes Natural England’s agreement with HRA screening conclusions and continues to engage on SoCG items 2.1.89 and 2.1.91.	Habitats Regulations Assessment (Application Document 6.5)	Matter Agreed*
HRA Screening	2.1.89	Natural England advises that the effects of underwater noise on SPA birds that feed underwater should not be screened out at the LSE stage, as it considers the detail of this matter is more appropriately addressed at the appropriate assessment stage. Natural England does, however, advise that an adverse effect on integrity seems unlikely, based on its review of the information	<p>Underwater noise has been modelled and is assessed within ES Chapter 9: Marine Biodiversity (Application Document 6.1). The assessment shows the level of additional noise to be imperceptible and therefore there is no LSE.</p> <p>National Highways has discussed this matter with</p>	Habitats Regulations Assessment (Application Document 6.5) ES Chapter 9: Marine Biodiversity (Application Document 6.1)	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		in the HRA Report Screening Report and Environmental Statement. Natural England will continue to advise on this matter as part of its ongoing advice on the HRA.	Natural England and continues constructive engagement.		
HRA Screening	2.1.90	<p>Natural England is seeking confirmation that the LTC traffic model builds in the same data for in-combination development as Local Authorities use for their Local Plan allocation planning.</p> <p>Subject to written confirmation that this additional traffic is accounted for through growth factors, Natural England would agree this conclusion.</p>	<p>The LTC traffic model builds in the same data for in-combination assessment that Local Authorities use. However, only committed developments are geographically assigned in the Project's traffic modelling. Other developments (for example those proposed in a Local Plan which haven't been consented) are accounted for by the growth factors supplied by government.</p> <p>National Highways provided Natural England with a technical note confirming that additional traffic is accounted for within the assessment methodology. Both parties continue to engage constructively on this matter.</p>	Habitats Regulations Assessment (Application Document 6.5)	Matter Under Discussion
HRA Screening	2.1.91	Natural England is seeking clarification from specialists on the use of inconsequential nitrogen oxide (NOx) in the methodology for modelling	The conclusion of the assessment of North Downs Woodlands SAC in the HRA is that there would be no LSE on the basis that the additional	Habitats Regulations Assessment (Application Document 6.5)	Matter Under Discussion

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		Nitrogen deposition. Natural England is, however, confident that agreement on this matter can be achieved within Examination timeframes.	NOx value is inconsequential and so no NDep modelling is generated. The SAC therefore does not exceed any thresholds and North Downs Woodlands SAC therefore has been appropriately screened out at Stage 1 HRA.		
HRA AA	2.1.92	Natural England agrees with the Appropriate Assessment conclusions, with the exception of those relating to air quality (see SoCG items 2.1.94 and 2.1.95), and the feasibility of the wetland at Coalhouse Point (see SoCG item 2.1.93). Natural England is continuing to hold constructive discussions with National Highways on these matters.	National Highways welcomes Natural England's agreement with the Appropriate Assessment conclusions and continues constructive discussions on SoCG items 2.1.93 and 2.1.95.	Habitats Regulations Assessment (Application Document 6.5)	Matter Agreed*
HRA AA	2.1.93	Natural England agrees that the functionally linked land mitigation at Coalhouse Point is feasible and would provide appropriate mitigation. Natural England is seeking clarity from specialists about the wording of the proposed REAC commitments HR010 and HR011 in relation to the necessary supply of water from the Thames for wetland	The wetland habitat at Coalhouse Point has been secured in REAC commitments HR010 'Habitat enhancement in functionally linked land' and HR011 'constraints to works to form the water inlet with self-regulating valve' which secure the water supply before the commencement of construction.	Habitats Regulations Assessment (Application Document 6.5) Code of Construction Practice (ES Appendix 2.2, Application Document 6.3)	Matter Under Discussion

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		<p>creation, and expects to provide further advice to National Highways by mid-November 2022.</p> <p>Natural England is confident that agreement on this matter can be achieved within Examination timeframes.</p>	<p>National Highways has issued a technical note to Natural England to outline the proposals for this water supply and continue constructive engagement on this matter.</p>		
HRA AA	2.1.94	<p>Natural England does not agree with the conclusion of no adverse effects on Epping Forest SAC, and has advised that mitigation is required.</p> <p>Natural England has advised the conservation objective is to 'restore' the site to below its relevant critical levels or loads, and that the proposed development would increase Nitrogen deposition further above the relevant critical load. Natural England therefore considers the proposed development, without mitigation, would have an adverse effect on the integrity of the site.</p> <p>Following constructive discussions with Natural England, National Highways has identified mitigation that, if</p>	<p>National Highways has concluded that there would be no adverse effects on the integrity of the Epping Forest SAC on account of the short duration of effect on Epping Forest (4 years), the small proportion of the site affected (0.02% of the whole SAC and 0.17% of the feature habitat within the SAC), and the absence of any Nitrogen sensitive species identified during surveys.</p> <p>In order to demonstrate that due regard has been had to the advice of Natural England, National Highways has considered, on a 'without prejudice' basis, mitigation in the form of a temporary speed limit reduction from 70mph to 60mph between junction 27</p>	Habitats Regulations Assessment (Application Document 6.5)	Matter Not Agreed (but Natural England would agree with the HRA conclusions for this site if the identified mitigation was implemented in an enforceable manner)

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>provided, would avoid an adverse effect on integrity.</p> <p>Natural England's view is that the mitigation identified by National Highways would be adequate to mitigate the effects. If this mitigation was implemented in an enforceable manner, Natural England would agree to the conclusion of no adverse effect on site integrity for Epping Forest SAC.</p> <p>Natural England would like to reach agreement on this matter.</p>	<p>and 26 of the M25 in the westbound direction only. National Highways' assessment has considered that the mitigation would be technically feasible, would have negligible traffic impacts and would reduce the extent of Nitrogen deposition to a level which would enable Natural England to agree with a conclusion of no adverse effect on site integrity.</p> <p>Whilst mitigation in the form of a temporary speed limit reduction has been assessed to be effective, National Highways does not propose to incorporate the measure as it would be unnecessary and accordingly has not relied upon it in concluding that the Project would not adversely affect the integrity of the Epping Forest SAC.</p> <p>The results of National Highways' assessment have been included within Annex A 'Without prejudice consideration of mitigation for air quality effects on Epping Forest SAC' so that this</p>		

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
			information is before the Examining Authority and Secretary of State in examining the application and in deciding whether or not to grant development consent.		
HRA Screening	2.1.95	Natural England welcomes the inclusion of ammonia modelling in the air quality assessment of Nitrogen deposition. Natural England is continuing to have constructive discussions on the assessment of ammonia and is confident that agreement on this matter can be achieved within Examination timeframes.	Following engagement with Natural England on this matter, ammonia modelling has been included in the air quality assessment. National Highways has engaged extensively on the methodology for assessing ammonia within the HRA and continues constructive engagement with Natural England.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) Habitats Regulations Assessment (Application Document 6.5)	Matter Under Discussion
NDep					
Methodology	2.1.96	Natural England agrees with National Highways' EIA Nitrogen deposition methodology, subject to reviewing the final assessment.	National Highways welcomes Natural England's agreement on this matter.	ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1) Habitats Regulations Assessment (Application Document 6.5)	Matter Agreed*
Mitigation	2.1.97	Natural England agrees with the methodology for assessing potential mitigation measures for	National Highways welcomes Natural England's agreement to the methodology for assessing	ES Chapter 8: Terrestrial Biodiversity	Matter Agreed*

Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		<p>Nitrogen deposition impacts on national and locally designated sites and ancient woodland, which include speed enforcement and speed limits.</p>	<p>potential mitigation measures for Nitrogen deposition impacts on national and locally designated sites and ancient woodland. Note discussions in relation to the assessment of mitigation of Nitrogen deposition for the HRA detailed in SoCG item 2.1.94.</p>	<p>(Application Document 6.1)</p>	
Compensation	2.1.98	<p>Natural England supports National Highways' approach to Nitrogen deposition compensation for SSSIs, ancient woodland, Local Wildlife Sites and veteran trees, subject to reviewing the results of the final assessment.</p> <p>Natural England also agrees with the principles underpinning the Nitrogen deposition habitat creation being provided as compensation, which include building resilience and improving connectivity at a landscape scale.</p> <p>Natural England's advice (see also item 2.1.62) has been provided in the context that, should the scheme be approved, the compensation areas will be a necessary part of</p>	<p>National Highways welcomes Natural England's broad support for the habitat creation proposals.</p>	<p>ES Chapter 8: Terrestrial Biodiversity (Application Document 6.1)</p>	<p>Matter Agreed*</p>

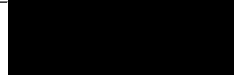
Topic	Item number	Natural England comment	National Highways comment	Document Reference	Status
		the package of measures needed to address the impacts from Nitrogen deposition on these sites.			
Compensation	2.1.99	Natural England agrees with the oLEMP design principles relating to Nitrogen deposition compensation land, subject to minor refinements, and ongoing engagement through to detailed design.	National Highways welcomes the agreement from Natural England and will continue constructive engagement through to detailed design.	oLEMP (Application Document 6.7)	Matter Agreed*
Compensation	2.1.100	Natural England agrees that the oLEMP advisory group, and its precursor, are appropriate forums to develop the design of the NDep compensation land.	National Highways has committed to use the oLEMP advisory group, and it's precursor, to develop the design of NDep compensation land.	oLEMP (Application Document 6.7)	Matter Agreed

3 Agreement on this Statement of Common Ground

STATEMENT OF COMMON GROUND

This Statement of Common Ground has been prepared and agreed by (1) National Highways Limited and (2) Natural England.

Name	Sam Ireland
Position	Environment and Industry Stakeholder Engagement Lead
Organisation	National Highways
Signature	

Name	Patrick McKernan
Position	Manager, Sussex and Kent Team
Organisation	Natural England
Signature	

Appendix A Documents considered within this Statement of Common Ground

- A.1.1 A summary of the documents which have been considered in the development on this SoCG outside of the DCO application documents are provided below, such as emails, meeting notes, etc and are included as annexes to this Appendix:
- a. Annex A.1- Natural England Statutory Consultation Response
 - b. Annex A.2- Natural England Supplementary Consultation Response
 - c. Annex A.3- Natural England Design Refinement Consultation Response
 - d. Annex A.4- Natural England Community Impact Consultation Response
 - e. Annex A.5- Natural England Local Refinement Consultation Response
 - f. Annex A.6- Legal note on the disapplication of SS.28E and 28H of the WCA 1991
 - g. Annex A.7- Without prejudice consideration of mitigation for air quality effects on Epping Forest SAC

Annex A.1 Natural England Statutory Consultation Response

Date: 19 December 2018
Our ref: 261571
Your ref: -



Tim Jones
Project Director
Highways England

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By email only, no hard copy to follow

T 0300 060 3900

Dear Tim Jones

Lower Thames Crossing Preliminary Environmental Information Report

Thank you for your letter of the 10 October 2018 consulting Natural England on the Preliminary Environmental Information Report for the Lower Thames Crossing project.

Natural England has welcomed the positive, partnership approach with ourselves and other members of the Defra Family as the project has evolved and hopes this can continue as the project moves towards the submission stage. Our detailed advice in relation to the consultation is provided in Annex One appended to this letter.

Given the nature of the consultation, the limited information provided on the results of the environmental studies and the lack of a detailed impact assessment and mitigation/compensation measures our comments are, in the main, high-level. We will of course continue working with the Project Team and Highways England to ensure that, wherever possible, the avoidance, mitigation and compensation measures for biodiversity and landscape impacts within our remit can be agreed ahead of the Development Consent Order submission.

In addition, Natural England considers that there is significant scope for additional, visionary design and construction to ensure that the project can deliver an exemplar environmental net gain approach in accordance with the Government's 25 Year Environment Plan and approach for planning. There is a great opportunity for this development to be one of Highways England's first major projects to deliver net gain as you work towards all schemes achieving this standard as part of your environmental commitment. Again, Natural England would be pleased to work with you and the wider Defra Family and environmental stakeholder network to realise this ambition in the coming months.

The comments provided in this response are intended to provide feedback on the Preliminary Environmental Information Report specifically, but also we seek to provide further information on the opportunities presented by a project of this scale to achieve a lasting legacy for the environment in this area.

I trust these comments are helpful and we would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter only please contact Sean Hanna on [REDACTED] or by email to [REDACTED]. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely



Sean Hanna
Lead Adviser
Sussex and Kent Team

Annex One: Natural England's detailed comments in relation to the Preliminary Environmental Information Report for the Lower Thames Crossing

1 General comments

1.1 Natural England welcomes the principle of the Preliminary Environmental Information Report (PEIR) to identify "the project's likely significant effects and the measures that are being considered to avoid and minimise them" (Page 1). The principles of the 'avoid, mitigate compensate' hierarchy are paramount for this project. We welcomed the work undertaken at the route selection stage with the preferred route avoiding direct impacts to statutory nature conservation sites and ancient woodland habitat. It is also appropriate to complement the mitigation hierarchy with environmental net gain as an additional policy requirement, and we advise that the DCO and its associated assessments should seek to audit each of these as distinct requirements.

1.2 Guidance from the Planning Inspectorate¹ states that:

'PEI [Preliminary Environmental Information] is defined in the EIA Regulations as: *'information referred to in Part 1 of Schedule 4 (information for inclusion in environmental statements) which:*

- (a) has been compiled by the applicant; and*
- (b) is reasonably required to assess the environmental effects of the development (and of any associated development)*

It also states that 'The focus of the PEI is to enable the local community to understand the environmental effects of the proposed development so as to inform their responses regarding the proposed development. This is reflected in the Department for Communities and Local Government (DCLG) Guidance which advises applicants to provide *'sufficient preliminary environmental information to enable consultees to develop an informed view of the project. The information required will be different for different types and sizes of projects and it may differ depending on the audience of a particular consultation... The key issue is that the information presented must provide clarity to all consultees'*

1.3 Based upon the information provided, and the guidance above Natural England does not consider that the PEIR contains sufficient information for us to provide detailed advice on the nature, scale and significance of the impacts to designated sites, protected landscapes, protected species and wider biodiversity at present. Similarly, we do not feel there is sufficient information for us to be able to provide in depth advice on the appropriateness or otherwise of the indicative mitigation and compensation measures.

1.4 We acknowledge that the route design has yet to be finalised but in the absence of more detailed information, supported by the results of the detailed studies Natural England's advice provided at this stage is necessarily limited in scope and detail. That said, Natural England remains committed to build upon the excellent partnership working approach with the project and colleagues from the Defra Family to ensure that, where possible, our continued working with the Project Team over the next few months ensures that the biodiversity and landscape impacts can be fully addressed ahead of the Development Consent Order submission. This is likely to require much greater levels of engagement over the coming months and we will of course be pleased to provide this on a cost recovery basis through the Discretionary Advice

¹ Screening, Scoping and Preliminary Environmental Information <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/07/Advice-note-7v3.pdf>

Service contract.

- 1.5 We would recommend that the results of the ecological, landscape and access/recreational studies are fully embedded into the ongoing work to finalise the scheme design to ensure that the finalised route and detailed design is the least environmentally damaging, building upon the positive work undertaken at the preferred route selection stage. Such an approach is in accordance with the 'avoid, mitigate, compensate' hierarchy within the National Planning Policy Framework.
- 1.6 Given the scale of the development, it being one of the biggest transport infrastructure projects in the country, Natural England would expect the project to be an exemplar in sustainable development demonstrating how it is helping to achieve the outcomes within the Government's 25 Year Environment Plan. Natural England would be pleased to work with the Project Team and Highways England over the coming months to realise the ambition for this to be an exemplar project for delivering environmental net gain. The PEIR makes reference to enhancements but we do not consider they realise the ambitions of the Environment Plan for a scheme of this size.
- 1.7 We welcome the intention on page 6 to 'carry out environmental mitigation such as relocating protected species' as part of the enabling phase before main construction work begins. We would highlight the need for any associated habitat creation works (whether for species or habitats) to be timetabled such as to allow sufficient maturation time in order for the habitats created to function effectively for target species, and/or to display sufficient functionality. The aim where possible should be to avoid the net loss of habitat availability at any given point in the project construction, moving to a position of long-term net gain, consistent with the direction of environmental policy. Any likely temporal shortfall in habitat availability may need to be taken into account through upscaling to offset that deficit.
- 1.8 The PEIR confirms the estimated construction timeframe of around six years. Whilst we recognise the necessity of a lengthy construction period for a major infrastructure project of this scale, it is noted that typically construction phase effects are shorter in duration, and for many species a six year period may represent several life cycles. We suggest that the associated impact assessments should consider whether the duration of the construction phase may translate into longer-term effects to some species, and whether any changes in distribution or behaviours may take longer to reverse than would typically be the case for otherwise temporary impacts. For example, it is possible that changes in overwintering bird distribution by the avoidance of foraging areas may become learned behaviours, beyond the completion of the construction phase.
- 1.9 The clear positioning of construction compound areas is welcomed and we agree that these should be scoped into impact assessments for the project as a whole. We welcome the proposed 'Code of Construction Practise' (CoCP) and its intention to include environmental best practice, which should include specific measures as required and informed by detailed surveys.
- 1.10 We note that a number of services and utilities are likely to need diversion or alteration as part of the project – it is not clear to us at this stage whether such actions are to be included within the scope of the project, or whether they will be separately assessed and consulted upon and it would be appreciated if clarity were provided.
- 1.11 Similarly, given the likely change in traffic flow through Kent with an increase in vehicle movements along the A2/M2 corridor once the Lower Thames Crossing is operational, any highway upgrade or junction improvements that will be required to facilitate the safe and effective operation of the A2/M2 between the Crossing and the channel ports should be considered within the Environmental Statement; at present no such assessment seems to be

proposed or included within the PEIR.

- 1.12 It may be appropriate to note for the avoidance of doubt, that the reference to 'priority habitat or species' at Table 9.2 (NPSNN paragraph number 4.25) should be distinguished from the Section 41 (of the Natural Environment and Rural Communities Act, 2006) habitats and species, although they are known by the same name.
- 1.13 At paragraph 9.4.1, it is proposed to 'describe the current ecological baseline and capture a moment in time against which the potential effects of the proposed development will be assessed'. It should be noted that several areas likely to be affected by the proposal benefit from permissions requiring nature conservation-led restoration and aftercare plans, which may either not have commenced, or which may partially or substantially complete during the construction period of the scheme. With this in mind, the Environmental Statement should consider the latent biodiversity potential such areas hold for enhanced biodiversity that the baseline studies might not otherwise detect. We will be pleased to expand on this point as required in our pre-application discussions. Similar comments apply to paragraphs 9.5.2 – 9.5.4 headed 'Future baseline conditions', where the ecological baseline may well change if this project were not undertaken.

2 Protected Landscapes

- 2.1 Natural England notes that the development boundary encompasses areas of the Kent Downs Area of Outstanding Natural Beauty (AONB). The proposal is that the A2, post-construction will be fourteen lanes wide (Table 8.10) with the highway estate further widened with realigned adjacent local roads, which will remove the existing tree planting within the central reserve and road embankment. Given the above, Natural England is concerned that there will be a significant negative impact on the special qualities of the AONB in this area, both through direct impacts and impacts to the setting of the AONB.
- 2.2 We also note that the application boundary now also appears to include areas of land where landscape mitigation measures for the Channel Tunnel Rail Link/High Speed 1 rail line were implemented. From the information provided, the alignment of the A2 and local roads appears to remove these previous mitigation measures which were implemented to mitigate the landscape and visual impacts of the rail line. Given the route alignment for the A2, there does not appear to be any additional land to reinstate this landscape mitigation and as such, the impacts of removing these previous mitigation measures need to be fully considered and mitigated/compensated for in addition to the further impacts that will arise from the Lower Thames Crossing project.
- 2.3 Natural England acknowledge that the landscape and visual impact assessment (LVIA) has yet to be finalised for the project and are keen to work with the Project Team, the AONB Unit and other interested parties to ensure that the viewpoints for the LVIA are appropriate and the impact assessment robust. We welcome the additional visual surveys to be undertaken in winter 2018/19 and look forward to providing input during the site visit and workshop in January once these are confirmed.
- 2.4 We note that the noise impact assessment detailed within Section 13 of the PEIR does not appear to include monitoring or an impact assessment of the noise that may result from the scheme on receptors, including people recreating within the Kent Downs AONB. However, we note that Section 8.5.3 of the PEIR mentions that noise surveys were due to be carried out in the summer of 2018 for receptors within the AONB. Natural England would expect the Environmental Statement to include a full assessment of noise in relation to the AONB along with details of the mitigation measures proposed.
- 2.5 Given the scale of the impacts to the Kent Downs AONB (with major negative impacts

predicted both during the construction and operational phases), Natural England would expect the scheme to deliver a visionary mitigation and compensation package. This may need to encompass measures both in the immediate locality of the scheme and further afield within the AONB. Natural England will of course be pleased to work with the Project Team, the Kent Downs AONB Unit and other relevant organisations to help inform the detailed mitigation strategy.

- 2.6 Given the potential change in vehicle movement patterns in Kent upon opening, with a likely increase in traffic along the A2/M2 corridor, Natural England recommends that the Environmental Statement includes a comprehensive consideration of the potential impacts to the Kent Downs along the transport corridor to the channel ports. This should include the consideration of impacts from increased vehicle movements and any highway and junction upgrade works or utility diversions that may be required along the A2/M2 and M20 corridors. Such an assessment does not appear to have been included within the PEIR.
- 2.7 On a more general note, Natural England would recommend that the Kent Downs AONB Management Plan is referenced within the 'Planning Policy' tables in the relevant sections of the PEIR and carried forward into the Environmental Statement.

3 Nationally and internationally important nature conservation sites

- 3.1 We welcome the ecological studies that have been undertaken or are ongoing. However in the absence of the detailed survey results Natural England is not able to provide advice on the likely direct and indirect impacts to designated sites, including Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance under the Ramsar Convention (Ramsar Sites) and Marine Conservation Zones (MCZs). We would refer you to our response to the EIA Scoping Report dated 1 December 2017 (our reference 230863) for further clarity on the information that should be provided within the Environmental Statement. Natural England will of course be pleased to provide detailed advice in relation to the likely impacts and mitigation measures in the near future once you are able to share the survey results and draft impact assessment with us.
- 3.2 Since our response to the EIA Scoping response, where all direct impacts to designated sites and ancient woodland (including Claylane Wood) were to be avoided, the application boundary has now been amended to encompass areas of Shorne and Ashenbank Woods SSSI either side of the A2 corridor. It is unclear, in the absence of the finalised design, whether there will be direct land take from the SSS or areas of ancient woodland. Natural England strongly recommends that the scheme is designed to avoid all direct and indirect impacts to designated sites. Where this is not possible, a robust mitigation strategy will need to be implemented.
- 3.3 Natural England notified the Langdon Ridge SSSI on 29 June 2018. This notification has been consulted upon in recent months, and we are now assessing the responses to the consultation, with a decision on whether to confirm or withdraw this notification expected by 28 March 2019. This SSSI may not have been picked up in the baseline data collection, depending upon when certain searches were undertaken. Further information can be found on our [website](#). It would appear appropriate for the impact assessment to consider whether there may be implications for this site as a result of the proposal.
- 3.4 The indicative 'potential nature of effects' and 'potential mitigation measures' detailed within Table 9.28 (construction phase) and Table 9.29 (operation phase) in general, appear appropriate at this high level in the absence of detailed survey information. One additional mitigation measure that doesn't appear to be considered is the use of timing restrictions to undertake the most disturbing activities outside of the sensitive periods of the year and we

would suggest this should be included as part of the overall mitigation measures. We will of course be pleased to provide input and guidance over the coming months once you are able to share the detailed survey results with Natural England.

- 3.5 It is not immediately clear from the PEI what the rationale for the use of a 20km zone of influence for displaced recreational users is. We may be able to assist with this impact pathway as there are strategic solutions operating in Kent to manage recreational pressure to coastal sites and similar work is at an advanced stage in Essex.
- 3.6 As mentioned in our response to the EIA Scoping Response, Natural England consider that the Environmental Statement should consider the impacts to designated sites that may result from this scheme within the area of influence, not just the application boundary. Such impacts could result from the measures to dispose of the tunnel arisings or from increased traffic flow (and resultant air quality impacts) as a result in the change in vehicle movements along the A2/M2 and M20 corridors accessing the channel ports. We therefore recommend that the impact assessment fully considers such impacts, outwith the Development Consent Order boundary.

4 Air quality

- 4.1 Within Natural England's advice to the Planning Inspectorate at the Environmental Impact Assessment scoping stage and during our recent meetings with the Project Team, Natural England requested that the air quality assessment considered the potential impacts to designated sites from the likely increases in traffic flow along the entire A2/M2 corridor and link roads to the M20 corridor. There are a number of chalk grassland SSSIs and SACs which are sensitive to air quality impacts including nitrogen deposition along these corridors which may be adversely impacted during the operation of the scheme. The PEIR does not include such an assessment, confining the assessment to the application boundary.
- 4.2 The air quality assessment will also need to consider the in-combination impacts that may occur from other plans and projects, including allocations within Local Plans within the area of influence of the scheme. As mentioned above, we consider the area of potential influence for the scheme should encompass the A2/M2 corridor along with the roads linking the A2/M2 to the M20 for vehicles travelling to the channel ports for the impact assessment.

5 Habitats Regulations Assessment

- 5.1 Natural England notes that the PEIR confirms that a Habitats Regulations Assessment will be prepared following this statutory consultation. Natural England would be pleased to advise on the detailed scope of the Appropriate Assessment in due course.
- 5.2 The Habitats Regulations Assessment should fully detail the potential direct and indirect impacts that may result from the scheme, including impacts for functionally linked land and designated sites outwith the Development Consent Order boundary where impacts may result, for example from the disposal of tunnel arisings and air quality impacts to designated sites adjacent to the wider strategic road network.
- 5.3 We note that table 9.6 (European designated sites and their extent) refers to Holehaven Creek as a proposed Special Protection Area (pSPA). For clarity, Holehaven Creek is not a pSPA but we advise that it holds a strong functional linkage to the Thames Estuary and Marshes SPA, and therefore we consider it is appropriate to include this site within the Habitats Regulations Assessment.
- 5.4 In addition, Paragraph 9.4.99 mentions the jetty location and we are pleased that this area has apparently been surveyed for its functional linkage to the Thames Estuary and Marshes SPA

and Ramsar Site. Please note that Natural England has recently provided a fuller commentary on our concerns linked to activities in this area, in our Discretionary Advice Service letter dated 4 December 2018. We refer you to that letter, and will not repeat our comments here.

6 Best and most versatile agricultural soil

- 6.1 Table 11.2 of the PEIR does not appear to reference the potential direct and indirect impacts to best and most versatile (BMV) agricultural land and soil that may result from this proposal. Natural England recommends that a full assessment of the potential impacts to BMV land and details of the avoidance and mitigation measures that are to be implemented is included within the finalised environmental statement.

7 Habitats of conservation importance

- 7.1 Natural England is concerned that the revised Development Consent Order boundary now encompasses areas of ancient woodland, some of which are also within the Shorne and Ashenbank Woods Site of Special Scientific Interest. We strongly recommend that the detailed design of the scheme ensures that impacts to all areas of ancient woodland and SSSIs are avoided and where this is not possible impacts are minimised, fully mitigated and compensated for.
- 7.2 Natural England would welcome clarity on what is meant by “new mosaic habitat” (Page 18) and whether this is intended to refer to the Section 41 priority habitat “open mosaic habitat on previous developed land” or a more generic description of habitat mosaics. We also note that the study area includes the proposed development boundary and a 500m buffer, ‘but also includes locations further away where indirect effects from the Project could occur’. It will be helpful to agree through the consultation process what the zones of influence are for various species groups. Please note that information may exist which suggests that a larger buffer may be appropriate for certain impact pathways.
- 7.3 Once the results of the detailed ecological studies are available to share with Natural England, we will be pleased to provide further advice in relation to habitats of conservation importance within our remit through our ongoing partnership approach. Given the length of the route, Natural England would expect significant mitigation measures to be implemented along the whole route to maintain habitat connectivity for species and recreational routes for people.

8 Protected species and species of principal importance

- 8.1 When the Project Team are able to share the results of the protected species surveys with Natural England and the more detailed impact assessment, we will be pleased to provide advice on the nature and scale of the mitigation and compensation measures that are likely to be required. We will of course be pleased to work with the Team to ensure that, wherever possible, Natural England are able to provide the Letters of No Impediment (LONIs) for protected species ahead of the Development Consent Order submission. Similarly, we would be pleased to provide advice on species of principal importance within our remit once the detailed information is available.
- 8.2 Natural England notes that the Desk Study sources listed within table 9.4 do not include the Essex Field Club, which should be used in addition to the Biological Records Centre data. The Field Club hold substantial records in particular for invertebrates, and should be consulted for appropriate records for the Essex area.
- 8.3 We also welcome Highways England’s current view of the value of Lytag brownfield local wildlife site as being of national importance. It should be noted that the national invertebrate interest centres on the Lytag site, but is not confined to it, and may include other areas in that

vicinity. We will be pleased to comment further on this in due course.

- 8.4 At paragraph 9.4.24 (Table 9.9), notable records of plant species from Kent are listed. Please note that at least broad-leaved cudweed, stinking goosefoot and least lettuce are also known from appropriate habitats in Essex as well, however it does not appear that these have been noted in the desk study for Essex.

9 Environmental legacy

- 9.1 As mentioned previously, Natural England is keen to work with the Project Team and other environmental bodies to ensure that this project realises the Government's 25 Year Environment Plan aspirations contributing to a significant environmental legacy. As you are aware, the Defra Family has been working towards a shared environmental legacy vision for the Lower Thames Crossing which we have previously shared and for ease have included with this response.
- 9.2 The plan provides details of projects in key areas that the Environment Agency, Forestry Commission and Natural England consider the Lower Thames Crossing can help deliver in support of the 25 Year Environment Plan and to realise the Defra Family's aspiration for this to be an exemplar in sustainable development and environmental net gain. Many of the projects complement or are directly linked into much wider, partnership landscape scale conservation and/or access enhancements and we will be pleased to work with the Project Team in the coming months to realise the environmental legacy, both on land and within the estuary.
- 9.3 One of the key aspirations of the Defra Family is to ensure that the landscape, for people and wildlife, is not severed as result of the Lower Thames Crossing and associated link roads. Linear infrastructure projects like this have the potential to sever the landscape preventing movement of wildlife and making recreational access more difficult. To help maintain habitat connectivity and linkages for recreational users, Natural England considers that the scheme should ensure that a network of green/living bridges is provided along the length of the route facilitating movement and helping to future proof the scheme allowing species to move as their ranges change. We would also consider that the soft estate should be managed to maximise its biodiversity and landscape value with species-rich corridors for pollinators and habitats for widespread species created and maintained.
- 9.4 Below we have provided a little more detail of what the legacy may be able to deliver in the areas identified within the Defra Family vision and we would of course be pleased to provide further input to the Project Team on these legacy opportunities.

9.5 East Tilbury Area

The area is broadly within the Essex Living Landscape areas of Tilbury and Mucking Grassland and Marshes, and is situated within the Natural England Thames Estuary and Marshes Focus Area (such areas are where we are seeking to contribute towards landscape scale conservation). The area also adjoins the estuary with associated inter-tidal habitats and is set between areas of industrial use containing a hub for brownfield invertebrate conservation (to the west), and active landfill and quarry sites (much of which benefits from approved nature conservation led restoration schemes) to the east and north-east.

