Lower Thames Crossing

9.54 Comments on LIRs Appendix C – Essex County Council

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Appendix C – Essex County Council

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1 Applicant's Responses to Essex County Council's Local Impact Report

Table 1.1 The Applicant's responses to Essex County Council's Local Impact Report (LIR) – [REP1-226]

LIR Reference	Local Impact Report Extract / Applicant's Response
Page 3	**1. BACKGROUND** The Lower Thames Crossing (LTC) scheme as proposed represents a huge step change for how vehicles can cross the Thames, giving an alternative to the current Dartford Crossing and providing a direct link between Junction 29 on the M25 and the M2 in Kent with two lanes being proposed southbound and three northbound. The connection will be made by tunnel under the river close to the village on East Tilbury in Thurrock, a Unitary Council. Some of the route will be formed in Essex where the M25 intersects with the A127 at Junction 29, and the impacts this proposal will have on the free flow of vehicles and trade across the River is hugely significant and considered, for the most part, to be beneficial, and is supported in principle by Essex County Council (ECC).
Applicant's Response	This comment is noted and Essex County Council's (ECC) support for the Project is welcomed.
Page 3-4	ECC recognises the benefits of the LTC project to the performance of the Strategic Road Network (SRN) for which NH is responsible, including the improvements in resilience, reliability and road safety for the many people who travel on this stretch of the network, including the current Dartford Crossing. The council supports the principle of the scheme as is proposed by LTC, and has said so many times in engagement, and is keen to see it delivered to ensure that the expected benefits can be realised. However, such a development should not come forward at unacceptable environmental cost. The as proposed development would alleviate the long-standing transport problems at the Dartford Crossing, which constrain the economy, the free flow of people, goods and services through Essex. Current levels of traffic demand for crossing the River Thames east of London outstrips the available supply, with growth and development in the connected communities exasperating the situation and making it progressively worse over time. Due to the age of the existing crossing, and despite incremental improvements have been made to maximise the capacity of the available road, there are little practical options to what can now be delivered in this location to make the Dartford Crossing more efficient. Despite these challenges, road users have little choice but to continue to use the Dartford Crossing because of the lack of alternative routes. LTC, if consented, would provide a practical alternative for people and goods to crossing the Thames in this location east of London and overcome current high levels of congestion at peak times which affects the M25 and linked highways network on both sides of the Thames.

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	Reduced congestion and delays and improved journey time reliability and cross river connectivity would aid the growth potential for the local economies on both sides of the River Thames, including those in Essex, by helping to form a single market with enhanced labour market, competition and efficiencies to drive up productivity. The benefits would extend across the London region by creating a greater synergy and across the country where the economy relies on road connectivity for international trade via the ports.
Applicant's Response	This comment is noted and ECC's support for the Project is welcomed.
Page 4	The council does consider, however, that although the development should come forward at pace, its impact should not be such that detrimental impacts could result in significant adverse impact on the highway network, nor on the amenity of residents, the environment, business premises and growth in Greater Essex and the wider region.
Applicant Response's	This comment is noted. Whilst the Project does have an impact on the environment, which has been robustly assessed and detailed in the Environmental Statement (ES), the Applicant has sought to avoid, reduce, mitigate or compensate for any adverse impacts and, where appropriate, provide enhancements. Any residual detrimental impact of the Project is clearly and significantly outweighed by the substantial public benefits of the Project, as set out in detail in the Need for the Project [**APP-494**].
Page 4	Whilst many of the issues as they relate to Essex have been discussed with NH and allowed ECC to agree what is a full and comprehensive Statement of Common Ground (SoCG) it is considered that some further information is required on the impacts of the scheme and that fundamentally some material changes to the proposals are required. In many cases we believe these changes should be secured through the Development Consent Order (DCO). Most of these changes relate to traffic and transport, and more specifically to the impacts on and interface between the local highway network (for which ECC is responsible) and the SRN, to safeguarding land which is allocated for employment growth, and to provide a full and co-ordinated non-motorised user (NMU) network.
Applicant Response's	This comment is noted and responses to individual issues follow within this document.
Page 5	**Planning Performance Agreement** ECC welcomes discussion with the ExA and the applicants on a Planning Performance Agreement (PPA). NH and ECC have agreed a PPA in respect of the council's engagement with the LTC project over and above our statutory responsibilities as set out in the Planning Act 2008, and this has included payment of an agreed sum for the duration the project during engagement on this DCO which has been extensive. avail [sic]

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	The PPA has recently been extended to include engagement post DCO submission, but does not cover attendance at the DCO Hearings, nor support for legal representation at the same. This has had some impact in covering staff time and resources but nevertheless leave ECC underfunded. Here we would add that ECC are currently engaged on nine other NSIPs currently, including the A12 to A120 NSIP also promoted by NH, and as such our resources usually able for engagement on third-party infrastructure projects are significantly stretched.
Applicant's Response	As a public sector organisation, the Applicant must manage public resources in accordance with the principles set out in Managing Public Money which include impartiality, integrity, accountability, transparency and achieving value for money. In order for ECC to give its independent opinion including expert witness submissions and response to questions (that are at the direction of the Examining Authority (ExA)), the Applicant should not be in any position of influence over those aspects of ECC's involvement in the examination. If the Applicant were to fund the cost of a third party's participation at hearings and/or legal representation the Applicant's ability to manage public resources in accordance with Managing Public Money principles could be compromised. This is because it would have limited or no control over the scope of the work or expenditure as those directions would come from the ExA. The general principle is that third parties pay their own costs for their participation in examinations including attendance at hearings and/or providing written responses to the ExA.
Page 7	**2. PROJECT OVERVIEW AND DESCRIPTION OF DEVELOPMENT** ECC supports the reasons why LTC is necessary, as it would relieve the congested Dartford Crossing and approach roads, and in doing so improve their performance by providing free-flowing north-south capacity, enabling the free flow of people and goods to cross the Thames.
Applicant Response	This comment is noted and ECC's support for the Project is welcomed.
Page 7	It is noted that the applicant provides a list of alternatives should LTC not be promoted in accordance with NPSNN paragraph 3.3 which provides broad overarching context in relation to scheme development and states that*: 'Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes'*. ECC concludes that none of the options for alternative provision would provide the benefits as are expected from LTC. Furthermore, the route as proposed by this DCO has been the subject of extensive consultation, which commenced in 2013, and route optioneering. ECC sees no issue with the applicant's claim that alternatives are not cost effective, necessary in terms of the benefits they would attain over benefits, nor environmentally acceptable. That is not to say that the route choice itself is not impactful, however ECC will concentrate on the impacts of LTC which are applicable to the administrative area of Essex only for the most part.

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Applicant's Response	This comment is noted and the Applicant welcomes the recognition of the robustness of the extensive route selection process.
Page 12	**4. UNDERSTANDING THE SCHEME'S EFFECTS ON ESSEX** 1. **Lane provision southbound from M25 junction 29:** ECC has consistently opposed the reduction from 3 to 2 lanes from junction 29. ECC understands the logic that has been provided but believes this is a short-sighted move that will cause problems in the future. ECC recommends passive provision for future widening as a minimum.
Applicant's Response	The Applicant's position remains as noted in SoCG [**REP1-099**] item 2.1.6 as follows: *The Applicant has confirmed that traffic modelling predicts that a significant proportion of traffic travelling southbound on the Project will join from the A13 junction, so fewer vehicles will use the route between the M25 and A13. The Applicant therefore reviewed its plans and reverted to the previous design featuring two lanes southbound between the M25 and A13 junctions.* *By making this change, the Project can reduce the amount of land required on this section, lessen the environmental impact and offer better value for money by only providing the capacity required.* *A further benefit is that the Project no longer needs to realign Ockendon Road or make changes to the bridge where the road passes over the M25.* *Under the Planning Act 2008, the Applicant can only seek consent for land which it can evidence as being required to deliver against the Project objectives.* *The Transport Assessment* [**APP-529**] *forecasting has demonstrated that in the period 15 years after road opening, the lane provision provided meets the anticipated traffic flows. Based on government guidance, the traffic forecast includes assumptions around growth and future developments.* *Government guidance on transport appraisal requires investment decisions to be made on the basis of normal operation of the road network. The traffic model allows for normal operation by taking into account the average condition of the road network and number of traffic incidents expected.* *Therefore, lane provision has been designed using forecasted traffic flows and has not allowed for futureproofing of additional lanes. Bridge structures have been designed to ensure that the setback (distance from the carriageway edge to an obstruction i.e. safety fence, parapet, etc) complies with required standards for the number of lanes in the design.* For clarity, the justification for having two lanes southbound from the M25 onto the Lower Thames Crossing is that this is sufficient for the traffic that wishes to use this part of the Project. The third lane in the opposite direction is justified due to the high proportion of HGVs joining at the junction with the A13 and merging northbound onto the A122, and then traffic moving over to leave the road at the early diverge for M25 junction 29 without joining the M25 mainline.

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Page 12	2. **A13 access to/from west of LTC junction:** ECC is opposed the lack of direct connection between the A13 and the LTC and between the LTC and the A13 westbound. However, noting this matter is within the Thurrock boundaries and is therefore not going to make any further representations within the DCO process.
Applicant's Response	The Applicant's position remains as noted in SoCG [**REP1-099**] item 2.1.7 as follows: *The proposed A13/A1089/A122 Lower Thames Crossing junction provides vital strategic and local highway connections to the Project, which is why a major junction is required. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are not provided. The inclusion of additional direct links would require a third level to the junction and signalised junctions, increasing congestion, visual impacts and cost. The links that have been provided at the junction are those that would provide the greatest benefits, based on consideration of the traffic modelling and feedback from stakeholders.*
Page 12	3. **Connectivity from Orsett Cock to LTC:** ECC opposes the lack of connection from Orsett Cock. However, noting this matter is within the Thurrock boundaries and is therefore not going to make representation through the DCO process.
Applicant's Response	The Applicant's position remains as noted in SoCG [**REP1-099**] item 2.1.10 as follows: *The proposed A13/A1089/A122 Lower Thames Crossing junction provides vital strategic and local highway connections to the Project, which is why a major junction is required. To reduce its footprint and height and to manage the balance across the local and major routes, certain direct links between the three highways are not provided. The inclusion of additional direct links would require a third level to the junction and signalised junctions, increasing congestion, visual impacts and cost. The links that have been provided at the junction are those that would provide the greatest benefits, based on consideration of the traffic modelling and feedback from stakeholders.*
Page 12	4. **Variable charging as reactive mitigation:** ECC believe that NH should retain some control of the user charging regime, such that the charges can be adjusted if needed (e.g. between different vehicle types and emission classes, time of day, weekdays and weekends etc), with appropriate controls in place, as a means of influencing usage.
Applicant's Response	As set out in the Road User Charging Statement [**APP-517**]: *1.4.4. Setting the Lower Thames Crossing road user charge to be equal to the one used for the Dartford Crossing would encourage customers to take the most appropriate route based on journey factors rather than being distorted by the level of charge. This would discourage unnecessary vehicle mileage from those seeking to save money from a cheaper crossing, and therefore would reduce the impacts of longer journeys, such as the consequential effect of additional emissions and noise.* *1.4.5 To most efficiently use the SRN and local roads, both in normal operations and incident scenarios, the two crossings would need to operate in an integrated manner. An equal charge would support this by simplifying decision making for the customer, allowing them when necessary to switch between crossings without the concern of different charging regimes.*

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	The Applicant's position remains as noted in SoCG [REP1-099] item 2.1.13 as follows: *Charging is a tool for traffic management on the crossings at Dartford and the Lower Thames Crossing as a single combined entity. The Applicant works closely with DfT (as the existing charging authority for Dartford Crossing, and the Lower Thames Crossing once it comes into operation) on charging matters. The DCO would permit the Secretary of State to impose road user charges at the tunnel area that are equal to the charges that apply at the Dartford Crossing from the date at which the Project opens for traffic as stated in the Road User Charging Statement* [APP-517]. *The Project is implementing other steps to monitor and manage the wider network impacts of the Project after opening, as discussed in the "Wider Network Impacts" section* [of the SoCG].
Page 12	5. **Cross-river cycling provision:** ECC asked the Project to commit to facilitating bicycle travel through the tunnel. Further ECC has expressed disappointment that the proposed provision would be less than at Dartford feeling this is contrary to the spirit of the agenda to make cycling a safe and attractive journey choice.
Applicant's Response	The Applicant's position remains as noted in SoCG [REP1-099] item 2.1.28 as follows: *The Applicant retains its position that cross-river provision for walking and cycling via the tunnel is prohibited by design standards, safety concerns, logistics and access, emergency evacuation requirements and a lack of demand (with little benefit to commuters and local leisure walkers/cyclists compared to alternative provision at Dartford and Gravesend-Tilbury Ferry).* *The Applicant considers that the existing provision for cross-river transport for cyclists via the Gravesend-Tilbury Ferry is appropriate and well-used, with services for 20 bicycles every 30 minutes between about 6am and 7pm from Monday to Saturday.* *The Applicant does not consider there to be a justification to include further proposals for cross-river cycle provision within the Project's DCO application. The Applicant recognises the importance of the opportunity to improve sustainable transport provision across and along the river, but as complementary measures to the Project which provides the infrastructure improvements that may facilitate measures.* *As part of the Project, the Applicant has also set up a Sustainable Transport Working Group involving local authority stakeholders to investigate sustainable travel and cross-river connectivity enhancements that could be delivered in future to complement the Project. The Group has proposed several local priorities and opportunities for feasibility studies for future funding applications (as stated in the Sustainable Transport Complementary Measures report of March 2021).* *The report includes nine stakeholder priority measures including ferry service improvements, feasibility studies for cycling and e-bike initiatives, and a walking, cycling and public realm action plan for Tilbury that may be of relevance.* *Designated funds are very much considered the appropriate mechanism for providing these measures, which fall outside the remit of the DCO, but may be facilitated by it.*