Opportunities exist in this area to ensure connectivity is both conserved and enhanced for invertebrate assemblages, in particular, along with other species groups since the presence of a new major road is likely to significantly hinder this. The integrity of the coastal margin should also be maintained as a functional corridor, not only for the intertidal avian assemblage

but also for notable botanical and other species.

9.6 Mardyke Valley Area

This area adjoins the Inner Thames Marshes SSSI and follows the valley eastwards towards the route of the Lower Thames Crossing. The area is broadly within the Essex Living Landscape areas of Mardyke Valley and Bulphan Fen and there are a number of [conservation projects found here](#) that involve the Essex Wildlife Trust, Environment Agency and Essex Biodiversity Project. Please note that this area includes the Orsett Fen area, where there is potential to work in partnership to restore wetland fen habitats. The Orsett and Bulphan Fen area includes a local wildlife site and the partnership would need to include [Essex Rivers Hub](#) and landowners.

9.7 Thames Chase Area

This area aligns with the broad areas of the Ingrebourne Valley and quarry landscapes and Mardyke and Aveley Forest, and includes part of the Essex Living Landscape areas of Ingrebourne Valley and Belhus Woods. There are many conservation projects set out in the Thames Chase Plan focussed on increasing habitat connectivity and enhancing for biodiversity that requires a mosaic of woodland, grassland and wetlands. The partnership would need to include [Thames Chase Trust](#) (with numerous partners including Forestry Commission, Essex County Council, Thurrock Council and the London Borough of Havering, amongst others).

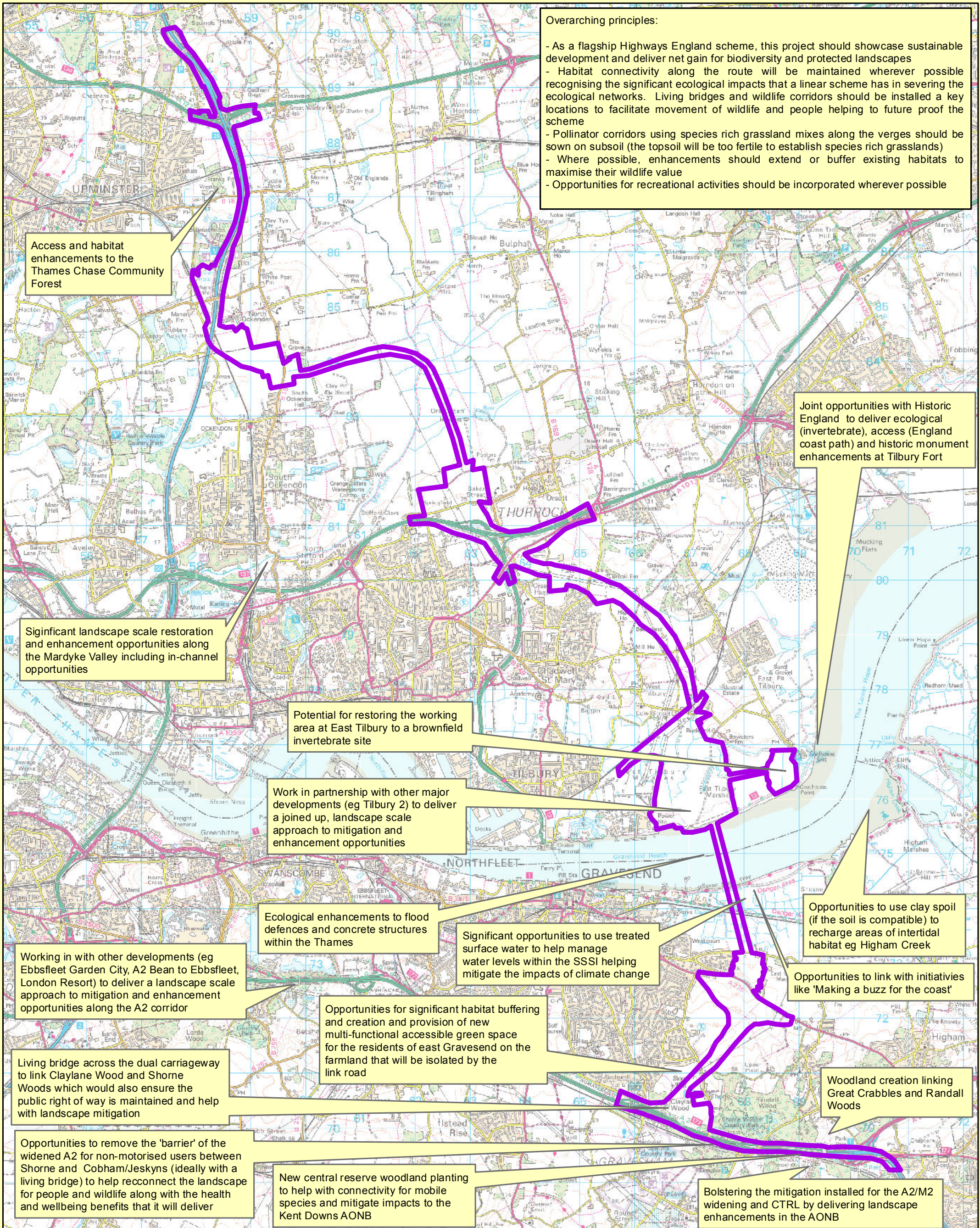
9.8 A2 Corridor

This area has a rich environmental heritage with the Kent Downs AONB, Shorne and Ashenbank Woods SSSI, the South Thames Estuary and Marshes SSSI and areas of ancient woodland, species rich grassland and historic parkland. Given the significant additional severance effect the fourteen lane dual carriageway will have for people and wildlife a visionary strategy to maintain and create new connections for people and wildlife presents the opportunity to deliver a significant environmental legacy. There are significant opportunities to link with developments at Ebbsfleet, the Swanscombe Peninsula and residential developments in Medway and Gravesham.

9.9 For all of the environmental legacy opportunities that Highways England progresses, it would be appropriate to select key species for each geographical area and/or habitat as indicators to aid the monitoring and success of the conservation outcomes. We would of course be pleased to work with the Project Team to develop such indicators of success if this would be helpful.

9.10 As will be expected of a scheme of this scale, post-construction monitoring, with reporting and defined performance against targets linked to baseline studies will be essential. This will need to be complemented by detailed management arrangements for any landscape and biodiversity mitigation features to secure their success in the long-term.

Lower Thames Crossing - Defra Family Potential Environmental Legacy Projects



Overarching principles:

- As a flagship Highways England scheme, this project should showcase sustainable development and deliver net gain for biodiversity and protected landscapes
- Habitat connectivity along the route will be maintained wherever possible recognising the significant ecological impacts that a linear scheme has in severing the ecological networks. Living bridges and wildlife corridors should be installed at key locations to facilitate movement of wildlife and people helping to future proof the scheme
- Pollinator corridors using species rich grassland mixes along the verges should be sown on subsoil (the topsoil will be too fertile to establish species rich grasslands)
- Where possible, enhancements should extend or buffer existing habitats to maximise their wildlife value
- Opportunities for recreational activities should be incorporated wherever possible

Access and habitat enhancements to the Thames Chase Community Forest

Joint opportunities with Historic England to deliver ecological (invertebrate), access (England coast path) and historic monument enhancements at Tilbury Fort

Significant landscape scale restoration and enhancement opportunities along the Mardyke Valley including in-channel opportunities

Potential for restoring the working area at East Tilbury to a brownfield invertebrate site

Work in partnership with other major developments (eg Tilbury 2) to deliver a joined up, landscape scale approach to mitigation and enhancement opportunities

Ecological enhancements to flood defences and concrete structures within the Thames

Significant opportunities to use treated surface water to help manage water levels within the SSSI helping mitigate the impacts of climate change

Opportunities to use clay spoil (if the soil is compatible) to recharge areas of intertidal habitat eg Higham Creek

Working in with other developments (eg Ebbsfleet Garden City, A2 Bean to Ebbsfleet, London Resort) to deliver a landscape scale approach to mitigation and enhancement opportunities along the A2 corridor

Opportunities to link with initiatives like 'Making a buzz for the coast'

Living bridge across the dual carriageway to link Claylane Wood and Shorne Woods which would also ensure the public right of way is maintained and help with landscape mitigation

Opportunities for significant habitat buffering and creation and provision of new multi-functional accessible green space for the residents of east Gravesend on the farmland that will be isolated by the link road

Woodland creation linking Great Crabbles and Randall Woods

Opportunities to remove the 'barrier' of the widened A2 for non-motorised users between Shorne and Cobham/Jeskyns (ideally with a living bridge) to help reconnect the landscape for people and wildlife along with the health and wellbeing benefits that it will deliver

New central reserve woodland planting to help with connectivity for mobile species and mitigate impacts to the Kent Downs AONB

Bolstering the mitigation installed for the A2/M2 widening and CTRL by delivering landscape enhancements in the AONB



Scale (at A3): 1:63,360
 Map produced by Sean Hanna
 Date: 03/05/2018. Map Reference: -
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Annex A.2 Natural England Supplementary Consultation Response

Date: 01 April 2020
Our ref: 312335
Your ref: S42



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By email only, no hard copy to follow

Dear Mr Manning

Lower Thames Crossing: Supplementary consultation

Thank you for your letter of the 27 January 2020 consulting Natural England on the supplementary information provided in support of the proposed Lower Thames Crossing scheme.

As with our comments on the Preliminary Environmental Information Report in 2018, our comments are, in the main, high-level, due to the nature of the consultation, the limited information provided on the results of the environmental studies and the lack of a detailed impact assessment and mitigation/compensation measures. We remain keen to work with the Project Team and Highways England to ensure that, wherever possible, the avoidance, mitigation and compensation measures for biodiversity and landscape impacts can be agreed ahead of the Development Consent Order submission.

Natural England is concerned that significant additional direct and indirect impacts to ancient woodland, the Kent Downs Area of Outstanding Natural Beauty (AONB) and Shorne and Ashenbank Woods Site of Special Scientific Interest (SSSI) have been identified so late in the consultation process. We were supportive of the approach taken by the Secretary of State with the preferred route announcement, where the route with the least impact to these assets was selected; it is therefore disappointing that such significant amendments are now proposed. Given the nature and scale of these additional impacts, in accordance with national planning policy, the environmental statement should include a detailed assessment of alternative options considered and provide details of why they were not progressed, considering a variety of matters including the environmental effects associated with each option.

Given the high level of policy protection afforded to the Kent Downs AONB, Shorne and Ashenbank Woods SSSI and ancient woodland, Natural England would welcome the opportunity for a much greater degree of engagement with Highways England and the utility providers in the near future.

Throughout our engagement with the project, we have always advised that there is significant scope for a more visionary design and construction to ensure that the project can deliver an environmental net gain approach in accordance with the Government's 25 Year Environment Plan and approach for planning. There remains great scope for this development to be one of Highways England's first major projects to deliver net gain as you work towards all schemes achieving this standard as part of your environmental commitment. It should aim to reconnect the landscape severed by both the existing and new/widened strategic road network helping to future proof the scheme for wildlife and people.

Although no such commitment has been provided within the supplementary consultation, we would welcome a clear intention being stated by Highways England to ensure this project is taken forward as an exemplar of the environmental benefits that can be delivered by a major infrastructure scheme. As Highways England move to delivering biodiversity net gain by 2040, such an approach would be in accordance with the Government's 25 Year Environment Plan and the Road Investment Strategy 2. As this is the largest road scheme in a generation, the green as well as the grey infrastructure should be truly exemplary.

Natural England's detailed comments in relation to the supplementary consultation are provided in Annex 1 appended to this letter. We have not exhaustively trawled and considered every boundary change detailed in the plans provided since there is insufficient environmental information for us to provide detailed advice.

We look forward to having the opportunity to work closely with the Project Team to better understand the ecological and landscape impacts and provide input into the mitigation strategies over the coming months prior to the development consent order submission. If in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter please do not hesitate to contact me on 0208 0266 064 or by email to

[REDACTED]

Yours sincerely

[REDACTED]

Sean Hanna
Senior Adviser
Sussex and Kent Team

Annex 1: Natural England's detailed comments in relation to the Lower Thames Crossing supplementary consultation, January 2020.

1 General observations on the supplementary consultation information

- 1.1 Natural England welcomed our early engagement and constructive dialogue with the Lower Thames Crossing project and was supportive of the approach taken by the Secretary of State when the preferred route announcement was made. The preferred route selection, particularly south of the Thames Estuary, appeared to reflect the rich environmental assets within the route area by selecting the route that avoided direct impacts to designated nature conservation sites, avoided significant land take from within the Kent Downs Kent Downs Area of Outstanding Natural Beauty (AONB), and seeking to avoid impacts to areas of ancient woodland. Whilst it is acknowledged that the supplementary consultation has moved the southern tunnel portal further south, increasing the distance from the South Thames Estuary and Marshes Site of Special Scientific Interest (SSSI) and the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar Site, other changes have now significantly increased the likely environmental impacts.
- 1.2 Natural England is disappointed that, at such a late stage in the design process, scheme changes to facilitate the diversion of utilities along the A2 corridor, as proposed, would result in significant direct habitat loss to areas of Shorne and Ashenbank Woods SSSI, as well as significant impacts to the Kent Downs AONB. In addition there will be significant additional impacts to areas of ancient woodland and other habitats within the Kent Downs AONB.
- 1.3 The National Planning Policy Framework¹ requires proposals to avoid significant impacts wherever possible (through location or design, for example), progressing to mitigating any impacts that cannot be avoided and then compensating any residual impacts (the 'avoid, mitigate, compensate' hierarchy). In addition, Section 14 (2) (d) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017² requires an environmental statement to include:
- 'a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;'
- 1.4 In addition, Section 4.26 of National Policy Statement for National Infrastructure (NPS)³ states that:
- 'Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:
- The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects. ...'
- 1.5 Given the above, all options to avoid impacts should be fully explored within the environmental statement. In addition, the environmental statement should clearly demonstrate how the environmental impacts of the proposed scheme compare with alternative options including those previously discounted.
- 1.6 Whilst we are disappointed that the scale of impacts south of the Thames is now greater than

¹ <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

² http://www.legislation.gov.uk/ukxi/2017/572/pdfs/ukxi_20170572_en.pdf

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387222/npsnn-print.pdf

presented previously, we welcome the removal from the development boundary of some areas of high value for nature conservation and biodiversity. In particular, the Goshem's Farm 'Conservation Area' and the Tilbury Ashfield 'A1' sites, which we are aware are of particular importance for invertebrates and vascular plants. Whilst we welcome the application of the avoidance principle in these locations, it should be noted that indirect impacts may still occur to these areas, and these should be taken forward into the impact assessment process, with mitigation and compensation measures provided as appropriate. We also note the removal of most of the field east of Goshem's Farm (except for access further east).

- 1.7 The supplementary consultation exercise, and in particular the Environmental Impacts Update report makes repeated comparison to the Preliminary Environmental Information Report (PEIR) as a point of reference. Natural England expressed significant concern during the consultation on the PEIR itself as we did not feel it provided an assessment of impacts to the level that would be expected for a project of this scale with such significant environmental impacts. It therefore appears misleading to make statements asserting that changes are better or worse than at the PEIR stage when those impacts were not presented in sufficient detail at the time. Indeed, Natural England is concerned that we have not seen any draft Environmental Impact Assessments (EIA) for the project, meaning our ability (and that of the wider stakeholder community) to input into this process and assist in shaping the outcome has been very limited to date.
- 1.8 We note from the plans accompanying the supplementary consultation that various land parcels are identified for ecological mitigation, however, it is not yet clear how these areas will be used for this purpose. This information is yet to be provided, and so Natural England remains unable to comment in particular on whether the scale and location of these areas is acceptable as directed by the EIA and Habitats Regulations Assessment frameworks. We cannot therefore rule out that additional land may be required to meet the requirements of the project.
- 1.9 The amended route now has the potential to impact on land required for mitigation measures agreed for other proposals in the Tilbury area and also remove the successful mitigation measures implemented for the Channel Tunnel Rail Link/High Speed 1 rail line in Kent. Given these impacts, this project should ensure that it does not negate the measures already agreed and/or implemented. If these wider impacts were to occur, this project should ensure that it replaces the measures previously agreed/implemented in addition to mitigating/compensating for the impacts from the Lower Thames Crossing itself and associated utility diversion works. This should be clearly identified within the environmental assessment and may require additional land to that identified within the supplementary consultation for ecological and landscape mitigation.
- 1.10 It should be noted that the refinements to the red line boundary may make it more difficult to understand and interpret some of the ecological survey information that has been collected. We accept that surveys have been designed to inform an environmental baseline at the time the scheme was first developed, and that this has, to some extent, informed revisions to that boundary. We are concerned however that the surveys have therefore not been designed with revised boundary information in mind, and this may make it more difficult to interpret the value and importance of specific areas. For example, the removal of the two high quality invertebrate sites (Ashfield 'A1' and Goshem's Farm 'Conservation Area') which have already been surveyed are likely to mask the residual value of invertebrate habitats within the red-line once they are removed. It is important that within the environmental statement, all of the surveys are presented with sufficient resolution so that the contribution of each component area (using either recognisable natural or imposed i.e. planning red-line boundaries) can be properly understood both in isolation and collectively as sub areas of the landscape

2 Designated sites

2.1 Section 5.29 of the NPS states that:

‘Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent **should not normally be granted** [our emphasis]. Where an adverse effect on the site’s notified special interest features is likely, an exception should be made only where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs. The Secretary of State should ensure that the applicant’s proposals to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site’s biodiversity or geological interest, are acceptable. Where necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.’

2.2 Given the requirements of the NPS, Natural England is disappointed that significant direct and indirect impacts to areas of Shorne and Ashenbank Woods SSSI are now being consulted upon so late in the design process.

2.3 In addition, Section 5.32 of the NPS provides guidance on how irreplaceable habitats should be considered; specifically for ancient woodland it states:

‘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.’

2.4 This is further strengthened within the more recent National Planning Policy Framework which states in Paragraph 175 that when determining a planning application, the following principle should apply in respect of irreplaceable habitats ‘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’

2.5 Whilst no figures have been provided for the loss of ancient woodland habitat from within the SSSI, based upon the maps provided it would appear that this would be approximately 20-30 hectares of woodland directly lost or significantly impacted by the scheme. Even if trenchless installation is to be employed for the utility diversions, a new permanent easement will be established conferring powers to the utility providers to manage the wayleave and undertake habitat management measures which could result in additional impacts.

2.6 By separating out the impacts from the transport infrastructure elements of the Lower Thames Crossing and the utility works which are required to facilitate the Lower Thames Crossing scheme it is unclear whether the revised designated site impacts are considered cumulatively. Given the two are inextricably linked, the environmental statement should consider all of the direct and indirect impacts to the designated sites in the round.

2.7 The moving of the southern tunnel portal further away from the South Thames Estuary and

Marshes SSSI and the Thames Estuary and Marshes SPA and Ramsar Site is welcomed. However, the addition of the proposed ground preparation tunnel could result in additional impacts. There is the potential for further hydrological impacts (above those we have expressed concern with previously for the two main tunnels) to the grazing marsh and ditch habitats within the designated sites if there is a link between the surface and ground water or changes to the hydrological regime resulting from the scheme. This needs to be fully resolved prior to the submission of the application.

- 2.8 No further information is provided as to the likely impacts from the utility works proposed within the South Thames Estuary and Marsh SSSI and the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar Site. Greater clarity on the works and the avoidance measures that have been considered need to be provided.
- 2.9 Given the high level of policy protection afforded to SSSIs and ancient woodland, Natural England would welcome a much greater degree of engagement with Highways England and the utility providers in the near future. It would be helpful to have a discussion on potential options to avoid impacts through the consideration of alternative approaches in accordance with Section 4.26 of the NPS.
- 2.10 Natural England considers that these should be fully resolved prior to submission of the development consent order in order that a robust assessment of impacts and the nature and scale of any mitigation and compensation measures are commensurate with the scale of impact if consent is granted. We do not consider it appropriate to defer such fundamental detail to the post consent stage.

3 Protected landscapes

- 3.1 Natural England is disappointed that significant areas of additional land take from within the Kent Downs AONB has been proposed so late in the design process to facilitate this scheme. This direct land take is primarily ancient and long-established woodland which is a key component of the AONB (please see Section 4 of this letter for our advice in relation to ancient woodland).
- 3.2 Section 85(1) of the Countryside and Rights of Way Act 2000 places a duty on public bodies, including Highways England and statutory undertakers (which includes utility providers), this duty states:

‘In exercising or performing any functions in relation to, or so as to affect, land in an area of outstanding natural beauty, a relevant authority shall have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty.’
- 3.3 The NPS for National Networks states in Section 5.150 that ‘Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions’.
- 3.4 In addition, Section 5.151 of the NPS states that ‘The Secretary of State should refuse development consent in these areas [protected landscapes including AONBs] except in exceptional circumstances and where it can be demonstrated that it is in the public interest’.
- 3.5 Similarly, Section 5.152 of the NPS states ‘There is a strong presumption against any significant road widening or the building of new roads and strategic rail freight interchanges in ... Areas of Outstanding Natural Beauty, unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs very significantly’.

- 3.6 Natural England is concerned that the utility diversions and design amendments to the highway elements that have come at this late stage will now result in significant additional direct land take including from key habitats contributing to the landscape character of the AONB in this part of Kent. The proposed installation of significant new utilities within Ashenbank Wood to the south of the A2 and the widened working width now proposed within Shorne Country Park to the north of the A2 will have significant additional direct and indirect impacts to the AONB. Whilst no figures for direct habitat loss and land take have been provided, such an approach would appear contrary to the National Policy Statement and the scheme should fully demonstrate the steps have been taken to avoid all direct and indirect impacts to the AONB.
- 3.7 Given the high level of policy protection afforded to the Kent Downs AONB, Natural England would welcome a much greater degree of engagement with Highways England and the utility providers in the near future. All options to avoid impacts should be fully explored within the environmental statement, which may also mean the options discounted previously should be revisited if these have a lesser environmental impact. Such an approach is supported in Section 4.26 of NPS which states that:

'Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:

- The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects. ...
- There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB).'

- 3.8 Natural England considers that these matters should be fully resolved prior to submission of the development consent order in order that a robust assessment of impacts and the nature and scale of any mitigation and compensation measures are commensurate with the scale of impact if consent is granted. We do not consider it appropriate to defer such fundamental detail to the post consent stage.
- 3.9 The Environmental Impacts Update report details that 'Construction activities would continue to encroach into the treed landscape of the A2/HS1 transport corridors, both within the AONB and its setting. The tree removal in combination with construction activities would result in a clearly evident widening of the infrastructure corridor, greater physical and visual severance and further isolating Shorne Woods Country Park to the north from Cobham Hall parkland/Ashenbank woods to the south'. The Environmental Impacts Update report also confirms during operation that 'There would be a worsening of the nature of effects in the PEIR; a major negative change for landscape and moderate to major [negative] change in views for a range of receptors'.
- 3.10 The utility diversion proposals (which we understand are only required to facilitate the Lower Thames Crossing scheme) along the A2 corridor bring a new range of landscape impacts to the scheme. The Environmental Impacts Update report states that 'These would be new adverse effects that would lead to the worsening of the major adverse effects reported in the PEIR, ie a major negative landscape change and a moderate to major negative change in the view for a range of visual receptors'.
- 3.11 By separating out the impacts from the transport infrastructure elements of the Lower Thames Crossing and the utility works which are required to facilitate the Lower Thames Crossing scheme it is unclear whether the revised landscape impacts are considered cumulatively. Given the two are inextricably linked, the environmental statement should consider all of the direct and indirect impacts to the AONB in the round.

- 3.12 There is no mention within the Environmental Impacts Update report (for the road or utility diversion works) of the impacts to receptors within the AONB from urbanising effects or tranquillity despite Natural England requesting that this is considered as part of the assessment process. We would be grateful if reassurance can be given that such an assessment is to be included within the environmental statement.
- 3.13 Despite the significant additional landscape impacts predicted within the Environmental Impacts Update, very limited information has been provided in relation to the mitigation measures that are proposed. The report refers regularly to the mitigation proposed in the PEIR, which Natural England expressed concerns about previously as we considered it was short on detail. In the absence of detailed information on the nature and scale of the avoidance and mitigation measures that are being proposed, Natural England has significant concerns regarding the approach being taken.
- 3.14 Notwithstanding the concerns above, Natural England would welcome the opportunity to work with Highways England and colleagues from the Kent Downs AONB Unit to ensure that the impacts are fully understood and that any mitigation measures proposed for ecology and landscape are compatible and sensitive to their location. For example, we note from the General Arrangement Plan Sheet 1 (Mapbook 1) that the potential receptor site for ancient woodland compensation is proposed in a more open area of the AONB which may have implications for the landscape character and receptors in this area of the AONB. We recommend that a holistic approach to consideration of the ecological and landscape mitigation measures should be adopted.

4 Wider biodiversity/scheme considerations

- 4.1 We note that, in addition to the additional direct and indirect impacts to the ancient woodland within Shorne and Ashenbank Woods SSSI, the scheme will also now impact greater areas of ancient woodland outside of the SSSI at Ashenbank Wood and Claylane Wood in particular. It is again disappointing that these increased impacts have come at such a late stage in the design process.
- 4.2 Section 5.32 of the NPS (which is replicated in the 'Designated Sites' section above) details that developments that result in the loss or deterioration of irreplaceable habitats including ancient woodland should not be granted unless the national benefits of the development at that particular location outweigh the loss.
- 4.3 Given the strong policy protection afforded to ancient woodland (and the AONB of which it is a key component of the landscape character), we recommend that a much greater emphasis on design measures to avoid direct and indirect impacts to this irreplaceable habitat is required at this stage.
- 4.4 As with impacts to designated sites and the Kent Downs AONB, Natural England considers that these matters, including the consideration of alternatives, should be fully resolved prior to submission of the development consent order in order that a robust assessment of impacts and the nature and scale of any mitigation and compensation measures are commensurate with the scale of impact if consent is granted. We do not consider it appropriate to defer such fundamental detail to the post consent stage.
- 4.5 The Thames Estuary is considered to be a very important area for invertebrate species. Within this area, from your own studies and those undertaken for other development proposals, the invertebrate assemblages on brownfield sites around the northern tunnel portal at Tilbury appear to be of particularly high nature conservation value. Given the revised application boundary for the Lower Thames Crossing, we would expect all such sites to be avoided where at all possible. In addition, a robust assessment of the impact should be provided as part of the environmental statement for invertebrates in the Tilbury area. Where impacts cannot be avoided, a comprehensive mitigation, compensation and enhancement

package should be included within the environmental statement.

- 4.6 There is a lack of additional/updated information on the impact to protected or notable species or habitats of conservation importance (other than ancient woodland) within the supplementary consultation package. As such, we are not able to provide further advice on these aspects at present. We would expect a robust assessment of the direct and indirect impacts to all protected and notable species and habitats of conservation value to be included within the environmental statement. This should also include a comprehensive avoidance, mitigation, compensation and enhancement package for all species groups and habitats of conservation interest directly and indirectly impacted by the scheme.
- 4.7 Section 5.25 of the NPS provides clarity on how wider biodiversity should be considered stating:
- ‘As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives.’
- 4.8 Whilst reference is made throughout the supplementary consultation documents to impacts to habitats of nature conservation value, little information is provided on how the scheme changes will impact species associate with these habitats. Given the paucity of information provided in the PEIR, it is disappointing that no additional information has been provided at this supplementary consultation stage. It is therefore not possible for Natural England to provide advice regarding protected and notable species, nor whether the scale of mitigation measures are appropriate.
- 4.9 We note that no additional information on impacts to protected or notable species is provided within the Environmental Impacts Update report. Similarly, no further information regarding the proposed mitigation and/or compensation measures are provided. We therefore recommend that the environmental statement includes a full assessment of any additional impacts that the scheme amendments may have for protected and notable species and other features of conservation interest.
- 4.10 Whilst not specifically resulting from the supplementary consultation, mitigation and compensation for impacts to protected and notable species is not normally acceptable within Sites of Special Scientific Interest if the species concerned are not an interest feature. This is because the management priority within designated sites should be to conserve and enhance the species interest of the sites.

5 Environmental legacy

- 5.1 It is disappointing that no commitment has been made in the supplementary consultation package to demonstrate how this project will deliver opportunities for environmental gain to help realise the Government’s 25 Year Environment Plan aspirations contributing to a significant environmental legacy. This is despite such an approach being highlighted in our responses to the Environmental Impact Assessment Scoping Report and the Preliminary Environmental Information Report with scheme wide opportunities suggested by the Defra family to the design team.
- 5.2 With the Environmental Impacts Update report highlighting that the revisions to the scheme will now result in significantly increased severance for people, landscape, habitats and wildlife along the A2 corridor a much more visionary strategy for providing habitat connectivity should be proposed. The Department for Transport’s Road Investment Strategy 2: 2020-2025 (RIS2) highlights the role that the strategic road network has to play in supporting biodiversity on the soft estate along with the role that green infrastructure has to play in improving the quality of life of those impacted by road schemes.

- 5.3 Given the severance across the route as a whole, along with the significantly increased severance that is now identified from the recent scheme changes, a much greater emphasis should be placed on ensuring connectivity is enhanced for biodiversity as well as pedestrians, cyclists and equestrians. Exemplary design and provision of dedicated green/living bridges crossing the A2 corridor to connect areas of the Kent Downs AONB for people and wildlife should form an integral part of the design.
- 5.4 With the exception of the Thong Lane green bridge, the living elements of the combined road/green bridges presented within the supplementary consultation do not appear to offer much scope for providing ecologically robust habitat connectivity. Similarly, they are unlikely to provide a high quality experience for pedestrians, cyclists and equestrians as they do not appear to provide opportunities to shield and separate them from the traffic on the shared bridges and the significant volume of traffic along the strategic road network they cross.
- 5.5 This project has the opportunity to be exemplary as Highways England moves to net gain by 2040. It should aim to reconnect the landscape severed by both the existing and new/widened strategic road network helping to future proof the scheme by building habitat resilience, facilitating movement of species and providing opportunities for people to connect with nature. Since this is the largest road scheme in England since the M25 was built, the green as well as grey infrastructure should be truly exemplary.
- 5.6 All of these are recognised as key elements for the strategic network within RIS2. Natural England would therefore recommend that a much more far-sighted approach to design is adopted in line with the Department for Transport's guidance and the Government's 25 Year Environment Plan⁴ which is a cross Government department strategy.

6 Sector specific comments – highway elements

6.1 Narrowing the A2/M2 corridor through the Kent Downs

Whilst Natural England welcomes the narrowing of lane four on the east and west bound carriageways along with the removal of the hard shoulder on the eastbound link road, the nature and scale of impacts remains significant. Narrowing the central reservation and complete removal of the existing, well established woody vegetation which is an effective screen of the current A2 for receptors within the AONB is likely to significantly increase the landscape and visual impact of the scheme.

As mentioned previously, the separation of the impacts from the revised highway infrastructure elements from the additional land take and associated impacts from the Kent Downs AONB and Shorne and Ashenbank Woods SSSI for the utility diversions has the potential to underplay the cumulative impacts. The revised assessment of noise and vibration during construction and operation does not appear to reflect the impacts to tranquillity within the AONB. Similarly, indirect impacts do not seem to be reflected in the landscape or biodiversity assessments.

Whilst the Environmental Impacts Update report highlights the mitigation for landscape and biodiversity will continue to reflect those previously detailed in the PEIR, Natural England expressed concern with the level of information provided at that stage. To date, the absence of detailed information on the likely ecological and landscape impacts and mitigation/compensation measures means we are not able to provide advice on whether the scale of expected effects or the appropriateness of the mitigation measure/compensation measures across the whole route. For a project of this scale and nature, this remains a significant concern as the scheme is due to be submitted shortly.

6.2 Lower Thames Crossing M2/A2 Junction

The observations detailed in Section 6.1 of this letter regarding landscape and biodiversity impacts are equally relevant to this section of the scheme.

⁴ <https://www.gov.uk/government/publications/25-year-environment-plan>

It is very disappointing that the design changes now result in significantly greater loss of ancient woodland at Claylane Wood to the road scheme itself which will be further impacted by the utility works required to facilitate the Lower Thames Crossing scheme.

- 6.3 A2 and local connection to Gravesend east
In the absence of more detailed information, Natural England is not able to provide any comments on these changes at present.
- 6.4 Creation of Chalk Park
In the absence of more detailed information, Natural England is not able to provide any comments on these changes at present.
- 6.5 Relocation of the southern tunnel entrance approximately 350 metres south
Natural England welcomes the relocation of the tunnel entrance which is likely to reduce the noise and visual disturbance impacts to the South Thames Estuary and Marshes SSSI. However, in the absence of details of the hydrogeological modelling and an understanding of whether there is a link between the surface and ground water, there remains a significant concern regarding hydrological impacts to the designated sites, particularly with the addition of the ground preparation tunnel.
- 6.6 Thong Lane over the Lower Thames Crossing green bridge
Natural England welcomes the widening of the proposed green bridge at Thong Lane. To maximise the benefit to wildlife and pedestrians, Natural England would welcome the opportunity to be engaged more fully in the design process in the near future.
- 6.7 Ground preparation tunnel
We note that no information has been provided in the Environmental Impacts Update report on the potential biodiversity impacts resulting from the ground preparation tunnel as the assessment has yet to be undertaken. Given the ground preparation tunnel will be under the South Thames Estuary and Marshes SSSI, there is the potential for impacts to arise from noise, visual disturbance and hydrological impacts which should be fully explored in the environmental statement.
- 6.8 Removal of Tilbury Junction, rest and service area and maintenance depot
The table of expected effects (biodiversity) indicates that this change will 'reduce the overall extent of habitat loss reported in the PEIR'. However it should be noted that to date (neither in the PEIR nor in the Supplementary Consultation), no extent of habitat loss has been provided to consultees which would inform an impact assessment. Whilst any reduction in loss of habitats is welcomed in principle, the project as a whole has yet to demonstrate that its impacts will be appropriately mitigated or compensated. The lack of any preliminary or provisional data means that it is not possible for us to comment on the adequacies of the assessment process, its underlying survey findings, and its overall approach to environmental impacts and opportunities.

Within the wider Tilbury area, the images provided within the 'Guide to Supplementary Consultation' document indicate a restoration landscape which is largely returned to agriculture. Whilst we understand this to be the permitted after use for large areas of the red-line boundary, it should be noted that for several areas the current permitted after use is for 'grassland' which is to be an ecologically-driven design (i.e. not necessarily agricultural). Natural England understands that several of the former power station ashfields are to be restored for ecological outcomes, and the Lower Thames Crossing project should a) not compromise the ability for this outcome to be achieved, and b) should actively assist and collaborate in seeking to realise the long-standing ecology outcomes for this area. All parties should seek a common ground position on the planning baseline for the area affected.

- 6.9 Tilbury Viaduct length reduced
The expected effects of the Tilbury viaduct length reduction on Biodiversity are proposed to be

the same as presented in the PEIR. It is not clear from the plans supplied to what extent the viaduct (in either its former or amended design) can avoid impacts upon important ecological interests in the area of Low Street Pit local wildlife site.

6.10 Muckingford Road realignment and green bridge

Natural England supports the provision of well-designed green bridges of which incorporate a variety of end uses including for ecology and, where compatible, access and recreation. To ensure the proposed green bridge in this location is fit for purpose, further information should be provided to understand its proposed design, including in principle planting aspirations and also to ensure that the various end uses are appropriately compatible and fit for purpose (for example, how might any lighting requirements for a footpath integrate with the requirement for a dark corridor for wildlife).

6.11 Route realignment near Chadwell St. Mary and Linford

We note the general conclusions presented for the realignment of this stretch (that the extent of habitat loss within this area will be reduced), but as detailed above we have no impact assessment at this point with which to test this conclusion. For example, the nature of the habitat net change is not detailed in the summary.

6.12 A13 / A1089 junction changes

No specific comments on this section.

6.13 Rectory Road realignment

No specific comments on this section.

6.14 Hornsby Lane closure

No specific comments on this section.

6.15 M25 to A13 southbound land removal

No specific comments on this section.

6.16 Routing through the Mardyke

The route in this section carries with it the opportunity to contribute towards the restoration of important wetland habitats. We note the generally neutral conclusions reached on net biodiversity outcomes, but query whether the additional biodiversity gains will be significant beneath the viaduct due to the effects of shading. The project should aim to maximise the opportunities presented by the scheme to meet nature conservation objectives in this area.

6.17 The height of LTC and North Road

No specific comments on this section.

6.18 Thames Chase Community Forest – new bridge

We generally support the provision of access mitigation for users of the Thames Chase Community Forest. This should aim to target the wide range of user groups, and integrate ecological functions as well where possible.

6.19 M25 junction 29 changes

No specific comments on this section.

6.20 The Coalhouse Seawall

Hopefully the Project Team are aware of a sea wall breach in the area of Coalhouse Fort, which means that the proposed use of this area for protected species mitigation may be compromised (with reference to General Arrangement Plan Sheet 8a). We are aware that discussions are ongoing regarding future responsibility for the management and maintenance of the sea wall in this location, but raise concerns that this area may not be fit for purpose without assurances that it can deliver its objectives in the long-term if the sea wall is allowed to breach in either a managed or unmanaged way. If this is the case, then additional land may be required to deliver the objectives intended for this area elsewhere.

7 Sector specific comments – utility diversions

7.1 Utility proposals at the A2 junction and corridor

As mentioned elsewhere in this letter, Natural England is disappointed that such a large additional area of land take directly and indirectly impacting the Kent Downs AONB, Shorne and Ashenbank Woods SSSI, ancient woodland and other biodiversity interests has been identified so late in the design process.

Additional construction impacts from noise, whilst not directly referring to the impacts to tranquillity within AONB, have been classified within the supplementary consultation as temporary impacts but will be for a period of several years. It would be helpful to understand the duration of such 'temporary' impacts.

Given the significant land take and removal of ancient and long-established woodland habitat now proposed from within the Kent Downs AONB required for the utility diversion works to facilitate the Lower Thames Crossing, Natural England would consider this impact to be major negative (not 'moderate to major negative' for views as detailed in the Environmental Impacts Update).

Given the irreplaceable nature of ancient woodland, Natural England is concerned that the Environmental Impacts Update report states 'As reported in the PEIR, extensive planting north of the A2 would help offset the loss of ancient woodland within the SSSI designation. Receptor sites for protected species, such as dormouse and great crested newt, have been identified'. Such an approach does not appear to follow the 'avoid, mitigate, compensate' hierarchy detailed in planning policy. In addition, no information has been given on how the direct and indirect impacts to the woodland south of the A2 will be addressed.

Given the high level policy protection afforded to SSSIs and ancient woodland, and its irreplaceable nature, all measures to avoid and reduce impacts should be fully explored. If, during the development consent order process, it is agreed there are no alternative options with no or a lesser impact to deliver the scheme, then a robust and comprehensive mitigation and compensation package will be required which will need to ensure ecological mitigation does not result in additional landscape impacts and vice versa.

7.2 Utility proposals around the southern tunnels entrance

Given the additional impacts to Claylane Woods that have now been identified, the comments in Section 7.1 regarding avoidance of impacts, a comprehensive mitigation and compensation package and ensuring ecological and landscape connectivity apply equally to this section.

7.3 Utility proposals around Tilbury

Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments at this stage but will review these once the environmental statement is submitted.

7.4 Utility proposals around the A13/A1089 junction (east)

Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments at this stage but will review these once the environmental statement is submitted.

7.5 Utility proposals around the A13/A1089 junction (west)

Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments at this stage but will review these once the environmental statement is submitted.

7.6 Utility proposals around Ockendon

Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments

at this stage but will review these once the environmental statement is submitted.

- 7.7 Utility proposals around the Lower Thames Crossing/M25 junction
Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments at this stage but will review these once the environmental statement is submitted.
- 7.8 Utility proposals around the M25 junction 29
Based upon the limited information provided within the Environmental Impacts Update, we have no observations to make on the additional environmental impacts from the amendments at this stage but will review these once the environmental statement is submitted.

8 Marine works

- 8.1 We note that there are no proposed changes to the jetty location within the supplementary consultation package but that amendments are proposed allowing greater flexibility regarding the water discharge to the Thames. It is unclear from the information provided whether there will be any additional implications for the Thames Estuary and Marshes Special Protection Area and Ramsar Site including or functionally linked land and their underpinning Sites of Special Scientific Interest; should this be the case they should be fully assessed within the environmental statement.

Annex A.3 Natural England Design Refinement Consultation Response

Date: 12 August 2020
Our ref: 320851
Your ref: -



Lower Thames Crossing
ltc.consultation@traverese.ltd

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By email only, no hard copy to follow

Dear Sir or Madam

Lower Thames Crossing: Design Refinement Consultation

Thank you for consulting Natural England and seeking our views on the Design Refinements consultation for the Lower Thames Crossing project.

As with our comments on the Preliminary Environmental Information Report in 2018 and the Supplementary Consultation earlier this year our comments are, in the main, high-level, due to the nature of the consultation, the limited information provided on the results of the environmental studies and the lack of a detailed impact assessment and clarity on the mitigation/compensation measures.

Throughout our engagement with the project, we have always advised that there is significant scope for a much more visionary design and construction to ensure that the project can deliver an environmental legacy in accordance with the Government's 25 Year Environment Plan and approach for planning which is not reflected within this Design Refinement consultation. There remains great scope for this development to be one of Highways England's first major projects to deliver net gain as you work towards all schemes achieving this standard as part of your environmental commitment. It should aim to reconnect the landscape severed by both the existing and new/widened strategic road network helping to future proof the scheme for wildlife and people. Much more visionary design of elements such as the green bridges to help link areas of the Kent Downs AONB would result in significant landscape, wildlife and people benefits.

Although no such assurance has been provided within this Design Refinement consultation, we would welcome a clear commitment being provided by Highways England to ensure this project is taken forward as an exemplar of the environmental benefits that can be delivered by a major infrastructure scheme. As Highways England move to delivering biodiversity net gain by 2040, such an approach would be in accordance with the Government's 25 Year Environment Plan and the Road Investment Strategy 2. Given that this is the country's largest road scheme in a generation, the green as well as the grey infrastructure should be truly exemplary.

Natural England's detailed comments in relation to the supplementary consultation are provided in Annex 1 appended to this letter. We have not exhaustively trawled and considered every boundary change detailed in the plans provided since there is insufficient environmental information for us to provide detailed advice.

I trust these comments are helpful and we will of course provide further comments once the final documents are submitted. For clarity on any of the points in this letter please do not hesitate to contact me by email to [REDACTED] or by telephone on [REDACTED].

Yours faithfully



Sean Hanna
Senior Adviser
Sussex and Kent Team

cc Sam Ireland, Lower Thames Crossing

1 General observations

- 1.1 Whilst it is acknowledged that the direct loss of habitat from Shorne and Ashenbank Woods Site of Special Scientific Interest (SSSI) has been reduced, Natural England remains concerned that the scheme continues to propose direct loss of ancient and semi natural woodland (both within the SSSI and at other locations along the route) along with direct impacts to the Kent Downs Area of Outstanding Natural Beauty (AONB).
- 1.2 Reference is made through the Environmental Impacts Update report to the 'Mitigation has been updated and designed appropriately and proportionately with the aim of maximising opportunities to increase the areas biodiversity'. Unfortunately no details have been provided on the updated mitigation measures proposed and it would be helpful if more information is provided.
- 1.3 Similarly, despite the significant changes to the scheme which are likely to result in further impacts to the Kent Downs AONB no additional mitigation measures have been proposed. Natural England would recommend that further clarity and information is provided.
- 1.4 In addition, for a number of the updates, greater impacts to wider biodiversity assets are predicted but no detail is provided or information on the additional mitigation measures that are required. It would be helpful if greater clarity were provided where changes are predicted.
- 1.5 The Design Refinement consultation, and in particular the Environmental Impacts Update report, makes repeated comparison to the Preliminary Environmental Information Report (PEIR) as a point of reference. Natural England expressed significant concern during the consultation on the PEIR itself as we did not feel it provided an assessment of impacts to the level that would be expected for a project of this scale with such significant environmental impacts. It therefore appears misleading to state that changes are better or worse than at the PEIR stage when those impacts were not presented in sufficient detail at the time.
- 1.6 The Design Refinement consultation, within the Environmental Impacts Update, suggests that for some impacts the mitigation measures have been amended. However, no information has been provided on the detailed measures proposed (including within the PEIR previously). In addition, a habitat balance sheet detailing the areas of biodiversity value impacted and that which is being provided to compensate has not been shared. In the absence of this information Natural England is not able to provide advice on the appropriateness or otherwise of the mitigation measures contained within the Design Refinement consultation.
- 1.7 Throughout the consultation stages for the project, various amendments have been made to the design with subsequent implications for the resulting environmental impacts. Despite these additions (some of which will result in further landscape and biodiversity impacts), the Environmental Impacts Update reports generally states that the impacts and mitigation measures reflect those previously detailed within the PEIR. It is unclear whether the scheme amendments are being considered in a cumulative way; whilst they may be minor on their own when considered together across the various refinements they may be more significant. It would be helpful if clarity were provided on how these changes have been considered.

2 Design Refinements M2/A2 Area

2.1 Update 1 Ancient Woodland compensation between Claylane Woods and Shorne Woods

Whilst it is stated that, due to the utility diversions within Claylane Wood there will be a reduction in the area of woodland planting/creation in this area it is not clear what the level of

habitat loss and planting will be. Whilst this may not change the conclusions previously reached within the PEIR, it has the potential to impact the ecological functionality of the ancient woodland and the woodland planting. A key element of any ecological mitigation strategy is to maintain/enhance habitat connectivity which does not appear to be reflected within the approach now proposed.

2.2 **Update 2 Ancient woodland planting near the edge of Gravesend**

Due to the utility diversions, the Design Refinements Environmental Impacts Update report confirms that 'As ancient woodland compensation near Claylane Wood has been reduced... we would increase the proposed ancient woodland compensation planting near the edge of Gravesend, as much as is reasonably practical'.

Unfortunately no details of the area of woodland planting/creation is provided and the visual representations within the 'Guide to the design refinement consultation' appears to show little difference between the Supplementary consultation (Figure 3.7) and the current Design Refinement consultation (Figure 3.8). It would be helpful if details of the areas of habitat change were provided.

The impacts of urbanising effects on the woodland planting in this area in realising the ecological objectives of the habitat will also need to be fully considered within the environmental statement.

2.3 **Update 3 Ancient woodland compensation between Brewers Wood and Great Crabbles Wood.**

The refinements to the woodland planting/creation in this area should fully reflect the landscape character of the Kent Downs Area of Outstanding Natural Beauty (AONB) including impacts to landscape character and to receptors within the AONB. Such a consideration does not appear to be reflected within the Design Refinement consultation.

Given the direct loss of habitat (ancient and semi-natural woodland) from within the Shorne and Ashenbank Woods SSSI, if the Secretary of State is minded to grant consent, then measures to compensate for the impacts to the national SSSI series will be required. It is unclear from the documentation provided (including the previous consultations) how the scheme proposes to address the loss of the SSSI habitat. Greater clarity should be provided on the measures to be implemented to maintain the SSSI series.

2.4 **Update 4 Ancient woodland compensation south of High Speed 1**

Whilst it is stated that the area of woodland planting in this area has been reduced to avoid impacts to a cultural heritage building, it is unclear if the ecological functionality of the woodland planting/creation will be maintained. As mentioned previously, for all habitats and ecological impacts much greater clarity should be provided on the areas to be lost and replaced and the ecological and landscape functionality of the habitat.

2.5 **Update 5 Ancient woodland compensation to the north of Shorne Woods**

It is welcomed that the design of the woodland planting in this area has been refined to follow the existing topography and reflect the landscape character of the area. A key consideration here will be the need to ensure that impacts to the special qualities of the Kent Downs AONB are not impacted by the amendments.

2.6 **In terms of the overarching environmental observations for the Updates 1-5 above (Page 14 of the Environmental Impacts Update report), given the direct loss of woodland habitat from the SSSI and work within these areas there is the potential for further air quality impacts. The Environmental Update Report refers back to the mitigation measures proposed within the PEIR but these do not provide any details of the measures to be implemented for the impacts to Shorne and Ashenbank Woods SSSI. As such, further clarity should be provided within the environmental statement on the measures to avoid impacts to the SSSI.**

2.7 **Update 6 Reduced land take through Shorne Woods Country Park and additional landscaping**

The reduced land take from Shorne Woods Country Park (including areas within Shorne and Ashenbank Woods SSSI, the Kent Downs AONB and areas of ancient woodland) is welcomed. Natural England would however draw your attention to the requirements of the National Policy Statement for National Networks¹. In particular Section 4.26 (the need to consider alternatives), Section 5.29 (development within a SSSI should not normally be permitted), Section 5.32 (consent for loss of ancient woodland should not normally be granted) and Sections 5.150-51 (development within an AONB should not normally be consented).

As such, full details of the measures to avoid impacts to the SSSI, AONB and ancient woodland should be explored within the environmental statement. If the Secretary of State is minded to grant consent, then a full and robust package to mitigate the harmful effects of the proposal must be provided. Unfortunately, details on the specific measures to be provided in this respect have not been provided. The mitigation measures proposed refer back to those proposed within the PEIR but as mentioned above, detailed measures were not included within this document.

During the operational phase, the Environmental Impacts Update states that 'The area of works would be replanted as far as practicable, however it is noted that not all vegetation loss can be replanted in its entirety'. Given the utilities diversions proposed within the SSSI, continued access for maintenance and repair is likely to be required. As such, these areas may not be suitable for ecological mitigation if they are to be subject to regular management. This should be fully reflected within the environmental statement and additional mitigation areas provided as appropriate.

Natural England would therefore recommend that much greater clarity on the measures proposed in respect of impacts to the SSSI are included within the environmental statement.

The Environmental Impacts Update report also highlights that 'The inclusion of this design change would increase the extent of habitat loss compared with that reported in the PEIR. It would involve vegetation clearance within the Shorne and Ashenbank Woods SSSI...'. Given the increased impacts now expected compared to those identified in the PEIR, it is unclear why the assessment of impacts and mitigation proposed remains the same as detailed within the PEIR. It would be helpful if clarity could be provided.

Given the concerns above, further clarity should be provided within the environmental statement on the measures to avoid impacts to the SSSI and the measures to mitigate the impacts should the Secretary of State grant consent.

Given the increased habitat loss from the Shorne and Ashenbank Woods SSSI, it is unclear how this will not result in greater landscape impacts compared to those reported within the PEIR. Similarly, no additional mitigation measures appear to be provided in respect of this greater impact to the Kent Downs AONB. As such, we recommend greater clarity is provided within the environmental statement.

2.8 **Update 7 Electricity substation landscaping**

The impacts of additional features such as the electricity substations and the amended landscaping within and in close proximity to the Kent Downs AONB should be considered cumulatively with all of the other additions to the project. A robust assessment of the impacts and avoidance and mitigation measures should be included within the environmental statement.

2.9 **Update 8 Refinements to Brewers Road green bridge**

It is reported that there would be a slight benefit to the landscape impacts from the

¹ <https://www.gov.uk/government/publications/national-policy-statement-for-national-networks>

movement of the combined road and green bridge six metres to the east but there is no detail provided.

The design of the green bridge has the potential to provide significant landscape, biodiversity and people and communities benefits if designed appropriately as part of an innovative approach to trying to mitigate the significant increased severance caused by the Lower Thames Crossing scheme. Natural England recommend that a more holistic, visionary approach to the design and use of green bridges across the scheme is taken.

2.10 Update 9 Retaining wall added alongside HS1 land

The Environmental Impacts Update report highlights that a retaining wall will be added along the High Speed 1 land but that there will be no changes to the effects and mitigation measures detailed within the PEIR. If this is a new structure not previously considered within the PEIR, then it should be considered cumulatively with other elements of the project to ensure that the mitigation measures proposed remain appropriate.

2.11 Update 10 Refinements to Thong Lane green bridge over the A2

Whilst it is unlikely that greater impacts from the movement of the combined road and green bridge to five metres to the west, the design of the bridge will be key element for the scheme.

As mentioned for the Brewers Road bridge, the design of the green bridge has the potential to provide significant landscape, biodiversity and people and communities benefits if designed appropriately as part of an innovative approach to trying to mitigate the significant increased severance caused by the Lower Thames Crossing scheme. Natural England recommend that a more holistic, visionary approach to the design and use of green bridges across the scheme is taken.

2.12 Update 11 Refinements to the Thong Lane green bridge over the Lower Thames Crossing and a new informal parking area to the east

The Environmental Impacts Update report highlights that there will be a slight improvement to the landscape and biodiversity impacts to those reported in the PEIR from the movement of the combined road and green bridge twenty metres north. Whilst the increased level of tree planting may provide benefits, the visual representation (Figure 3.15) within the Guide to design refinement consultation highlights that the woodland planting will be focussed to the south of the bridge. This does not appear to provide habitat or arboreal connectivity across Thong Lane to the blocks of woodland to the north of the bridge which link into the wider Shorne Woods complex. Given the stated aim of the mitigation to 'maximise the opportunities to increase the area's biodiversity value' Natural England recommends that clarity is provided on how greater habitat connectivity to the wider woodland network could be achieved.

As mentioned for the Brewers Road bridge, the design of the green bridge has the potential to provide significant landscape, biodiversity and people and communities benefits if designed appropriately as part of an innovative approach to trying to mitigate the significant increased severance caused by the Lower Thames Crossing scheme. Natural England recommend that a more holistic, visionary approach to the design and use of green bridges across the scheme is taken.

Whilst limited information is provided in relation to the informal car park proposed in this area, there is the potential for additional landscape and biodiversity impacts which should be considered more fully within the environmental statement.

2.13 Update 12 LTC alignment raised, south of Thong Lane over the LTC

Whilst it is stated that the alignment of the road will be raised by between two and three metres, it is unclear from the consultation documents whether this will mean the associated infrastructure (for example gantries and lighting columns) will be more prominent in the landscape. If this is the case, then a full assessment and details of the additional mitigation

measures for impacts to the Kent Downs AONB will need to be provided.

2.14 Update 13 Refining the land required for utility diversions

Whilst the reduction in working area within Shorne and Ashenbank Woods SSSI, the Kent Downs AONB and Claylane Woods ancient woodland is acknowledged, significant impacts to these features will still result. The National Policy Statement for National Networks places a strong presumption against proposals that will impact these environmental assets and the project will need to demonstrate fully how all alternative options have been explored to avoid impacts.

As mentioned previously, should the Secretary of State be minded to grant consent for the scheme despite the significant adverse impacts to these features a comprehensive and robust mitigation package will be required. Reference is made to the measures detailed within the PEIR but these are not specific and a much greater level detail should be provided as part of the environmental statement and should not be deferred to the post consent stage.

2.15 Update 14 Upgrade works for the existing overhead electricity distribution cables

It is not clear what, if any additional impacts will result from these proposals as the Environmental Impacts Update does not provide sufficient clarity. As such, we are not able to provide advice at present on this amendment.

2.16 Update 15 Refined gas alignment along Valley Drive

Natural England has no observations to make on this amendment.

2.17 Update 16 New permanent electricity switching station, Thong Lane

Despite the Environmental Impacts Update report confirming that the addition of the switching station would result in a worsening of the landscape impacts and greater loss of habitat, no additional mitigation measures have been proposed. As mentioned previously, the addition of these features should be considered cumulatively with all other elements of the scheme and a robust impact assessment and mitigation strategy provided.

2.18 Update 17 Refinement to the overhead electricity transmission cable diversion at Thong Lane

Despite the Environmental Impacts Update confirming that the moving of the transmission cable south would result in a worsening of the landscape impacts, no additional mitigation measures have been proposed. As mentioned previously, the addition of these features should be considered cumulatively with all other elements of the scheme and a robust impact assessment and mitigation strategy provided.

3 Design Refinements Tilbury Area

3.1 Update 18 Northern tunnel entrance landscaping proposals

Natural England notes the intention to restore the area around the northern portal to a 'grazing agricultural use'. We understand that previous restoration schemes for the Goshem's Farm landfill site were originally intended to achieve a grazed area, consistent with the desire to achieve a conservation-led after use with certain target species in mind. In particular, the hornet robber fly *Asilus crabroniformis* (a Section 41 priority species) was previously known from this area. Its hunting requirements target animal dung as a forage resource for prey species such as dung beetles etc., but it has declined significantly due to increased use of chemical insecticides such as ivermectins which are known to have lethal or sub-lethal effects on species such as the hornet robber fly. In our view therefore, the use of this area for 'conservation grazing' would be appropriate so long as a carefully designed low intensity (extensive) regime could be implemented, and set within a management plan for the area.

Although in our opinion the proposed after use is consistent with earlier management aspirations for this site, it remains important for the environmental masterplan to consider the wider range of opportunities presented by the scheme in this location. For example, the

Goshem's Farm area is large, and includes areas in close proximity to post-industrial brownfield areas with known nationally important invertebrate assemblages. This, combined with a ready supply of pulverised fuel ash (PFA) from adjacent stockpiles presents an opportunity to expand a PFA substrate habitat creation area (for example within the south-western corner) to bolster the overall habitat resource in this area.

The maps provided as part of the Design Refinement consultation indicate that an area of the Goshem's Farm Conservation Area is included within the updated boundary. We understand this area to amount to approximately 1.5 hectares, and whilst we had previously welcomed the exclusion of the Conservation Area from earlier versions of the DCO boundary, we were not aware that the exclusion did not include all of the area identified within linked planning permissions and safeguarded for conservation purposes. Similarly, this remnant portion does not appear to have been to during Design Workshop meetings. We do note that the boundary in this area was proposed at the Supplementary Consultation stage, however this change was not specifically highlighted in the Environmental Impacts Update report for the Supplementary Consultation. Natural England would strongly endorse an adjustment to the boundary in this location so as to exclude the entirety of the Goshem's Farm conservation area.

3.2 Update 19 Northern tunnel entrance layout

Natural England notes and broadly welcomes the reduction in culvert length from 80m to 60m. Whilst it is stated that this will enable wildlife to navigate the culvert 'more easily', and we acknowledge that this is an improvement on an 80m design, navigation of a 60m culvert will clearly remain challenging for much wildlife. The statement that this reduction will 'minimise' the impact on local ecology appears to be misleading. We are not aware that evidence has been presented to demonstrate that culverts of this length have been successfully built for other projects that can point to successful monitoring studies showing that such a long culvert is not in fact a barrier to species movements. Further information should be provided to justify the statement made in this section.

3.3 Update 20 Realignment of footpath 61

Natural England has no specific comments to make in relation to this change at present.

3.4 Update 21 Realignment of footpath 200

Natural England has no specific comments to make in relation to this change at present.

3.5 Update 22 Muckingford Road realigned and widened

Natural England has no specific comments to make in relation to this change at present.

3.6 Update 23 Tilbury watercourse

Natural England notes that the scheme proposes to re-establish water flow within the watercourse and it would be helpful if further clarity were provided on how this will be achieved.

3.7 Update 24 New water supply from Linford borehole and a local water main

Natural England has no specific comments to make in relation to this change at present.

3.8 Update 25 Potential upgrade of existing water network

Natural England has no specific comments to make in relation to this change at present.

3.9 Update 26 Multi-utilities provision to the construction site and norther tunnel entrance

Natural England has no specific comments to make in relation to this change at present.

4 A13/A1089 Area

4.1 Update 27 A13/A1089 landscaping proposals and watercourse diversion

Natural England notes the change to include public access to the woodland. It is not clear

whether the woodland to be lost in this area had a baseline of public access, in order to inform a proper comparison. Public access introduces a range of impact pathways (such as trampling of ground flora, increased nutrients due to dog fouling etc.) that should be properly assessed within the environmental statement in order to justify the conclusion reached.

4.2 Update 28 Removal of a false cutting

Natural England has no specific comments to make in relation to this change at present.

4.3 Update 29 Change to two A13 merge layouts

Natural England has no specific comments to make in relation to this change at present.

4.4 Update 30 Amendments to shared paths in the A13/A1089 area

Natural England has no specific comments to make in relation to this change at present.

4.5 Update 31 Traveller site relocation

We note the new location proposed for the travellers site is expected to increase the area of habitat loss. However the Environmental Update report does not describe the type of habitat, its quality, or where mitigation will be provided.

4.6 Update 32 Multi-utility diversion extension along the B188 High Road

Natural England has no specific comments to make in relation to this change at present.

4.7 Update 33 Moving overhead electricity distribution cables underground

As mentioned in the overarching comments, greater impacts to biodiversity are mentioned within the Environmental Impacts Update but no details of these are provided so it is difficult for consultees to provide advice.

4.8 Update 34 Permanent gas pipeline compound at Stanford Road

The Environmental Impacts Update suggests that there will be an increased loss of habitat but that no additional mitigation measures are required. It would be helpful if clarity were provided on why no additional mitigation measures are required.

4.9 Update 35 Additional land for overhead electricity distribution cable diversion works

The Environmental Impacts Update suggests that there will be an increased loss of habitat but that no additional mitigation measures are required. It would be helpful if clarity were provided on why no additional mitigation measures are required.

4.10 Update 36 Additional working area for multi-utility construction

The Environmental Impacts Update suggests that there will be an increased loss of habitat but that no additional mitigation measures are required. It would be helpful if clarity were provided on why no additional mitigation measures are required.

5 LTC/M25 Area

5.1 Update 37 Reduced woodland compensation area north of the Thames Chase Forest Centre

It would be helpful if clarity were provided on why the area of compensation habitat has been reduced but the expected effects confirm that 'there would be a slight increase in working area...and could add to the nature of the effects reported in the PEIR due to the potential loss of habitat...'

5.2 Update 38 Reduced woodland planting within The Wilderness

It is not clear why the reduction in woodland planting is not considered likely to have an effect on the assessment. For example, the report does not state whether this woodland planting was required to compensate for other losses or was intended as a biodiversity gain. Consequently, it would be helpful if clarity were provided.