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	A list of additional WCH routes to extend the Project's provision and facilitate better and safer active travel journeys around the strategic road network has been developed. The Applicant has secured funding to assess the feasibility of these routes. Applications for design and delivery will be supported for proposals scored as deliverable and good value for money. Furthermore, in addition to built-in mitigation, the Project makes considerable additional provision in the form of enhancements for non-motorised modes as identified in paragraph 13.5.39 and Table 13.54 of ES Chapter 13: Population and Human Health [**APP-151**]. See also the Applicant's response to paragraph 3.17 of the NPSNN on page 22 of Appendix A to the Planning Statement [**APP-496**] NPSNN Accordance Table and Section 9.2 (paragraph 9.2.11) of the Sustainability Statement [**APP-544**]. Page 48 of the Project Design Report Part G [**APP-514**] relates to connections north of the river, in particular the concerns raised over the lack of a pedestrian and cycle crossing underneath the River Thames. The Applicant considered utilising the void beneath the roadway within the tunnels for modal alternatives would raise safety concerns. A cycle shuttle service through the tunnel similar to that at Dartford was also considered. As outlined on page 48 of the Project Design Report, these options were shown to be unfeasible for various reasons including lack of demand, cost, safety concerns, engineering constraints and also the remote location of the North Portal).
Page 12	6. **Tilbury Link Road/junction provision:** ECC oppose the lack of a junction at Tilbury. As a minimum ECC would at least request some form of assurance to revisit in a future round of the RIS and urges a review of the current position to include a connection given the Government's strong support for Thames Freeport and the opportunity this brings.
Applicant's Response	The Applicant's position remains as noted in SoCG [**REP1-099**] item 2.1.8, as follows: *The Tilbury Link Road was not included in the Project proposals consulted on at Statutory Consultation because it did not align sufficiently with the Scheme Objectives agreed with the Department for Transport (DfT), owing to its impacts on the environment and local roads.* The SoCG refers to discussions between the Applicant and ECC regarding the status and design of the operational and emergency access included in the revised design at Tilbury Fields and status of Tilbury Link Road (TLR) in relation to the Road Investment Strategy (RIS). This is summarised below. The TLR has been identified in the RIS2 as part of the RIS3 pipeline of projects. During the review of the Project undertaken when the Thames Freeport was designated, the Applicant sought direction and received instruction from the DfT and the Department for Levelling up, Housing and Communities (DLUHC) that the TLR should be progressed through a separate consenting process to the Project. It is not possible to bypass the government investment decision process by committing to funding for the consenting and construction of the TLR within the Project's DCO. The revised design at Tilbury Fields provides an operational access, with no access for public traffic on or off the Project at this location. This operations and emergency access have not been designed specifically for any particular future connection into

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	the local road network. If the local authority or a third-party stakeholder is considering any future development, they would need to liaise with the Applicant's Spatial Planning team to develop their proposals. Any new road connecting to the Project at this point would have to follow the relevant planning process at the appropriate time.
Page 12-13	1. **Brentwood Enterprise Park (BEP) interface:** ECC have asserted that the Project should not compromise the viability and access to the BEP. The site is now in Brentwood's adopted local plan and subject to an active planning application. ECC has requested that the Project coordinates safe and suitable access during construction and operation of BEP and the Project. It is vitally important that LTC, which effectively removes the existing entrance to BEP, provides an alternative point of access which is both suitable for the traffic generated, safe and future proofed.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.5 as follows: *An update was provided to ECC and Brentwood Borough Council at a meeting with the Land & Property team on 12 June 2023. The Applicant and St Modwen (BEP developer) have worked closely since the announcement of the preferred route in 2017 and are progressing legal agreements as to the mechanics of how the two projects will manage their interfaces. The Interrelationships with other Nationally Significant Infrastructure Projects and Major Development Schemes document* [**APP-550**] *provides further information on the steps taken by the Applicant to account for its interfaces with other major development schemes.* The Applicant and St Modwen continue to work collaboratively to address the outstanding interfaces between the two projects. The access proposals from the B186 have been agreed in principle between the Applicant and St Modwen, the promoter of Brentwood Enterprise Park (BEP). If BEP is developed before, or at a similar time to the proposed Project access, then the Project access design would be altered to connect to the BEP access. This is stated in the Design Principles [**APP-516**] (Design Principle S14.19). If the Project access is constructed before the BEP access, the Project access could be amended to connect to the new BEP access once built and the original Project access onto the B186 could then be closed to avoid too many junctions being located in close proximity to each other. Should BEP obtain consent and be developed ahead of the Project, the proposed BEP vehicular bridge over the A127, combined with the existing structure, would provide equivalent Walkers, Cyclists and Horse Riders (WCH) connectivity to that proposed by the Applicant. In this circumstance the Applicant would not construct the WCH structure to the east of M25 junction 29 proposed in the draft DCO [**REP1-042**]. This is stated in the Design Principles [**APP-516**] (Design Principle S14.22). The alternative circumstance is that the WCH structure to the east of M25 junction 29 proposed in the draft DCO is constructed prior to the development of BEP. The Applicant is continuing to engage with St Modwen regarding potential design solutions which would accommodate the BEP access proposals in this scenario.

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	This matter is further addressed by SoCG [**REP1-099**] item 2.1.5 as follows: *The Project has made a design change to reduce the area within the Order Limits by c14.5ha to remove a previously proposed high pressure gas diversion, the final significant non-highway constraint on BEP . This has been achieved via the development of an engineering solution, omitting the need for the diversion of Cadent's high pressure gas pipeline. Due to the location of the existing pipeline, on the grounds of safety, the Warley Street Compound has been relocated to the east where the now redundant Warley Street Utility Logistics Hub was to be located. The change is reflected in the Works Plans* [**AS-024** to **AS-030**]*, Temporary Works Plans* [**AS-034** to **AS-036**] *and via the Consultation Report* [**APP-064** **to** **APP-069**]. A Land and Works Agreement between the Applicant, St Modwen and the landowner (Mr Padfield) to resolve project interfaces is being actively progressed.
Page 13	2. **Cross-river bus services and public transport infrastructure:** ECC urges NH to ensure that the opportunity to improve cross-river public transport connectivity and capacity provided by the Project is fully realised. There is clear potential for a Fastrack/South Essex Rapid Transit (SERT) type service linking Essex to Kent.
Applicant's Response	The Applicant's position remains as noted in SoCG [**REP1-099**] item 2.1.14 as follows. *A significant programme of business engagement, including some bus operators, has already begun to build understanding of and potential support for the Project.* *Local authorities are, the Applicant considers, best placed to lead on the development and appraisal of future public transport projects. They also have strong existing relationships and lines of communication with commercial bus operators as part of local transport authority duties. The Applicant is of course willing to work with authorities where appropriate. The Applicant has established a Sustainable Transport Working Group (STWG) in parallel to the Project, with its primary purposes to maximise the benefits of the new crossing and develop sustainable travel initiatives that could be eligible for National Highways' designated funds and to support cases for future investment. Should the Project gain consent, the Applicant will use the STWG up until opening as a forum to engage local authorities and operators to build awareness and develop improvements to existing commercial services and potential new services to make best use of the opportunities provided by the new crossing. The Applicant considers that supporting this collaboration between local authorities on both sides of the River Thames is the most effective and sustainable solution.* *The opportunity to provide a link for new bus services across the River Thames between North Kent and Thurrock/South Essex, could provide a significant change in public transport connectivity. The positive impact would extend to the Dartford Crossing which is forecast to see journey time reliability increase, and journey times reduce as a result of the Project. The whole of the Project route is accessible to local and longer distance public transport routes, if operators choose to make use of it. In common with the Dartford Crossing, registered local bus services would be exempt from charging. Bus lanes are not included within the tunnel due to the good overall capacity provided by the three-lane design.*

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	Public transport access to the Lower Thames Crossing using dedicated access points is prevented by design and practical considerations. The emergency access roads, merges and diverges have been specifically designed to optimise emergency service accessibility and response times. However, they have not been designed to a standard for public use. The operation of the emergency access (as designed) is to be supported by the National Highways Regional Operations Centre (ROC) and appropriate interventions. This introduces incompatibility between emergency service operation and bus operations. The portal sites will also see significant activity throughout the day and the coming and going of buses would conflict with day-to-day operations (e.g. maintenance, traffic management and recovery vehicles, potentially at short notice). *While Essex County Council welcomed the proposals involving the STWG, this matter is under discussion pending further detail being established by the Applicant on the proposals' implementation.*
Page 13	3. **Modelling impacts on specific roads and junctions:** Modelling has highlighted numerous junctions experiencing negative capacity and flow impacts. The locations affected are beyond the immediate vicinity of the Project, due to changes in routing choices. 4. **Mitigation of identified impacts:** ECC requested mitigation by National Highways for negative traffic impacts identified on the wider road network. ECC seeks accelerated funding and delivery of these mitigations to maximise any consequential opportunities for housing and economic growth. A clear understanding with National Highways is needed about how the required mitigation will be determined.
Applicant's Response	The Applicant recognises that as a result of the Project opening, people will choose to make different journeys. In many places on the network, and within Essex, this will lead to beneficial impacts on the network, and in some cases will lead to adverse impacts. Overall, the benefits on the road network outweigh the adverse impacts, and this is reflected in the positive economic benefit of the Project overall and within Essex. This matter is addressed by SoCG [**REP1-099**] item 2.1.16 and notes that '*at a meeting on 9/5/23, the Council agreed that the provision of data had been sufficient for it to understand the predicted impacts and considered this matter agreed.*' The matter of mitigation of identified impacts is addressed by SoCG [**REP1-099**] item 2.1.17, as follows: *The Applicant notes that while ECC has concerns about the principle that the funding of mitigations identified by future monitoring would rely on existing funding mechanisms and processes, as relayed below, its modeller's analysis as of 9 August 2022 is 'overall, the results of the updated model versions and runs do not present any major causes for concern for Essex'. On these grounds, this has led to a potential compromise once a revised Wider Network Impacts Monitoring and Management Plan (WNIMMP)* [**APP-545**] *has been provided.* *At a meeting on 19 July 2022, the Applicant explained its approach to Wider Network concerns from local authorities before and after the crossing opens. It was explained that the Applicant has assessed the wider network impacts of the Project and has considered these against the requirements set out in the National Policy Statement for National Networks (DfT, 2014), and*

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	considers that the adverse transport impacts are acceptable under this policy. Further information on policy compliance can be found within the Transport Assessment [**APP-529**]*. As such, the Applicant is not committing to any direct additional funding for interventions on the wider network through the DCO.* *The Project is proposing to monitor the impacts of the Project on traffic on the local and strategic road networks. If the monitoring identifies issues or opportunities related to the road network as a result of traffic growth or new third-party developments, then local authorities would be able to use this as evidence to support scheme development and case making through existing funding mechanisms and processes.* *An updated WNIMMP will be included in the application, providing information about the proposed traffic monitoring. The Applicant will also provide a briefing on the changes made to the WNIMMP since a draft version was shared in the July 2021 Community Impacts Consultation.* *The traffic impact monitoring scheme will be secured in Schedule 2 of the draft DCO* [**REP1-042**] *and would require approval by the Secretary of State, after consultation with relevant local highway authorities, which would begin one year before the tunnel area opens.* *The Applicant is obligated to work with local highway authorities and others to align national and local plans and investments, balance national and local needs and support better end-to-end journeys for road users (paragraph 5.19 of Highways England: Licence). The Applicant will continue to deliver against this obligation in its collaborative work with local authorities.*
Page 13	5. **Skills Education and Employment (SEE) strategy development:** ECC has been clear that it encourages early engagement on SEE and secure a coordinated strategic approach between major highway projects in the county given the number of simultaneous schemes. The Project presents opportunities to provide positive benefits in the form of apprenticeships, training, skills development, jobs and engagement with local schools and colleges particularly around STEM subjects.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.18 as follows: *Early engagement on SEE began with ECC in March 2019, when the SEE lead was mobilised onto the programme. The SEE lead worked alongside Essex Skills Commissioners to develop the LTC Skills and Employment Working Group, which provided the local authority a platform to feed into the development of the Project's SEE strategy and whilst also providing regular updates on engagement in Essex.* *In October 2021 a SEE Advisor was appointed to start engagement on the ground with local stakeholders and regularly attends meetings with Council officers, colleges, schools and training providers to provide regular updates on skills requirements. Most recently the SEE Advisor has been working closely with the Essex skills team to promote the opportunities through Essex platforms such as Essex Opportunities, and Essex Careers Magazine, and is now a member of the Essex Opportunities steering group.*

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	The Applicant agrees with ECC's statement around making sure there is a joined-up approach to developing skills across the region. The programme is currently a member of the South East Local Enterprise Partnership (SELEP) Major Projects Group. This working group brings all the large infrastructure projects across the South East together in one forum to strategically plan opportunities and minimise skills shortages in the communities within construction and engineering. In addition, the Applicant will maintain continuous engagement with other regional major projects such as Thames Freeport. *The programme is also a cornerstone employer for the Greater Essex Career Hub, to engage with schools and colleges in Thurrock and Essex to strategically plan school engagement with other employers.* *A paper was also shared by the Applicant on 22 June 2022 to update stakeholders who have raised comments/issues relating to skills, employment and supply chain effects, and proposals for measures to enhance benefits and avoid adverse effects related to the Project as part of the SEE Strategy, which provides further information.* *The Applicant provided final clarifications on this matter at a meeting on 5 May 2023.*
Page 13	6. **Local targeting of provision:** ECC wishes to see a clear emphasis on Essex-based businesses benefitting from supply chains as opposed to general SMEs. More local focus in terms of reports on workforce origin and the local economic backdrop was requested.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.19 as follows: *The SEE team welcomes the engagement from Essex County Council's team to maximise opportunities in their authority and refers to best practices provided through the LTC Skills and Employment Working Group.* *In relation to supporting local businesses, the feedback on the previous 'SME Directory' was taken on board and the Applicant has revised the document to a 'Supply chain directory' in order to capture those larger local businesses in the area. In terms of engagement, the Project's Supplier Team actively engage with regional partners (local authorities, industry bodies, government departments etc.) to harness existing supplier communities, utilise effective and mature communications channels, and raise awareness of the Project among suppliers in the local area. Meet the Bidder events in Essex and Kent in September 2022 provided local businesses (particularly SMEs) with the chance to network with Main Works contract bidders and the Project's Executive Team to find out more about the Programme and potential contractual opportunities. Supplier development is also encouraged through the Supply Chain Sustainability School and through the promotion of National Highways' Supplier Development Scheme. Businesses who register on the Supply Chain Directory will receive the Project Supply Chain Newsletter to learn more about the Programme, the Applicant's ambitions, requirements and development opportunities.* *Breakdown of workforce requirements in relation to skills has been provided through the LTC Skills and Employment Working Group (including peak workforce numbers, skill breakdown across the six years, and tunnel matrix of bespoke skill requirements). Further information on the workforce origin for the Project can be found in the Workers Accommodation Report* [**APP-551**].