- 5.3 **Update 39 Modifications at Ockendon landfill (south of the Lower Thames Crossing)**
It is unclear why the biodiversity mitigation has been updated, if the assessment of effects is not expected to change.
- 5.4 **Update 40 Relocation of construction site 13**
Whilst there is an increase in the working area which could add to the nature of the biodiversity impacts, no further mitigation measures are proposed. It would be helpful if clarity were provided.
- 5.5 **Update 41 Relocation of footpath 136**
Natural England has no specific comments to make in relation to this change at present.
- 5.6 **Update 42 Relocation of footpath 252**
Natural England has no specific comments to make in relation to this change at present.
- 5.7 **Update 43 Proposed reconfiguration of land required for multi-utility works**
Natural England has no specific comments to make in relation to this change at present.
- 5.8 **Update 44 B186 North Road multi-utility diversion works**
Natural England has no specific comments to make in relation to this change at present.
- 5.9 **Update 45 Ockendon Road sewer diversion works**
Natural England has no specific comments to make in relation to this change at present.
- 5.10 **Update 46 Works in the Mardyke area for National Grid maintenance access**
Natural England has no specific comments to make in relation to this change at present.
- 6 M25 Junction 9**
- 6.1 **Update 47 Amendments to walking, cycling and horse-riding routes**
Natural England has no specific comments to make in relation to this change at present.
- 6.2 **Update 48 Additional land for underground electricity distribution cable works**
Given the increased area of habitat loss, it would be helpful if clarity were provided on why no additional mitigation measures are proposed.
- 6.3 **Update 49 Overhead electricity distribution cables repositioned underground**
Given the increased area of habitat loss, it would be helpful if clarity were provided on why no additional mitigation measures are proposed.
- 6.4 **Update 50 Additional land required for gas diversion works**
The Updated Environmental Impacts report suggests that the biodiversity mitigation remains as detailed in the PEIR but also suggests that it has been updated and designed appropriately; it would be helpful if clarity were provided on the additional measures proposed.
- 6.5 **Update 51 Additional land for maintenance of the overhead electricity transmission cables**
Natural England has no specific comments to make in relation to this change at present.
- 6.6 **Update 52 Additional land for multi-utility works**
Natural England has no specific comments to make in relation to this change at present.
- 7 Project wide updates**
- 7.1 **Update 53 Drainage Ponds**
Natural England has no specific comments but would recommend that these ponds are designed to incorporate ecological features as part of the project wide ecological

enhancement strategy.

7.2 Update 54 Flood mitigation zones

Natural England has no specific comments to make in relation to this change at present.

7.3 Update 55 Noise barriers

Page 29 of the Guide to the design refinement consultation details that a number of noise barriers are to be installed along the route.

Two of these barriers, between 400 and 600 metres in length are now to be included within the Kent Downs AONB but no additional impacts are predicted. The Environmental Impacts Update states for the A2/M2 Junction that 'Although they introduce a new built element and may introduce new visual receptors, there would be no change in the nature of the effects or mitigation measures reported in the PEIR'. Natural England is concerned with this assessment given these significant additional structures being located within the AONB and would recommend that a robust assessment of these additional elements and any further mitigation measures required is provided within the environmental statement.

In addition, from the plans provided (Page 29 of the Guide to the design refinement consultation), it would also appear that two of these noise barriers fall with, or in very close proximity to the Shorne and Ashenbank Woods SSSI. Further clarity on the additional impacts and mitigation measures in respect of the SSSI should therefore be provided.

It is also unclear whether the noise barriers proposed along whole route will impact wildlife movement and again greater clarity should be provided through an assessment within the environmental statement.

7.4 Update 56 Substations

Given the increased land required for the substations and their locations, any additional biodiversity and landscape impacts and necessary mitigation measures should be fully detailed within the environmental statement.

7.5 Update 57 Maintenance access tracks and maintenance bays

Given the increased land required for the access tracks and maintenance bays, any additional biodiversity and landscape impacts and necessary mitigation measures should be fully detailed within the environmental statement.

Annex A.4 Natural England Community Impact Consultation Response

Date: 08 September 2021
Our ref: 360522
Your ref: -



Gareth Protheroe
Development Director - Lower Thames Crossing
National Highways

Customer Services
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CW1 6GJ

By email (no hard copy to follow) to lrc.consultation@traverse.ltd

T 0300 060 3900

Dear Gareth Protheroe

Lower Thames Crossing Community Impacts Consultation July 2021

Thank you for your consultation on the above dated 13 July 2021 which was received by Natural England on the 19 July.

Natural England welcomes the opportunity to provide comments on the various documents included as part of the Community Impacts Consultation. For ease, we have provided our advice on each document separately in the annex to this letter.

Natural England would like to recognise and endorse the journey and collaborative approach that we have continued with the Project Team since the withdrawal of the application in late 2020. The delay has allowed us to work closely with the Team to resolve many areas of concern and help ensure a more holistic approach to considering the environmental mitigation for impacts resulting from the project.

The advice in our response to the Community Impacts Consultation and associated documents are provided in the spirit of collaborative working and we hope they are helpful to National Highways in realising a truly exemplar, sustainable development project which delivers a visionary environmental legacy for people and wildlife.

Key to realising this will be a landscape scale approach to mitigating the environmental impacts of the project and providing environmental gains if the scheme is consented. There are significant opportunities for such an approach along the A2 corridor including the Shorne and Ashenbank Woods Site of Special Scientific Interest and the Kent Downs Area of Outstanding Natural Beauty to the south of the River Thames and Tilbury Fields to the north.

We will be pleased to continue working with the Project Team over the coming months to help realise this ambition and to work with you and your colleagues to try and ensure our comments below can be fully resolved as the Project progresses towards submission.

I trust these comments are helpful but if there are any queries relating to the specific advice in this letter only please contact Sean Hanna on [REDACTED] or by email to [REDACTED]. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely

Sean Hanna
Senior Adviser
Sussex and Kent Team
cc Sam Ireland, Lower Thames Crossing Project

1 Guide to Community Impacts Document

- 1.1 Natural England welcomes the broad commitment to creating an environmental legacy, although we are disappointed that this is not included as one of the project's stated aims. Given the sensitive locations that this scheme passes through and the significant environmental impacts, as well as the opportunities for nature recovery, Natural England would recommend a strong environmental objective at the project level is included. Such an approach would also be in accordance with the Government's 25 Year Environment Plan.

However, we recognise National Highways commitment to achieving no net loss in biodiversity by the end of 2025 and its intention to work towards net biodiversity gain by 2040 across its estate. We are committed to working with National Highways to ensure that the project minimises and mitigates its environmental impact, together with ensuring a significant package of additional measures is secured to achieve a lasting environmental legacy.

We notes that page 52 details '... our design has tried to provide biodiversity gains wherever possible', and that elsewhere in the consultation documents (for example Page 248 of the Construction Update) there is the statement that 'Enhancements made to non-designated habitats along the Lower Thames Crossing are likely to increase the biodiversity value by at least 15%.' Natural England would encourage a clear commitment by the project to achieving net gain, however, of particular importance is ensuring that the environmental measures provide biodiversity enhancements as part of a strategic approach to nature recovery at the landscape scale.

- 1.2 Natural England notes that the Legacy and benefits section on Page 11, detail the 'replanting 6 square metres for every square metre of ancient woodland lost'. Ancient woodland is an irreplaceable habitat receiving strong policy protection in the National Policy Statement for National Networks along with the National Planning Policy Framework. Whilst Natural England does not support the loss of ancient semi-natural woodland, including areas from within designated sites, should the Secretary of State be minded to grant consent for this project we would expect a substantial compensation package to be provided. This should consider both the area to be created and the functionality of the habitat that is to be created, through linking existing areas of woodland for example rather than being a ratio based approach. Natural England welcomes the ongoing discussions we are having with the Project Team and hope to continue this as the scheme progresses.
- 1.3 Natural England notes that Page 26 refers to the proposals for Tilbury Fields which Natural England broadly supports and are keen to continue working with the Project Team to maximise the biodiversity value of this area as part of National Highways aspirations for this area.
- 1.4 Natural England notes that Page 52 details '... our design has tried to provide biodiversity gains wherever possible'. The Project has publicly committed to achieving a 15% biodiversity net gain¹ so it would seem appropriate for this to be reflected within the project commitments for the updated environmental statement to clearly demonstrate how this has been incorporated into the revised design.
- 1.5 The Landscape and visual section on Page 55 details that the project will have 'temporary changes to characteristics... of the Kent Downs AONB [Area of Outstanding Natural Beauty]'. Natural England considers that the impacts to the AONB will be long-term and from discussions with the Project Team understand that there will be significant adverse residual landscape and visual impacts at year 15. We remain keen to work with the Project

¹ <https://www.gov.uk/government/news/highways-england-seeks-partners-to-build-19-billion-lower-thames-crossing-roads>

Team to try and resolve our significant concerns in relation to the impacts the scheme will have for the AONB.

- 1.6 Natural England notes that the 'Operations Update (Chapter 6) does not appear to provide an update on the biodiversity effects of the operational phase but appreciate that some of these are included within the Operations Update document itself. Such effects could result from impacts including, but not limited to, habitat severance, air quality impacts and lighting for example. Similarly, there is relatively little information provided in relation to any residual landscape effects during the operation phase which we would have expected to be provided.

2 Lower Thames Crossing - Ward impact summaries south of the river

- 2.1 Natural England has no specific comments to make in relation to the Ward impact summaries south of the river but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

3 Lower Thames Crossing – Ward impacts summaries north of the river

- 3.1 Natural England has no specific comments to make in relation to the Ward impact summaries south of the river but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

4 Lower Thames Crossing – You said, we did

- 4.1 Natural England has no specific comments to make in relation to the 'You said, we did' document but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

5 Lower Thames Crossing Construction Update Report

- 5.1 Natural England welcomes confirmation on Page 16 that the second iteration of the Environmental Management Plan (EMP2) would be submitted to the Secretary of State for approval following 'consultation with the relevant local authorities and Natural England'.
- 5.2 Section 2.7 provides information in relation to the location of the Utility Hubs. From the plans accompanying the consultation, the Park Pale Lane, A2 West and Shorne Ifield Road Utility Hubs appear to be in locations where compensatory woodland planting is proposed. Natural England considers that, given the time for woodland to establish any woodland creation should be created as early in the project as possible and preferably before the impact, particularly for impacts to ancient and semi natural and SSSI woodland if soil translocation is to be undertaken. If the areas do overlap, it would be helpful if clarity on how the timetabling of the habitat creation and the Utility Hub elements will be undertaken to ensure they do not cause conflict.
- 5.3 Natural England welcomes the aspiration to maximise the ecological contribution of the area known as Tilbury Fields, and the positive approach the Project team is taking to providing important biodiversity habitat. This area has the clear potential to provide an important ecological linkage between areas of known high quality for invertebrates, in particular to the west and east, and we support the design of this area to align with the landscape-scale objectives for this area as a node for nature conservation. Whilst the invertebrate interest is of particular importance, we would also encourage the Project to look at opportunities to restore (and where possible enhance) riverside habitats that are now scarce in this area.

The proposals for Tilbury Fields demonstrably contribute towards nature recovery by facilitating habitat connectivity along the Thames corridor and align with the strategic objectives for biodiversity in this area, showing that the project has recognised the

importance and value of the Thames Estuary invertebrates and is prepared to deliver in line with the scale and ambition of the project.

We note that the options contained in the consultation documents for disposal of construction arisings have maximum heights of either 16.5 or 22.5metres – we have no specific preference as we consider the aspirations for the biodiversity potential for this area could be achieved within either scenario. We would advise that it is more important to consider features such as the placement, accessibility and aspect of critical substrates in this area rather than the overall height of the landform.

We are committed to working with the Project and other stakeholders to continue to advise on the outcomes for this area, and we welcome the helpful and collaborative approach taken by National Highways and the Project Team in unlocking a solution and moving the project towards sustainable development.

Natural England broadly welcomes the examples of the proposed monitoring detailed within Section 2.11. We would however recommend that the monitoring will also need to also include water quality to ensure that the chemical parameters agreed for discharge of the surface water from the construction compound to the South Thames Estuary and Marshes Site of Special Scientific Interest and the Thames Estuary and Marshes Ramsar Site are not exceeded.

5.4 Section 3.3 'Initial Works' (page 73) suggests that ecological mitigation will be undertaken in the first year as part of the initial works including habitat creation. As mentioned above, some of the woodland creation areas appear to be in the same locations at the utility logistic hubs so it may be appropriate for greater clarity on the timings to ensure there is no conflict.

5.5 Information on the required diversion of Southern Gas Networks pipeline provided on Page 85 details that 'The diverted utilities corridor to the north of the A2/M2 limits opportunities for tree planting. However, the areas are south facing and we would create a chalk grassland habitat once the works are finished'.

Natural England understands that a considerable part of the working area for the utility diversion falls within the boundary of the Shome and Ashenbank Woods SSSI and the creation of chalk grassland may result in greater impacts to the designated site. It would be helpful for greater clarity to be provided on how measures to avoid impacts to the designated site have been considered and, where this is not possible, how the habitat within the SSSI will be restored should consent be granted.

5.6 Page 88 of the report details that for the A2/M2 junction 'Ecological work, including the moving of species, would take place at the start of the construction while some landscaping and environmental mitigation would happen towards the end of the programme'. It would be helpful for clarity to be provided on what areas will be created when, particularly given the sensitive landscape in which this part of the scheme sits and the time taken for habitats, particularly woodland, to meet their target ecological condition. Such information would be helpful for the habitats impacted and to be created along the entire route.

5.7 Given the linear nature of the project, the scheme will result in significant severance of the landscape for people and wildlife along its length and the proposed use of green bridges to link the landscape is welcomed in principle. Key to their success in avoiding severance of the landscape and habitats will be their location, design and connectivity into the landscape and wider habitat networks either side of the route for people and wildlife.

5.8 Natural England notes that for the Milton Construction Compound (for the ground protection tunnel should this be required) mentions on Page 117 the need for bullet proof barriers and hoarding around the site but no detail is provided. Given the construction compound lies in close proximity to the SSSI and Ramsar site, depending upon the nature of these barriers there may be additional impacts to birds associated with the designated sites which we

recommend should be reflected within the updated Environmental Statement.

- 5.9 Natural England notes that the Air Quality section (Page 202) refers to the consideration of NO₂ and PM₁₀ but does not include ammonia which Natural England understands is also being modelled as part of the revised Environmental Statement following discussions with National Highways. We will of course be pleased to provide advice on the implications for designated sites once the results of this modelling are available to share with us.
- 5.10 Figure 7-9 'Noise sensitive receptors' seems to focus primarily on human receptors. The birds associated with the coastal designated are also sensitive to noise disturbance and it would be helpful for this to be reflected.
- 5.11 Natural England notes the proposal for the proposed haul route at Fort Road which falls in close proximity to an area of importance for non-breeding birds and Figure 7-11 (Page 222) indicates there will be an increase in noise associated with the vehicle movements. It will be important for the Environmental Statement to assess these impacts and we will aim to work with the Project Team in the near future to better understand the potential disturbance to birds and the measures that are to be implemented to mitigate these.
- 5.12 The 'Terrestrial Biodiversity' section on Page 247 appear to refer to the loss of invertebrate habitat north of the Thames only. From previous discussions Natural England understand that the surveys undertaken for the project have also identified important assemblages of invertebrates south of the Thames in Shorne and Ashenbank Woods SSSI (the SSSI itself is also notified for invertebrates) and we would recommend that the Environmental Statement considers the impacts of the scheme to invertebrates north and south of the Thames Estuary.
- 5.13 Natural England welcomes the Project's commitment to delivering environmental gains (Page 248), whilst acknowledging the significant environmental impacts that the scheme will cause to irreplaceable habitats and designated sites. The comparison of the area created versus the area lost does not necessarily equate to biodiversity gain, particularly given that ancient woodland is an irreplaceable habitat. It will depend on a number of factors including the quality of habitat lost versus that being created and the time lag to reach target ecological condition. We would recommend that the Defra Biodiversity Metric is used to calculate the biodiversity gain rather than a percentage increase in habitat within the Environmental Statement.

Given the direct impacts to the Shorne and Ashenbank Woods SSSI and areas of irreplaceable ancient woodland habitat, caution will need to be taken in the consideration of biodiversity net gain. The Explanatory Note to the Environment Bill² provides some helpful guidance on net gain in relation to irreplaceable habitats and designated sites in Paragraphs 1574 and 1575 which may be helpful when revising the Environmental Statement.

- 5.14 On page 249 we note the description of the discharge outfall within an area of important inter-tidal habitat outside of the designated area (but functionally linked to it) which could result in impacts. Natural England has provided further advice on these works within our comments on the Code of Construction Practice section of this advice letter.
- 5.15 Page 250 confirms, that with the implementation of proposed mitigation measures, no likely significant effects are predicted on marine biodiversity during construction. We are continuing to work with the Project Team, through the Habitats Regulations Assessment discussions, on whether impacts to the marine environment could have implications for the Thames Estuary and Marshes Special Protection Area and Ramsar site and would recommend the Environmental Statement is updated following these discussions.
- 5.16 The 'Landscape and visual effects' section on Page 257 details that the visual and

² Available to download from 

landscape character impacts from construction activities to the Kent Downs AONB would be temporary. Whilst the construction compounds, plant and machinery and the construction works themselves are not permanent (but will last for a period of up to seven years), the removal of habitats including ancient and seminatural woodland from within the AONB at the start of the construction will not be temporary given the long-lasting changes to landscape character and visual receptors. As such, Natural England considers that this should be considered a permanent change to the landscape character of the AONB.

6 Operations Update

- 6.1 Figure 2-8 'Proposed new, realigned and improved public rights of way' appear to show improvements to the public rights of way network within Shorne and Ashenbank Woods SSSI south of the A2. It is unclear whether these will result in greater land take from the designated site or what additional impacts could result from, for example surfacing. It would be helpful, should these fall within the SSSI, for greater clarity to be provided within the Environmental Statement.
- 6.2 The limits of deviation are referred to on Page 31. We have been unable to locate plans showing the limits of deviation which would be helpful, aiding stakeholders in being able to fully understand the likely scale of the impacts that the limits of deviation would permit. It would be appreciated if such a plan were submitted with the Environmental Statement.

7 Map Book 1 General Arrangements

- 7.1 The plans show the areas of woodland planting between Brewers Wood and Great Crabbles Wood (and all other woodland planting areas) as 'potential' areas for ancient woodland (and presumably the Shorne and Ashenbank Woods SSSI) compensation areas.

Whilst Natural England does not support the loss of ancient semi-natural woodland, including areas from within designated sites, should the Secretary of State be minded to grant consent for this project we would expect a substantial compensation package to be provided.

Given the irreplaceability of ancient woodland, a high degree of confidence in any replacement woodland measures proposed should be provided and the project should clearly demonstrate how measures to avoid and mitigate impacts to ancient woodland and designated sites have been fully exhausted. Natural England therefore recommends that a much higher level of confidence in the proposals should be provided as part of the updated Environmental Statement.

We would also expect a clear distinction to be made for the areas that are proposed for impacts to the SSSI and other areas of ancient and seminatural woodland.

- 7.2 Natural England notes that the proposed species mitigation areas north and south of the A2 detailed in the plans (as highlighted by the purple shading) fall within the Shorne and Ashenbank Woods SSSI. This information appears different to the mitigation measures discussed for dormouse within Shorne Woods Country Park (part of Shorne and Ashenbank Woods SSSI) so it would be helpful if clarity were provided on the apparent difference.
- 7.3 General arrangement plan Sheet 4 shows that woodland mitigation planting to the west of Henhurst Road and south of the A2 will be isolated woodland, so we consider it's ecological functionality will be severely limited. One of the key ecological principles of ancient and seminatural woodland compensation (in the exceptional situations where impacts cannot be avoided) is that it should aim to provide habitat connectivity rather than create isolated blocks of woodland. Natural England recommends that greater clarity is provided on the landscape scale connectivity for all habitats that are to be impacted and compensated for as

part of the project.

- 7.4 Sheet 9 (and the visualisation for the Thong Lane Green Bridge Proposed across the Lower Thames Crossing (sometimes referred to as 'Thong Lane north') appear to indicate that there will be limited habitat connectivity provided between Claylane Wood and Shorne Woods Country Park. The planting on the bridge itself appears to be scattered trees, whilst to the east and west of Thong Lane the proposed woodland planting is limited with significant areas of grassland and other land use types present. The bridge does not appear to provide habitat linking Claylane Wood to the east into the extensive woodland within Shorne and Ashenbank Woods SSSI. It would seem appropriate for the landscaping strategy to consider how the isolated Claylane Woods could be truly reconnected, either through woodland or scrub/thick hedgerow planting being mindful of the landscape character around Thong village.
- 7.5 The plans again seem to indicate that the Utilities Logistic Hubs will be located in 'potential' woodland compensation areas, in particular the significant block proposed to the north of the Shorne Ifield Road. It would be helpful for clarity to be provided on how the use of these areas affects the timetable for the establishment of the compensatory woodland habitat and the implications this has for the habitats to reach the target condition.

8 Engineering plans

- 8.1 Natural England has no specific comments to make in relation to the Engineering Plans at present but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

9 Land Use plans

- 9.1 Natural England has no specific comments to make in relation to the Land Use Plans at present but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

10 Framework construction travel plan

- 10.1 Natural England has no specific comments to make in relation to the Framework construction travel plan at present but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments.

11 Outline site waste management plan

- 11.1 Natural England has no specific comments to make in relation to the Outline site waste management plan at present but instead have provided comments on the environmental impacts, mitigation and opportunities relevant to our remit across the scheme within our wider comments

12 Outline Landscape and Ecology Management Plan

- 12.1 Section 1.14 of the Outline Landscape and Ecology Masterplan (OLEMP) details that 'The LEMP submitted to the SoS for approval must be substantially in accordance with the outline LEMP, including the habitat management requirements, targets and prescriptions set out in the outline LEMP. It may be appropriate for greater clarity to be provided on what the levels of deviation from the OLEMP may be acceptable; for example it might be appropriate to ensure no reduction in the commitments within the OLEMP to give confidence that the environmental outcomes will remain the same or better for the project.

- 12.2 Natural England welcomes the commitment within Section 1.4.9 regarding the habitat creation following published good practice guidance. In addition to published good practice,

we would also recommend that lessons learnt from other projects (both highways and other developments) feed into the detailed design. This should include details on the habitat creation and the monitoring proposed to ensure that the replacement habitat achieves its target ecological condition both in terms of the habitat and the species it supports. Lessons learnt from projects such as the A21 Pembury to Tonbridge dualling would seem appropriate to incorporate into the Lower Thames Crossing project.

Natural England will of course be pleased to provide further advice on the replacement habitat design and creation along with the monitoring strategy and feel that an Environmental Advisory Group could be a useful approach for such discussions and agreement to be reached.

12.3 Natural England notes that in Table 1 (Management Matrix Table), the habitats proposed for the 'land east of Brewers Wood (AWC [ancient woodland compensation]) will comprise a mixture of species rich grassland, waterbodies and ancient woodland compensation. Given the direct loss of ancient woodland (including areas from within the Shorne and Ashenbank Woods SSSI), it is important that clarity is provided on how the impacts to these (and other habitats of conservation importance) will be fully addressed should consent be granted. It may be appropriate for clarity to be provided within the OLEMP or further detail to be included within the Environmental Statement.

12.4 Natural England welcomes the commitments within Section 2.3.2 of the OLEMP which details the following:

'In addition to the Design Principles, this outline LEMP has been produced to ensure the new features meet the following broad objectives:

- a) Nature conservation and biodiversity – to provide new biodiverse habitats throughout the Project which connect to each other and to existing retained habitat, forming a green corridor along the length of the Project.
- b) Landscape integration – to reflect the surrounding landscape character that the Project route passes through.
- c) Visual screening – to screen views of the Project route and infrastructure from existing (and future) visual receptors.'

Given the severance impacts that the linear nature of the scheme will result in, it is important for the project to ensure connectivity both across the transport corridor and along the route length given the impacts that upon both habitat and landscape connectivity. Whilst the inclusion of green bridges is welcomed, their design needs to ensure that landscape scale connectivity is achieved; we are keen to more fully explore the design and connectivity of the bridges more fully with the Project Team. Given the scale of the severance, a holistic landscape led approach to re-connecting the landscape should form a key component of the project design.

The objectives in relation to landscape integration and visual screening are welcomed. From our discussions with the Project Team, we understand that the project will result in significant residual adverse landscape impacts in relation to the Kent Downs AONB so it would seem appropriate for the project to undertake further work to ensure the project is integrated into the nationally important landscape it travels through and to further moderate these adverse effects. Natural England will of course be pleased to provide further advice to the project in relation to the Kent Downs AONB.

12.5 Natural England notes that Section 3 (Implementation of the Landscape and Ecology Management Plan) provides information on the anticipated duration for the establishment of the various landscape and ecological features to be created. In addition to the habitat establishment, the long-term management and monitoring of all features created to mitigate and compensate for the environmental impacts of the project will be key to their success and it may be appropriate to include reference to this within the OLEMP. Natural England will be pleased to provide further advice on the detailed habitat establishment, management and

monitoring proposals as the scheme progresses.

- 12.6 Natural England supports the proposed Advisory Group detailed within Section 3.1 to help inform the actions and outcomes that the LEMP will deliver through during the pre-construction, construction and operational phases of the project and will be pleased to be a member of this group.
- 12.7 Natural England has prioritised our comments on the management proposals for sections of the scheme within the OLEMP where we feel we can provide helpful comments or opportunities.
- 12.8 In relation to the A2/M2 Corridor (Section 4.2), Natural England welcomes the broad management commitments detailed within Section 4.2.5 in respect of the AONB, designated site and other nature conservation impacts.
- 12.9 Section 4.2.5 (a) proposed measures details 'To provide suitable woodland to screen views from within the Kent Downs AONB'. It would be helpful for clarity to be provided on what 'suitable' woodland means given the need for the screening to be sensitive to the landscape character of this part of the Kent Downs. Care will need to be taken in designing the planting to ensure that further impacts to the Kent Downs AONB do not result from these mitigation measures through unintended changes to the landscape character.

In addition, we note that the information provided within the Design Principles proposes some non-native species for a number of the woodland planting palettes. Given the impacts to ancient woodland, including areas within the Shorne and Ashenbank Woods SSSI, we would recommend that, if consent is granted, the habitats that are to be provided should reflect those directly impacted. It is welcomed that the Section 4.2.5 of the OLEMP confirms that native species of local provenance are to be planted it would be helpful if greater clarity could be provided on the apparent differences between the OLEMP and the Design Principles.

- 12.10 Section 4.3 of the OLEMP provides details of the proposals for the 'Land East of Brewers Wood (Ancient Woodland Compensation)'. This area, which falls within the AONB, is predominantly grassland with a scattered trees providing a parkland type feature. Care will need to be taken to ensure that the proposed woodland and grassland creation does not result in additional impacts to the Kent Downs AONB by adversely affecting the landscape character or views.
- 12.11 As a general comment, it would be helpful for the Environmental Statement to provide clarity on the areas of woodland planting which are proposed for impacts to the SSSI and other areas of ancient woodland separately. This would allow greater clarity to be provided on the scale of impact and the proposed compensation measures to the SSSI and the wider series and broader areas of ancient woodland proposed should the Secretary of State grant permission.
- 12.12 One of the important considerations for ancient woodland compensation will be the functionality of the replacement woodland and a key component of this will be the connectivity of the woodland. Section 4.4 of the OLEMP (land west of Jeskyns Farm, ancient woodland compensation) details that an area of woodland planting to offset the loss of ancient woodland is proposed to the south of Church Road and west of Henhurst Road. This area of proposed woodland appears to provide limited connectivity to the wider wooded landscape so it would be helpful if further clarity were provided on how the functionality of the replacement woodland habitat will be secured. Natural England recommends a strategic, landscape scale approach to the habitat compensation planting is provided as part of the revised Environmental Statement.
- 12.13 Section 4.5 of the OLEMP (Green Bridges (Brewers Road, thong Land over A2 and Thong Lane over the Lower Thames Crossing) provides details of the proposed management of the

green bridges. Natural England is supportive of the provision of the green bridges in principle and consider that there are significant opportunities for them to truly connect the landscape within the Kent Downs AONB and its setting for people and wildlife with a more visionary design. At present the design and linking habitat provides limited habitat connectivity across the widened transport infrastructure including the High Speed 1 rail line; the impact of which is increased by the removal of much of the mitigation planting implemented previously.

Natural England is keen to continue working with the Project Team to explore opportunities for a more innovative design for the green bridges which provides a high quality user experience for recreational users within the Kent Downs, truly linking the severed landscape for people and wildlife. Key to the success of the green bridges success in avoiding severance of the landscape (and for wildlife) will be their location, design and connectivity into the landscape and wider habitat networks either side of the route. Natural England also considers that a more visionary design will also help moderate some of the landscape impacts in the AONB.

- 12.14 Natural England supports the opportunities that Chalk Park will provided for people to recreate and engage with the natural environment (Section 4.6, open space north of Claylane Wood).
- 12.15 In relation to the proposed woodland plant to the north of Brummelhill Wood (Section 4.9), Natural England would welcome clarity on which areas of woodland creation are being proposed to replace the loss of habitat from within the Shorne and Ashenbank Woods SSSI and other areas of ancient woodland separately. This will allow us to be able to provide more detailed advice on the proposed compensation measures for the SSSI and broader SSSI series should consent be provided by the Secretary of State.
- 12.16 In relation to the Gateway to Shorne Woods Country Park (Section 4.10), Natural England is keen to continue working with Kent County Council (as owners of the park) and the Lower Thames Project Team to more fully explore the proposals for this area.
- 12.17 Section 5.2 of the OLEMP provided information on the proposals for Tilbury Fields; Natural England broadly supports the aspirations for this area and are keen to continue working with the Project Team to maximise the biodiversity value of the this area and to provide advice on the management proposals as the scheme progresses.
- 12.18 Section 5.3 (Coalhouse Fort) area of the OLEMP details that the outline management proposals for this area are being refined. Natural England understands that this area is likely to be used to provide replacement habitat for feeding and roosting wintering bird species associated with the coastal designated sites. We will be pleased to continue working with the Project Team on the proposals for this area as they evolve.
- 12.19 Section 5.4 provides details on the proposals for the Coalhouse Fort open mosaic habitat management. This area is proposed to accommodate a number of species/species groups which may have differing management requirements. It may be helpful for the OLEMP to provide clarity on the management prescriptions that are proposed for each of the ecological features, acknowledging that the areas where the different species are likely to occupy will overlap.
- 12.20 For the Tilbury Link section of the scheme (Section 5.5 of the OLEMP), it will be important to ensure the various ecological aspirations do not inadvertently conflict with each other. For example, tree planting in close proximity to the ditches may result in shading limiting the aquatic species. Similarly, the proposed scrub planting will need to be carefully managed to prevent it becoming dominant.

Natural England notes that the Project proposes to replace the Tilbury Green Common land and reconnect the two parts of the existing common land (Section 5.5.9(h)). We are

continuing to provide advice on the Common Land to the Project Team and hope that this will be able to be reflected within the revised Environmental Statement.

12.21 Section 5.7 of the OLEMP provides information in relation to the proposed Green Bridges (Muckingford Road, Hoford Road and Green Lane). Natural England is broadly supportive of the green bridge provision. As mentioned previously, key to their success in avoiding severance of the landscape for wildlife and people will be their location, design and connectivity into the landscape and wider habitat networks either side of the route. We are keen to continue working with the Project Team to ensure that the green bridges are designed and managed in a way that truly reconnects the landscape for species and people and will be pleased to provide separate advice as the scheme progresses, both in general nature conservation terms and as part of our advice on the various protected species Letters of No Impediment.

12.22 In relation to Sections 6.2 Ockendon Link and 6.3 Orsett Fen Wetland Creation Natural England is continuing to provide advice to the Project on the Common Land along this part of the route. As these discussions progress, it will be important for the OLEMP to be updated to reflect the management objectives in relation to the Common Land.

In relation to the management prescriptions, we would generally recommend that the OLEMP included information on the proposed approach to fenland restoration and the water management regime to achieve the desired habitat(s). A partnership approach with local nature conservation stakeholders such as the Essex Wildlife Trust may be helpful to help work towards an appropriate outcome in this location.

12.23 In relation to the proposed green bridge at North Road (Section 6.5), please see our comments in relation to Section 5.7 of the OLEMP above.

12.24 Natural England has not reviewed in detail the habitat typologies provided in Section 7 of the OLEMP. We will be pleased to work with the Project Team on the measures that are proposed to mitigate and compensate for areas of nature conservation value as the scheme progresses.

12.25 We will also be pleased to work with the Project Team and the contractor at the detailed design stage to ensure that a robust monitoring programme and measures of success are incorporated into the LEMP. These measures of success should include monitoring of the habitat establishment along with the species groups which would be expected to utilise the habitats to ensure that they establish into functioning habitats of conservation value. The proposed Environmental Advisory Group would appear useful forum to support this work.

13 Outline materials handling plan

13.1 Natural England welcomes the confirmation that the Project is not seeking to create a new jetty (deep or shallow water) on the south side of the River Thames in order to reduce harm to the Ramsar site and its functionally linked habitat.

13.2 However, Natural England notes that proposals for importation of materials via existing river infrastructure facilities in Essex will be explored further. We would be pleased to work with the Project Team to more fully understand whether these proposals may result in impacts to designated sites or other species and habitats of conservation value..

13.3 Similarly, Natural England notes that options for use of conveyors to move material around within the order limits are still being explored (both north and south of the river). Again, we would be pleased to work with the Project Team to more fully understand whether these proposals may result in impacts to designated sites or other species and habitats of

conservation value.

14 Outline Traffic Management Plan for Construction

- 14.1 Natural England has previously expressed concern that the Lower Thames Crossing may lead to urbanising effects within the Kent Downs AONB resulting from the displacement of vehicles and 'rat running' during the construction and operation of the scheme. It would be helpful for potential urbanising effects to be reflected within the traffic management plan along with measures to mitigate any potential impacts to the AONB.

The information provided within the Ward summaries south of the river also suggests that a significant increase in traffic on rural lanes within the AONB is likely to result from the proposal, particularly in Cobham and the surrounding area, are likely to result from the proposal. Natural England therefore recommends that greater clarity is provided within the Environmental Statement on the impacts to the wider AONB and how these will be .

15 Wider Network Impacts Management and Monitoring Plan

- 15.1 Natural England notes that the 'Initial areas considered for intervention' within Table 2.1 identify a number of areas where interventions are likely to be required. Some of these are likely to have significant environmental implications for designated sites (from air quality for example) and also implications for the Kent Downs Area of Outstanding Natural Beauty arising from new signage resulting in urbanisation of the rural settlements and lanes and the construction/upgrade of existing roads and junctions along the strategic road network.
- 15.2 From the information provided, it appears that a number of these projects (for example the A229/M2 junction improvements within the Kent Down AONB) are anticipated to be delivered during the construction of the Lower Thames Crossing. Others such as the A2 Dover Access are anticipated to be delivered in the RIS 3 period from 2025-2030 which overlaps with the revised opening year for the Lower Thames Crossing of 2029.
- 15.3 If these upgrades are required as a consequence of the Lower Thames Crossing (and reasonably foreseeable) then it would seem appropriate for these to be considered as part of the cumulative assessment required within the Environmental Statement. Similarly, if impacts to the wider network of European sites are likely then they should be considered within the Habitats Regulations Assessment accompanying the Development Consent Order application.

16 Design Principles

- 16.1 Section 1.13 of the Design Principles document states that 'Clauses 4.28-4.35 of the NPSNN set out the criteria for 'good design' for national networks noting that design shall be an integral consideration from the outset'. It states: '4.29 Visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Applying "good design" to national network projects should therefore produce **sustainable infrastructure sensitive to place** [our emphasis], efficient in the use of natural resources and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible'.

Given the significant large adverse residual landscape and visual effects within the Kent Downs AONB, it is not clear how the scheme responds to the sensitive environment in which it sits south of the Thames. Natural England therefore recommends that much greater clarity is provided on how the scheme has considered the requirements of the NPSNN in fostering a high quality environmental design and outcome given the sensitive environment in which it sits.

- 16.2 Section 1.2.18 (Environmental Design) details that 'The Project has been developed to avoid or minimise significant effects on the environment, and during the design process further

measures have been incorporated into the Project to mitigate adverse impacts that would arise and that cannot be avoided.

Whilst Natural England recognises the measures that are being proposed to address environmental impacts, nevertheless, given the significant residual landscape effects at year 15 and the need for compensatory habitats provision for ecological impacts, we recommend that much greater clarity is provided on how the project has maximised the opportunities to avoid and fully mitigate impacts to the rich environment through which it passes.

Natural England broadly supports the proposals for Chalk Park and Tilbury Fields (Section 1.2.18) and are keen to continue working with the Project Team to maximise the biodiversity value of these areas whilst recognising their multifunctionality and various objectives for the sites.

- 16.3 We note that a number of haul roads are proposed (Section 1.2.12), some of which may have implications for sensitive ecological receptors which we would recommend are fully considered within the revised Environmental Statement.
- 16.4 Regarding Section 1.3, the Scheme Objectives, as previously stated, Natural England is disappointed that the objectives do not include an aspiration to create an environmental legacy. The scheme's objectives appear focussed on delivering grey infrastructure rather than demonstrating how the project can be an exemplar of sustainable development.
- 16.5 Similarly, the overall design vision for the project (section 2.1) appears very centred on the highway and grey infrastructure rather than a holistic consideration of the environmental and socioeconomic benefits that a scheme of this nature can, and we believe should, be delivering as part of the Government's 25 Year Environment Plan aspirations and requirements.
- 16.6 This need for a clear emphasis on the environmental aspects of the project is underlined by the guidance provided in the National Policy Statement for National Networks (NPSNN). Section 5.152 of the NPSNN states there is a 'strong presumption against' road widening within protected landscapes, and, in section 5.153, that where consent is given in these areas, the Secretary of State 'should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and where possible includes measures to enhance other aspects of the environment.'

Throughout our engagement with the scheme, Natural England has been keen to work with National Highways to ensure that the Lower Thames Crossing is an exemplar of sustainable development and we would strongly encourage this to be a guiding principle for the Project.

- 16.7 We consider the 'Project wide design principles – Connecting People' (Section 2.1.3(a)) has an emphasis on the highway infrastructure rather than identifying the broader opportunity to leave a positive impact for communities to access and connect with the wider countryside and landscape. This could include the opportunity to reverse the severance from existing road infrastructure (particularly south of the Thames). Natural England would encourage a much greater emphasis on the legacy environmental opportunities for connecting people to be incorporated within the project and the design principles through high quality accessible natural greenspace provision connecting the public rights of way network, for example.
- 16.8 Natural England broadly welcomes the Design Principles for walker, cyclists and horse riders (Table 3.1, PEO.1-11) in providing enhanced opportunities for access to the local environment where this is compatible with the conservation of the habitats and species. Provision of high quality connecting routes and accessible natural greenspace should also be encouraged across the scheme where appropriate.
- 16.9 Natural England supports the PLA.01 design principle to reduce the number of highway structures along the route, particularly within the Kent Downs AONB. We would also support

the sensitive design of these structures through the selection of appropriate colour palettes and finishes, for example, to further reduce the visual intrusion of these.

16.10 Natural England supports the PRO.04 Biodiversity net gain design principle within Table 3.3 Project-wide design principles: Connecting processes and recommend that the Project's commitment to achieve 15%³ net gain is included here.

16.11 The commitment to reconnecting habitats and reducing fragmentation detailed within the 'Project wide design principles – Connecting Places' is supported in principle and should aim to achieve connectivity both along and across the route. However given that the existing severance of habitats (particularly south of the Thames) will be further exacerbated by the Project, we consider the wording in Design Principle PLA.05 could be strengthened.

PLA0.5 (Table 3.2 Project-wide design principles: Connecting places) states (our emphasis) 'Design proposals shall prioritise improving connectivity between existing habitats wherever reasonably practicable, as defined within the Environmental Masterplan (REF TBC). Fragmentation of habitats shall be reduced as far as **reasonably practicable** by avoiding unnecessary barriers to movement and, **where necessary**, including design features which allow safe passage of animals, and colonisation by plants to enhance biodiversity'. Natural England recommends that a stronger commitment is made to ensure no further fragmentation of habitat and landscape results from the project is secured, along with a requirement to reduce existing severance impacts resulting from highway infrastructure.

16.12 In relation to the 'Project wide design principles – Structures' (Table 4.3), given the scale of the additional and new highway infrastructure associated with the project, the design guide and colour palette produced by the Kent Downs AONB Unit should be a key consideration when designing structures within the AONB to sympathetically incorporate them in to this nationally important landscape. A parameter and landscape design led approach should be considered as a key element for structures both within and in the setting of the AONB. Whilst no information on the detail of the design appears to have been provided within the consultation, Natural England considers that care needs to be taken with the 'sense of place' approach for the bridges within the AONB not to make them more conspicuous.

16.13 STR.08 states that green bridges 'are required mitigation for the severance and fragmentation of habitat'. However, as several of the green bridges do not provide linkage between habitats, we consider that as currently designed they do not achieve this purpose. For example, the Thong Lane south green bridge does not provide a link between habitats either side of the route as it stops at the limit of the widened A2. This means the severance caused by the local road and the High Speed 1 rail line remain as a barrier for people and wildlife. Natural England recommends that much greater clarity on how the green bridges will address habitat and landscape severance should be provided within the revised Environmental Statement and the Design Principles.

16.14 STR.09 clarifies that 'environmental, acoustic, boundary fences and security barriers shall be combined into a single structure as much as is reasonably practicable'. Given the potential for significant additional highway infrastructure to be installed within the Kent Downs AONB, Natural England recommends a firm commitment to ensure that such structures are integrated into a single feature, sympathetic to the landscape in which they sit would help moderate the significant landscape impacts from the project is provided.

16.15 STR.10 refers to the need to prevent urbanising effects from noise through the installation of noise and acoustic barriers. Given that a significant length of barriers is proposed within the Kent Downs AONB, the landscape character and visual impacts associated with these also need to be fully considered within the Design Principles given that they, themselves, will be

³ <https://www.gov.uk/government/news/highways-england-seeks-partners-to-build-19-billion-lower-thames-crossing-roads>

significant urbanising structures within the AONB.

- 16.16 Lighting, signage and technology LST.01 (within Table 3.5 Project-wide design principles: Lighting, signage and technology) details that 'Materiality and appearance shall be designed with consideration of the surrounding context of the landscape'. Natural England advises that this should be in accordance with the Kent Downs AONB Unit's 'Landscape Design Handbook' and 'The Selection and Use of Colour in Development' guidance document. For example, the permanent mobile barrier scheme on the M20 has confirmed that highway furniture will be painted in a colour sympathetic to its location within the AONB and the M2 Junction 5 flyover is to be clad in material in keeping with the Kent Downs. Natural England therefore recommends that much greater clarity is provided on how the street furniture will be designed and treated in a way to minimise the impacts to the Kent Downs AONB.
- 16.17 The LST.01-03 Lighting principles here are generally welcomed. It would however seem appropriate for details of sensitive landscape and ecological receptors to be included within the lighting principles to minimise light pollution and maintain dark corridors for wildlife.
- 16.18 The 'Project wide design principles – Landscape' contained within Table 3.6 Project-wide design principles: Landscape details that a small number of non-native species will be planted, where appropriate, to help future proof the habitats against climate change. Natural England would recommend that the scheme uses native species of local provenance for all habitat creation and we have provided more detail on this in relation to the planting palette below.
- 16.19 Natural England has not provided detailed comments on the design principles for the specific habitats to be created as part of the project at present. We support the broad habitats to be created and will be pleased to provide more detailed advice on the principles and management proposals as part of our advice on the revised Environmental Statement and mitigation strategy.
- 16.20 LSP.06 details that 'where large scale landscape mitigation is required, the design of this shall be developed to maximise the Project's legacy for local communities, landowners, whilst considering existing land use. Where compatible with mitigation proposals the Project shall provide, within the Order Limits, enhanced access, amenities and green infrastructure. Where there is alignment between the Project and other existing or planned green infrastructure schemes identified by local authorities and other relevant stakeholders, the Project's detailed design will be developed to integrate with the delivery of green infrastructure by others'. This suggests that a much more visionary, enhanced green bridges led approach to reconnecting the landscape within the Kent Downs severed by the widened transport infrastructure could be delivered, and that this would both complement and be entirely compatible with the design principle. Natural England therefore recommends that much greater emphasis on mitigating the landscape severance for people and wildlife is considered as part of the Environmental Statement and the Design Principles.
- 16.21 Table 3.6 also makes reference to the need to respect historic landscapes (LSP.07) and ecological habitats. However, no such reference appears to be made to ensure that the nationally important landscape of the Kent Downs AONB is given a similar level of consideration within the Design Principles. Natural England recommends that reference to the Kent Downs AONB be included within one or more of the landscape design principles.
- 16.22 The 'Section specific principles: Section 1 – A2/M2 Corridor' refers to retaining woodland where 'reasonably practicable' and where loss is unavoidable that woodland will be replaced. Given there are areas of ancient and semi natural woodland and also woodland within the Shorne and Ashenbank Woods SSSI that will be directly lost, we would recommend that the wording within the Design Principles is strengthened.
- 16.23 S1.04 Lane Over A2 Overbridges details that (our emphasis) '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 (Old) 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 practicable**'.

As mentioned previously, the scheme design shared as part of the Community Consultation suggests that the green bridges will not provide habitat connectivity across the A2 and High Speed 1 corridor. The Thong Lane south crossing does not provide habitat connectivity as it terminates before the local road which runs parallel to the A2 and does not provide connectivity for arboreal species to cross the High Speed 1 rail line. Similarly, the habitat to the south of the Brewers Road Bridge links into the historic Cobham Park with scattered parkland trees rather than woodland or hedgerows. As such we would recommend that a stronger emphasis of truly landscape scale habitat connectivity for people and wildlife is a central component of the green bridges along the A2/M2 corridor. Natural England remains keen to work with National Highways and the Lower Thames Crossing Project to ensure that such opportunities are fully realised.

- 16.24 The permanent realignment of NCR177 (S1.05) and the surfacing to the south of the A2 may have implications for the habitats and area of the Kent Downs AONB through which it passes – if this is the case these will need to be fully assessed within the Environmental statement.
- 16.25 S1.06 The 'Reflect the surrounding landscape character' design principle provides details of the woodland shows that the landscape strategy aims to reinforce. Natural England recommends that the proposals should reflect closely the landscape character assessment for the Kent Downs AONB and local assessments, given that historic parklands are also a key component of the landscape in this area.
- 16.26 The new woodland areas to the east of Shorne Woods Country Park will be 'developed through collaboration and engagement with Shorne Woods Country Park and relevant local stakeholders, subject to their requirements being compatible with mitigation requirements as defined in the Environmental Masterplan'(S1.08). Given these areas fall within the Kent Downs AONB, the design will need to ensure that they conserve and enhance the AONB. Since the woodland planting is also designed to offset the loss of SSSI woodland, Natural England will need to be engaged with the design of the woodland areas to ensure they are compatible with the SSSI conservation objectives.
- 16.27 Within S1.09 Park Pale Acoustic Screening Natural England welcomes the commitment that the design of the screening will be refined in conjunction with the Kent Downs AONB Unit but we would also request that Natural England is party to these discussions given our national statutory adviser role for protected landscapes and the potential implications for the Shorne and Ashenbank Woods SSSI that may result.
- 16.28 A2/M2/Lower Thames Crossing Junction S2.01, S2.04 and S2.06 provide details of the proposed woodland connectivity between Claylane Wood to the east of Gravesend and Shorne Woods via the Thong Lane green bridge. As with the two green bridges across the A2, the habitat connectivity either side of the Thong Lane bridge appears limited in extent with scattered trees across the bridge itself and to the east which do not link into the wider wooded landscape. We would recommend that greater clarity on how habitat connectivity will be achieved is provided.
- 16.29 S2.10 Retaining walls and materials details that 'To integrate the retaining structures at the junction within the AONB, into the wider landscape, either green walls/earth banks or use of materials or cladding, reflective of the local vernacular (such as flint or ragstone) shall be used'. This principle is welcomed but we would recommend that a similar commitment is included within the design principles for the A2/M2 section given that these works also fall

within the Kent Downs AONB.

- 16.30 The replacement woodland to the north of Brummelhill Wood (S3.15 Gravesend link and south portal) details that 'to replace existing ancient woodland lost, a new area of woodland (Planting Appendix LE2.11 – Woodland with non-native species) shall be planted north-east of Thong on the upper slopes adjacent to the AONB boundary/Brummelhill Wood'. If this woodland provision is to offset the impacts of the scheme upon ancient woodland, then the habitat should aim to replicate the species vegetation type that is lost using appropriate native species rather than non-native species.

The proposed non-native species also include *Acer negundo*, a potentially invasive species. Natural England welcomes the use of native species of local provenance, but we do not support the use of non-native species in the planting mix, given the high biodiversity interest of the woodlands in this area. The National Vegetation Classification habitat type for the habitats impacted would be a useful guide as to the species that should be planted within the mitigation and compensation habitats.

- 16.31 Design Principle S9.01 (approach to marshland habitat) within Table 4.5 Section specific principles: Section 7, 8 & 9 – Tilbury Marshes and North Portal could be strengthened to make reference to the opportunities the Lower Thames Crossing Project offers to restore the degraded landscape where it is possible to do so.
- 16.32 In Design Principle S9.02, Natural England would encourage the inclusion of a reference to the important biodiversity contribution the Tilbury Fields area can provide as a key connecting component in the landscape, particularly for invertebrates. We are keen to continue working with the Project Team to help realise the multifunctionality of the site for biodiversity, landscape and sympathetically-managed access (given the sensitivity of the riverside habitats).
- 16.33 In relation to Principle S09.05 Two Forts Way, Natural England recommends that the Project considers and takes into account the requirements of, the England Coast Path in this area as appropriate.
- 16.34 Natural England understands that the area at Coalhouse Fort is no longer to be used for water vole mitigation and instead will be used to provide replacement habitat for non-breeding birds associated with the coastal designated sites. It would therefore appear appropriate for Design Principle S9.13 Water vole habitat to be updated to reflect these changes.
- 16.35 For Design Principle S12.03 Mardyke and Orsett Fen Viaduct Design it may be appropriate for the design principle to make reference to minimising shading to maximise the benefit of the habitat creation works in this area. We welcome the commitment that the viaducts will not be lit, so as to improve the prospects of wildlife movement beneath.
- 16.36 Natural England welcomes the aspiration within Principle S12.06. Wetland Habitat Creation (Table 4.7 Section specific principles: Section 11 – A13 Junction) and we look forward to working with the project team to ensure this principle is successfully implemented. The text could be strengthened by specific reference to Orsett Fen.
- 16.37 As mentioned previously in this letter, Natural England recommends that a strong commitment to monitoring all of the mitigation land is included and it would seem appropriate for this to be reflected within the Design Principles. A robust monitoring strategy to ensure that functioning habitat is established should be included which should ensure that the habitat reaches its target ecological condition and also supports the breadth of species that would be expected.
- 16.38 Natural England has significant concerns regarding the planting palette proposed for some

of the habitat types, particularly the woodland palette.

Natural England advocates the use of native species local provenance for all of the woodland creation areas to maximise the biodiversity benefit from them and these should reflect the species and habitat types that are to be directly impacted. The design palette includes a number of non-native species which we consider are not appropriate for the habitat to be created for the loss of ancient and seminatural woodland to the scheme. We consider that the woodland planting should try to replicate the species composition and habitat structure as closely as possible to that which is lost (whilst acknowledging of course that it is not possible to recreate ancient woodland).

Natural England advises that woodlands created to offset losses to ancient woodland should be adhering to the same principles as managing the ancient woodland assets.

- 16.39 Natural England will be pleased to provide more detailed guidance on the planting palette and species mixes to maximise the biodiversity value for all of the mitigation and compensation habitats as the scheme progresses to maximise their biodiversity and value and their important role in conserving and enhancing the the Kent Downs AONB.

17 Schedule 2 Requirements and Explanatory Memorandum

- 17.1 Section 1.2.8 details that (our emphasis) 'Requirement 3 allows for a **proportionate and reasonable level of flexibility in the final design of the Project**, something that is considered necessary and appropriate in delivering complex major infrastructure projects such as this. Importantly, that flexibility is limited to the scope of the assessment of effects in the Environmental Statement submitted with the application'. Whilst Natural England acknowledges that flexibility is important, we consider that caution will be required to ensure that the flexibility does not result in greater environmental impacts to those considered through the DCO process. It would be helpful if Requirement 3 were amended to reflect this, perhaps along the following lines '...flexibility is limited to the scope of the assessment of effects and the necessary mitigation measures that have been identified in the Environmental Statement submitted with the application'.

- 17.2 Section 1.2.9 (Requirement 4: Construction and handover environmental management plans) details that:

'Requirement 4(1) requires that pre-commencement activities (being activities such as environmental surveys and monitoring) referenced above must be carried out in accordance with a pre-commencement environmental management plan including the measures in the pre-commencement REAC. This will ensure that these pre-commencement activities are carried out in accordance with applicable mitigation measures, even though they will be carried out before the detailed plans and schemes are approved under Schedule 2'.

It is not clear (with cross reference to Section 3 of the Code of Construction Practice) how these measures will be agreed if they are in advance of the detailed plans and schemes being approved under Schedule 2; it would be helpful if further clarity could be provided in this respect. Some of these may have implications for designated sites (eg ground monitoring and archaeological works if they are to take place within them). It is understood that the Pre-commencement EMP will be approved by the relevant Local Planning Authority so it is unclear if there is a requirement for Natural England to be consulted.

- 17.3 It would be helpful for clarity to be provided on the work numbers for the 'excluded utility works' which can be undertaken in advance of the formal commencement of the development. The Schedule 2 Part 1 requirements has a gap for the work numbers to be inserted; given some of the utility works are within designated sites and protected landscapes and the detailed avoidance and mitigation strategy will come post consent it would be helpful to know which works this applies to and how the avoidance and mitigation

measures will be controlled.

17.4 Detailed design 3.—(1) states :

‘The authorised development must be designed in detail and carried out in accordance with the design principles document and the preliminary scheme design shown on the engineering drawings and sections, and the general arrangement drawings, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with the relevant planning authority on matters related to its functions, provided that the Secretary of State is satisfied that any amendments to those documents showing departures from the preliminary scheme design would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.’

Given the significant direct and indirect impacts to designated sites, protected landscapes, protected species and wider habitats and species of conservation concern Natural England would expect to be consulted on any design amendments which may result in different environmental impacts to those detailed within the Environmental Statement submitted as part of the Development Consent Order.

17.5 It is noted that ‘(6) The EMP (Third Iteration) must address the matters set out in the EMP (Second Iteration) that are relevant to the operation and maintenance of the authorised development and must, except where contained in a LEMP approved under paragraph 5 of this Schedule, contain— (a) the environmental information needed for the future maintenance and operation of the authorised development; (b) the commitments to aftercare, monitoring and maintenance activities relating to the environmental features and mitigation measures that will be required to ensure the continued long-term effectiveness of the environmental mitigation measures and the prevention of unexpected environmental impacts during the operation of the authorised development; and (c) a record of the consents, commitments and permissions resulting from liaison with statutory bodies .

Whilst this is welcomed, we would advise that there also needs to be a feedback mechanism for remedial actions should the monitoring show that the mitigation measures have not reached their ecological target condition. It would therefore seem appropriate for an additional requirement to be inserted along the following lines:

“b) the commitments to aftercare, monitoring, *remedial habitat management measures* and long-term maintenance activities relating to the environmental features and mitigation measures that will be required to ensure the continued long-term effectiveness of the environmental mitigation measures and the prevention of unexpected environmental impacts during the operation of the authorised development;’

17.6 The Landscaping and Ecology section details that ‘5.—(1) Each part of the authorised development must be landscaped in accordance with a LEMP which sets out details of all proposed hard and soft landscaping works for that part and which has been submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with— (a) the relevant planning authority; and⁴ (b) Natural England in respect of a LEMP which is proposed to include any land in the Shorne and Ashenbank Woods Site of Special Scientific Interest and/or the South Thames Estuary and Marshes Site of Special Scientific Interest’.

Given the loss of habitat from within the Shorne and Ashenbank Woods SSSI and loss of functionally linked land from the Thames Estuary and Marshes Special Protection Area and Ramsar site, Natural England would expect to also be consulted on the LEMP for habitat creation required to offset the loss of habitat from these sites, not just for land covered by the LEMP within the designated sites.

17.7 In addition, given the significant impacts to the landscape character and visual receptors within the Kent Downs AONB, Natural England would expect to be consulted on the LEMP

regarding measures to moderate the impacts to the nationally important landscape.

- 17.8 In relation to the surface and foul water drainage (Sections 8(1) and (2)), Natural England would expect to be consulted in relation to the surface water drainage strategy for the construction compound which is to discharge via the ditch network within the South Thames Estuary and Marshes SSSI and the Thames Estuary and Marshes Ramsar Site.
- 17.9 Regarding the archaeological works (Sections 9(1) to (7)) it is not clear whether any of these are to be undertaken within Sites of Special Scientific Interest. If this is the case, then detail of the methodology and working area should be included within the Terrestrial Biodiversity chapter of the environmental statement along with any mitigation measures proposed. Natural England would expect to be consulted on any archaeological investigations within statutory designated sites.

18 Code of Construction Practice First Iteration of Environmental Management Plan

- 18.1 Whilst it is acknowledged that the current consultation is limited to the documents that have been shared, it is noted that Section 2.1.1 (Procedures for the approval of EMP2 (Environmental Management Plan)) states 'no part of the authorised development (the Project) is to commence until an EMP2 in accordance with this CoCP has been submitted to and approved in writing by the SoS following consultation ... There is an exception to this for certain specified pre-commencement activities, as set out in article 2 of the DCO'.

The activities contained within article 2 of the DCO do not appear to have been included within the current consultation documents. As such, it is not possible for Natural England to provide advice on whether the excepted activities may have significant implications for areas within our statutory function.

- 18.2 Natural England welcomes the confirmation within Section 2.3.1 that Natural England will be one of the stakeholders that the contractor will engage with post consent. We will be pleased to continue working collaboratively with the contractor, National Highways and other stakeholders should consent be granted.
- 18.3 Similarly, we welcome the commitments within Section 2.3.2 which details that 'The EMP2s, developed by the Contractors will set out their procedures for monitoring compliance with the mitigation measures set out in this document and the REAC'. During discussions with the Lower Thames Crossing project team, we have suggested that an Environmental Advisory Group (or equivalent) would be a useful forum to continue the constructive, partnership working post consent. Such a group may be a helpful mechanism for the contractor to work collaboratively with stakeholders on such compliance measures.
- 18.4 Section 2.6.6 details that 'Highways England or their representatives will carry out site inspections and audits to verify the Contractors' compliance with EMP2. On request, relevant planning authorities, the Environment Agency and Natural England, will be given access to the results of the site inspections and audits, along with the opportunity to attend and observe Highways England site inspections and audits'. In the spirit of open collaborative working, it would seem appropriate for these reports to be shared with relevant stakeholders as a matter of routine, perhaps as part of an Environmental Advisory Group.
- 18.5 Table 3.1 'Pre-commencement activities and locations' lists species translocations and archaeological investigations amongst the works that can be undertaken pre-commencement. Some of these may have implications for the natural environment within Natural England's remit particularly if any of the investigations are to be undertaken within, or may indirectly impact, a statutory designated site. It would therefore be helpful if clarity were provided on how stakeholders will be consulted on the pre-commencement EMP to ensure that these activities in advance of the EMP2 being agreed do not result in significant

impacts.

- 18.6 Table 4.2 'Consents and permits that may be required' does not list the requirement for SSSI assent should activities not be fully covered by the DCO. Natural England is committed to working collaboratively with the Project, and whilst it is hoped that sufficient detail and certainty will be provided within the resubmitted DCO on the nature and scale of works to be undertaken within (or affecting) the SSSIs along the route, at present Natural England does not consider sufficient detail has been provided.
- 18.7 The Construction Site Layout and Housekeeping (Section 6.6) details within Section 6.5.2 that 'In addition to the measures in the REAC, the following principles will be implemented subject to local constraints:...
- b. Noise-generating activities will be sited away from noise-sensitive receptors where practicable and screened if necessary and practicable to reduce the noise impact.
- Given the location of some of the construction areas and compounds close to designated sites, if it is not 'practicable' to site noise generating activities away from sensitive receptors, Natural England would expect additional mitigation measures to be implemented to ameliorate the impacts from noise disturbance.
- 18.8 Sections 6.1.08-9 detail the proposed actions for extreme weather events. In addition, Natural England would recommend that the Project also follows the approach where disturbing works to birds are stopped during prolonged period of cold weather in a similar vein to the cessation of wildfowling. As an additional source, it would appear appropriate to include reference to the Joint Nature Conservation Committee's severe weather scheme and its publication of restraint or suspension of activities⁴.
- 18.9 Table 7.1 'Pre-Commencement REAC table' details a number of actions that will be undertaken 'where reasonably practicable'. It would be helpful if further detail on what further measures would be implemented should they not be practicable to ensure that impacts are avoided are provided. A high degree of certainty that the actions can be delivered should be provided within the DCO and accompanying control documents.
- 18.10 Natural England notes that there are no specific pre-commencement actions in relation to the impacts to the Kent Downs AONB within Table 7.1; it would be helpful if clarity were provided on any measures that are to be implemented at the pre-commencement stage.
- 18.11 Table 7.1 also refers to the securing mechanism within the DCO as being EMP2 Requirement 4 for the terrestrial biodiversity pre-commencement requirements. As the DCO has not been shared as part of this consultation, we are not able to provide advice on whether Requirement 4 provides sufficient certainty at this stage and we will be pleased to provide further advice once it is possible to share the DCO.
- 18.12 In addition, for the non-licensable terrestrial biodiversity requirements, Table 7.1 details that the 'achievement criteria' will be 'implementation of commitment actions'. Given the complexity of some of these ecological translocations, achievement criteria on ecological outcomes or ecological functionality may be more appropriate. It may be helpful for the REAC to include detailed ecological indicators of success based upon the habitat establishment and target ecological condition along with the species that the habitat should support comparing this to sites in the locality. Such a good practice approach was adopted by National Highways on the A21 Pembury to Tonbridge Dualling scheme and is an approach we would advocate for this project.
- 18.13 REAC reference TN017 (Translocation of notable species) refers to the translocation of non-licensable reptiles and amphibians. Other, non-licensable, notable species of conservation

⁴ Available to download from <https://jncc.gov.uk/our-work/severe-weather-scheme/>

concern have been recorded along the route corridor so it would be helpful for clarity to be provided on how the project will mitigate the impacts to these.