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	The alliance proposal was proposed prior to the LTC Skills and Employment Working Group, and SELEP Major Projects Group. Many of the principles in the proposal are being delivered in these two groups. If ECC wishes to continue with the Essex Skills & Supply Chain Alliance, the Project will welcome working with them to maximise opportunities in their area, however a discussion would be required in advance to avoid duplication of work. *A paper was also shared by the Applicant on 22 June 2022 to update stakeholders who have raised comments/issues relating to skills, employment and supply chain effects, and proposals for measures to enhance benefits and avoid adverse effects related to the Project as part of the SEE Strategy, which provides further information.* *The Applicant provided clarifications on this matter at a meeting on 5 May 2023. This matter is under discussion pending the Council's position on the skills and supply chain alliance.*
Page 13	7. **Procurement and delivery:** ECC requested a sharper explanation of targets and how they would be monitored as opposed to ambitions. ECC flagged that urgent skills and supply chain issues required work to mitigate risks to the Project.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.20 as follows: *The LTC Skills and Employment Working Group agreed with the Applicant's approach to have a biannual (two-yearly) revised strategy in order to continue to reflect the work being developed across the local region. The first Strategy has a heavy focus on employer-based activity in order to maximise additional commitments from the delivery partners in the tender stages. The next revision will have a focus on partnerships and move into the employability space.* *Feedback was taken onboard and a section in the SEE strategy technical document outlines the definition of each target and monitoring requirements. Monitoring will take place in multiple forms from monthly and quarterly Project reporting.* *The Applicant agrees that there are skills and supply chain skill shortages and the team is currently working with local training providers and colleges to develop course requirements to support the delivery of the Project (Examples can be provided). This also showcases the importance of the SELEPs Major Projects Group to look at how skills demand is strategically managed across the programmes.* *The programme is working closely with local stakeholders to utilise multiple funding streams, whether this be designated funds or the new community fund pilot.* *In February 2023 the programme launched the 'Lower Thames Crossing Community Fund pilot' to support local charities and community groups impacted by the Project. This funding consists of a £10,000 grant and has six criteria including skills and employment. This is a pilot scheme to support the main community fund which will be granted through the construction phase.* *A paper was also shared by the Applicant on 22 June 2022 to update stakeholders who have raised comments/issues relating to skills, employment and supply chain effects, and proposals for measures to enhance benefits and avoid adverse effects related to the Project as part of the SEE Strategy, which provides further information.*

LIR Reference	Local Impact Report Extract / Applicant's Response
	The Applicant provided clarifications on this matter at a meeting on 5 May 2023. This matter is under discussion pending provision of more information on reporting and targets via the skills working group, following input from partners including the Construction Industry Training Board National Skills Academy.
Page 13	8. **Future skills/work pipeline:** ECC is keen to understand and maximise the legacy of skills, training and employment. The draft Strategy was perceived to lack emphasis. Construction sector capacity and productivity should be permanently enhanced and direct financial contributions from the National Highways towards gaps in physical and social infrastructure were recommended.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.21 as follows: *A paper was shared by the Applicant on 22 June 2022 to update stakeholders who have raised comments/issues relating to skills, employment and supply chain effects, and proposals for measures to enhance benefits and avoid adverse effects related to the Project as part of the SEE Strategy, which provides further information.* *The current SEE strategy outlines how a legacy will be left, encouraging a wide and diverse social / economic group to consider careers in the built environment and supporting industries, through engagement with the Project's SEE team and STEM (Science Technologies Engineering and Maths) Ambassadors. It will also do this by delivering the Project's SEE objectives, training and leaving behind a skilled workforce that will have skills, qualifications and experiences that are in demand in the construction and engineering sectors for years to come.* *As the Applicant has designated the Project a 'pathfinder' for carbon reduction, it will seek to inspire and help drive through new technologies, new methods of construction and build new skills that will work towards delivering sustainable construction and operation.* *A community fund to be provided through construction, and grants, will be awarded to eligible community-led initiatives across four key themes which have been identified based on the impacts/opportunities arising from the development. These are: mental health and wellbeing; local skills and employment support; connecting communities; and environment.* *The Applicant provided final clarifications on this matter at a meeting on 5 May 2023.*
Page 13	9. **Evidence base for the project:** ECC requires continuing socio-economics evidence base on the project from NH to inform its position on the Skills, Education and Employment Strategy.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.22 as follows: *The Project submitted a Wider Economic Impacts Report* [**APP-527**] *with the DCO application, which assesses the wider impact of the Project on skills and employment within the regional and local economy, drawing on public datasets, engagement and policy to identify a comprehensive and robust baseline position against which to assess the Project's impacts and benefits.*

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	Additionally, in developing the SEE Strategy, the Project has collaborated with the SELEP in the development of its report, 'Major Projects in the SELEP Area - Skills and Employment - November 2021'. When complete this will identify challenges and opportunities for jobs and skills across all sectors in the region over the next 15 years, including demands from the Project. This will contribute to the comprehensive socio-economic evidence base. *The Applicant provided final clarifications on this matter at a meeting on 5 May 2023. A dedication to transparent reporting was reaffirmed and the Project will demonstrate this through the employment and skills plan released later this year following input from the recently appointed Delivery Partner.*
Page 13	10. **Cycle network enhancements:** ECC requested a comprehensive and coherent cycling network linking South Essex areas as part of the Project, or the ability to pursue these via designated funds.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.26 as follows: *The WCH provision in the Project is set out in application documents, specifically the Rights of Way & Access Plans* [**REP1-025** and **REP1-026**] *and Schedule 5 of the draft DCO* [**REP1-042**]. *Further information on the provision is set out in the Project Design Report. It adheres to guidance provided within standard LTN 1/20 and will provide an improved and connected network for WCH. The Applicant notes that in its response to the 2022 Local Refinement Consultation, ECC welcomed the general improvements for cyclists.* *The Project WCH provision has been developed to support the wider aspirations of stakeholders for regional provision. In parallel with the Project, the Applicant is in active negotiation with ECC regarding bids to access £30 million of National Highways designated funds allocated to stakeholders along the Project route as detailed under 3.1.26 "Designated funds: WCH and community*" [of the SoCG]. *This matter is under discussion pending the ongoing progress of designated funds activity between the Applicant and ECC.*
Page 13	11. **Walking, Cycling and Horse-riding (WCH) access to Brentwood Enterprise Park:** ECC requested that any altered or new bridge to the east of the M25 will need to consider the new structures proposed for the Brentwood Enterprise Park (BEP) development, and maintain Public Rights of Way (PROW) connections as appropriate.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.29 as follows: *An update was provided to ECC and Brentwood Borough Council about BEP matters at a meeting with the Project Land & Property team on 12 June 2023. The Applicant and St Modwen (BEP developer) have worked closely since the announcement of the preferred route in 2017 and are progressing a Land and Works Agreement regarding the mechanics of how the two projects will work together to manage their interfaces. The Interrelationships with other Nationally Significant Infrastructure Projects and Major Development Schemes document* [**APP-550**] *provides further information on the steps taken by the Applicant to account for its interfaces with other major development schemes.*

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	The Applicant and St Modwen continue to work collaboratively to address the outstanding interfaces between the two projects. Should BEP obtain consent and be developed ahead of the Project, the proposed BEP vehicular bridge over the A127, combined with the existing structure, would provide equivalent WCH connectivity to that proposed by the Applicant. In this circumstance the Applicant would not construct the WCH structure to the east of M25 junction 29 (Work No 9Z) proposed in the draft DCO [**REP1-042**]. This is stated in the Design Principles [**APP-516**] (Design Principle S14.22). The alternative circumstance is that the WCH structure to the east of M25 junction 29 proposed in the DCO is constructed prior to the development of BEP. The Applicant is continuing to engage with St Modwen regarding potential design solutions which would accommodate the BEP access proposals in this scenario. This matter is further addressed by SoCG [**REP1-099**] item 2.1.29 as follows: *In the event that the BEP proposal comes forward in place of the new WCH bridge for the Project, there would be no material loss as the enhanced A127 crossing proposed by the BEP application provides the same functionality as the new WCH bridge (Work No 9Z). The width of the existing bridge allows it to be retained as a bridleway because the line of travel is more than 2m from the parapet, as recommended by the British Horse Society Guidance. The feasibility of increasing the height of the bridge and infilling the parapets will be looked at by St Modwen at the detailed design stage of BEP.* *At a meeting [with Essex County Council and Brentwood Borough Council] on 1 February 2023, the Applicant demonstrated the DCO provisions and design principles facilitating the minimum required PRoW access. A Land and Works Agreement between the Applicant, St Modwen and the landowner (Mr Padfield) to resolve project interfaces is being actively progressed* *This matter is under discussion pending consideration of the information presented to ECC and Brentwood Borough Council at the requested joint meeting on 12/6/23.*
Page 13-14	12. **Impact monitoring – multiple topics:** To identify scheme effects a robust monitoring plan must be in place which considers traffic impacts and effects on air quality, noise and socio-economic factors. This monitoring plan needs to cover a sufficiently large area in sufficient depth to ensure the impacts of this Project can be properly identified and understood. A robust monitoring plan with input from affected stakeholders should be a requirement of the DCO for the scheme.
Applicant's Response	This matter is addressed by SoCG [**REP1-099**] item 2.1.31 as follows: *The Applicant shares the view that a major infrastructure project like this should consider robust and thorough monitoring where relevant and linked to potential effects, and as guided by relevant policy, legislation and standards.* *In each case, the consideration for monitoring of environmental effects has been included by each Environmental Statement topic throughout the EIA having regard to the relevant scope, methodology, professional standards and in line with EIA Regulations, adopted policy and legislation.* *The Applicant is content that by applying this approach, the Project has met its requirements to undertake a full detailed assessment of likely significant effects, and identified mitigation to address them where reasonable and practicable.*

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	Where mitigation and/or monitoring is considered necessary, this has been secured through the DCO Control Documents, generally within the Register of Environmental Actions and Commitments (REAC), or within another part of the Code of Construction Practice (CoCP) [REP1-157]. **Traffic** The Applicant is proposing to monitor the impacts of the Project on traffic on the local and strategic road networks. If the monitoring identifies opportunities to further optimise the road network as a result of traffic growth or new third-party developments, then local authorities would be able to use this as evidence to support Project development and case making through existing funding mechanisms and processes. This process is set out in the WNIMMP [APP-545], which provides information about the approach to traffic monitoring and monitoring locations. An updated WNIMMP is included in the application, and the Applicant has also provided a briefing on the changes made to the WNIMMP since a draft version was shared in the July 2021 Community Impacts Consultation. The traffic impact monitoring scheme referenced in the WNIMMP is secured in Schedule 2 of the draft Development Consent Order [REP1-042] and would require approval by the Secretary of State after consultation with relevant local highway authorities, which would begin one year before the tunnel area opens. **Noise** With respect to operational noise monitoring, as set out in Section 12.8 of ES Chapter 12: Noise and Vibration [APP 150], for the reasons stated, it is not intended to undertake post completion noise monitoring in lieu of other mechanisms for compliance monitoring. The assessment completed for the Environmental Statement, set out in ES Chapter 12: Noise and Vibration [APP 150], is based on calculated annual average road traffic noise levels with and without the Project to ensure a like for like comparison. Ambient noise levels are not constant and vary on a day-to-day basis depending on the contributions to the noise climate from factors such as traffic, railways, agriculture, industry, human activity and weather conditions. To account for the varying nature of environmental noise, any monitoring would need to be over a very long period to gain average levels; additionally, any noise measurement captured as part of the monitoring would likely be influenced by contributions from extraneous sources such as people, agriculture activities and rail. For these reasons, the comparison of a measured noise level with that predicted in a model space scenario is considered to provide an unreliable indication of Project performance and cannot therefore be reasonably relied upon. Section 4.2 of the Design Manual for Roads and Bridges (DMRB) LA 111, as referenced in Section 12.8 of the ES, states that routine operational noise monitoring '*cannot provide a reliable gauge for whether the predicted magnitude and extent of operational adverse impacts are greater or less than those predicted in the assessment*' citing the reasons stated in the paragraph above. Checking that mitigation measures will perform as they should is best undertaken prior to or during installation. This would be undertaken through checks on the performance specification sheets of the products being supplied, confirmations of lateral

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	extents and locations of mitigation and onsite checks during installation. This way any deviation can be identified early while there is still time to change, and any costly rectification is avoided. The product performance specification of operational mitigation measures (e.g. low noise surfacing, noise barriers) would be confirmed at the detailed design stage to ensure the chosen product used meets the performance assumed in the noise assessment. The ExA on other DCO applications, including the A428 Black Cat to Caxton Gibbet, A1 Birtley to Coal House and A1 Morpeth to Ellingham accepted that, through similar mechanisms inherent within their First Iteration EMPs, to those for the Project within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**], mitigation measures would be delivered to required design standards ensuring their effectiveness and the subsequent retention. In these cases the ExA was satisfied that no operational noise monitoring would be necessary whilst ensuring mitigation as secured is both delivered and effective. It is therefore considered that these arguments from the A428, and other schemes quoted, relate to similar major road projects where the demands and expectations from stakeholders would be similar. As such the mechanisms proposed in Section 12.8 of ES Chapter 12: Noise and Vibration [**APP 150**] and advocated by the DMRB LA 111 are concluded to represent a balanced and proportionate view on the issue of long-term noise monitoring in the conclusion of the performance of the mitigation proposed. **Air Quality** As described in ES Chapter 5 Air Quality [**APP-143**] there are expected to be no significant air quality effects in relation to human health receptors and compliance with Limit Values, and therefore in line with the advice of DMRB LA 105 (Highways England, 2019), mitigation and monitoring is not required for the Project in relation to these effects. Significant air quality effects have been predicted as a result of nitrogen deposition in biodiversity sites, and the mitigation and compensation measures identified are described in ES Appendix 5.6: Project Air Quality Action Plan [**APP-350**]. Whilst there are significant effects predicted on the biodiversity sites, it is not appropriate to undertake nitrogen deposition monitoring. Monitoring will not aid in determining whether mitigation is effective as there is no ability to monitor conditions with and without the Project. Given that the impacts are as a result of the change in nitrogen deposition rather than for example absolute concentrations against Air Quality Strategy objectives, monitoring would only provide information related to the conditions at the time the monitoring was undertaken. An ongoing monitoring strategy is not therefore proposed in relation to air quality.
Page 14	13. **Hole Farm – Offset Pollution Impacts:** ECC note the inclusion of Hole Farm within the DCO, which is welcomed for the benefits it would bring to the environment and local communities who would use it. It is NH's intent to implement the proposed Hole Farm site hence it is reasonable to question if, as intended, this can be also counted as a benefit for LTC.

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Applicant's Response	In relation to Hole Farm and the provision of compensation on the site the Applicant is clear that the application for development consent does not seek to claim the benefit to the environment and local communities who would use it. The inclusion of the Hole Farm site within the DCO application is to provide compensation for the following aspects: • Ancient woodland loss • The impacts of nitrogen deposition on designated habitats • Replacement special category land Further detail on this point was discussed at Issue Specific Hearing 1 under item 4(f) [**EV-023**]. An explanation of this and the Applicant's position is included in SoCG [**REP1-099**] item 2.1.1, as follows: *The elements of Lower Thames Crossing at Hole Farm which relate to the provision of mitigation and compensation for the DCO have developed in the run up to submission and in consultation with the stakeholders of the Project. The Hole Farm site was purchased by the Applicant with the purpose of providing both ecological and community benefit at the site, working in partnership with Forestry England.* *Subsequently and with the Hole Farm site owned by the Applicant it was proposed that elements of compensation be provided within the Hole Farm site, reducing the need for compulsory acquisition of other land owners and noting the importance of considering whether the Applicant's own land could be used before resorting to compulsory acquisition.* *It is intended that the compensation could be provided early, in the case of woodland allowing it a chance to establish. This would be consented via an EIA Stage 1 request for afforestation under the Environmental Impact Assessment (Forestry) (England and Wales) (Amendment) Regulations 2017 for the habitat creation.* *A separate Town and Country Planning Act application would also be submitted for the elements which do not form part of the LTC DCO Project but for which planning permission is required. These include: the hard infrastructure including access, car parking, hard landscaping such as paths, buildings. It excludes all areas of planting.* *The items which will be detailed in the Hole Farm TCPA would be additional benefits and provide the infrastructure for the operation of the site as a community woodland. The Afforestation application will set out habitat creation consistent with the LTC DCO application and the management and use of the site as a community woodland.* *This approach reduces any risk of 'double counting' and the extent of overlap and therefore risk of inconsistencies between the Hole Farm afforestation application, TCPA and LTC DCO.* *The planting proposals at Hole Farm represent an opportunity to deliver environmental compensation for the LTC early so that it is in place and has begun to establish prior to or early on in the construction programme. Natural England support the principle of this approach generally (Statement of Common Ground between (1) National Highways and (2) Natural England, Item 2.1.63)* [**APP-099**].

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	*If LTC does not proceed, the TCPA would secure the consent necessary to deliver the Hole Farm community woodland facilities managed by Forestry England alongside the wider Thames Chase Community Forest. The planting mix for Hole Farm in the context of the LTC has been agreed with Natural England (Statement of Common Ground between (1) National Highways and (2) Natural England, Item 2.1.41 [**APP-099**]). In the event LTC is not delivered, Forestry England would promote an alternative form of woodland planting and habitat creation at the community woodland such that it would not provide the same ecological outcomes as the specific forms of compensatory planting proposed under the DCO for LTC.* *By using the NH Hole Farm land to deliver LTC compensation it aligns with the goal of the creation of a community woodland (habitat creation and replacement special category land). NH and Forestry England have worked together to consent the other benefits (car park, visitor centre etc.), planned for Hole Farm before the land was identified for the LTC project.*
Page 15	**5. HIGHWAYS AND TRANSPORTATION** **LTC Modelling** ECC has received two versions of a cordoned section of the LTC models produced by National Highways. An initial model and associated outputs were received in 2021, with an updated version issued in summer 2022. It is assumed that this cordoned version of the model is largely consistent with the full model used to produce the submission documents which have been submitted by the applicant. (If National Highways has made any significant changes to their full model since the previous issue of the cordoned model to ECC, we would request that an updated version of the cordoned model be provided to enable us to review and identify any further points of concern to be discussed as part of the DCO process). The provision of the cordoned model has enabled ECC to interrogate the expected impacts of LTC in areas where the main Transport Assessment submitted in support of the application is either silent, or only addressed in basic terms.
Applicant's Response	This comment is noted.
Page 15-17	**Do Something vs Do Minimum 2030** The plots in Figure 1 and Figure 2 show the difference in flows in PCUs between the 2030 Do Something and Do Minimum runs. The maps produced for 2030 show that, as would be anticipated, the major changes mostly occur close to the LTC scheme.

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	During the AM peak it can be seen that the LTC is resulting in a reduction in traffic along the A13 between the M25 and the LTC of approximately 1,000 PCUs. To the east of the LTC though there is an increase in traffic on the A13 eastbound of approximately 650 PCUs as far as the A1014 junction. The flows to the east of this are still forecast to be higher than without the LTC but reduce as distance increases from the LTC scheme. There is also a reduction in traffic on both the A127 westbound (approaching 400 PCUs) and on the A128 northbound (400 PCUs) as traffic is expected to divert onto the LTC. There are limited changes elsewhere on the network in the AM peak forecast in 2030. During the PM peak the re-routing of traffic is similar, although as would be expected there is some alteration in the directionality of the changes. On the A13, the largest change in flows is westbound from the LTC to the M25 (approximately 1,000 PCUs). The scale of change on the A13 westbound toward the LTC scheme is higher at approximately 500 PCUs in the PM peak. As in the AM peak there is a reduction in traffic expected in the PM peak on the A127 and A128, albeit eastbound on the A127 (-280 PCUs) and southbound in the A128 (-270 PCUs). In summary, the flow difference analysis indicates that major change to traffic flows in or near Essex will be largely constrained to the main A13 and M25 corridors.
Applicant's Response	This comment is noted. On many roads to the west of the Project, such as the A2, the A13, the Dartford Crossing and the M25 in Thurrock, the number of vehicles would fall when the Project opens. However, roads on the approach to the Project, including the M2, A228, A229, and some roads to the east of the Project, such as the A13, the A2 and some sections of the M25, would experience an increase in traffic levels as travel across the River Thames becomes easier and more reliable. The changes in traffic flows across the region are detailed in full in Chapter 7 of the Transport Assessment [**APP-529**]. Overall, the benefits on the road network outweigh the adverse impacts, and this is reflected in the positive economic benefit of the Project.
Page 18-19	**Do Something versus Do Minimum 2045** Figure 3 and Figure 4 show the changes in flows for 2045 for the do something model scenario compared to the Do Minimum. As with the 2030 opening year, the 2045 forecast year shows very similar trends in flow changes between the two different "do something" scenarios. In the AM peak, there is a reduction in expected flows westbound from the LTC towards the M25 of more than 1,000 PCUs and a reduction of 800 PCUs eastbound. To the east of the LTC, flows on the A13 increase by approximately 600 PCUs in both directions as far as the A1013 junction.

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	There is a reduction in expected flows on the A128 of approximately 300 PCUs northbound which is less than the reduction observed in 2030 due to overall traffic levels being higher by 2045. There is a corresponding reduction in flows on the A127 westbound of almost 400 PCUs. The PM peak change in traffic flows on the A13 suggests a reduction of approximately 1,000 PCUs westbound between the TLC and M25. To the east of the LTC, flows on the A13 increase by almost 900 PCUs in both directions. This is a smaller increase in westbound flows than is expected in 2030. Finally, the A127 and A128 also expect to see reductions in flows. The A128 flows are expected to reduce by approximately 300 PCUs southbound and 200 PCUS northbound. Flows on the A127 reduce by more than 200 PCUs in both directions. In summary, as was the case in the AM peak, the flow difference analysis indicates that major change to traffic flows in or near Essex in the PM peak will be largely constrained to the main A13 and M25 corridors. More detailed analysis has nonetheless identified some specific local areas of impact; these are discussed further below.
Applicant's Response	This comment is noted. On many roads to the west of the Project, such as the A2, the A13, the Dartford Crossing and the M25 in Thurrock, the number of vehicles would fall when the Project opens. However, roads on the approach to the Project, including the M2, A228, A229, and some roads to the east of the Project, such as the A13, the A2 and some sections of the M25, would experience an increase in traffic levels as travel across the River Thames becomes easier and more reliable. The changes in traffic flows across the region are detailed in full in Chapter 7 of the Transport Assessment [**APP-529**]. Overall, the benefits on the road network outweigh the adverse impacts, and this is reflected in the positive economic benefit of the Project.
Page 20-22	**Hotspots** Figure 5 and Figure 6 show change in ratio of flow to capacity (RFC) between the Do Something and Do Minimum model scenarios (in 2045) which has been calculated to identify locations where the forecast junction performance deterioration is most pronounced in terms of junction performance. The following criteria has been applied to identify junctions where operational performance materially worsens: • one of the arms both exceeds a RFC of 85% and • this RFC has increased by more than 5% compared to the Do Minimum scenario. Both plots show 2045 model results Error! Reference source not found [sic]**.** with the identified junctions potentially experiencing issues with the predicted future demand The junctions with the highest forecast change in RFC for the Do something compared to the Do Minimum model in the AM and PM peaks are listed below in Table 1 and Table 2.

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	With regard to those junctions on the A12, A13 and M25 corridors, the analysis presented in the TA report and associated documents indicates that the impacts in these locations arise as a result of efforts to achieve acceptable performance by the junction as a whole. ECC will carefully consider any further changes to these junctions which may be brought forward, particularly where there is potential for delays at junctions on these corridors to create "knock on" issues on the adjacent ECC network. However, on the basis of the information provided to date, we are of the view that the proposed mitigation put forward in the main TA report and associated documents is acceptable in principle. Additional investigation into the hotspots that are not related to the A12, A13 or M25 has been undertaken, in order to better understand the causes of the expected changes to junction performance in these locations. At the junctions in question, the location of the junction means that local traffic in the area has limited alternative routes. With the opening of the LTC scheme, an increase in demand from the surrounding area appears to be the driver for the junction struggling with capacity. The Wigley Bush Lane junction has been the subject of further Select Link analysis to test this; the analysis in this instance shows that the traffic is completing journeys to and from the local area, rather than using the junction as part of a "rat run" or longer journeys originating outside of the local area, and it is considered that similar findings would arise from examination of the other listed locations. Given the nature of the local roads and junction constraints, physical mitigation measures at this location (and the others identified via this analysis) would be considered to be out of keeping with the local area, as these would either result in a significantly larger junction footprint or entail the installation of signals, which would be expected to cause other issues in capacity terms. However, the potential sensitivity of these locations means that ECC will seek suitable provision to be made for monitoring of both the key junctions in the A12, A13 and M25 corridors, and at the "hotspot" locations, before and after the scheme is constructed and opened to traffic.
Applicant's Response	The Applicant is proposing to monitor the impacts of the Project on traffic on the local and strategic road networks as set out in the WNIMMP [**APP-545**]. The monitoring locations set out in the WNIMMP were selected on the following basis: • Locations situated on the SRN that are geographically close to the A122 junctions as informed by the 'scale of impacts' analysis in the Transport Assessment [**APP-529**] (the nearest and second nearest junctions on the SRN and major road network (MRN) located adjacent to the junctions with the A122, the A2, the A13 and the M25) • Locations requested for monitoring from local highway authorities following a review of the consultation feedback The current locations include M25 junction 28 (A12) and the A13 junctions listed by ECC, as set out on page 18 (Plate 5.1) of the WNIMMP. A mechanism allowing for review of the proposed monitoring locations is provided through Requirement 14 in Schedule 2 of the draft DCO [**REP1-042**], whereby the traffic monitoring plan must be approved by the Secretary of State following consultation with the relevant highways authorities (which includes ECC). Relevant highways authorities will be able to propose locations for inclusion, which will be considered by the Applicant during the development of the operational traffic monitoring

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	plan. The final decision on inclusion will be made by the Secretary of State through the approval process, as set out in Part 2 of Schedule 2 of the draft DCO [REP1-042]. The provision of monitoring, selection of locations and consultation on the basis above is addressed as part of SoCG [REP1-099] item 2.1.17.
Page 22	**Additional Select Link Analysis** To assist in verification of the conclusions drawn from the previous work, National Highways were requested to undertake a series of Select Link Analysis exercises using the full model, the aim being to identify changes in vehicle routing to and from destinations in Essex for trips using the existing Dartford Crossing and the LTC. These exercises were completed, and the results have been analysed by SYSTRA on ECC's behalf. The tests have shown that, whilst there would be some considerable re-routing of vehicles with the opening of the LTC, a majority of trips are switching between the major existing corridors (A12, A13 and M25); there is only limited evidence of any significant increase in trips using more minor or "cross country" routes. Some growth is observed in the A120 corridor, but the other model tests have indicated that this growth can be accommodated within ECC's network. Traffic largely appears to use the most "logical" route depending on its start/end point within Essex and there is no significant evidence of traffic taking longer routes or diversions as a result of congestion in Essex.
Applicant's Response	This comment is noted.
Page 23	**Conclusion** In conclusion, ECC and SYSTRA's work has shown that the proposed LTC is not expected to have any unacceptable impacts to the ECC Highway Network, subject to implementation of the mitigation proposals set out in the submitted TA documents. This conclusion is based on the materials provided to ECC as described in this summary; should additional or revised information in relation to the scheme proposals or supporting modelling be submitted during the course of the examination, ECC will wish to review this and if necessary, amend our comments accordingly.
Applicant's Response	This comment is noted and the Applicant welcomes the analysis presented.
Page 24	**6. MINERALS AND WASTE** The planning policy framework for minerals and waste within Essex is set out in the adopted Essex Minerals Local Plan (MLP) 2014 and the adopted Essex and Southend-on-Sea Waste Local Plan (WLP) 2017. The MLP is currently undergoing a review. This review has not yet reached Regulation 19 stage and therefore the Minerals and Waste Planning Authority (MWPA) currently places no weight on any proposed amendments to relevant policies.