- 18.14 As with the pre-commencement REAC Table 7.1, Table 7.2 REAC table refers to the securing mechanism within the DCO as being EMP2 Requirement 4 for the terrestrial biodiversity pre-commencement requirements. As the DCO has not been shared as part of this consultation, we are not able to provide advice on whether Requirement 4 provides sufficient certainty at this stage and we will be pleased to provide further advice once it is possible to share the DCO.
- 18.15 As with Table 7.1, the 'achievement criteria' for air quality, geology and soils, the Habitats Regulations assessment, landscape and biodiversity within Table 7.2, in the main, are the 'implementation of the commitment'. Given the nature and scale of the works and the mitigation measures required, it would seem appropriate for more detailed and measurable achievement criteria with robust indicators of success to be included for all of the commitments. This would help ensure that the scheme does not result in a deterioration of the rich environment through which it passes, a key requirement of the NPSNN.
- 18.16 The East Tilbury Haul Road (GS020) has the potential to impact areas of ecological value for invertebrates and other species and recommend that measures are implemented to avoid or fully mitigate any such impacts.
- 18.17 HRA001 (Seasonal constraints to construction of discharge from construction of South Portal), HRA002 (Seasonal constraints to works at the northern outfall) HRA005 (Protection of birds from activities at the Northern tunnel entrance compound) and HRA006 (Seasonal constraints to works to form noise barriers at compounds) detail that works would be undertaken during the spring and summer to avoid impacts to non-breeding birds associated with the Special Protection Area and Ramsar Site. Natural England has previously advised that works within, and in close proximity to the South Thames Estuary and Marshes Site of Special Scientific Interest during these months could impact breeding birds. In addition, we would advise that the passage bird season includes July and August. We therefore recommend that greater clarity should be provided on how impacts to the breeding and wintering birds associated with the designated sites are being addressed. We are continuing to work with the Project Team on these topics and it would appear appropriate for the REAC Commitment to be updated to reflect the recent discussions.
- 18.18 In relation to HRA007 (Habitat enhancement in functionally linked land) and HRA008 (Groundwater surveillance), Natural England is still discussing these matters with the Project Team and hope to be able to resolve any outstanding concerns in the near future. During these discussions, the Project Team has confirmed that additional habitat will be created north of the Thames at Coalhouse Fort to mitigate the loss of functionally linked land so we would recommend that HRA007 is updated to reflect the current proposals.
- 18.19 Natural England welcomes the commitment to undertake surveys of bird activity (HRA009, Bird behaviour surveillance) but would recommend that this also covers the bird on passage period in addition to the overwintering season.
- 18.20 Natural England welcomes that the agreement, following our discussions with the Project Team, for the surface water drainage from the southern construction compound to meet agreed chemical water quality parameters prior to its discharge in the South Thames Estuary and Marshes SSSI and the Thames Estuary and Marshes Ramsar site is not included within the HRA section of Table 7.2 but note that it is included with RDWE033 (Discharge from construction of South Portal). We would therefore recommend that all of the agreed actions following our discussions on the Habitat Regulations Assessment are reflected within Table 7.2 when it is revised.
- 18.21 As part of our ongoing collaborative work with the Project Team, Natural England is providing advice on air quality impacts to designated sites. We note that at present, no HRA

commitment is included in relation to the measures that will be implemented to mitigate the impacts of traffic and construction generated air quality and would recommend that these are included.

- 18.22 Natural England notes that the mitigation measures for impacts to the landscape character, visual receptors, tranquillity and urbanising effects to the wider Kent Downs Area of Outstanding Natural Beauty are not detailed within Table 7.2 (either within the Landscape topic or other relevant topic specific sections such as noise and vibration). We would therefore recommend that Table 7.2 includes the full details of the measures that are to be implemented to moderate the impacts to the nationally protected landscape.
- 18.23 In relation to the achievement criteria for LV003 (Landscape maintenance), we note that the achievement criteria are 'Successful establishment of planting within five years to serve its mitigation purpose as identified on the Environmental Masterplan'. The establishment periods for the several of the habitats that are to be created to compensate for impacts detailed within the Design Principles exceed the five year period so they may not have reached their mitigation purpose within this timeframe. As such, it may be appropriate for the achievement criteria to cross refer to the Design Principles.
- 18.24 It would be appreciated if clarity were provided on RDWE040 (Maintaining floodplain flow connectivity) as it would be useful to understand whether or not this may affect the wetland habitat creation at Orsett Fen.
- 18.25 For the Terrestrial Biodiversity TB007 (Habitat management) we note that 'Retained and new habitats would be managed having regard for Natural England's The Mosaic Approach: Managing Habitats for Species (2013) to improve both priority habitats and species'. This approach may be appropriate for the areas of open mosaic habitat that are to be created but other habitats such as the woodland to compensate for the loss of ancient and semi-natural woodland (including that from within designated sites) will require specific management to ensure they reach the desired ecological condition. It would appear appropriate for habitat specific habitat management measures, supported by ecologically robust indicators of success and target habitat condition, to be detailed within the document.
- 18.26 As with the pre-commencement works, TB017 (Translocation of notable species) only refers to the translocation of non-licensable reptiles and amphibians. Other notable species have been recorded along the scheme route and it would seem appropriate that details of how the Project aims to conserve and enhance these are included.
- 18.27 Natural England's advice is that ancient woodland and impacts to the Shorne and Ashenbank Woods SSSI should be avoided, in accordance with the NPSNN and the NPPF but we acknowledge that the Secretary of State may consider there are exceptional circumstances that justify the loss of these irreplaceable habitats. Should consent be obtained, we recommend that good practice from other schemes, including those from the A2 widening and the A21 Pembury to Tonbridge Dualling are fully reflected within TB028 (ancient woodland soil translocation). Natural England would also expect a stronger commitment within the 'achievement criteria' to be provided. As mentioned previously, a clear commitment to ensure that the target habitat is delivered in terms of both the habitat composition and the species it supports should be provided in line with good practice from other schemes. Natural England would be pleased to discuss this further with the Project Team and consider that an Environmental Advisory Group approach would be beneficial in shaping this should consent be granted.
- 18.28 For all of the proposed compensatory habitats that are to be created, key to their success will be the appropriateness of the site in terms of the soil conditions, aspect and nutrient status, for example. It would seem appropriate for such information to be provided within the revised Environmental Statement.

Annex A.5 Natural England Local Refinement Consultation Response

Date: 20 June 2022
Our ref: 391776
Your ref: -



Lower Thames Crossing
Local Refinement Consultation
National Highways

Customer Services
Hornbeam House
Crewe Business Park
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Crewe
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By email only to ltc.consultation@traverse.ltd

T 0300 060 3900

Dear Sirs

Lower Thames Crossing – Local Refinement Consultation 2022

Thank you for the email of the 12 May 2022 seeking Natural England's advice on the Local Refinement Consultation for the Lower Thames Crossing project.

As highlighted in our response to the Community Impacts Consultation in July 2021, Natural England welcomes the collaborative approach that has been taken by the project team. The constructive dialogue has allowed us to continue to address and resolve areas of concern, as well as identify opportunities to enhance the natural environment. The advice in this response is again provided in the spirit of collaborative working to help National Highways achieve an exemplar, sustainable development, which delivers a significant lasting legacy for people and wildlife.

We have provided our comments below in response to the information provided in the consultation.

Chapter 2 Local refinement consultation

Natural England welcomes the proposed use of low-noise road surfacing along sensitive sections of the route, including the Kent Downs Area of Outstanding Natural Beauty (AONB) (page 11). Such a commitment will help reduce the noise resulting from the scheme to receptors within the AONB, and is supported. Key to the success of this mitigation measure will be ensuring the low-noise surfacing is retained in these areas as an integral part of the road design.

Chapter 3 You said, we did

Natural England welcomes the extension of open space provision at Chalk Park for the landscape, access and biodiversity benefits that this proposal will bring.

Chapter 4 Proposed changes since the community impacts consultation

An area north of Shorne Ifield Road and a field south of Shorne Ifield Road (Map Ref. 1)

In the context that compensatory woodland creation will be needed if the scheme is approved, we welcome the proposed amendment (page 32) to enhance woodland connectivity by moving the block of woodland planting to the south of the Shorne Ifield Road, so that it will abut the Shorne and Ashenbank Woods Site of Special Scientific Interest (SSSI). It will be important to ensure in the design of this area of habitat that the far-reaching views from the Kent Downs AONB towards the Thames Estuary are maintained.

As stated in our response to Chapter five of the consultation (below), we also support the use of natural regeneration as an important means of establishing new native woodland adapted to local environmental conditions.

Land at the Southern Valley Golf Club (Map Ref. 5)

The additional area of public access land at the Southern Valley Golf Club (page 40) is welcomed for the biodiversity benefits it will bring (from the creation of a mosaic of species-rich chalk grassland and woodland), and the opportunities for people to recreate within these semi-natural habitats. It will also be beneficial in securing accessible natural greenspace to the eastern edge of Gravesend, providing views to the Kent Downs AONB.

Redesign of Tilbury Fields (Map Ref. 7)

Natural England notes the proposed redesign of the Tilbury Fields in the vicinity of the northern portal. We are continuing to advise the LTC project team on the design of this area, and welcome the positive and constructive discussions that are focused on securing a strong package of environmental mitigation measures.

We understand that the overall area of proposed open mosaic habitat is expected to increase, compared with the previous design, although the change understandably involves less riverside frontage and a more north-south orientation. There are significant opportunities in the Thames Estuary to help secure nature recovery, and the proposed Tilbury Fields affords the opportunity to create (and manage in perpetuity) a large area of wildlife-rich habitat which will enhance landscape-scale connectivity in the area, consistent with those ambitions.

It will also be important that the scheme secures and maximises the opportunities presented by beneficial re-use of materials (including PFA and other ecologically important substrates) and that the detailed design stage can progress the intent for this area. At figure 4-49 we note proposed new access in this area, and it will be important for the scheme to carefully balance access to, and enjoyment of, the area with the needs of wildlife in order for this area to achieve its objectives, including the river frontage area.

Northern Portal Access Road (Map Ref. 8)

Natural England notes the redesign of the western side of the north portal access road, and its stated intent to '*potentially accommodate further development in the future*' and '*with possible future development in mind*'. General Arrangement Sheet 17 does not appear to allocate a proposed land use for the area arising as a result of this change between the route alignment and the western access road. It would be helpful for clarification to be provided regarding the proposals for this area.

Land at former Tilbury Power Station (Map Ref. 9)

Natural England notes the order limits amendment to include land at the former Tilbury Power Station for construction-related activity. This land is known to support some important wildlife habitats and we will be happy to continue to advise on the ecological baseline and environmental assessments needed to inform the activities in this area.

New Footpaths around Coalhouse Fort / Bowaters (Map Ref. 12)

Natural England notes the proposed new footpaths in the general area of Coalhouse Fort. Whilst we welcome new opportunities for public access where appropriate, we note the routes proposed, in particular in the area of Bowaters, contain important habitats for breeding birds which are likely to be sensitive to disturbance from increased access. We will be pleased to continue to work with the project team to help ensure that a balance is achieved between proposed new access and the existing wildlife interest.

Chapter 5 Assessment of the impacts of nitrogen deposition and proposals for mitigation and compensation

Appendix 1 – Nitrogen deposition impact assessment, mitigation and compensation for the Lower Thames Crossing

Natural England welcomes the detailed and ongoing assessment of the effects of nitrogen deposition on sites designated for their wildlife importance. We are pleased that the assessment, following advice from Natural England, has been revised to include the consideration of ammonia to inform the understanding of the impacts on the affected sites. We are working closely with National Highways and the LTC project team to ensure that appropriate measures are secured in response to these impacts, and we recognise the considerable work that has been undertaken to identify and assess the proposals being put forward.

It is important that the measures are identified in the context of the avoid/mitigate/compensate hierarchy, and we note that these principles, as well as the precautionary principle, have been used to underpin the assessment. In this context, we support the identification and use of mitigation measures as an important step before the consideration of compensatory measures. We note that the speed enforcement measure being considered for the M2 has the potential to reduce the area of compensation being proposed in Kent, and we would support the use of this measure if it is achievable.

With regard to Epping Forest Special Area of Conservation (SAC), we note that the identified speed limit mitigation would have the effect of reducing nitrogen deposition, and Natural England supports the use of this measure as the means by which air quality impacts to the site arising from the scheme can be managed. We are also continuing to provide advice on the potential impacts on the North Downs Woodlands SAC in Kent.

Our advice on compensation for nationally and locally designated sites and areas of ancient woodland is provided in the context that, should the scheme be approved, the compensation areas will be a necessary part of the package of measures needed to address the impacts from nitrogen deposition. Whilst we recognise the proposals are still being finalised, we support the approach being taken, and we welcome National Highways' ongoing commitment to engaging with stakeholders and landowners.

Natural England has helped advise on the habitat site selection methodology, and we support the landscape-scale approach that has been taken to identifying the proposed compensation areas, with its aim of enhancing the resilience of the affected sites by strengthening the ecological connectivity between them. This outcome is also supported by the proposed provision of large compensation areas in close proximity to the designated sites, an approach in keeping with the 'more, bigger, better and joined' principles set out in the 'Making Space for Nature' review led by Professor Sir John Lawton¹.

Whilst the site selection methodology has excluded existing wildlife-rich habitats (such as designated sites), the proposed areas may still support important wildlife interest. The ongoing consideration of these sites should therefore include an assessment of their baseline ecological interest, with targeted surveys (as may be needed) to ensure there is an up-to-date evidence base. It is also important that these areas are considered in terms of their potential effects on other environmental features, including landscape, cultural heritage, and soils, and we will continue to advise as appropriate on these matters as part of our advice on the Environmental Statement.

¹<https://webarchive.nationalarchives.gov.uk/ukgwa/20130402151656/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

In addition, some of the parcels of land are subject to existing agri-environment or other land-based schemes, and it will be important to consider the implications of the proposed nitrogen deposition compensation areas in this context. Details of the land covered by these schemes can be found under the 'Land Based Schemes' section of <https://magic.defra.gov.uk/>.

Whilst there is a particular focus on woodland creation, given the context of the sites that are affected, we also support the proposed creation of a mosaic of wildlife-rich habitats. We have advocated the use of natural regeneration as an important means of establishing new native woodland adapted to local environmental conditions, and we welcome the inclusion of this technique in the objectives for the proposed compensation areas. We also recognise the wider benefits these areas can provide, including, where appropriate, the provision of publicly accessible sites which will help make a positive, long-term contribution to the environmental legacy of the project.

Natural England welcomes the positive and constructive approach that has been taken to respond to the environmental impacts of the Lower Thames Crossing scheme, and we will continue to work with National Highways and the project team as the proposals are further refined.

Yours faithfully

A solid black rectangular box used to redact the signature of Patrick McKernan.

Patrick McKernan
Manager
Natural England
Sussex and Kent team

Annex A.6 Legal note on the disapplication of SS.28E and 28H of the WCA 1991

Appendix A Legal note on the disapplication of SS.28E and 28H of the WCA 1991

A.1 Executive summary

- A.1.1.1 This joint advice note has been prepared by Burges Salmon LLP and agreed with BDB Pitmans LLP on behalf of National Highways Limited (“**National Highways**”).
- A.1.1.2 Sections 28E and 28H of the Wildlife and Countryside Act 1981 (the “**Act**”) provide two alternative consenting mechanisms for operations likely to damage a site of special scientific interest (a “**SSSI**”). Broadly, s.28E relates to owners and occupiers of land, and s.28H to a variety of public bodies.
- A.1.1.3 This note sets out the relevant statutory provisions, how they would apply to nationally significant infrastructure projects (“**NSIPs**”), and our recommendation as to how SSSI consents are addressed within National Highways development consent orders (“**DCO**”). Our recommendation is that both ss. 28E and 28H of the Act should be disapplied in National Highways’ DCOs, in the interests of certainty and the expeditious delivery of NSIPs. Importantly, the consenting process for DCOs ensures that the protection for SSSIs provided by sections 28E and 28H of the Act, and Natural England’s (“**NE**”) functions under those provisions, are preserved.
- A.1.1.4 This note has been prepared to inform discussions with NE, as the regulatory body in respect of SSSIs in England and Wales, with the aim of agreeing general principles for any given project at an organisational level.

A.2 Section 28E consent

- A.2.1.1 Section 28E provides that the owner or occupier of any land included in a SSSI shall not carry out, or cause or permit to be carried out, on that land any operation likely to damage the SSSI, without the consent of NE¹.
- A.2.1.2 Under s. 28E(2), the duty to notify (and obtain consent from) NE of operations in an SSSI under s.28E(1) does not apply to an owner or occupier being an authority to which s.28G applies (a “**Section 28G Authority**”).

A.3 Section 28G authorities and the general duty

- A.3.1.1 Under subsection 28G(3)(f) a “public body of any description” will be a Section 28G authority.
- A.3.1.2 National Highways is a government-owned, arm’s-length company, created pursuant to the Infrastructure Act 2015. The Cabinet Office’s Public Bodies

¹ Either expressly, or through an approved management agreement or scheme.

Handbook² identifies arm's length bodies as a category of public body. National Highways is therefore a public body for the purposes of section 28G.

- 1.1 Under s.28G(2) of the Act, a Section 28G Authority is under a general duty to take reasonable steps to further the conservation and enhancement of the SSSI, when exercising its functions.

A.4 Section 28G authorities – duty in relation to carrying out operations under S.28H

- A.4.1.1 Whilst not subject to s.28E, a Section 28G Authority must give notice to NE before carrying out, in the exercise of its functions, operations likely to damage any of the flora, fauna or geological or physiographical features by reason of which a SSSI is of special interest (s.28H(1)).
- A.4.1.2 In response to a notice, NE may either:
- a. assent to the proposed operations (with or without conditions); or
 - b. refuse to assent to the proposed operations.
- A.4.1.3 In the event that NE refuse to assent to the operations but the Section 28G Authority intends to proceed anyway, or NE assents but the Section 28G Authority proposes to carry out the operations other than in accordance with the terms of NE's assent, there is a mechanism by which NE can be notified of that intention so as to allow the operations to proceed. When doing so the Section 28G Authority is then subject to certain statutory safeguards concerning those operations, including a requirement to restore the site.

A.5 Offences and the reasonable excuse defence

- A.5.1.1 Where a person, or Section 28G Authority, contravenes ss. 28E or 28H (as the case may be), without reasonable excuse, they will be guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.
- A.5.1.2 For the purposes of these offences, it is a reasonable excuse for a person to carry out an operation (or to fail to comply with a requirement to send a notice about it) if the operation in question—
- a. was authorised by a planning permission, or otherwise permitted by a Section 28G Authority; or
 - b. was an emergency operation where notified to NE.
- A.5.1.3 A DCO granted by the Secretary of State would comprise a permission granted by a Section 28G Authority³, and accordingly the DCO for the Scheme (if made) would amount to a “reasonable excuse” for these purposes.

A.6 Disapplication of legislation under a DCO

- A.6.1.1 Section 120(5) of the Planning Act 2008 provides that a DCO may disapply statutory provisions, subject to the other provisions in Chapter 1 of Part 7 of that Act.
- A.6.1.2 Section 150 allows for the removal of a requirement for prescribed consent or authorisation only if the relevant body has consented to the inclusion of the

² <https://www.gov.uk/government/publications/classification-of-public-bodies-information-and-guidance>

³ Provided the procedures of section 28I of the Act are followed.

provision within the DCO. The prescribed consents in England are set out in Paragraph 1 of Schedule 2 to the Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015.

- A.6.1.3 Where a consent or authorisation is not prescribed for the purposes of s.150, the relevant statutory provisions can be disapplied without consent from the relevant regulatory body (pursuant to s.120). There is no other restriction within the relevant chapter of the Planning Act 2008 (i.e. Chapter 1 of Part 7) which otherwise restricts the application of s.120.
- A.6.1.4 Sections 28E, 28G and 28H of the Act are not consents or authorisations prescribed for the purposes of s.150 of the Planning Act 2008 in England.⁴ Consent from NE to disapply these sections is therefore not required to disapply those provisions in DCOs relating to NSIPs in England. Those provisions can be disapplied by virtue of s.120 of the Planning Act 2008.

A.7 Examples of disapplying SSSI consents

- 1.2 The disapplication of s.28E of the Act has precedent in the A14 Cambridge to Huntingdon Improvement Scheme Development Consent Order 2016 and the A303 (Amesbury to Berwick Down) Development Consent Order 2020 (albeit the latter has since been quashed for reasons not relevant to this note).
- 1.3 In relation to the A14 and A303 Stonehenge schemes, Natural England did not challenge the disapplication of s.28E, and ss. 28G, 28H and 28I were not the subject of discussion during examination.

A.8 Analysis

A.8.1 National Highways as Section 28G Authority

- A.8.1.1 National Highways is a Section 28G Authority for the purposes of promoting highways NSIPs. National Highways is a public body and the operations involved in developing the strategic road network would flow from the proper exercise of its statutory functions.

A.8.2 Relevance of section 28E

- A.8.2.1 That National Highways is a Section 28G Authority does not mean that s.28E is no longer relevant. Section 28E applies to any owner or occupier of any land included in a SSSI where they '*carry out, or cause or permit to be carried out*' any operations on that land. This provision would therefore apply in principle to any owners or occupiers of land who permit National Highways to carry out works on their land within the SSSI. It is important that s.28E is disapplied to prevent National Highways' works comprising an offence on third party land by that third party landowner or occupier (if for example works were carried out by agreement with that landowner rather than through the exercise of compulsory acquisition powers).
- A.8.2.2 The s.28E duty would also apply in respect of any new SSSI that is notified by Natural England under s.28 of the Act in respect of land within the Order limits of

⁴ However, we note that s.28E is a prescribed consent in Wales pursuant to Part 2 of Schedule 2 to The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015. We also note that until 2015 s. 28E was a "prescribed consent" for the purposes of the Planning Act 2008 in England.

a made DCO. There is therefore potential for additional owner/occupiers to be subject to s.28E throughout the life of a NSIP.

A.8.3 Reasonable excuse defence

- A.8.3.1 In principle, the reasonable excuse defence is capable of applying to operations which would otherwise constitute an offence under both s.28E and s.28H.
- A.8.3.2 We understand, from correspondence with NE on specific National Highways schemes, that NE consider that National Highways could carry out the operations permitted under a DCO in reliance on the reasonable excuse defence in s.28P(4)(a) of the Act. This defence may also be available to any owner/occupiers subject to s.28E.
- A.8.3.3 We infer from this that NE considers the DCO examination and determination process to be equivalent to the notification process required under s.28H of the Act in terms of purpose and function, subject to compliance with s.28I by the SoS in determining the application.⁵
- A.8.3.4 Whilst we do not disagree with NE's assessment, we think it is clearly preferable to use the disapplication route instead. This is because it provides greater clarity, since there is no need to enquire on a case by case basis whether the reasonable excuse defence applies, and would avoid any risk of procedural challenge where the authorisation process under s.28I is not strictly complied with, noting that the requirements under s.28I were not drafted with the DCO examination and consenting process in mind.
- A.8.3.5 We would also note that there is some uncertainty about whether a statutory defence (of "reasonable excuse") would be available in relation to operations carried out on land which may become a notified SSSI under s.28 of the Act following the grant of the DCO, as strictly the requirements of s.28I would not have been complied with in relation to such land.

A.8.4 Mitigation and requirements

- A.8.4.1 The impact of an NSIP on the notified features of relevant SSSIs is considered in detail as part of the DCO consenting process, and the control mechanisms to be put in place under a DCO should be appropriate to protect the notified features of SSSIs in so far as that protection is consistent with the delivery of the NSIP.

A.9 Conclusions and recommendation

- A.9.1.1 We recommend that, as a general point of principle to be agreed with NE, both ss.28E and 28H of the Act are disapplied within National Highways DCOs. The disapplication would only apply in respect of works permitted by the DCO.
- A.9.1.2 In our view it would be much better to remove any potential ambiguity in the underlying statutory code to enable the efficient delivery of an NSIP. That approach is a better fit with the DCO regime offering a "one-stop shop" for consents for NSIPs. We consider that NE's acceptance that a DCO would

⁵ We note that in its Written Representation dated 15 June 2015 in connection with the A14 Cambridge to Huntingdon Improvement Scheme Development Consent Order 2016, Natural England accepted that the notice requirements of subsections 28I(2) to (4) were satisfied by way of the Secretary of State's determination of the DCO application for the scheme (section 1.7, footnote 45).

amount to a reasonable excuse defence supports this approach, which has been accepted in previous DCOs.

- A.9.1.3 The protection of SSSIs, and NE's involvement within the approval process, would then be provided for within the DCO and its consenting process, as appropriate on a case-by-case basis.
- A.9.1.4 We would note that we are not aware that the issues raised in this note have been explored in any great detail in the context of past DCOs.
- A.9.1.5 We would invite NE to comment on this recommendation, with a view to agreeing an approach with National Highways on a national basis.

Burges Salmon LLP

BDB Pitmans LLP

19 January 2022

Annex A.7 Without prejudice consideration of mitigation for air quality effects on Epping Forest SAC

1 Introduction

1.1 Purpose of this document

- 1.1.1 A Habitats Regulations Assessment (HRA) (Application Document 6.5) has been undertaken in accordance with regulation 63 of the Conservation of Habitats and Species regulations 2017 (as amended).
- 1.1.2 The HRA document reports the assessment of the implications of the Project on the relevant European sites' conservation objectives.
- 1.1.3 The HRA concluded that there would be no adverse effects on the integrity of any European sites, including due to changes in nitrogen deposition caused by changes in vehicle emissions. In relation to the assessment of Epping Forest Special Protection Area (SAC) this was on the basis that the stage 2 appropriate assessment demonstrated the effects to be 'inconsequential'. This conclusion was made on the basis that the predicted scale of the impact of N deposition would cause no consequential risk of a measurable change in the habitats as no nitrogen-sensitive species were recorded in the affected area and the area affected was a very small proportion of the SAC. Accordingly, the view of the competent expert for HRA is that no mitigation of this impact is required in order for the HRA to conclude that there would be no adverse effects on the integrity of the site.
- 1.1.4 However, when Natural England were consulted on the conclusions of the HRA, they disagreed with the conclusion in relation to Epping Forest SAC and have expressed the view that mitigation should be implemented to reduce the effect. In having due regard to Natural England's advice, National Highways has investigated potential mitigation options, on a without prejudice basis, and has identified a measure that would reduce the nitrogen deposition to below screening thresholds, although National Highways maintains the view that the incorporation of the measure as part of the Project is not necessary.
- 1.1.5 This document presents the mitigation options that National Highways has investigated and the without-prejudice measure that was identified as being feasible, including the form of a mechanism by which the mitigation measure could be secured. Natural England agree that if this additional mitigation is secured, there would be no adverse effects on the integrity of Epping Forest SAC.

1.2 Consultation

- 1.2.1 Details of the potential mitigation measures which could be implemented for Epping Forest SAC (in the form of a speed limit reduction on the M25 between junctions 27 and 26) were presented during the Local Refinement Consultation in May 2022. A preliminary technical note was also shared with Natural England. Natural England considers that the measure should be proposed formally as part of the Project, but agrees that it would be adequate to mitigate nitrogen deposition effects on Epping Forest SAC.

- 1.2.2 Accordingly, there can be certainty that the Project would not adversely affect the integrity of Epping Forest SAC, whether on the basis of National Highways' primary argument that the impact on Epping Forest SAC is inconsequential and therefore does not require mitigation, or in the alternative (and without prejudice to National Highways' primary argument), on the basis that a mitigation measure, which could be imposed on the grant of development consent, has been assessed as being feasible and Natural England agrees that the measure in question would avoid adverse effects on the integrity of Epping Forest SAC.

2 Mitigation Options Investigated

2.1 Compliance with the mitigation hierarchy

- 2.1.1 In circumstances where a project is likely to give rise to significant adverse effects on habitats, the National Networks National Policy Statement (NPSNN) at paragraph 5.25 states that:

“As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.”

- 2.1.2 The Project Air Quality Action Plan (PAQAP) (Application document 6.3: Appendix 5.6) reports the consideration of the mitigation hierarchy for ecologically designated sites and habitats that were concluded to be significantly affected by nitrogen deposition. However, Epping Forest SAC was not considered in the PAQAP as National Highways does not consider that there would be adverse effects on the integrity of that site which would require mitigation.

Avoidance

- 2.1.3 The Project has been developed to avoid or minimise significant effects on the environment through design and mitigation measures. Avoidance through design (including location and route options) has been the primary approach to mitigating adverse impacts of the Project. The design and location of specific mitigation measures over and above these avoidance measures has been developed following an iterative process based on stakeholder feedback, Project design changes and the outcomes of the environmental assessment.
- 2.1.4 Moving the route to avoid nitrogen deposition effects on designated sites within 200m of the new road would not avoid N deposition on the ARN. Nitrogen deposition effects are as a result of the nature of the Project, not the location and any alignment would have the same effect. Changes in N deposition at designated habitats have been calculated based on predicted changes in traffic flows. The Project route and design have been selected after extensive development, engagement, and consultation. The need for a solution to congestion at the Dartford Crossing has been subject to option studies since

2009, when a Department for Transport Study was released. Throughout the years there have been numerous studies into the options for the Project up to the submission of this application for Development Consent.

- 2.1.5 Details of the main alternatives identified and the reasons for their adoption or rejection by the Project are summarised in ES Chapter 3 Assessment of Reasonable Alternatives (Application Document 6.1). The chapter also includes details of reappraisal work carried out to check the ongoing validity of those decisions as time has passed. Full details of the decision-making process that led to the identification of the Preferred Route are included within The Project evolution and alternatives is explained the Planning Statement (Application Document 7.2).

2.2 Measures considered

Overview

- 2.2.1 The advice in DMRB LA 105 (Highways England, et al., 2019) states that any mitigation measures shall be viable, and the change in concentrations (and in the case of designated sites, the change in nitrogen deposition associated with the measure) shall be quantifiable. Mitigation measures that can be quantified in LA 105 include erecting a barrier to physically stop nitrogen deposition, or measures to reduce emissions such as reducing speed limits or controlling speeds through speed enforcement management.
- 2.2.2 Consideration has also been given to a number of non-quantifiable measures, that theoretically may mitigate additional nitrogen deposition. This section sets out measures which have been considered for Epping Forest SAC.

Reduce the flows and/or volumes on the ARN

- 2.2.3 Consideration has been given to whether measures are available to reduce the increase in traffic flow as a result of the Project, as a means of reducing emissions. This measure has been discounted for all affected sites as there are no measures at a Project level that would result in a substantial change to the flows or volumes of traffic on the ARN. The objective of the Project is to improve flows on the network and so no measures that would reduce the improvements to the network would be appropriate for the Project.

Affected site management

- 2.2.4 Reducing other sources of nitrogen or removing nitrogen from the ecosystem may offset the effects of Project-induced nitrogen deposition. This could theoretically be achieved through measures such as removing biomass so the captured nitrogen could not be recycled. The effectiveness of these measures would only be theoretical and could not be quantified, and any such management measures would ordinarily be expected to be carried out as the normal management of European sites, and therefore no 'additionality' would be achieved. These measures have therefore been discounted.