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	Only a small percentage of the DCO route will be within the admirative boundary of Essex. The MWPA notes in the as submitted "6.3 Environmental Assessment Appendices Appendix 11.2 – Mineral Safeguarding Assessment" states at para 4.4.1 that "No preferred or reserved mineral extraction sites and safeguarded minerals infrastructure allocated within the Essex Minerals Local Plan were identified within or close to the Order Limits" that the development will not permanently impact the mineral reserves under the route of the chosen NSIP. It is noted that this submission makes it clear that the report raises professional assumptions as to the potential impact the development will have on the future need for construction materials and uses a similar number of assumptions following downturns during Covid-19. This is understood, and a worse possible case scenario has been used to assess impact. For mineral importation of scheme materials, a notational distance is set out by which such would be sourced which suggests that the proposed scheme is likely to have access to material suppliers and waste management facilities in the East of England (Greater Essex, Hertfordshire, Cambridgeshire and Suffolk), Greater London and the Southeast of England (Kent). whilst it is also noted that at this time, and without a principal contractor in place, the source of the same cannot be guaranteed, but nevertheless those in proximity of the development could be preferred to reduce transportation costs, and the proximity principle will be applied. Similarly, some of the materials to be used in the construction of this NSIP are not present in Essex nor the region and the use of the as proposed jetty into the Thames could be used to receive such material, reducing the impact on the road network, and sourcing materials by sustainable transport means. This, plus the ability to use materials suppliers and waste management infrastructure from a wide range of locations would also allow existing material resources and waste management capacity to be used effectively and efficiently, without resulting in local overcapacity to the detriment of the local economy. However, with their being no calculated figures about how much sand and gravel would be used in the construction of the development, other than it being reasonable to assume quantities needed would be substantial, nor any idea as to where the materials would originate from at this time, it makes it difficult to assess the impact the scheme could have on available resources to retain the MWPA obligation to retain a 10 year supply of minerals. ECC is currently in the process of looking to consider its minerals and waste policies with the aim of providing a new Adopted Minerals and Waste Plan soon, and any significant development impact is required to inform the consideration of the same going forward. For LTC the impact on mineral supply in Essex are far from proven or guaranteed at this time.
Applicant's Response	The Delivery Partner would be responsible for sourcing materials and managing waste during the construction of the proposed Project. They would look to use local (sub-regional) material sources and waste infrastructure wherever feasible to reduce the environmental impact and the cost of transport as well as to support the economic wellbeing of local communities. Procurement rules mean that it is not possible or appropriate to prescribe specific material suppliers and waste management facilities to be used during construction of the proposed Project. These rules prevent setting a precedent that would potentially tie the Delivery Partner to exclusive arrangements with specific material suppliers and waste management facilities. The ability

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	to use materials suppliers and waste management infrastructure from a wide range of locations also allows existing material resources and waste management capacity to be used effectively and efficiently, without resulting in local overcapacity, which could be to the detriment of the local economy. ES Appendix 2.2 Annex B: Outline Materials Handling Plan (oMHP) [**APP-338**] has requirements for the Delivery Partner to consult with local authorities about aggregate sources when drawing up the full Materials Handling Plan. The Project has given an overview of sources within the study area in the oMHP. The oMHP provides local authorities with an overview of the materials required but commercial issues preclude elaboration at this stage. ES Figure 11.1: Active Landfill and Waste Transfer and Treatment [**APP-308**] shows the location of waste facilities within the second study area of the Project likely to accept construction wastes. This is tabulated in a non-exhaustive list in ES Appendix 11.3: List of Third party Offsite Waste Infrastructure Receptors [**REP1-166**]. The Applicant has separately supplied ECC with a Local Aggregates Assessment. This document does not form part of the DCO application but has been provided to further explain the figures used within it in the context of potential aggregate reserves identified using recent local authority aggregate monitoring reports.
Page 24-25	**Safeguarding Waste Infrastructure** The scheme will not impact on existing waste facilities within Essex and hence will have no impact on the same. The scheme will produce waste, and as such the implications of the same need to be prescribed pursuant to Policies within the WLP. The site is anticipated to generate a wide range of C&D wastes including, but not limited to, groundworks, asphalt planings, soft estate vegetative arisings, road sweepings, gully arisings, oil separator waste, amongst others. The ES which accompanies the submission states that the Policies within the WLP have been taken into consideration as are also in Table 11.7 within Chapter 11 of the ES. ECC welcomes LTC's commitment to apply the circular economy principles, as set out in the Waste and Resources Action Programme (WRAP), and the waste hierarchy to manage and mitigate likely significant effects taking account of the relevant characteristics of the future baseline environment. It is the clear intent of the applicant to minimise waste arisings at the site thru the implementation of a waste hierarchy, this is both a sensible and sustainable approach, reducing the reliance of landfill sites for extraction material and reducing vehicles on the highway network, committing to re-use and recycle as much material as possible. All waste arisings would be monitored via the SWMP (or equivalent in substance) during construction. LTC within Chapter 11 of the ES indicates that overall the scheme waste arisings, with the principles as set out above in place, and with a commitment to monitor and report back on the same, the waste implications of the scheme would not be significant. On balance and with the details as are within the submission this is considered broadly accurate.
Applicant's Response	This comment is noted and welcomed.

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Page 26	**7. HISTORIC ENVIRONMENT** The applicants have consulted appropriate sources of information regarding known designated and non-designated heritage assets. Although the desk-based assessment has been agreed to be sufficient the EIA assessments of significance and harm causes concern in some areas as there are some areas where the interpretation has been questioned. However, in general the desk-based assessment process has been agreed. Archaeological field evaluation in the form of bore holes and trial trenching has covered the majority of impacted areas in Essex and have provided vital information on the extent of archaeological deposits and their significance and has informed the mitigation strategy. Some documents such as the revised Holocene report and revised Outline Written Scheme of Investigation (OWSI) are still awaited.
Applicant's Response	The Applicant notes this response. With respect to the concern with certain assessments of significance and harm the Applicant believes this to relate solely to asset 247, which is addressed below. The Holocene report was submitted with the DCO application as ES Appendix 6.13: Holocene Geoarchaeological Desk-based Assessment of the Route of the Lower Thames Crossing [**APP-371**] and the Outline Written Scheme of Investigation (OWSI) was submitted as part of ES Appendix 6.9: Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation [**APP-367**]. The OWSI is a draft document which continues to be developed with the relevant local authorities. Any future revisions or updates, which will incorporate any updates to the Holocene report, will be shared with relevant stakeholders including Essex County Council.
Page 15	**Construction impacts on Heritage assets** Construction impacts are broadly understood but further detail is needed to inform the mitigation proposals in the Archaeological Outline Written Scheme of Investigation. Trial trenching and assessment of the geo-technical boreholes have been undertaken over most of the area impacted. The main area of concern is the lack of evaluation at the tunnel mouth where there has been limited assessment resulting in the heritage impact of the scheme being unknown. As a result, if significant deposits survive within this area mitigation cannot be defined for the application. It is recommended that a programme of archaeological evaluation is undertaken on the tunnel mouth to define the presence and significance of archaeological deposits and identify the most appropriate mitigation strategy to be included within the OWSI.
Applicant's Response	Archaeological evaluation of the North Portal area is constrained by the existing use of the site as a landfill, which prevents the excavation of trial trenches and means that remote sensing techniques are not effective. The Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (AMS-OWSI) [**APP-367**] acknowledges this and appropriate detailed mitigation is being developed in consultation with Historic England's Regional Science Advisor and Essex Place Services as

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	archaeological advisors to the local planning authority (LPA). ES Appendix 6.5: Palaeolithic and Quaternary Deposit Model (PQDM) and Desk-based Assessment of Palaeolithic Potential [APP-358], ES Appendix 6.6: Standalone Palaeolithic Archaeological Assessment and Research Framework [APP-359] and ES Appendix 6.13: Holocene Geoarchaeological Desk-based Assessment of the Route of the Lower Thames Crossing [APP-371] have provided information to inform the baseline and assessment in the ES chapter. The PQDM has been informed by the results of ground investigation (GI) works undertaken from 2017 to 2021 and by trial trenching undertaken to the north of the North Portal. The GI works demonstrated at the North Portal the depth of landfill is 5–6m and the base of the alluvium is approx. 20m below ground. This is significant as the greatest potential for *in situ* archaeological remains is on a buried land surface below the alluvium. The interpretation of the GI works, in conjunction with the trial trenching, which identified alluvium at a much shallower depth to the north of the North Portal, changed the value of these deposits to high, and this is presented in the ES. On the basis of this information, the development of mitigation for inclusion in the OWSI is not feasible at this stage. However, the Applicant will continue to engage with Historic England's Regional Science Advisor and Essex Place Services as archaeological advisors to the LPA, to develop suitable mitigation. The Applicant considers the existing information to be sufficient to determine the impact of the Project.
Page 26	**Loss of the Scheduled Monument at Orsett** Within Thurrock the construction of the road will result in the removal of almost the entirety of the Crop Mark at Orsett Scheduled Monument (List Entry Number: 1002134), and certainly all the areas of archaeology that would contribute to the assets significance. It would also result in the removal of an associated and related site (see site 247 below) which sits to the north of Stifford Road and outside of the original Scheduled Monument but should be considered to be of similar importance to the Scheduled Monument as defined in Policy NPSNN 5.124. Sections 6.5.165 of Planning statement 7.2 and 6.3.78 of Chapter 6: Cultural Heritage do not recognise the importance of site 247 even though it is part of the same complex that is Scheduled to the south. There would be a significant effect in EIA terms and in terms of the assessment the impact would be 'major adverse'. In policy terms this would be substantial harm. Site 247 forms an extension of the Scheduled Monument and should be treated to the same standard as that of the Scheduled Monument and preferably at the same time. This should also be identified throughout the documentation as being of a similar significance to the Scheduled Monument.
Applicant's Response	The Applicant agrees that asset 247 is identified as high value, experiencing a major magnitude of impact and permanent large adverse significance of effect in ES Chapter 6: Cultural Heritage [AS-044]. A further discussion on this matter was held with Thurrock Council on 11 July and the Council requested the Applicant to include asset 247 in REAC CH003 [REP1-157] and the Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (AMS-OWSI) [APP-367]. The Applicant is investigating the feasibility of including specific reference to asset 247 in REAC CH003 [REP1-157]. Asset 247 is already included within the AMS-OWSI [APP-367], where its association with SM1 is clearly stated. Ongoing engagement with the Councils regarding detailed mitigation proposals is informed by the archaeological trial trenching undertaken in this area that

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	covered parts of both SM1 and 247, and therefore mitigation is being developed to address the archaeology that is present rather than the boundary of SM1. Therefore, NPSNN paragraph 5.124 applies to this non-designated asset.
Page 26 / 27	**Mitigation proposed for Heritage assets** The general mitigation strategy is defined in the Outline Written Scheme of Investigation, which is still under discussion, but at this stage this will comprise more than 120 areas of archaeological investigation north of the Thames. It is recommended that the application should contain clear maps of each of the mitigation areas proposed, which are at a scale that is readable (potentially as part of the OWSI). We have commented repeatedly on the desirability of enshrining key underlying principles of archaeological mitigation within the CoCP and REAC. Though some progress has been made, we continue to press for archaeological management and especially the role of the local authority Archaeologists for monitoring and signing off the mitigation to be appropriately acknowledged and clearly and consistently defined as part of the wider environmental response.
Applicant's Response	As part of the updates to the AMS-OWSI [**APP-367**] that are under discussion with the Council, the Applicant proposes to provide figures of each mitigation area, alongside the description of the mitigation for that area, and an overview figure showing all the mitigation areas, archaeological features and Project design. The role of the Local Authority Archaeological Advisors is specifically set out in paragraph 2.6.5 of the AMS-OWSI [**APP-367**], which includes their role in monitoring and advising on sign-off of mitigation areas prior to construction. The AMS-OWSI [**APP-367**] is secured through REAC CH001 and arrangements for surveillance of heritage mitigation through REAC CH007 in ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] and Requirement 9 of the draft DCO [**REP1-042**].
Page 27	**Historic Buildings** ***Key issues*** The most significant impacts to built heritage within Essex resulting from the LTC are the demolition of three Grade II listed buildings (1-2 Grays Corner Cottages, The Thatches & Murrells Cottage, and Thatched Cottage) and the degradation of the setting of Baker Street Windmill, also a Grade II listed building. Securing the appropriate level of mitigation to address the harm or loss of significance resulting from the demolition or change within the settings of these listed buildings remains a key issue.
Applicant's Response	This comment is noted.
Page 27	**Compliance with NSPNN** Paragraph 5.127 of the National Policy Statement for National Networks (NSPNN) states that an applicant must describe the significance of any heritage assets affected in order to understand the impacts of a proposal. ES Chapter 6: Cultural Heritage

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	and the associated appendices have complied with this policy. With regards to considering the impact of LTC on the setting of heritage assets, the methodology adopted complies with the established best practice Historic England guidance: The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3 (2nd Edition).
Applicant's Response	This comment is noted.
Page 27	**Mitigation** As detailed in the Cultural Heritage ES Chapter, environmental considerations have influenced the design and certain commitments in regard to cultural heritage have been made through 'embedded mitigation', 'good practice' and 'essential mitigation'. The design incorporates embedded mitigation to address the impact on Baker Street Windmill in the form of planting and the creation of an earth bund to limit the land required and provide visual and noise mitigation. The REAC (within ES Appendix 2.2) and the Draft Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (AWS-OWSI) (within ES Appendix 6.9) set out the 'essential mitigation' for built heritage assets. There is a specific commitment in the REAC (CH004) for the Level 4 Historic Building Recording of the three listed buildings. The REAC also commits to adhere to the AWS-OWSI (CH001) and this includes the Level 3 Historic Building Recording of Baker Street Windmill. There is a further commitment (REAC CH008) to implement Cultural Heritage Asset Management Plans for heritage assets remaining in their ownership at operational stage which included s small part of Coalhouse Fort.
Applicant's Response	This comment is noted.
Page 27 / 28	**Further work/mitigation** There is potential for further mitigation for the loss of the Grade II listed Thatched Cottage in particular. As a timber-framed building of a modest size, it is a good candidate for dismantling, relocating and reconstructing. Further consideration is needed as to the appropriate location for its reconstruction and to the potential benefits of a legacy project involving the use of the building in training/upskilling in traditional building techniques. Whilst the building would lose its historic context and setting, its reconstruction would offer a high level of mitigation as there would no longer be a complete loss of the building's significance. In regard to Baker Street Windmill and the effects of the LTC on its setting, it needs to be clear within the AMS-OWSI that the Historic Building Recording is to have a particular emphasis on recording the setting of the Windmill.

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Applicant's Response	The Applicant has considered the dismantling and relocation of Thatched Cottage as a mitigation for the substantial harm to the building. This matter remains under consideration. As part of the updates to the AMS-OWSI [**APP-367**] it will be made clear that the Historic Building Recording of Baker Street Windmill will include focus on its setting.
Page 28	**ES Chapter 6: Cultural Heritage (and appendices)** The data sets used in the assessment of heritage assets and the production of the Cultural Heritage ES Chapter (and supporting technical documents) are acceptable. The assessment process for built heritage is based on the relevant legislation, policy and guidance and also raises no concern. It is considered that both the construction and operational impacts have been correctly identified.
Applicant's Response	This comment is noted and welcomed.
Page 28	**ES Appendix 6.16 – Historic Buildings Recording** Historic Building Recordings have been carried out for the three listed buildings proposed for demolition, details of which can be found in ES Appendix 6.16 – Historic Buildings Recording [**APP-374**] and this will be enhanced as the buildings are dismantled (REAC commitment CH004). The records are at Level 4 and are an appropriate pre-demolition record of the buildings.
Applicant's Response	The above comment correctly paraphrases elements of Section 20 of the draft DCO [**REP1-042**].
Page 28	**Draft DCO** Section 20(1) allows for protective works to be carried out to any building on any land which may be affected by the development. Part 9 of Section 20 states that the undertaker of any protective works to a listed building must service notice on the local planning authority and have due regard to any response received. This will allow for any works to listed buildings to be monitored (although they are not currently envisaged).
Applicant's Response	This comment is noted.
Page 29	**8. LANDSCAPE** It is concerning that many recreational receptors on ProW have the same sensitivity as transport receptors. I cannot see how these fits with the GLVIA guidance.

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Applicant's Response	The methodology for the visual impact assessment is set out in Section 7.3 of ES Chapter 7: Landscape and Visual [**APP-145**] and ES Appendix 7.2: Landscape and Visual Assessment Methodology [**APP-377**]. In accordance with Table 3.41 in DMRB LA 107 Landscape and Visual Effects (Highways England, 2020), users of nationally important Public Rights of Way (PRoWs) and recreational trails have been assessed as high sensitivity and users of local/regional routes have been assessed as moderate sensitivity.
Page 29	Whilst much of Thames Chase Community Forest is outside the Essex administrative boundary, it is deeply concerning to see how this proposed programme will negatively impact and sever this innovative, major peri-urban greenspace that so much time and effort and funding has created since the late C20th. ECC are concerned that the ES does not appear to recognise the importance of Thames Chase as a major greenspace and community project nor the impact on Thames Chase as a whole instead of just on its constituent elements. If this project goes ahead a substantial community environmental compensation fund should be set up by the applicants akin to that that accompanied HS1 (the Channel Tunnel Rail Link) in order to help conserve and enhance Thames Chase and The Land of the Fanns.
Applicant's Response	With respect to the suggestion to create a community environmental compensation fund, Section 106 Agreements – Heads of Terms [**APP-505**] advises that the Applicant will make available community funds to provide a mechanism to address some of the residual impacts of the Project. Grants of up to £10,000 (or up to £25,000 for exceptional projects) will be awarded to eligible community-led initiatives across four key themes, two of these themes, i.e. connecting communities and environment may be applicable to Thames Chase and the Land of the Fanns. ES Chapter 13: Population and Human Health [**APP-151**] identifies the importance of Thames Chase Community Forest as community land, noting in paragraph 13.4.55 the regional role played by the Forest, given its overall high quality and recreational opportunities provided. Reference is made to the Land of the Fanns scheme and the various constituent projects being delivered by the Thames Chase Trust. Construction impacts on the Thames Chase Community Forest as a whole are set out in paragraphs 13.6.51 to 13.6.53, with impacts also identified in relation to Folkes Lane Woodland in paragraphs 13.6.54 to 13.6.56. Whilst Thames Chase Community Forest has been accorded a very high level of sensitivity due to the level and frequency of use by members of the community, impacts to the site during Project construction are likely to be negligible, due to the size of the site and alternative areas and routes that visitors can utilise, together with the provision of replacement land, resulting in a slight adverse significance of effect. Vegetation removal within Thames Chase Community Forest, in particular at the Thames Chase Forest Centre, has been reduced in the Project design, with provision in LV001 and LV013 of the REAC within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] to further reduce vegetation removal during detailed design where practicable. The Project Design Report, Part D: General Design North of the River - North of the A13 Junction to the M25 [**APP-510**] provides the rationale for the landscape design in the area covered by the Thames Chase Community

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	Forest. Page 57 notes that the Project will resolve historically poor quality connectivity between the two halves of the Community Forest either side of the M25 through creation of a new WCH bridge. Further details are available on page 47 of the Project Design Report, Part F: Structures and Architecture [APP-513]. Local landscape character has been taken into account in the Project design in particular through the use of woodland planting, where appropriate, that is in keeping with the existing wooded character of the Thames Chase Community Forest. Clause S14.05 of the Design Principles [APP-516] requires woodland mitigation within the Thames Chase Community Forest to be developed in collaboration with Thames Chase Trust and Forestry England. Appropriate mitigation is being provided to offset permanent and temporary effects of the Project on the Thames Chase Forest Centre at Broadfields Farm and The Land of the Fanns.
Page 30	**9. ECOLOGY** **Policy context** To satisfy the requirements of the relevant paragraphs of the National Policy Statement for National Networks (NPS NN 2014), the evidence base and Environmental Masterplan needs to ensure that impacts on ecological features is not greater than anticipated and proposed mitigation and compensation measures are appropriate and deliverable. In relation to paragraph 5.23 of the National Policy Statement for National Networks (NPSNN, which states 'The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests' the Biodiversity Metric calculations have assessed the Biodiversity Net Gain (BNG) baseline conditions and the post development BNG forecast to be generated by the Project.
Applicant's Response	This comment is noted.
Page 30	**Data sets** The data sets supporting the ecological assessment in the submitted ES Chapter 8 Terrestrial Biodiversity Version1.0 Application Document Ref: TR010032/APP6.1 (Oct 2022) and other relevant supporting information are appropriate.
Applicant's Response	This comment is noted.
Page 30	**Assessment process** Overall, the quality and accuracy of the ecological surveys and reports within the DCO submission is satisfactory although it is very difficult to understand which impacts and mitigation measures relate to each of the individual LPAs.

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	The ecological assessments undertaken have informed likely impacts from both construction and operational phases of the project and confirms how target compensatory habitat and condition will be achieved. Confidential protected species reports have been submitted to protect details of sensitive species The methodology set out in the Design Manual for Roads and Bridges (DMRB) LA 108 Biodiversity (Highways England, 2020a) and relevant guidance including Chartered Institute of Ecology and Environmental Management (CIEEM) publications has been followed. The Terrestrial Biodiversity chapter has also had due regard for the methods of assessing the impact of changes in air quality on designated and non-designated sites as set out in DMRB LA 105 Air Quality (Highways England, 2020b). Potential impacts on other protected species e.g. bats, Great crested newts, water voles, are detailed with mitigation measures, in Chapter 8 of the ES including unlit sections of road to provide dark corridors for photosensitive species and warm white luminaires to reduce the impacts on insects and bats.
Applicant's Response	The assessment of likely significant effects from the Project on terrestrial biodiversity has been divided into clearly divisible geographic areas: south of the River Thames – the River Thames – north of the River Thames. This was considered appropriate given the barrier to dispersal for most terrestrial species that the River Thames presents. The assessment was not divided into local authority areas as these represent no barrier to species movement or the extent of impact effect pathways.
Page 30-31	**Mitigation proposed (including embedded mitigation)** The mitigation hierarchy has been applied and where protected species licensing will be required, the draft application has been provided to support the DCO. Biodiversity losses include ancient woodland and veteran trees (both irreplaceable habitats) and compensation features have been embedded into the design of the project and recorded in ES Appendix 2.2 which includes both the Code of Construction Practice (CoCP) & Register of Environmental Actions and Commitments (REAC). Table 8.35 Habitat losses and gains associated with the Project to the north of the River Thames includes references to the EMP for locations of habitat creation and enhancement but these are not matched to losses of habitats.
Applicant's Response	Table 8.35 in ES Chapter 8: Terrestrial Biodiversity [**APP-146**] provides detail of the areas of each habitat type north of the River Thames that would be lost and created as a result of the Project. The reference to ES Figure 2.4: Environmental Masterplan Sections [**APP-163 to APP-168**], illustrates where the newly created habitats would sit within the landscape and how they would function with other new habitats and those retained both within the Order Limits and within the wider landscape. The long-term management and objectives of those habitats is reported in the outline Landscape and Ecology Management Plan [**REP1-173**].
Page 31	**Biodiversity Net Gain (BNG)** The current BNG assessment is based on the preliminary Project design as of August 2022 and uses the Biodiversity Metric 3.1 Calculation Tool to determine whether the Project could result in a net gain in biodiversity units. The Metric results for the

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	project overall are predicted to be 7% for habitat units but -11% for hedgerows and--7% for rivers and streams which is unacceptable. The submitted calculations therefore do not include how the deficiencies to ensure no net loss of biodiversity will be overcome for the scheme which is necessary before any claim for BNG can be made for this NISIP. The BNG assessment uses the Biodiversity Metric 3.1 Calculation Tool to determine whether the Project could result in a net gain in biodiversity units; full details of the methodology and calculations are provided in Appendix 8.21: Biodiversity Metric Calculations (Application Document Ref: TR010032/APP/6.3).
Applicant's Response	The Applicant does not claim to deliver Biodiversity Net Gain. In the context of this question, it should be noted that the Project is applying the Natural England Biodiversity Metric several years ahead of this being a mandatory requirement. For Nationally Significant Infrastructure Projects, mandatory BNG requirements are likely to commence in November 2025 and (subject to further announcements from Government) are expected to apply to applications accepted for examination after that date, which would not include the A122 Lower Thames Crossing. Throughout the development of the Project design, various versions of the Biodiversity Metric have been available to assess the forecast Project biodiversity unit performance and it should be noted that significant elements of the Project design were fixed prior to the issue of Metric 3.1. The highways and landscape designs have therefore not been developed specifically in conjunction with the Metric 3.1. However, the design has been developed to avoid or minimise significant effects on the environment and is based on the principle of maximising biodiversity outcomes by creating the highest distinctiveness habitats appropriate to the Project. The Project's biodiversity metric forecasts, reported in ES Appendix 8.21: Biodiversity Metric Calculations [**APP-417**], are based on the preliminary design and a number of limitations and assumptions (as detailed in Section 5 of that appendix) that have had to be made to allow a quantitative forecast of biodiversity unit change. It is considered that this assessment provides a realistic worst-case scenario of the likely performance of the Project in terms of net biodiversity, given the necessarily precautionary nature of the assumptions made. As stated within this technical appendix, the Project recognises that it would result in the loss of irreplaceable habitats such as ancient woodland, and that this would prevent any overall claim of Biodiversity Net Gain for the Project (paragraph 1.1.10). As discussed in Appendix 8.21 there are a number of opportunities for refining the forecast and for improving the outcomes for biodiversity as the Project progresses. The Project would seek to maximise biodiversity performance over the full Project lifecycle.
Page 31	**DCO Requirements** The REAC Table 1 Appendix 2.2 – _Code of Construction Practice, First Iteration of Environmental Management Plan contains specific commitments (HR001- HR012 and TB001-TB028) for mitigation, compensation, biodiversity enhancements and long-term monitoring. These will be delivered under DCO Requirement 4 Environmental Master Plan (which includes the CoCP) for the construction phase and Requirement 5 Landscape and Ecology Management Plan (LEMP) to deliver long term gains during the operational phase.

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	The establishment of an advisory group to help inform decision making throughout the duration of this LEMP will help inform the establishment of relevant habitats in appropriate locations using native species. This needs to deliver BNG as well as ecological functionality and connectivity with existing Priority woodland habitat.
Applicant's Response	Paragraph 2.1.12 of the outline Landscape and Ecology Management Plan (oLEMP) [**REP1-173**] states '*The landscape design has gone through an iterative process to include input from the Biodiversity Net Gain (BNG) assessment. In order to achieve this, each Landscape Element (LE) code has been translated to a UK Habitat metric code which is used within the BNG assessment*'. The role of the advisory group in delivering the LEMP therefore includes delivering BNG. Each landscape element of the oLEMP defines the functionality of the element in the oLEMP and so functionality and the role of the advisory group in delivering it is also secured in the oLEMP. Paragraph 3.3.2 states the '*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 at a landscape level*', therefore connectivity with existing habitats is also secured in the oLEMP.
Page 32	**10. ARBORICULTURE** An Arboricultural Impact Assessment will be required where existing trees and vegetation are located within the area of the proposed development. This assessment should be undertaken in accordance with 'British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations' and should provide details on trees and vegetation to be retained and/or removed, including any significant impacts and constraints. This will identify all trees within the site that would pose a constraint to this development and whether they are of sufficient quality to merit protection and/or retention. An Arboricultural Method Statement and associated tree protection plans will be required where retained and existing trees and vegetation will require specialist working methods or adequate protection measures to be in place for the duration of the development. Where trees pose a constraint, or their removal is required for this development to proceed then replacement tree planting opportunities should be incorporated into the design through methods such as native hedgerows and SUDs schemes to offset any vegetation loss.
Applicant's Response	The REAC measure LV028 within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] requires the production of an Arboricultural Method Statement and Tree Protection Plan to identify measures to protect retained woodland, trees and hedges. Tree removal is discussed in ES Appendix 7.12: Arboricultural Impact Assessment [**APP-387**] and illustrated on ES Figure 7.24: Tree Removal and Retention Plan [**APP-261**]. Replacement tree planting in Essex is illustrated on ES Figure 2.4: Environmental Masterplan Section 14 (10 of 10) [**APP-168**].

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Page 33	**11. GREEN INFRASTRUCTURE** ECC currently provides advice on green infrastructure schemes (GI) for major developments. ECC have been consultees on GI since 2018. Although there are no statutory requirements for GI, the 25 Year Environment Plan and emerging Environment Bill will place significant importance on protecting and enhancing GI, accessibility and biodiversity net gain. Policy Context ECCs GI Team recommended that the following Local Development guidance are taken into consideration, apply and reference the: • Essex Green Infrastructure Strategy, 2020, aims to enhance the urban and rural environment, through creating connected multi-functional GI that delivers multiple benefits to people and wildlife. It meets the County Council's aspirations to improve GI and green spaces in our towns, city and villages, especially close to areas of deprivation. <Essex GI Strategy> • Essex Green Infrastructure Standards, 2022, provide clear guidance on the requirements on both planning policy and planning application and processes. <Essex Green Infrastructure Standards | Essex Design Guide> These documents champion for the enhancement, protection, and creation of an inclusive and integrated network of green spaces. Applying Essex's nine GI principles will help to ensure quality and consistency in the provision, management, and stewardship of GI an essential part of place-making and place-keeping for the benefit of people and wildlife. • Local Planning Authorities (LPA)1 Green Infrastructure Strategy/ SPD or equivalent green and open space strategies provides further guidance on the LPA's Local Development Plan policies regarding the Council's approach to green infrastructure provision in the local authority area.
Applicant's Response	Planning Statement Appendix H: Green Infrastructure Study [**APP-503**] explains how the Project has been designed to maximise opportunities to connect and enhance communities and wildlife at a sub-regional and city-scale adopting a multi-functional benefits approach to the provision and use of green infrastructure. Section 3 summarises relevant green infrastructure policy at the national, regional and local scale across the extent of the Project including relevant policy in Essex. Whilst the two documents referred to by the Council are not referenced, the South Essex Green and Blue Infrastructure Study (2020) is referenced. Taken as a whole, the range of documents referenced establish the same key green infrastructure principles advocated in the Essex Documents. Appendix H demonstrates that the Applicant has taken a reasonable and robust approach to green infrastructure within the Project which accords with relevant NPS policy which is the key policy against which the Secretary of State must assess the Project (in accordance with section 104 of the 2008 Planning Act). Furthermore, the Design Principles [**APP-516**], the Project-wide design principles and area-specific principles (Section 13 & 14 – M25 junctions) that help address the protection and provision of green infrastructure in Essex, include Clauses LSP.01, LSP.02, LSP. 04, LSP.06, LSP.10, LSP.19, S14.01 and S14.12.