Barriers

- 2.2.5 In line with the methodology set out in DMRB LA 105, the suitability of vertical barriers of at least 9m in height has been considered. National Highways

guidance states that to achieve air quality mitigation, air quality barriers need to be at least 9m high, impermeable and continuous (to prevent air passing through it). Beyond improving air quality, the barrier needs to:

- a. Respect the character and sensitivities of the surrounding area and integrate into the landscape
- b. Maintain views from high sensitivity landscape and visual receptors
- c. Minimise environmental impacts on the land, water, animals and plants
- d. Minimise impacts on people by ensuring visual experiences are enhanced and ensuring the barriers incorporate emergency escape doors from the carriageway where necessary.

- 2.2.6 Based on air quality modelling it has been assumed that installing a 9m barrier on the ARN adjacent to the affected site would be effective in reducing N deposition on the affected designated site. For the purpose of this assessment, feasibility is defined as:
- 2.2.7 Environmental feasibility: a barrier would not give rise to significant environmental impacts such that it would not be appropriate.
- 2.2.8 Technical feasibility: there are no engineering limitations to the installation of the barriers. This includes sufficient space to install the barrier elements (plinth and foundations), will not cause structural issues to existing structures/features such as roads, gantries, safety barriers, vehicles, fences and existing shrubs and trees.
- 2.2.9 The closest section of the ARN to Epping Forest SAC is the M25 between junctions 27 and 26. This section is located within less than 15m of ancient woodland, a key environmental constraint to installation of a 9m barrier, due to potential root damage. Natural England and Forestry Commission's 'standing advice' for ancient woodland, ancient trees and veteran trees¹, states that for ancient woodlands, a buffer zone of at least 15m from the boundary of the woodland should be applied to avoid root damage (known as the root protection area²). The closest section of the ARN to Epping Forest SAC is the M25 between junctions 27 and 26 ancient woodland includes Epping Forest, the boundary of which runs immediately adjacent to the M25 carriageway (less than 15m). The installation of a barrier in this location is discounted due to the potential impacts on the root protection area of this woodland.
- 2.2.10 In addition, from a technical perspective installation of barriers between these two junctions would not be feasible due to the topography. The elevation within this stretch of road varies from 60m and 112m. The origins of the 9m barrier designs were based around studies of a barrier in The Netherlands, where the topography was relatively flat. This measure has therefore been discounted for Epping Forest SAC.

¹ Natural England and Forestry Commission (2022). Ancient woodland, ancient trees and veteran trees: protecting them from development. Standing advice. Accessed September 2022.
<https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

Speed enforcement

- 2.2.11 National Highways' research shows that reducing emissions can be achieved by enforcement of the national speed limit. National statistics indicate that a significant proportion of the Light Duty Vehicles (LDV) exceed the speed limit (i.e. greater than 70mph). Improving the compliance to the speed limit can therefore improve emissions given that emissions increase with an increase in speed beyond the speed limit.
- 2.2.12 The measure is potentially effective where the following conditions are met:
- The speed limit on the road currently is 70mph;
 - There is a significant proportion of LDVs that are travelling in excess of the 70mph speed limit;
 - There are no current enforcement measures in place.
- 2.2.13 Speed enforcement is not a viable mitigation measure for the M25 between junctions 27 and 26 as TrafficMaster measured speeds show that compliance with the 70mph speed limit is high within this section and so additional enforcement measures would not lead to significantly reduced emissions as conditions detailed above are not met.

Speed limits

- 2.2.14 National Highways research shows that the reduction of speed limits from 70mph to 60mph would reduce vehicle emissions.
- 2.2.15 This measure is potentially effective where the following criteria are all met on the road affecting the designated site:
- The road is part of the National network (and so under control of National Highways – the Project would have no powers to implement changes to management of roads on the local network)
 - The road currently has a speed limit of 70mph
 - The current traffic speed is travelling at or above the 70mph limit
- 2.2.16 As the criteria above have been met for the M25 between junctions 27 and 26, traffic modelling has been undertaken to identify whether a speed limit reduction would lead to unacceptable effects on the road network such as rerouting traffic onto the local network and so increasing safety risks. Traffic modelling has concluded that no significant rerouting of traffic would occur and so the measure would be feasible from a traffic and safety perspective, therefore air quality modelling has been used to determine the reduction in nitrogen deposition that would be achieved by implementing the measure.
- 2.2.17 The effect on introducing a 60mph speed limit on the Westbound carriageway on nitrogen deposition at Epping Forest SAC was investigated. The westbound direction was chosen as it is closest to the SAC and the increase in traffic flows as a result of the Project is greater westbound. Changes in traffic on the Eastbound carriageway would have little impact on the change in

concentrations and hence N deposition on the SAC. Table 2.1 presents the maximum change in annual mean NO_x (which is ultimately converted to N deposition where the change in NO_x is greater than 1% of the Critical Level i.e. > 0.3µg/m³).

Table 2.1 Maximum change in NO_x (µg/m³) predicted in Epping Forest SAC mitigation scenario

Scenario	HRA assessed change (no speed limit)	60mph Westbound
Maximum	+0.9	0.0

- 2.2.18 The 60mph speed limit on the westbound carriageway would mean that there would be no change in NO_x (and therefore N deposition) across Epping Forest SAC as a result of the Project.
- 2.2.19 Air quality modelling has confirmed that reducing the speed limit from 70mph to 60mph on the M25 westbound between junctions 27 and 26 would result in no change in NO_x Concentrations and hence N Deposition in the opening year (2030). To ensure that the absolute N Deposition from the road is no higher than it would have been in the opening year (2030) without the scheme the speed limit would be required for a period of four years which is the period from the opening year until the year the total emissions of NO_x with the scheme fall below the total emissions at opening year without the scheme. Details of the methodology which has been used to calculate and compare the NO_x emissions at opening year are set out in Section 4.2 of the HRA, with results of the assessments also provided in Table 7.16 of the HRA (Application document 6.5). Further information on this measure (securing commitment) is presented in Section 3.

3 Conclusions and securing mechanism

- 3.1.1 The without prejudice assessment carried out by National Highways has concluded that a 4 year speed limit reduction from 70 mph to 60mph in the westbound direction between junction 27 and 26 of the M25 would be technically feasible, have negligible traffic impacts and reduce the level of nitrogen deposition to a level where Natural England agrees that there would be no adverse effects on the integrity of the Epping Forest SAC.
- 3.1.2 As set out earlier in this document and in the HRA, National Highways considers that the impact of the Project on Epping Forest SAC on account of additional nitrogen deposition would be inconsequential and accordingly it is not necessary for mitigation to be provided in order to conclude that the Project would not adversely affect the integrity of the site.
- 3.1.3 Without prejudice to this position, the speed limit mitigation measure could if necessary be secured through a commitment within the Register of Environmental Actions and Commitments (REAC). The REAC (Application Document 6.3: Appendix 2.2) forms part of the Code of Construction Practice (CoCP). The REAC presents the essential mitigation commitments that need to be implemented in the delivery, management, monitoring and maintenance of

the Project, and acts as a securing mechanism for the essential mitigation measures identified in the ES.

- 3.1.4 The commitment to reduce the speed limit from 70 mph to 60mph in the westbound direction between junction 27 and 26 of the M25 would follow a similar approach to REAC commitment TB025. Commitment TB025 relates to the mitigation of nitrogen deposition along part of the M2, through provision of appropriate technology and infrastructure to enable the enforcement of the current speed limit (see Plate 3.1 below). The principal difference is that the potential commitment relating to the M25 would relate to a temporary speed limit reduction and not management of speed enforcement. Appropriate technology and infrastructure to enable the enforcement of the new speed limit is already installed on the relevant section of the M25 and the temporary speed limit reduction could be enforced under the variable speed limit regulations that apply to this section of the M25.
- 3.1.5 The wording of a REAC commitment that National Highways considers would be appropriate to secure the temporary speed limit reduction on a section of the M25 is provided in Table 3.1, without prejudice to National Highways' primary position that the mitigation would not be required and is not proposed as part of the Project.

Plate 3.1 Extract of REAC commitment TB025

Topic	REAC ref. no.	Name	Origin	Commitment	Achievement criteria	Party responsible	Stage	Securing mechanism in DCO
Terrestrial Biodiversity	TB025	Mitigation of nitrogen deposition along part of the M2	ES 8.5.16	<p>Appropriate technology and infrastructure would be installed to enable the enforcement authority to enforce the speed limit in both directions between junctions 3 and 4 of the M2 to reduce nitrogen deposition. Reasonable and appropriate funding would be provided to the enforcement authority to undertake enforcement activities in relation to nitrogen deposition, in addition to existing enforcement measures.</p> <p>This technology and infrastructure would be developed through detailed design, in consultation with the enforcement authority and approved by the Secretary of State. It would be in place prior to road opening. This would remain in place as a minimum during the first fifteen years of operation, unless otherwise agreed with the Secretary of State based on reviews undertaken in consultation with Natural England and the enforcement authority.</p>	Provision of speed enforcement technology and infrastructure as agreed with the enforcement authority.	National Highways	Operation	EMP3 – Requirement 4

Table 3.2 Without-prejudice measure commitment for Epping Forest SAC

Topic	REAC ref. no.	Name	Origin	Commitment	Achievement criteria	Party responsible	Stage	Securing mechanism
Habitats Regulations Assessment	XX	Mitigation of nitrogen deposition along part of the M25		Use the existing variable speed technology and infrastructure to ensure the maximum speed limit on the M25 westbound between junctions 27 and 26 is 60mph (other than in cases of emergency) for four years from the road opening unless otherwise agreed with SoS based on reviews undertaken in consultation with Natural England.	Maximum speed limit set as 60mph (other than in cases of emergency) for 4 years following road opening	National Highways	Operation	EMP3 – Requirement 4

Annex A.1 References

Highways England, Transport Scotland, Welsh Government & Department for Infrastructure, 2019. *Design Manual for Roads and Bridges LA105 Air Quality*. [Online]

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Highways England, Transport Scotland, Welsh Government & Department for Infrastructure, 2020a. *Design Manual for Roads and Bridges LA 115 Habitats Regulations assessment*. [Online]

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Planning Inspectorate, 2022. *Habitats Regulations Assessment: Advice note ten - Habitats Regulations Assessment for nationally significant infrastructure projects, version 9*. [Online]

Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/>

[Accessed August 2022].

Annex A.7 Glossary

Term	Abbreviation	Explanation
A122		The new A122 trunk road to be constructed as part of the Lower Thames Crossing project, including links, as defined in Part 2, Schedule 5 (Classification of Roads) in the draft DCO (Application Document 3.1)
A122 Lower Thames Crossing	Project	A proposed new crossing of the Thames Estuary linking the county of Kent with the county of Essex, at or east of the existing Dartford Crossing.
Application Document		In the context of the Project, a document submitted to the Planning Inspectorate as part of the application for development consent.
Construction		Activity on and/or offsite required to implement the Project. The construction phase is considered to commence with the first activity on site (e.g. creation of site access), and ends with demobilisation.
Design Manual for Roads and Bridges	DMRB	A comprehensive manual containing requirements, advice and other published documents relating to works on motorway and all-purpose trunk roads for which one of the Overseeing Organisations (National Highways, Transport Scotland, the Welsh Government or the Department for Regional Development (Northern Ireland)) is highway authority. For the A122 Lower Thames Crossing the Overseeing Organisation is National Highways.
Development Consent Order	DCO	Means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP) under the Planning Act 2008.
Development Consent Order application	DCO application	The Project Application Documents, collectively known as the 'DCO application'.
Environmental Statement	ES	A document produced to support an application for development consent that is subject to Environmental Impact Assessment (EIA), which sets out the likely impacts on the environment arising from the proposed development.
Highways England		Former name of National Highways.
National Highways		A UK government-owned company with responsibility for managing the motorways and major roads in England. Formerly known as Highways England.
National Planning Policy Framework	NPPF	A framework published in March 2012 by the UK's Department of Communities and Local Government, consolidating previously issued documents called Planning Policy Statements (PPS) and Planning Practice Guidance Notes (PPG) for use in England. The NPPF was updated in February 2019 and again in July 2021 by the Ministry of Housing, Communities and Local Government.

Term	Abbreviation	Explanation
National Policy Statement	NPS	Set out UK government policy on different types of national infrastructure development, including energy, transport, water and waste. There are 12 NPS, providing the framework within which Examining Authorities make their recommendations to the Secretary of State.
National Policy Statement for National Networks	NPSNN	Sets out the need for, and Government’s policies to deliver, development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of NSIPs on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
Nationally Significant Infrastructure Project	NSIP	Major infrastructure developments in England and Wales, such as proposals for power plants, large renewable energy projects, new airports and airport extensions, major road projects etc that require a development consent under the Planning Act 2008.
Operation		Describes the operational phase of a completed development and is considered to commence at the end of the construction phase, after demobilisation.
Project road		The new A122 trunk road, the improved A2 trunk road, and the improved M25 and M2 special roads, as defined in Parts 1 and 2, Schedule 5 (Classification of Roads) in the draft DCO (Application Document 3.1).
Project route		The horizontal and vertical alignment taken by the Project road.

Appendix B Glossary

Term	Abbreviation	Explanation
Appropriate Assessment	AA	An assessment in accordance with stage 2 of the HRA.
Area of Outstanding Natural Beauty	AONB	Statutory designation intended to conserve and enhance the ecology, natural heritage and landscape value of an area of countryside
Biodiversity Net Gain	BNG	Ecological enhancements introduced by the Project which leave the natural environment and the number of species present in it, in a measurably better state than before construction.
Decibels	dB	The unit of measurement used for sound pressure levels and noise levels.
Department of Environment Food and Rural Affairs	Defra	The government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities in the United Kingdom of Great Britain and Northern Ireland.
Development Consent Order	DCO	Means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP) under the Planning Act 2008.
Environmental Impact Assessment	EIA	A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision making. For certain projects, EIA is a statutory requirement, reported an ES.
Environmental Management Plan	EMP	For the Project, a plan setting out the conclusions and actions needed to manage environmental effects as defined by the Design Manual for Roads and Bridges standard LA 120. The Code of Construction Practice is the equivalent of the first iteration of the EMP (EMP1). The contractor's EMP would be EMP2 and the end of construction EMP would be EMP3.
Environmental Statement	ES	A document produced to support an application for development consent that is subject to EIA, which sets out the likely impacts on the environment arising from the proposed development.
Geographic Information System	GIS	An integrated collection of computer software and data used to view and manage information about geographic places, analyse spatial relationships and model spatial processes.
Habitats Regulation Assessment	HRA	A tool developed by the European Commission to help competent authorities (as defined in the Habitats Regulations) to carry out assessment to ensure that a project, plan or policy will not have an adverse effect on the integrity of any Natura 2000 or European sites (Special Areas of Conservation, Special Protection

Term	Abbreviation	Explanation
		Areas and Ramsar sites), either in isolation or in combination with other plans and projects, and to begin to identify appropriate mitigation strategies where such effects were identified.
Hectares	Ha	The hectare is an SI unit of area primarily used in the measurement of land as a metric replacement for the imperial acre. An acre is about 0.405ha and 1ha is about 2.47 acres.
Ingrebourne Valley Limited	IVL	A leading land reclamation and restoration company in the south-east of England
Landscape and Ecology Management Plan	LEMP	A document which provides details on the delivery and management of the landscape and ecology elements identified in the Environmental Masterplan for the Project, including their success criteria.
Letter of No Impediment	LoNI	Letter of No Impediment
Likely Significant Effect	LSE	Likely Significant Effect
Lower Thames Crossing	LTC	Lower Thames Crossing
National Policy Statement for National Networks	NPSNN	The NPSNN sets out the need for, and Government's policies to deliver, development of Nationally Significant Infrastructure Projects on the national road and rail networks in England. It provides planning guidance for promoters of Nationally Significant Infrastructure Projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
Nitrogen Oxide	NOx	A group of seven gases and compounds composed of Nitrogen and Oxygen, sometimes collectively known as NOx gases.
Outline Landscape and Ecology Management Plan	oLEMP	A document which provides details on the delivery and management of the landscape and ecology elements identified in the Environmental Masterplan for the Project, including their success criteria.
Planning Inspectorate	PINS	An executive agency of the Department for Levelling Up, Housing and Communities. The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England and Wales.
Pulverised Fuel Ash	PFA	One of the coal combustion products, composed of the fine particles that are driven out of the boiler with the flue gases.
Register of Environmental	REAC	The REAC identifies the environmental commitments that would be implemented during the construction and operational phases of the Project if the DCO is granted,

Term	Abbreviation	Explanation
Actions and Commitments		and forms part of the Code of Construction Practice (Application Document 6.3, ES Appendix 2.2).
Stakeholder Actions and Commitments Register	SACR	Stakeholder Actions and Commitments Register
Site of Special Scientific Interest	SSSI	A conservation designation denoting an area of particular ecological or geological importance.
Special area of Conservation	SAC	A designation under EU Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the Habitats Directive.
Special Protection Area	SPA	A designation under EU Directive 2009/147/EC on the Conservation of Wild Birds.
Statement of Common Ground	SoCG	A Statement of Common Ground is a written statement containing factual information about the proposal which is the subject of the appeal that the appellant reasonably considers will not be disputed by the local planning authority.
Vehicle Restraint Systems	VRS	Vehicle Restraint Systems
Walkers, cyclists and horse riders	WCH	Walkers, cyclists and horse riders
Wildlife and Countryside Act 1981	WCA	This Act allows for the designation of SSSI due to features of conservation interest related to flora, fauna, physiography or geology and makes it an offence to kill, injure, take, possess or trade in many wild animal species and to pick, uproot, possess or trade in a number of wild plants.

Appendix C List of engagement activities

- C.1.1 A summary of the meetings and correspondence undertaken between the two parties in relation to the Project is outlined in Table C.1 below.
- C.1.2 It is agreed that this is an accurate record of the key meetings and consultation undertaken between (1) National Highways and (2) Natural England in relation to the issues addressed in this SoCG.
- C.1.3 A detailed record of all engagement between (1) National Highways and (2) Natural England in relation to the issues addressed in this SoCG is available at Appendix D.

Table C.1 Engagement activities between National Highways and Natural England.

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
2019-2022	Fortnightly Update Meetings	Fortnightly meetings to discuss programme, actions and SoCG matters.
2019-2022	Fortnightly SoCG Workshops	Fortnightly workshops with Natural England to discuss SoCG matters. Between 2019-2020 this focussed on matters relating to the HRA
2017-2022	Joint meetings between National Highways, Kent Downs AONB Unit & Natural England	Technical meetings to discuss the landscape environmental chapter as required, typically quarterly.
2019-2022	Joint workshops with SEBs & Local Authorities	Workshops to provide a project update, as required, typically bi-annually.
2016-2022	Public consultations	Natural England has been consulted on all of LTC's public consultations

Appendix D Detailed record of all engagement

Table D.1 Detailed record of engagement

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
01/06/2013	Correspondence	Written feedback on potential options for a new Lower Thames Crossing.
01/11/2014	Correspondence	Letter issued to request technical information to inform route options development work, response received.
22/01/2015	Statutory Environmental Bodies (SEB) Workshop (1)	Update on development of options for the Project; share draft approach to the options appraisal process and seek feedback on the approach; to understand roles and responsibilities of the environmental bodies and to agree the future programme of engagement.
13/03/2015	SEB Workshop (2)	Update on emerging long list of options and those that have been discounted; an overview of the types of river crossings being considered; an overview of the environmental data-gathering and appraisal work completed to date.
17/06/2015	SEB Workshop (3)	Obtaining feedback on the draft shortlist of routes and rejected design options; seeking feedback on the detailed assessment of the shortlist; outlining the proposed methodology and survey work to be undertaken; providing an update on the crossing types to enable this information to be reviewed by SEBs.
June 2015	Correspondence	Email feedback on draft short list of options; survey and appraisal approach; design and opportunities requested at Workshop 3.
09/07/2015	Natural England Bilateral meeting	Discussion on context for ecological surveys, bird survey methodology including vantage points and transects area.
28/07/2015	Natural England Bilateral meeting	Feedback on the proposed approach to the HRA; discuss uncertainty and design parameters; update on modifications to the bird survey methodology; discuss timetable for sharing HRA information with Natural England.
01/10/2015	Natural England Bilateral meeting	A Project update: discussion on initial findings of detailed appraisal and to discuss feedback on the draft HRA Appropriate Assessment part 1 report.
05/10/2015	Natural England Bilateral meeting	Project update on shortlist of route options; discussion on HRA; key impacts; assessment approach; and ecological risks.

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
30/11/2015	SEB Workshop (4)	A Project update including the final shortlist of route options. Gaining feedback on initial environmental appraisal.
January – March 2016	2016 Options Phase Consultation	Non-Statutory public consultation on option locations for the Project.
08/02/2016	SEB Workshop (5)	Workshop to discuss the Project's public consultation materials, with a view to answering any questions about the proposals now that the materials are available.
March 2016	Correspondence	Written response to the 2016 Option Phase non-statutory public consultation.
21/07/2016	SEB Workshop (6)	Workshop to update the attendees on the Project post-consultation, and next steps. It was also an opportunity to discuss SEB consultation responses and to clarify any issues.
19/01/2017	Natural England Bilateral meeting	Update on the Project; EIA programme; survey methodology including survey areas for passage and wintering birds to be considered in the HRA. Update on other surveys for EIA including ornithology; marine; air quality and noise.
13/03/2017	Meeting with Natural England & Environment Agency	Discussion of ground investigation works methodology, scope of ground investigation surveys and consents.
21/03/2017	SEB Workshop (7)	Update on the Project; introduction on approach to EIA; outline the environmental scoping report prior to submission to the Planning Inspectorate and to outline engagement requirements going forward.
24/04/2017	Environment meeting	Review of the Project's proposed approach to bird survey and reduction of extent of surveys in view of the Preferred Route announcement (12 April 2017).
18/05/2017	SEB Workshop (8)	Update on Preferred route for Project outlining issues and obtaining feedback to begin more detailed technical discussions. Introduction of Environmental Consents team and introduction of Project Strategic Vision and Goals (SVG).
01/07/2017	Natural England Bilateral meeting	Seeking feedback on the proposed approach to the HRA for the shortlist.
September 2017	Meeting with Natural England	Project update and discussion of Service Level Agreement implementation.
15/09/2017	Joint Surface Water Drainage and Biodiversity meeting with Kent County Council, Medway Council, Environment Agency and Natural England	Meeting to provide a brief on the preferred route and a design update, seek feedback on the options for surface water disposal, discuss pump-tests and consents, discuss surface water drainage along the A2 and to discuss future engagement and next steps.

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
01/11/2017	Meeting with Natural England	Project update, EIA and landscape surveys.
02/11/2017	Correspondence	EIA Scoping Report issued via PINS.
06/11/2017	Joint meeting between Kent Downs AONB Unit & Natural England	Meeting to update on the Project, Order Limits, EIA and landscape surveys and to discuss the Zone of Theoretical Visibility. It was agreed an additional viewpoint on local road, Ifield Lane (to the south of Harts Hill) in Shorne would be added. Site visit undertaken post meeting to discuss viewpoints.
12/12/2017	EIA Scoping Report	The EIA Scoping Report was issued to all SEBs for comment.
22/03/2018	SEB Workshop (9).	Meeting to provide the SEBs with an update on the Project, the EIA Scoping Opinion, Preliminary Environmental Information Report, mitigation approach, and legacy and benefits. The approach to watercourse crossings and diversions was also discussed and key principles linked to provision of compensatory flood storage agreed.
09/04/2018	Meeting with Natural England	Update on survey work (bird survey work for HRA); discussion on district level protected species licensing; the PEIR; and the HRA scoping document.
05/06/2018	Meeting with Natural England	Discussion on feedback from Defra family meeting, a Project update, environmental constraints and the Project's initial approach to mitigation.
01/07/2018	Meeting with Natural England	Proposed mitigation discussion in advance of Statutory Consultation.
12/07/2018	Joint Meeting with Environment Agency and Natural England	Meeting to discuss consents required for the GI works.
07/08/2018	Joint meeting between Kent Downs AONB Unit & Natural England	Meeting to provide an update on the Project development, potential impacts to Kent Downs AONB, mitigation options and next steps. It was also to explain the potential changes and challenges of the Project before Statutory Consultation.
17/08/2018	Meeting with Natural England	Consenting requirements for GI works in/adjacent to the Thames Estuary and Marshes Ramsar site.
05/09/2018	Project Identification Workshop	Meeting to provide an update on the Project to date and to roughly map stakeholder schemes within or adjacent to the Project to better understand interfaces. Project opportunities, key targets and impacts were also discussed.
25/09/2018	SEB Workshop (10)	Meeting to provide an overview to the information which will be presented at Statutory Consultation,

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		including highways alignment design, PEIR, key public-facing and technical materials, and to provide an opportunity for the SEBs to ask questions.
October – December 2018	Statutory Consultation	Consultation on the latest designs for the Project.
03/10/2018	Meeting with Natural England	Discussion of water quality survey tool to be used within designated sites, requirements of consenting, minimising impacts, and agreement on Section 28 application.
12/10/2018	Joint meeting with Natural England, Royal Society for the Protection of Birds and Environment Agency	Meeting to discuss material reuse and transportation of material. This included providing a Project update, discussing pumping tests required in the Thames Estuary and Marshes Ramsar site and near the South Portal, options for transporting material from site to Cliffe Pools, the potential impacts on the Thames Estuary and Marshes Ramsar site and SPA and additional ecological survey requirements.
04/12/2018	Correspondence	Natural England sent a Discretionary Advice Service advice letter 'Development proposal and location: Lower Thames Crossing – East Tilbury Jetty'.
January 2019	Correspondence	Consultation on the Landscape and Visual Assessment Representative Viewpoints.
February 2019	Correspondence	Landscape Tranquillity Assessment locations for noise monitoring and durations sent for comment.
01/03/2019	Meeting with Natural England	Post-Statutory Consultation meeting to provide an update on landscape surveys, mitigation options and compensation for the Kent Downs AONB, identify schemes that the Project can provide support for, and determine if there are any degraded or sensitive habitats outside the Order Limits that require improving or enhancing.
19/03/2019	Meeting with Natural England	Terrestrial biodiversity design and baseline meeting.
19/03/2019	Meeting with Natural England	Discussion of Isle of Grain conveyor/route option for material movement avoiding new infrastructure in the Ramsar site.
April 2019	Correspondence	Representative Viewpoint further clarifications on final locations and methodology.
25/04/2019	Design Development Workshop, South of the River Thames (SEB Workshop (11))	Meeting to update SEBs on the latest thinking on the Project's design development and seek initial feedback and further suggestions for improving the design.

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
May 2019	Site Walkover	Site walkover to visit Representative Viewpoint locations to be used for production of photomontages and agree/discuss methodologies and selections shared via email in April 2019.
19/06/2019	Landscape Photomontage Viewpoints Site Visit, South of the Thames	Meeting to discuss and agree the locations of Representative Viewpoints to have photomontages prepared. Feedback on the selection, their location and methodology for compiling was requested.
01/08/2019	Meeting with Natural England	Terrestrial biodiversity – biodiversity baseline surveys and metric update
17/09/2019	Natural England Strategic meeting	Project update and run through of heat maps.
09/10/2019	Meeting with Natural England	Marine Conservation Zone (MCZ) meeting to discuss Project interactions with the Thames Estuary; baseline data and the MCZ assessment.
09/10/2019	Meeting with Natural England	Natural England Strategic Meeting to discuss the heat map, ways of working and programme of engagement.
21/10/2019	Correspondence	North Portal Stage 1 Numerical Model Technical Note issued for comment
21/10/2019	Correspondence	Ramsar Advanced Grouting Tunnel and Main Tunnels Numerical Model Technical Note issued for comment
29/10/2019	Meeting with Natural England	Protected species meeting to discuss Project findings both south and north of the river for all protected species.
06/11/2019	Meeting with Natural England	HRA Update Meeting. Programme for HRA and evidence base document introduced by Highways England.
06/11/2019	Meeting with Natural England	Terrestrial biodiversity – Essex invertebrates
06/11/2019	Meeting with Natural England	Green bridge design, bat crossover locations, tying in green bridges with the landscape.
06/11/2019	Meeting with Natural England	Hydrogeology meeting to discuss the approach to hydrogeological modelling including Ramsar model and North Portal model.
06/11/2019	Meeting with Natural England	Terrestrial biodiversity – protected species update (with Sean and Jonathan)
06/11/2019	Meeting with Natural England	Run through of potential utility diversions and the environmental impacts, including potential loss of ancient woodland.
07/11/2019	Design Development Workshop (South of the	Design Development Workshop with key local authorities and SEBs to update on supplementary

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
	Thames) (SEB Workshop (12))	consultation delivery, pre-enabling works, design refinement and Order Limits.
08/11/2019	Correspondence	Advanced Grout Tunnel Technical Note issued for comment
11/11/2019	Area manager meeting	Introductions between the Project and Natural England leadership and discussion on collaborative approach to information sharing to facilitate timely pragmatic regulation.
11/11/2019	Hydrogeology Meeting	Progress update on the Stage 2 groundwater modelling for the North Portal and Ramsar site, presentation of preliminary findings and next steps for the assessment.
13/11/2019	Design Development Workshop (North of the Thames)	Technical Design Workshop with local authorities and SEBs to update on supplementary consultation delivery, pre-enabling works, design refinement and Order Limits.
13/11/2019	Meeting with Natural England	Terrestrial biodiversity – meeting with Protected Species Licensing Officer
28/11/2019	Correspondence	HRA briefing note issued for comment: HRA evidence base
03/12/2019 and 04/12/2019	Utilities Diversion Workshops (north and south)	Utility Diversion Workshop to update on utilities design and its potential impact on environmental designations and Order Limits.
04/12/2019	Natural England meeting - HRA Update	Run through Evidence Base with Natural England comments.
11/12/2019	Construction Impacts Workshop (north)	Construction Impacts Workshop with local authorities (north of the River Thames) and SEBs to provide an overview of proposed construction proposals, including compounds, accommodation strategy, HGV access routes and logistics, excavated materials plans, CoCP and REAC and Project's timetable for procurement.
11/12/2019	Construction Impacts Workshop (south)	Construction Impacts Workshop with local authorities (south of the river) and SEBs to provide an overview of proposed construction proposals, including compounds, accommodation strategy, HGV access routes and logistics, excavated materials plans, CoCP and REAC and Project's timetable for procurement.
17/12/2019	Correspondence	SoCG Draft Template issued for comment
17/12/2019	Correspondence	Code of Construction Practice Skeleton issued for comment
19/12/2019	Meeting with Natural England	HRA Update Meeting. Discussions on: <ul style="list-style-type: none"> • Affected Road Network / traffic modelling and in-combination data used