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	Proposed mitigation measures in Essex that incorporate planting, habitat creation and WCH routes are illustrated on ES Figure 2.4: Environmental Masterplan Section 14 (10 of 10) [APP-168].
Page 33	**Comments in relation to the Environment Statement, Draft Development Consent Order, Outline Local Ecology Management Plan, Planning Statement and Green Infrastructure Study.** It is noted that the Planning Statement has undertaken a Green Infrastructure Study (Appendix H) and the planning statement also refers to GI and demonstrates policy links such as NPSNN and climate adaptation. We also welcome the statement in that "the project would leave a positive legacy of green infrastructure and improved biodiversity". The ECC GI team notes however, that there was limited reference to GI in the Environment Statement [see general overall comment]. However it is recognised that some of the natural assets mentioned are also GI assets. We also note that in general the Design Principles document considers green infrastructure as part design approach to infrastructure, bridge structure and Landscape Legacy objectives to reduce significant effects on green infrastructure assets. We believe that there should be more consistency in terms of GI reference across the ES, PS and associated documents. We recommend that the local impact report incorporates the benefits of GI. For example, GI is multifunctional (such as flood management, climate change mitigation and adaptation) at a range of scales that collectively deliver a range of environmental, social and economic benefits. It is important that the diversity of these functions and benefits is recognised as part of the landscape led design. The Essex GI Standards and Essex GI Strategy as well as the National GI Framework demonstrate best practice and should be considered to help deliver this.
Applicant's Response	Landscape character effects relating to the loss of trees and other vegetation are assessed in ES Appendix 7.9: Schedule of Landscape Effects [APP-384], together with an assessment of the effectiveness of proposed mitigation measures at design year. Proposed mitigation measures in Essex that incorporate planting, habitat creation and WCH routes are illustrated on ES Figure 2.4: Environmental Masterplan Section 14 (10 of 10) [APP-168]. The benefits of green infrastructure and multifunctional benefits are understood and have influenced the design of the landscape and mitigation for the Project. The overall design approach regarding the influence of the green infrastructure study are summarised in Chapter 3.6 of the Project Design Report – Part B – Policy Context and Project Design Process [APP-507]. With regards to the approach of green infrastructure within Essex, the Project Design Report Part D – General Design North of the River – Tilbury to the A13 Junction [APP-511] and Project Design Report Part D – General Design North of the River – North of the A13 Junction to the M25 [APP-510] both include an overview of the regional design strategy for the area, and how the large-scale landscape-led approach to design has helped shaped the mitigation proposals for the Project.

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Page 34	**General overall comment** The ECC GI Team welcomes the inclusion of a comprehensive GI Study (appendix H of Planning Statement) however, we believe that there is some inconsistency regarding the reference to GI and this study throughout the Environmental Statement, and associated documents. For example: ES Chapter 7: Landscape and Visual only reference GI as part of the NCA profile description and recommendations by Natural England, 2024b paragraphs 7.4.9 (pg 31 and Para 7.4.16 page 33 "make the most of green infrastructure opportunities in development planning" ES Chapter 8: Terrestrial Biodiversity only reference to GI is in relation to stakeholder engagement comments and input to the GI Study. Similarly, to ES Chapter 13: Population and Human Health in relation to stakeholder engagement feedback and reference to few relevant strategies and plans undertaken by Thurrock and London. Despite this chapter mentioning in paragraph 13.5.16 The Project seeks to generate a positive legacy of green infrastructure on page 128 ES Chapter 16: Cumulative Effects Assessment. Only reference to GI is in relation to residential development and potential impact on human health – _resulting in positive outcome from GI Opportunities, but is out of scope for Essex – _relates to just new developments that are not in Essex. Pages 103, 144 (16.5.56) and 164 We believe that there should be more consistency in terms of GI reference across the ES and the PS and associated documents.
Applicant's Response	The Health and Equalities Impact Assessment (HEqIA) [**APP-539**] includes Sections 7.4 and 7.5 which cover impacts relating to 'Access to green space and outdoor recreation' and 'Active travel' respectively. The findings from the HEqIA are summarised in Chapter 13 of the Environmental Statement [**APP-151**]. The Applicant would refer back to the answer provided to page 33, above, regarding how the green infrastructure study has influenced the mitigation design for the Project which includes addressing significant adverse effects identified for Biodiversity, Landscape, Population and Human Health, as noted above, as well as measures to address Cumulative Impacts. The Green Infrastructure Study has been used to inform both the design and assessment of the Project.
Page 34	Comments regarding specific documents **Document Name: Draft Development Consent Order** Page 31-31 of 388 (30-31) Para 2.3 & 2.4

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	The draft DCO mentions the removal of hedgerow and trees and trees subject to TPO. It also states that it will undertake no unnecessary damage to any tree, shrub or hedgerow and must pay compensation for any loss or damage. However, the DCO should also mention the measures to protect existing hedgerows, trees and other vegetation and replacing any loss in line with the recommendations of the Environmental Statement, including any compensation being delivered within the order. Therefore, the Local Impact Report should consider the protection of existing hedgerow, trees, and other GI assets.
Applicant's Response	The REAC measure LV028 within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] requires the production of an Arboricultural Method Statement and Tree Protection Plan to identify measures to protect retained woodland, trees and hedges. The draft DCO [**REP1-042**] requires the submission of the Second Iteration of the Environmental Management Plan for approval by the Secretary of State, in consultation with relevant planning authorities, prior to commencement of the authorised development. The Second Iteration of the Environmental Management Plan needs to be substantially in accordance with ES Appendix 2.2: Code of Construction Practice, including REAC measure LV028 [**REP1-157**]. Furthermore, the draft DCO [**REP1-042**] requires the submission of a Landscape and Ecology Management Plan for approval by the Secretary of State, in consultation with the bodies listed in Table 2.1 of the outline Landscape and Ecology Management Plan [**REP1-173**]. The Landscape and Ecology Management Plan needs to be based on the Environmental Masterplan and show details of existing trees and vegetation to be retained, including protection measures and proposed planting.
Page 34	Comments regarding specific documents **Document Name: Draft Development Consent Order** Planning Statement Green Belt Appendix E, paragraph E.6.27 Paragraph E.6.27 states "*Project-wide mitigation at construction and operational phases will assist in controlling construction activities and integrating the Project into the Green Belt where possible, while minimising harm to the Green Belt and 'other harm'*." As above, we recommend that there are measures to ensure green belt is sufficiently protected.
Applicant's Response	This comment is noted. The remainder of paragraph E6.27 of Appendix E to the Planning Statement (points a to k) [**APP-500**] goes on to identify measures which would be employed to ensure that the Green Belt is sufficiently protected. These measures would be secured through the EMP, LEMP and other control documents which would be legally secured through Requirements 4 and 5 of Part 1 of Schedule 2 of the draft DCO [**REP1-042**].
Page 35	Comments regarding specific documents **Document Name: Draft Development Consent Order** (363) Para 103 4 & 5

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	It is welcomed that the DCO that the undertaking must, in accordance with its duties, take such action as necessary to prevent or mitigate any materially new or materially different environmental effects that exceed those anticipated in any environmental document. In that the undertaker must consult and seek agreement with the PLA on the necessary measures. Or for the PLA to notify the undertaker if they notice the change in effect.
Applicant's Response	This comment is noted. The Applicant welcomes the Council's positive response to this clause within the dDCO.
Page 35-36	**Document Name: Environmental Statement** Chapter 8: Terrestrial Biodiversity page 110 of 266 Para 8.5.46 Paragraph 8.5.46 mentions that the water voles will be relocated and reintroduced to the catchments that have been identified by the EWT. Which are the Rivers Colne and Blackwater. It is worth noting that the Rivers Colne and Blackwater are within the Essex Climate Action Commission's (ECAC) recommended Climate Focus Area (CFA), (please see Figure 1 for further details). The objective of this recommendation is for the CFA to "accelerate [climate] action and provide exemplars, for learning and innovation: adopting Sustainable Land stewardship practices: 100% by 2030 and Natural Green Infrastructure: 30% by 2030" (ECAC, 2021). Among the objectives of the CFA are to achieve net zero carbon, biodiversity net gain, improve soil health and air quality, reduce flooding and urban heat island effect, and enhance amenity, liveability and wellbeing of Essex communities. It will achieve this by wholesale landscape change in rural areas and urban areas and it will look to developments and especially mineral restoration sites such as the Colman's Quarry Farm to contribute to these targets. Figure 1: Map of ECACs Climate Focus Area There is the opportunity for this relocation project to contribute to delivering biodiversity enhancement and net gain within the CFA area. Therefore, meeting towards the CFA Natural Green Infrastructure 30% by 2030 target and the wider Local Nature Recovery Network/Strategy.
Applicant's Response	The Applicant has been working closely with Essex Wildlife Trust over a number of years in developing this water vole mitigation strategy and hopes that it can form part of a wider approach to biodiversity conservation within the county. The Applicant, as part of their corporate responsibility, is funding further mink eradication work again in partnership with Essex Wildlife Trust to deliver water vole conservation benefits across the county.

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Page 36	**Document Name: Environmental Statement** Chapter 17: Summary Page 51 of 113 (48) and page 56-58 of 113 (53-55 The table refers to ancient woodlands on pages 48 and 55, as well as Codham Hall Woods LWS and ASNW on pages 53–54, in relation to Chapter 8 Terrestrial Biodiversity, and states that compensation measures are necessary due to habitat loss and degradation from nitrogen deposition (especially between Junctions 28 and 29 along M25), as well as the irreversible impact that construction and operation will have on the ancient woodlands. However, the column that outlines the key documents that will be used to secure these mitigation measures only makes reference to the Design Principles and REAC; it should also make reference to the Environmental Masterplan, Outline LEMP, and for construction, the Code of Construction Practice. It was not clear from this document that the CoPC also contains the REAC table [**REP1-157**].
Applicant's Response	Detail of compensation measures for adverse effects to ancient woodland are reported in ES Chapter 8: Terrestrial Biodiversity [**APP-146**], and secured in ES Figure 2.4: Environmental Masterplan [**APP-159** **to** **APP-168**], ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**]**,** which contains the REAC, outline Landscape and Ecology Management Plan [**REP1-173**], and the Design Principles [**APP-516**].
Page 36-37	**Document Name: Environmental Statement** Chapter 17: Summary Page 51 of 113 (48) and page 56-58 of 113 (53-55) 6.3 ES Appendix 2.2 Code of Construction – _First Iteration of Environmental Management Plan – _79 (83 of 120) LV003 Environmental Statement figure 2.4. Environmental Master Plan, section 14. It is noted that as part of the key mitigation, compensation, or/and enhancement from the impacts of the LTC (especially between Junctions 28 and 29), as summarised in the table of the ES Summary there will be landscape-scale habitat creation across eight sites north and south of the River Thames through the creation of approximately 240 ha of new wildlife-rich habitat. Additionally, an area of approximately 26 ha of compensatory woodland would be planted immediately north of Codham Hall Wood at Hole Farm. We welcome the proposal for an Environmental Clerk of Works as set out in the ES Summary and in 6.3 ES Appendix 2,3 REAC Ref Number LV003, to oversee the vegetation establishment for years 1 to 5. Vegetation that failed to establish would be replaced in the next available planting season and the detail should be presented in the OLEMP and LEMP. However, it is recommended a landscape ecological management and maintenance plan and work schedule should be for a minimum of

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	10 years, although through mandatory biodiversity net gain it will be expected for the habitat to be secured for at least 30 years via obligations/ conservation covenant. It is noted that Forest England and Thames Chase have been assigned the management and maintenance of Hole Farm according to the Environment Statement, which should be included in the OLEMP/LEMP. We would also highlight that the OLEMP/LEMP should include who is responsible for GI assets and the maintenance activities/frequencies. We would also expect details on how management company services for the maintenance of GI assets and green spaces shall be funded and managed for the lifetime of the development to be included. This is to ensure appropriate management and maintenance arrangements and funding mechanisms are put in place to maintain high-quality value and benefits of the GI assets. This should be captured within the Local Impact Report.
Applicant's Response	Table 4.1 of the outline Landscape and Ecology Management Plan [**REP1-173**] includes details of habitat establishment durations for the various habitat types, with Section 5 describing outline management requirements and Section 8 confirming that each landscape element is clearly aligned to the associated UK Habitat Metric code and includes time to target condition. The draft DCO [**REP1-042**] requires the submission of a Landscape and Ecology Management Plan for approval by the Secretary of State, in consultation with the bodies listed in Table 2.1 of the outline Landscape and Ecology Management Plan [**REP1-173**]. The Landscape and Ecology Management Plan needs to be substantially in accordance with the outline Landscape and Ecology Management Plan and include details of commitments to aftercare, monitoring and maintenance activities relating to the landscaping and ecological features. Paragraph 4.1.1 of the outline Landscape and Ecology Management Plan [**REP1-173**] discusses the roles and responsibilities with regard to long-term management, maintenance and monitoring and that this would be delivered through the Applicant's Operational and Maintenance teams or through agreement with third parties. The details of long-term management, maintenance and monitoring will be confirmed in the detailed Landscape and Ecology Management Plan.
Page 37	**Document Name: Environmental Statement** 6.3 ES Appendix 2.2 Code of Construction – _First Iteration of Environmental Management Plan – _83-84, 79 and 104 (87 – _88, 83 and 108 of 120) LV028 to LV032 and LV001 TB001 – _TB003 We welcome that the CoCP REAC table has been expanded to include the Natural England and Forestry Commission's recommendation as well as the mitigation measures mentioned in the Environmental statement, such as temporary fencing, dust suppression, and surface water treatment. The REAC in relation to reference to Landscape does not specifically address in detail how any nature-designated sites (such as LWS [i.e. Jackson Woods, Tylars, Foxburrow Woods], ANSW, etc.) adjacent to LTC and retained GI, such as trees, hedges, and vegetation, will be protected during construction. This is

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	presumptively covered in the forthcoming Arboricultural Method Statement and tree protection plan for the protection measures prior to site clearance and under Terrestrial Biodiversity REAC reference TB001 – _TB003. It is noted that planting will start either as soon as the construction phase is finished or during the earliest planting season. The GI components are ideally introduced in phase one of development, where possible to establish a landscape structure, or there is proof that significant GI is secured as early as possible in the delivery's initial phases to enable early establishment. Will the Arboricultural Method Statement and Tree Protection Plan be just for ancient woodlands, site specific or apply to the whole of the LTC? Will it include Hole Farm? For instance, REAC Ref number LV001 refers to trees and vegetation retention with the aim to reduce removal where possible in accordance with the LEMP and Environmental Masterplan, but no mention of measures how to protect retained trees.
Applicant's Response	The REAC measure LV028 within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] is a Project-wide measure to protect retained woodland, trees and hedges. Details of the measures to protect retained woodland, trees and hedges will be developed as part of the Arboricultural Method Statement and Tree Protection Plan under LV028, in accordance with BS 5837:2012. The REAC measure LV029 within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] requires planting to be undertaken at the earliest practicable opportunity, with planting on land solely for environmental mitigation purposes to be undertaken at the earliest practicable planting season following commencement of the authorised development. The scope of the Arboricultural Impact assessment is provided in Section 2.3 and 2.4 of ES Appendix 7.12: Arboricultural Impact Assessment [**APP-387**] and covers the whole of the Project Order Limits with a 100m offset for the desk study assessment (to ensure all relevant statutory and environmental designations were captured) and a 15m offset to the Order Limits for the tree survey and assessment for the Project (to ensure compliance with British Standard BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012) (BS 5837)). Section 5.4 of the Arboricultural Impact Assessment [**APP-387**] details the scope of the Arboricultural Method Statement and Tree Protection Plan requirements which accords with the recommendations set out in BS 5837.
Page 37	**Document Name: Environmental Statement** 6.3 ES Appendix 2.2 Code of Construction – _First Iteration of Environmental Management Welcome the move to use biodegradable tree guards to reduce the use of single use plastic.
Applicant's Response	This comment is noted.