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		<ul style="list-style-type: none"> • Air quality impacts and sites already exceeding critical loads along with relevant case law and potential compensation. • Groundwater-dependent Ramsar habitat. • Supporting evidence for assessing qualifying species lists / functionally linked habitat • Agreement of Zones of Influence used in draft screening (10-20km).
19/12/2019	Correspondence	Draft HRA Stage 1 Screening Report
13/01/2020	Correspondence	HRA briefing note issued for comment: HRA evidence base
16/01/2020	Meeting with Natural England	HRA Update Meeting. Discussions on: <ul style="list-style-type: none"> • Traffic modelling and in-combination data used • Air quality methodologies
28/01/2020	Supplementary Consultation briefing	Introduction to Supplementary Consultation (29 January to 25 March 2020) which builds on 2018 consultation. Discussion on design changes; Order Limits; environmental impacts; and utilities.
30/01/2020	Correspondence	Indirect effects on Kent Downs AONB updated methodology
January 2020 – March 2020	Supplementary Consultation	Consultation on the latest designs for the Project
06/02/2020	Construction Impacts Workshop (North)	Second Construction Impacts Workshop with local authorities (north of River Thames) and SEBs to provide an update of likely construction impacts (as a follow up to the workshop on 11 December 2019) and updates on construction traffic modelling and potential utility diversions.
06/02/2020	Construction Impacts Workshop (South)	Second Construction Impacts Workshop with local authorities (south of River Thames) and SEBs to provide an update of likely construction impacts (as a follow up to the workshop on 11 December 2019) and updates on construction traffic modelling and potential utility diversions.
06/02/2020	Joint meeting with Natural England and Kent Downs AONB Unit	Meeting to discuss indirect effects on Kent Downs AONB including traffic assessment. Action to hold a meeting with the Project's traffic modellers.
07/02/2020	Meeting with Natural England	Update on HRA development with briefing on traffic and air quality and presentation of Evidence Base.
13/02/2020	Meeting with Natural England	Bilateral meeting to update on the Project

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
19/02/2020	Natural England meeting - HRA Update	Plan for HRA information sharing with Natural England including programme and contents of document packages.
19/02/2020	Meeting with Natural England	Protected Species Licensing meeting. Update on the Project's approach to species licensing.
25/02/2020	Correspondence	Hydrogeology – Pumping test interpretation report-south of the river issued for comment
26/02/2020	Correspondence	HRA briefing note issued for comment: Air quality assessment methodology
11/03/2020	Correspondence	HRA briefing note issued for comment: Groundwater assessment methodology
12/03/2020	Hydrogeology meeting	Roadmap of hydrogeological assessments; approach and findings of the assessment of Project cuttings and embankments; operational drainage pollution simple risk assessment; infiltration basin detailed assessment; phase 1 pumping tests (south of River Thames).
13/03/2020	Meeting with Natural England	Hydrogeology meeting
18/03/2020	Meeting with Natural England	Provided a Project update and discussed ways of working in relation to Covid-19.
18/03/2020	Meeting with Natural England	Discussion of the approach to water vole mitigation for the protected species licence.
18/03/2020	Natural England meeting - HRA Update	Discussions on: <ul style="list-style-type: none"> • Air quality assessment and use of ARN • In-combination assessment
18/03/2020	Correspondence	HRA briefing note issued for comment: Disturbance assessment methodology
19/03/2020	Correspondence	Consultation extension letter
19/03/2020	Correspondence	Landscape and Visual Impact Assessment update to Local Landscape Character Area boundaries south of the River Thames
31/03/2020	Traffic Modelling Meeting.	Overview of traffic model methodology and inclusion of future projects and developments.
01/04/2020	Meeting with Natural England	Discussion on details of the Natural England heat map. With regards to HRA topics covered included South Portal, tunnel (hydrogeological effects), North Portal (hydrogeology) and air quality assessment.
06/04/2020	Correspondence	SoCG Technical Note issued for comment
08/04/2020	Correspondence	HRA briefing note issued for comment: Botanical survey of Epping Forest methodology

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
09/04/2020	Joint Meeting with Environment Agency and Natural England	Joint meeting to discuss the water balance sustaining the Thames Estuary and Marshes Ramsar site and the potential for ecological effects due to Project-induced changes in the groundwater regime. Environment Agency comments on the Stage 4 Water Framework Directive (WFD) Interim Report were also discussed.
09/04/2020	Meeting with Natural England	Terrestrial biodiversity meeting to discuss the emerging ecological mitigation
21/04/2020	Environmental Impacts & Mitigation Workshop (north)	<p>This workshop was to discuss EIA impacts and mitigation, for local authorities and SEBs including:</p> <p>An update on Highways England’s approach to assessing potential effects, significant of effects and mitigation</p> <p>Introducing the Control Plan</p> <p>Providing an update on the progress of Environmental Masterplan and the technical chapters of the ES</p> <p>Providing a forum for open discussion and ideas around mitigation</p>
22/04/2020	Environmental Impacts & Mitigation Workshop (south)	<p>This workshop was to discuss EIA impacts and mitigation, for local authorities and SEBs including:</p> <p>An update to Highways England’s approach to assessing potential effects, significant of effects and mitigation</p> <p>Introducing the Control Plan</p> <p>Providing an update on the progress of Environmental Masterplan and the technical chapters of the ES</p> <p>Providing a forum for open discussion and ideas around mitigation</p>
22/04/2020	Meeting with Natural England	Protected Species Licensing meeting. Update on the draft protected species licences.
24/04/2020	Correspondence	Stage 4 WFD Assessment issued for information
29/04/2020	Meeting with Natural England	HRA update meeting. Discussion on HRA programme and processes
06/05/2020	Correspondence	HRA briefing note issued for comment: Defining functionally linked land
06/05/2020	Meeting with Natural England	Discussion regarding consultation including ways of working and sharing of documentation.
07/05/2020	Correspondence	Infiltration Basins Detailed Assessment South of the River Thames Report issued for comment

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
07/05/2020	Correspondence	M25/Lower Thames Crossing Junction Groundwater Impact Assessment Numerical Model – Technical Note issued for comment
07/05/2020	Correspondence	South Portal Discharge Options Paper issued for comment
13/05/2020	Meeting with Natural England	HRA update meeting. Discussion on: Traffic modelling methodology Air quality assessment (construction and operation) Botanical survey of Epping Forest Extent of functionally linked land Disturbance to birds Water quality (operational and construction) In-combination assessment Climate change assessment
13/05/2020	Correspondence	WFD marine compensatory habitat briefing paper issued for comment
18/05/2020	Correspondence	HRA briefing notes issued for comment: Ornithology Baseline Epping Forest Botanical Survey Update Figures detailing European site locations in relation to Affected Road Network
20/05/2020	Meeting with Natural England	Discussion regarding key points raised by NE with respect to the working draft badger license submitted by LTC.
21/05/2020	Key Elements of the DCO Workshop	Workshop to discuss key elements of the draft DCO including: Order Limits update Further consultation (Design Refinement Consultation) Lower Thames Crossing 'Digital First' Consultation and Electronic Submission DCO process - Key Stages DCO application documentation Control Plan Draft DCO and Schedules Requirement, Secondary Consents and Permits Book of Plans SoCGs – Purpose, Content, Principles and Preparation
22/05/2020	Correspondence	HRA briefing notes issued for comment: In-combination assessment methodology Approach to climate change methodology

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		Figure showing land take in relation to European sites and functionally linked land.
27/05/2020	Meeting with Natural England	HRA update meeting. Discussion on: Traffic modelling methodology Air quality assessment (construction and operation) Botanical survey of Epping Forest Extent of functionally linked land Disturbance to birds Water quality (operational and construction) In-combination assessment Climate change assessment
29/05/2020	DCO Workshop	Discussion on: Order Limits update further consultation (D-CON) Lower Thames Crossing 'Digital First' Consultation and Electronic Submission DCO process - Key Stages DCO application documentation Control Plan Draft Development Consent Order and Schedules Requirement, Secondary Consents and Permit schemes Book of Plans SoCGs – Purpose, Content, Principles and Preparation
June – July 2020	Correspondence	Draft ES chapters shared for high-level review
01/06/2020	Joint meeting with Environment Agency and Natural England	Meeting to discuss WFD marine compensatory habitat proposals.
01/06/2020	Joint meeting with Environment Agency and Natural England	This meeting was to give an update on ground investigations south of the river including: How the ground investigation will fit in the DCO Ground investigation progress update Geo-Environmental update
02/06/2020	Correspondence	HRA Stage 1 Screening - Pre-Application Draft issued for comment
04/06/2020	Correspondence	North Portal Discharge Assumptions Paper issued for comment
04/06/2020	Correspondence	Jetty Design and Construction Assumptions Paper issued for comment

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
05/06/2020	Correspondence	Ramsar Advanced Grouting Tunnel and Main Tunnels Numerical – Technical Note issued for comment
05/06/2020	Correspondence	Baseline Water Balance for the Ramsar Site (Filborough Marshes) – Technical Note issued for comment
05/06/2020	Correspondence	WFD Stage 4 report issued for comment
05/06/2020	Correspondence	Draft Environmental Masterplan-South issued for comment
05/06/2020	Correspondence	Draft Representative Viewpoints and Photomontages – South issued for comment
05/06/2020	Correspondence	Draft Indirect Effects - Kent Downs AONB Information issued for comment
08/06/2020	Joint meeting with Environment Agency and Natural England	This meeting was to discuss the options paper for the South Portal Discharge following the issue of a paper on the topic on 07/05/2020.
09/06/2020	WFD Stage 4 Assessment Update	Update on findings of the updated Stage 4 WFD Assessment including discussion on Environment Agency comments; underwater noise and vibration during construction and operation; air quality modelling; and M25 cutting.
09/06/2020	Hydrogeology Update meeting	Overview of the approach to groundwater modelling including groundwater levels and infiltration basins.
09/06/2020	Correspondence	SoCG issues tracker issued for comment
10/06/2020	Correspondence	Shortlist for Cumulative Effects Assessment issued for comment
10/06/2020	Natural England meeting - HRA Update	Discussion on: screening: general and air quality in-combination assessment Appropriate Assessment: extent of FLL; disturbance to birds; land take; and mitigation and monitoring securing mechanisms programme/documentation of HRA
14/06/2020	Meeting with Natural England	Discussion regarding key points raised by NE with respect to the working draft protected species licenses submitted by LTC.
17/06/2020	Joint Meeting with Natural England and Kent Downs AONB	A meeting to discuss impacts on Kent Downs AONB including: Avoidance of impacts Effects on Kent Downs AONB Proposed mitigation measures

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		Green bridge designs
18/06/2020	WFD Stage 4 Assessment Feedback	This meeting was to receive initial Environment Agency and Natural England comments on the updated WFD Stage 4 Assessment
23/06/2020	Environmental Impacts and Mitigation Workshop and Code of Construction Practice Review - Part 1	Meeting to provide an update on the Project, recap on the approach to environmental assessment and mitigation for ES topics as well as review the REAC and receive feedback from stakeholders on items discussed at workshop.
24/06/2020	Natural England meeting – HRA Update	Discussion on: screening consultation Appropriate Assessment consultation key issues: air quality; extent of FLL; disturbance to birds; land take; water quality; in-combination; and climate change securing mechanisms programme / documentation of HRA
24/06/2020	Natural England Area Manager meeting	Discussion on: heat map DEFRA map (north of the River Thames) draft ES chapters air quality methodology South Portal discharge legacy and benefits
25/06/2020	Environmental Impacts and Mitigation Workshop and Code of Construction Practice Review - Part 2	Meeting to provide an update on the Project, recap on the approach to environmental assessment and mitigation for ES topics as well as review the REAC and receive feedback from stakeholders on items discussed at workshop.
29/06/2020	Issue of draft DCO	Issue of draft DCO for comment
July 2020 – August 2020	Design Refinement Consultation	Consultation on the design refinements for the Project
02/07/2020	Natural England and Environment Agency meeting – North Portal Discharge and Jetty Design / Construction Assumptions	Discussion on the North Portal discharge assumptions paper and East Tilbury jetty at Goshem’s Farm design and construction paper issued to Natural England and Environment Agency.
08/07/2020	Meeting with Natural England	Meeting to discuss key issues including Draft ES Chapters for review, legacy and benefits process and SOCG timeline.
08/07/2020	Natural England meeting – HRA Update	Discussion on: consultation on HRA Screening; briefing documents; and SIAA

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		securing mechanisms including the process and any Natural England concerns programme and consultation process
14/07/2020	Joint Meeting with Environment Agency and Natural England	Update on the North Portal model and the M25 / Lower Thames junction Groundwater Impact Assessment Numerical Model.
15/07/2020	Joint Meeting with Environment Agency and Natural England	Meeting requested by stakeholders to update LTC on EA intention to consult on withdrawal of maintenance of the defence at Coalhouse Point.
22/07/2020	Natural England meeting – HRA Update	Discussion on: consultation on HRA Screening; briefing documents; SIAA; and ES chapters securing mechanisms including Natural England comments on REAC, CoCP and dDCO requirements
22/07/2020	Joint meeting with Natural England and Thurrock Council	Joint meeting to present the rationale behind the invertebrate baseline, and findings of the terrestrial biodiversity ES Chapter.
03/08/2020	Natural England Area Manager Meeting	Discussion on HRA key issues including air quality, level of detail and securing mechanisms as well as current consultation.
05/08/2020	Meeting with Natural England	General catch up with NE in addition to focused session with Perfect Circle to discuss works around Ancient Woodland and survey requirements
05/08/2020	HRA Meeting with Natural England	Meeting to discuss the progress with the HRA focusing on the use of SOCG to progress issues which are under discussion.
19/08/2020	Meeting with Natural England	Meeting to present the approach to progressing HRA and programme update
26/08/2020	Natural England meeting – SoCG Workshop 1	Discussion on consultation process for HRA SoCG development and use of the SoCG tracker.
02/09/2020	Natural England meeting – SoCG Workshop 2	Discussion on HRA items on SoCG and Key Issues.
09/09/2020	Natural England meeting – SoCG Workshop 3	Discussion on air quality (operation) and ARN.
16/09/2020	Natural England meeting – SoCG Workshop 4	Discussion on: securing mechanisms water quality light levels construction air quality construction dust emissions air quality construction vehicles air quality vessel emissions

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
16/09/2020	Natural England Area Manager Meeting	Meeting with NE's Area Manager to discuss progress with the HRA, water vole mitigation and impacts on Kent Downs AONB.
17/09/2020	Meeting with Natural England	Meeting to discuss the impacts to Shorne and Ashenbank Woodland SSSI and proposed mitigation/compensation measures
23/09/2020	Natural England meeting – SoCG Workshop 5	Discussion on: land take operational assessment
25/09/2020	Natural England meeting – SoCG Workshop 5a	Discussion with Natural England air quality specialists.
30/09/2020	Natural England meeting – SoCG Workshop 6	Discussion on: actions from previous SoCG workshops and air quality specialist meeting future meetings and agendas
07/10/2020	Natural England meeting – SoCG Workshop 7	Discussion on: recreational disturbance air quality meeting agendas land take and disturbance meeting agendas
14/10/2020	Meeting with Natural England	Protected Species Licensing meeting. Meeting to discuss water vole mitigation
21/10/2020	Natural England Area Manager Meeting	Discussion on Project progress, disapplication of Section 28e (Wildlife and Countryside Act 1981), DCO, SoCG and HRA.
28/10/2020	Natural England meeting – SoCG Workshop 8	Discussion on: land take and disturbance: feedback on early sight SIAA approach to assessing AEol baseline used species-specific assessments vs broad approach permanence of effects reprovisioning of habitat operational baseline energetic requirements relative disturbance with seasonal constraints
04/11/2020	Natural England meeting – SoCG Workshop 9	Discussion on: air quality: feedback on early sight SIAA traffic model air quality assessment verification approach ammonia vessel contribution

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		construction ARN dust use of LA 105 vs NE001 presence of veteran trees alignment with conservation objectives
04/11/2020	Meeting with Natural England	Meeting to discuss impacts to areas of Common Land in Essex
11/11/2020	Natural England meeting – SoCG Workshop 10	Discussion on: land take and disturbance: feedback on early sight SIAA assessment of AEol sterilisation of land; baseline used species-specific assessments vs broad approach permanence of effects reprovisioning of habitat operational baseline energetic requirements relative disturbance with seasonal constraints
12/11/2020	Meeting with Natural England	Meeting to introduce Patrick McKernan who will be providing additional resource to LTC
18/11/2020	Natural England Area Manager Meeting	Meeting to discuss resourcing, HRA, protected species and legacy and benefits.
19/11/2020	Meeting with NE- Invertebrates	Meeting to discuss NE's advice on the terrestrial ecology chapter of the ES and the Design Principles
23/11/2020	Meeting with Natural England	Meeting to discuss resourcing and programme of meetings throughout December
25/11/2020	Natural England meeting – SoCG Workshop 11	Discussion on: SoCG Tracker and ongoing consultation and programme
01/12/2020	Correspondence	A draft of the DCO application documents was sent to the SEBs
02/12/2020	Natural England meeting – SoCG Workshop 12	Discussion on: SoCG Tracker and ongoing consultation and programme
03/12/2020	Meeting with Natural England	Meeting to discuss the assessment of reasonable alternatives ES Chapter
07/12/2020	Meeting with Natural England	Protected Species Licensing meeting. Discussion regarding key points raised by NE with respect to the working draft protected species licenses submitted by LTC.

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08/12/2020	SEB Workshop	Workshop for LTC to present a walkthrough of DCO Application documents
09/12/2020	Natural England meeting – SoCG Workshop 13	Discussion on: SoCG Tracker and ongoing consultation and programme approach to screening and SIAA
09/12/2020	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager to discuss PINS advice and resourcing.
16/12/2020	Natural England meeting – SoCG Workshop 14	Discussion on: SoCG Tracker and ongoing consultation and programme draft mitigation
16/12/2020	Natural England Area Manager Meeting	Meeting to discuss resourcing, HRA, protected species and legacy and benefits.
15/01/2021	Meeting with Natural England	Meeting to update NE on likely timescales for resubmission and additional documents for their review
20/01/2021	Natural England meeting – SoCG Workshop 15	Discussion on: SoCG Tracker and ongoing consultation and programme draft mitigation
20/01/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager
03/02/2021	Natural England meeting – SoCG Workshop 16	Discussion on: SoCG Tracker and ongoing consultation and programme draft mitigation
11/02/2021	Natural England meeting – SoCG Workshop 17	Discussion on: SoCG Tracker and ongoing consultation and programme groundwater and surface water monitoring
17/02/2021	Natural England meeting – SoCG Workshop 18	Discussion on: SoCG Tracker and ongoing consultation and programme groundwater and surface water monitoring
17/02/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager Discussion on: key milestones resourcing HRA air quality high priority issues

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
22/02/2021	Meeting with Natural England	Meeting to discuss proposals for Shorne Wood in terms of its management and as a receptor site for dormice displaced as part of the LTC project
02/03/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
03/03/2021	Natural England meeting – SoCG Workshop 19 (with Environment Agency)	Discussion on: Securing mechanisms and Hydrogeological risk assessment
16/03/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
17/03/2021	Natural England Area Manager meeting	Discussion on invertebrate study, SoCG dashboard and high priority issues and programme milestones.
23/03/2021	Meeting with Natural England	Meeting to discuss Common Land proposals
31/03/2021	Natural England meeting – SoCG Workshop 20	Discussion on: programme air quality dust disturbance lighting (operation/ construction) disturbance noise and visual (operation) habitat enhancement groundwater approach to Shorne Woods as dormouse receptor site Tilbury Fields – landscape and invertebrate proposals
13/04/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
21/04/2021	Natural England meeting – SoCG Workshop 21	Discussion on: programme air quality dust disturbance lighting (operation/ construction) disturbance noise and visual (operation) habitat enhancement groundwater
22/04/2021	Natural England meeting – SoCG Workshop 21	Discussion on: programme air quality dust disturbance lighting (operation/ construction)

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		disturbance noise and visual (operation) habitat enhancement groundwater
27/04/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
05/05/2021	Natural England meeting – SoCG Workshop 22	Discussion on: disapplication of Section 28E (Wildlife and Countryside Act 1981) programme air quality dust disturbance lighting (operation/ construction) disturbance noise and visual (operation) habitat enhancement groundwater
10/05/2021	Joint Stakeholder Meeting	Briefing on updated Order Limits
11/05/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
19/05/2021	Natural England meeting – SoCG Workshop 23	Discussion on: invertebrate mitigation Shorne Woods car park programme air quality dust disturbance lighting (operation/ construction) disturbance noise and visual (operation) construction water quality groundwater
20/05/2021	Joint Stakeholder Meeting	Meeting to present the emerging design at Tilbury Fields
25/05/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
02/06/2021	Meeting with Natural England & Kent Downs AONB Unit	Meeting to discuss green bridges, acoustic barriers and impacts on the AONB
02/06/2021	Natural England meeting – SoCG Workshop 24	Discussion on: Tilbury Fields – recreational disturbance air quality – dust disturbance – lighting (construction & operation) disturbance – noise & visual: construction & operation

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		construction water quality – surface and groundwater Project milestones
08/06/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
16/06/2021	Natural England meeting – SoCG Workshop 25	Discussion on: Shorne Woods Country Park – car park design Shorne Woods Country Park – dormouse receptor site air quality – operational AQ HRA bird disturbance – lighting contours
17/06/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager to discuss milestones and resourcing, air quality and NE’s invertebrate study
08/12/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
30/06/2021	Natural England meeting – SoCG Workshop 26	Discussion on: Shorne Woods Country Park – dormouse translocation/ receptor site Shorne Woods Country Park – car park Agricultural Land Classification assessment air quality – dust disturbance – lighting (construction & operation) disturbance – noise & visual: construction & operation construction water quality – surface
06/07/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
07/07/2021	Meeting with Natural England	Meeting to discuss Common Land proposals
08/07/2021	Meeting with Natural England	Catch-up on NE invertebrate study
14/07/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager
14/07/2021	Natural England meeting – SoCG Workshop 27	Discussion on: operational air quality sufficiency of habitat enhancement
15/07/2021	Meeting with Natural England	Invertebrate Meeting

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
20/07/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
21/07/2021	Meeting with Natural England	Meeting between LTC Environment Director, NE Area Manager & PINS
28/07/2021	Natural England meeting – SoCG Workshop 28	Discussion on: operational air quality Project milestones
29/07/2021	Meeting with Natural England	Overview of LTC mitigation and enhancement
03/08/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
11/08/2021	Natural England meeting – SoCG Workshop 29	Discussion on: Coalhouse Fort mitigation area (FLL) operational air quality Project milestones
25/08/2021	Natural England meeting – SoCG Workshop 30	Discussion on: Coalhouse Fort mitigation area (FLL) S28e disapplication OLEMP green bridges Project milestones operational air quality
31/08/2021	Meeting with Natural England	Meeting for NE to provide feedback on the green bridge designs and landscape assessment
08/09/2021	Natural England meeting – SoCG Workshop 31	Discussion on: OLEMP advisory group
14/09/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
15/09/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager to discuss the approach to the air quality assessment, Natural England's consultation response and the updated Tilbury Fields design
16/09/2021	Meeting with Natural England	Common Land Meeting
22/09/2021	Natural England meeting – SoCG Workshop 32	Discussion on: Tilbury freeport and potential change to Tilbury Fields proposals breeding bird disturbance – ES

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
28/09/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
06/10/2021	Natural England meeting – SoCG Workshop 33	Discussion on: Tilbury freeport and potential change to Tilbury Fields proposals
12/10/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
20/10/2021	Natural England meeting – SoCG Workshop 34	Discussion on: EIA operational AQ effects, mitigation and compensation approach Tilbury Fields proposals update
21/10/2021	Meeting with Natural England	Meeting between Barney & Patrick to brief him on NDep work
26/10/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
03/11/2021	Natural England meeting – SoCG Workshop 35	Discussion on: outstanding actions Natural England feedback protected species licensing
04/11/2021	Natural England meeting – AQ assessment workshop 1	Specific meeting to discuss the AQ assessment used in the EIA and HRA following provision of the AQ evidence plan R1
08/11/2021	Natural England meeting – North Downs Woodlands SAC	Specific meeting to discuss the AQ modelling methods used to screen out North Downs Woodlands SAC in the HRA
09/11/2021	Meeting with Natural England	Air quality clarification meeting
11/11/2021	Meeting with Natural England	Meeting between LTC Environment Director & NE Area Manager to discuss air quality and Tilbury Fields
17/11/2021	Meeting with Natural England	HRA SoCG Meeting
23/11/2021	Meeting with Natural England	Air quality clarification meeting
30/11/2021	Meeting with Natural England	Air quality clarification meeting
01/12/2021	Meeting with Natural England	HRA SoCG Meeting

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
06/12/2021	Meeting with Natural England & National Highways	Air quality workshop with NE's AQ specialist
07/12/2021	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
07/12/2021	Natural England meeting – AQ assessment – woodland specialist	Specific meeting to discuss the AQ assessments and compensation habitats with Natural England woodland specialist
15/12/2021	Natural England meeting – SoCG Workshop 38	Discussion on: AQ compensation area site selection updates
16/12/2021	Meeting with Natural England	Area Manager Meeting
04/01/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
12/01/2022	Natural England meeting – SoCG Workshop 39	Discussion on: AQ compensation area sites and draft Order Limits proposed SoCG engagement going forward
17/01/2022	Meeting with Natural England, Kent County Council & Shorne Woods Country Park	Meeting to discuss proposals for a car park located near to Shorne Woods Country Park
20/01/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
25/01/2022	Meeting with LAs and SEBs	Meeting to discuss the proposed Tilbury Fields re-design
07/02/2022	Natural England SoCG meeting - SoCG Workshop 40	Specific SoCG meeting to discuss the remaining SoCG issues and the proposed timetable of meetings going forward
09/02/2022	Natural England meeting – SoCG Workshop 41	Discussion on: protected species licensing – LTC update on progress and LONIs Project proposals for the development of the design of the ES Nitrogen deposition compensation land. Included: timescales, level of detail, management objectives and OLEMP implementation
10/02/2022	Meeting with Natural England	Area Manager Meeting
01/03/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
03/03/2022	Natural England meeting – SoCG Workshop 42	Discussion on: HRA – NE feedback and remaining issues Clarification of functionality measure Feasibility of Coalhouse Point mitigation EIA – AQ Ndep assessment – summary of the evidence technical note EIA – AQ mitigation measures – options taken forward and discounted EIA – AQ compensation – strategic management areas
09/03/2022	Natural England meeting – SoCG Workshop 43	Discussion on: EIA – Invertebrate assessment EIA – AQ Mitigation & Compensation Review SoCG/Milestone tracker
10/03/2022	Meeting with Natural England	Area Manager Meeting
15/03/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
23/03/2022	Natural England meeting – SoCG Workshop 44	Discussion on NE requests for clarification on Use of the Emission Factor Toolkit (EFT) Inconsequential NOx threshold Maidstone LDP and the LTC traffic model assumptions (see meeting 26/04/2022)
29/03/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
11/04/2022	Meeting with Natural England & Kent Downs AONB	Meeting to discuss potential compensatory enhancements within the Kent Downs AONB
20/04/2022	Natural England meeting – SoCG Workshop 45	Discussion on EIA – invertebrates assessment and proposed SSSI scoping study mitigation potential of Coalhouse Point mitigation area size of provision at the new Tilbury Fields proposal EIA – AQ potential for habitat management fund
12/04/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
26/04/2022	Natural England meeting – SoCG Workshop 46	Extra Meeting:

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
		<p>Discussion on Maidstone Local Plan and how it has been considered in LTC traffic model</p> <p>NE feedback on the use of inconsequential NOx at NDW SAC</p> <p>NE feedback of use of “without prejudice” mitigation at Epping Forest SAC</p>
04/05/2022	Natural England meeting – SoCG Workshop 47	<p>Discussion on</p> <p>EIA AQ mitigation solutions</p> <p>HRA - Deliverability of Coalhouse Point wetland creation</p> <p>EIA – Common land provision</p> <p>Review of SoCG/Milestone tracker</p>
12/05/2022	Meeting with Natural England	Area Manager Meeting
16/05/2022	Joint meeting with Natural England and Kent Downs AONB	Meeting to discuss landscape issues including green bridge designs
17/05/2022	Joint meeting between Natural England and Forestry England	Meeting to discuss the planting proposals for Hole Farm
18/05/2022	Natural England meeting – SoCG Workshop 48	<p>NE feedback on:</p> <p>Discuss 'without prejudice' mitigation - NE feedback (Epping Forest)</p> <p>Inconsequential NOx use at HRA Screening</p> <p>‘Early-Sight’ Draft HRA – LTC comments to NE feedback issued Feb 23rd</p> <p>HRA screening – Groundwater – NE to source specialist advice and provide feedback</p> <p>HRA – Feasibility of Coalhouse Point Wetland Creation</p> <p>EIA – review of the assessment and provision for ecological features</p> <p>EIA -Strategic management areas design and management</p>
26/05/2022	Natural England meeting – SoCG Workshop 49	<p>Discussion on</p> <p>The issues still to be resolved with NE to allow text to be drafted for the SoCG</p>
07/06/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
09/06/2022	Meeting with Natural England	Area Manager Meeting
15/06/2022	Meeting with Natural England	Meeting with Natural England to discuss Common Land

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
21/06/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
22/06/2022	Joint meeting with Natural England and Kent Downs AONB	Meeting to discuss traffic and noise effects on the Kent Downs AONB
29/06/2022	Natural England meeting – SoCG Workshop 50	<p>Discussion on</p> <p>HRA - Feasibility of Coalhouse Point wetland creation</p> <p>HRA - Underwater noise assessment</p> <p>EIA Ndep Compensation – order limit proposed changes following public consultation</p> <p>HRA / AQ</p> <p>Definition of inconsequential NOx (actual calculation)</p> <p>Epping Forest SAC: 4 year duration calculation and without prejudice mitigation.</p> <p>Traffic: Temporo model – Development and Growth Factors</p>
05/07/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
06/07/2022	Meeting with Natural England	Meeting with Natural England to discuss outstanding ES SoCG issues including impacts of woodland and invertebrates
13/07/2022	Natural England meeting – SoCG Workshop 51	<p>Discussion on</p> <p>HRA – proposed REAC commitments for Coalhouse Point wetland creation</p> <p>EIA Ndep Compensation – order limit confirmed changes</p> <p>EIA – Invertebrate assessment Kent areas impacted and mitigation</p> <p>EIA – Ancient woodland impacts and mitigation</p>
19/07/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
28/07/2022	Site visit with Natural England	Site visit to Brewers Road and Thong Lane to discuss the proposed green bridges
02/08/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
02/08/2022	Joint meeting between Natural England and Forestry England	Meeting to discuss the planting proposals for Hole Farm

Date	Form of contact/ correspondence	Key topics discussed and key outcomes
11/08/2022	Meeting with Natural England	Area Manager Meeting
16/08/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
17/08/2022	Natural England meeting – SoCG Workshop 53	Discussion on EIA – Bowater’s bridleway EIA – SSSI designation EIA – East Tilbury Landfill Access Track
24/08/2022	Natural England meeting – SoCG Workshop 54	Discussion on HRA – review of the SoCG text for the matters agreed and under discussion EIA – Common land
30/08/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
07/09/2022	Natural England meeting – SoCG Workshop 55	Discussion on HRA/EIA - SoCG text drafting and assurance programme HRA - Updated PINS advice Note 10
07/09/2022	Joint meeting between Natural England and Forestry England	Meeting to discuss the planting proposals for Hole Farm
13/09/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
21/09/2022	Natural England meeting – SoCG Workshop 56	Discussion on HRA/EIA - SoCG assurance programme EIA – Mitigation habitat and BNG metrics
27/09/2022	Meeting with Natural England	Regular catch-up meeting with NE to discuss data requests for information, status of reviews, upcoming meetings and activity plans.
05/10/2022	Natural England meeting – SoCG Workshop 57	Discussion on HRA – final review of the SoCG text for the matters agreed and under discussion
05/10/2022	Joint meeting between Natural England and Forestry England	Meeting to discuss the planting proposals for Hole Farm

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