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Page 38	**Document Name: Environmental Statement** Environmental Statement figure 2.4. Environmental Master Plan, section 14. We also raise that there is 'No design information' for sheets 7-10 on the Environmental Master Plan, we wish to query why this is, as the area still falls within the DCO. The Local Impact Report should consider this as it is not possible to reach a full judgement on the planting, and protection measures in place for these areas.
Applicant's Response	Existing vegetation along the M25 corridor would not be physically affected in this location therefore existing screen planting would remain effective. The Environmental Masterplan sheets have been included for completeness so that all of the Project Order Limits are illustrated on the figure.
Page 38	**Document Name: Planning Statement** 4.3.18/19 PS – _Improved pedestrian, cycle, bridle networks We note that the planning statement states the project will provide upgraded active transport connections. ECCs GI team supports the provision and protection of active travel and Public Right of Way (PRoW) networks. ECCs GI team recommends that the LTC Project supports and encourages opportunities to enhance and establish green infrastructure along sustainable transport and PRoW networks to both encourage active travel and create a green corridor for wildlife. This could include, but not be limited to, the integration of nature focused SuDS; native hedgerows, tree and shrub planting: incidental 'play on the way' features / trails; informal sport (outdoor gym/fitness trails); and areas for seating to stop and rest.
Applicant's Response	This comment is noted. The Applicant would refer back to its response to ECC's comments regarding page 33 of its LIR regarding green infrastructure policies and Appendix H of the Planning Statement, above, and its response to page 40 concerning WCH provision, below.
Page 38-39	**Document Name: Planning Statement** Planning statement table 4.2. "The Project would leave a positive legacy of Green Infrastructure and improved biodiversity" Biodiversity Metric Calculation ES Appendix The ECC GI team supports the ambition to provide best practice GI. We recommend that the project strives to achieve a BNG of above 10%. The current forecast change in biodiversity units for the overall Project is: a. 7% for area-based habitat units b. -11% for hedgerow units; and c. -7% for river units. The BNG calculation for the Project North (Biodiversity Metric Calculation, 6.2.) suggests there would be just a 9% Gain in Area BNG, with net losses in Hedgerows (-18%) and Watercourses (-7%). It is difficult to comment solely on the BNG Calculation for Essex because it covers the whole of the project north.

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	We note the limitations of the metric, and we note that there are number of compensation measures which will have long term benefits but can't be included in the metric calculation, such as Hole Farm. We also note the assessment is based on the preliminary project design (paragraph 3.3.1, pg 9) and it is recognised that there will be further opportunities for biodiversity enhancement (paragraph 7.1.9, pg 38). However, considering that the scheme will incur a net loss in hedgerows and watercourse, and just a 7% in area based habitat, the ECC GI team recommends that the project aims for a more ambitious target (10%+) where opportunities arise for the LTC project to further explore biodiversity enhancement as the development and final design takes place. Metric 3.1. was used but paragraph 3.2.3 page 13 makes note that there is a new version of the metric that has been published (4.0). Will the LTC look to reapply metric calculations using the new metric? We expect consistency in metric calculations moving forward, so if there isn't a recalculation with Metric 4.0, 3.1. should continue to be used.
Applicant's Response	As discussed in ES Appendix 8.21: Biodiversity Metric Calculations [**APP-417**] there are a number of opportunities for refining the forecast and for improving the outcomes for biodiversity as the Project progresses. It is expected that the forecast Metric performance would improve during detailed design as design refinements would seek to further reduce habitat loss during construction, minimise lags between habitat loss and creation and to maximise the condition and distinctiveness of habitats created. The Project would seek to maximise biodiversity performance over the full Project lifecycle. The current BNG assessment for the Project has been run using the Natural England Metric 3.1 tool and associated guidance. Since the DCO application was submitted, a newer 4.0 version of the Metric has been released by Natural England (March 2023). Natural England advises users of previous versions of the Biodiversity Metric should, '*continue to use that metric (unless requested to do otherwise by their client or consenting body) for the duration of the project it is being used for. This is because users may find that certain biodiversity unit values generated in biodiversity metric 4.0 will differ from those generated by earlier versions*' (https://nepubprod.appspot.com/publication/6049804846366720*).* For this reason, the Applicant does not at this stage intend to switch to Metric 4.0.
Page 39	**Document Name: Planning Statement** Table 7.1 and 7.2. 7.2 Planning Statement Appendix H Green Infrastructure Study Tables 7.1 and 7.2 (within section 7.12 Local Policy context) outline the development plans and policy taken into consideration by the LTC. Whilst not explicitly policy documents The ECC GI team recommends that the Essex Green Infrastructure Standards, and Essex Green Infrastructure Strategy should be utilised. Using these documents can help incorporate best practice Green Infrastructure and help meet the statement "the project will leave a positive legacy of green infrastructure" (table

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	4.2. PS). We also note that Brentwood has an Infrastructure Development Plan (IDP) and chapter 14 of this relates to Green Infrastructure. We note the references at the end of the GI Study refers to the Thurrock Green and Blue study, as above, we recommend that the Essex GI Strategy and Standards are considered.
Applicant's Response	Under the provisions of section 104 of the 2008 Planning Act the Project falls to be determined primarily against relevant National Policy Statements. While the decision maker can take into account other matters that are both important and relevant to the application, the NPS is the prime policy determinant. Section 6.5 of the Planning Statement [**APP-495**] and Appendix A: NPSNN Accordance Table [**APP-496**] demonstrate how the Project accords with relevant NPS policy in relation to the provision of green infrastructure, enhanced by a more in-depth and local analysis in Appendix H [**APP-503**]. Taken together these comprise a robust assessment and analysis of impacts of the Project, which are largely positive overall in relation to green infrastructure. While it is always possible to take more information into account it is not considered that doing so at this stage in the process would materially alter the design of the Project. However, the Applicant is happy to continue to engage with the County Council on this matter.
Page 39	**Document Name: Planning Statement** Planning Statement Green Belt Appendix E, paragraph E.3.19 The ECC GI team supports the use of these measures to compensate and offset the impact to the green belt as set out in the ES and PS documents. We recommend agreements and plans are in place and submitted to ensure that there are adequate measures and GI assets are established. It is positive to see Brentwood Borough Councils Green Belt Policy's (paragraph E.9.19) are referred to.
Applicant's Response	This comment is noted. The measures referred to will be secured, as appropriate and relevant, through the EMP, LEMP and other control documents which would be legally secured through Requirements 4 and 5 of Part 1 of Schedule 2 of the draft DCO [**REP1-042**].
Page 39-40	**Further GI comments** • Details of the proposal The GI Team notes that as part of the scheme, National Highways have acquired Hole Farm, in Brentwood – _this site will be used for Ancient Woodland Compensation Planting. While it is positive to see a large area of land being utilised for forestry however, ECCs GI team expects ancient woodland to be protected. Developments that infringe upon these locations are expected to be designed to avoid detrimental direct and indirect impacts with the appropriate landscape buffers applied. This includes, risk of water-borne pollution, air pollution, dust deposit, change to local hydrology, increased recreational pressure and informal access points and soil compaction.

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	It is positive to see compensation planting for unavoidable damage to ancient woodland. We expect to see adequate long-term management and stewardship of sites such as Hole Farm. Details should include who is responsible for GI assets (including any surface water drainage system) and the maintenance activities/frequencies. We would also expect details on how management company services for the maintenance of GI assets and green spaces shall be funded and managed for the lifetime of the development. This is vital to ensure the establishment of GI assets, and therefore, the full benefits can be realised.
Applicant's Response	Hole Farm is proposed to provide compensation for both the loss of ancient woodland and the adverse effects of nitrogen deposition on designated sites and habitats. The long-term management of the site is secured in the outline Landscape and Ecology Management Plan [**REP1-173**], Sections 7.12 and 7.13. The implications of other developments on the Project are reported in ES Chapter 16: Cumulative Effects Assessment [**APP-154**]. The Applicant would also refer back to the other responses to pages 36–37 and in relation to the responses provided above concerning the detailed development of the Landscape and Ecology Management Plan and the approaches to long-term management.
Page 40	**Relevant development plan policies, SPD guidance, approved masterplans** Brentwood County Council has a Green Infrastructure Strategy – _this should be consulted. Essex Green Infrastructure Standards and Essex Green Infrastructure Strategy - we expect that green infrastructure in Essex is designed with the standards principles and strategy, this will result in better, more joined up spaces and places for people, their communities and for nature.
Applicant's Response	This comment is noted. The Applicant would refer back to its response to ECC's comments regarding page 39 of its LIR regarding green infrastructure policies and Appendix H of the Planning Statement [**APP-503**], above.
Page 40	**Local transport patterns and issues** ECCs GI team supports the provision and protection of active travel and Public Right of Way (PRoW) networks. ECCs GI team recommends that the Local Impact Report supports and encourages opportunities to enhance and establish green infrastructure along sustainable transport and PRoW networks to both encourage active travel and create a green corridor for wildlife. This could include, but not be limited to, the integration of nature focused SuDS; native hedgerows, tree and shrub planting; incidental 'play on the way' features / trails; informal sport (outdoor gym/fitness trails); and areas for seating to stop and rest.
Applicant's Response	Design Principles PEO.10 and PEO.11 [**APP-516**] summarise the multifunctional opportunities that the WCH design can provide north of the River Thames.

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	Examples of locations where the Project has integrated WCH provision with wider landscape proposals and ecological mitigation include green bridge provision (for example Muckingford Road, Hoford Road, North Road and Green Lane to the north of the River Thames); new footpaths through areas of ecological habitat such as Tilbury Fields and the area north of Coalhouse Fort; and new habitat provision immediately adjacent to existing PRoW at the Mardyke including access to areas of replacement open space land. More detail relating to these opportunities is provided in Project Design Report - Part E - Design for Walkers, Cyclists and Horse Riders [**APP-512**] and within ES Figure 2.4: Environmental Masterplan – Sections 9 to 14 (spanning the area north of the River) [**APP-163 to APP-168**] which shows the relationship of active travel and PRoWs to the overall Project design.
Page 40	**Site and area constraints** We would expect measures in place to protect nearby GI assets that fall outside/on the border of the DCO, this could be incorporated within the LEMP when it is produced at a later date (see our comments regarding this above).
Applicant's Response	The REAC measure LV028 within ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**] requires the production of an Arboricultural Method Statement and Tree Protection Plan to identify measures to protect retained woodland, trees and hedges. More detail on this requirement can be found in Section 5.4 of ES Appendix 7.12: Arboricultural Impact Assessment [**APP-387**]. The DCO, if granted, would only convey powers to the Applicants within the order limits.
Page 40	**Socio-economic and community matters** Green Infrastructure can have multifunctional benefits – for example, good GI can improve health and well-being, by increasing access to nature and green space. It can also be used as part of active travel lanes. GI can help to alleviate flood risk and also contribute towards climate mitigation and adaptation measures. It is therefore recommended that GI is considered wherever possible in order to deliver benefits for socio-economic and community matters.
Applicant's Response	The HEqIA [**APP-539**] includes Sections 7.4 and 7.5 which cover impacts relating to 'Access to green space and outdoor recreation' and 'Active travel' respectively. The findings from the HEqIA are summarised in Chapter 13 of the Environmental Statement [**APP-151**]. Table 7.16 of the HEqIA contains the summary of the assessment relating to access to green space and outdoor recreation and concludes that '*health outcomes associated with changes to green space and outdoor recreation relate both to physical and mental health and wellbeing. The new green spaces would encourage more people to undertake physical activity and be connected to nature. New areas of green space are located in close proximity, and are well connected to, areas of high deprivation such as communities to the east of Gravesend and communities in the vicinity of Tilbury. Health outcomes are considered to be positive and significant in terms of overall population health*.' Similarly in relation to active travel, conclusions of the assessment reference the wide range of improvements proposed as part of the Project design, improving connectivity, filling missing links in the PRoW network and enhancing the safety of routes through the provision of shared

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	pedestrian–cycle tracks along key routes. The network of new routes may encourage walking and cycling, including among communities in close proximity to these routes; this includes populations in more deprived communities such as those to the south and east of Gravesend as well as communities in parts of Thurrock. In many instances, the quality of routes is improved, making it more attractive for people to walk and cycle, with associated health benefits. The multi-functional benefits of green infrastructure are recognised in Planning Statement Appendix H: Green Infrastructure Study [**APP-503**], the purpose of which is to '*advise on a deliverable approach to retain and improve Green Infrastructure and to help define necessary mitigation to be embedded in the Project's Environmental Masterplan providing the 'bigger picture' for the delivery of large-scale Green Infrastructure, maximising benefits for people and wildlife*.'
Page 41	**12. CLIMATE CHANGE** The Essex Climate Action Commission was set up in 2020 to advise the council about tackling climate change and monitor progress. In its report entitled Net Zero: Making Essex Carbon Neutral (July 2021), the commission sets out recommendations across six core themes, with a trajectory of targets and milestones that need to be met for Essex to become a net zero county by 2050. The six core themes are: land use and green infrastructure, energy, the built environment, transport, waste and community engagement. The report notes that 'congestion on Essex roads is an environmental disaster and economically costing local businesses billions', and the M25 is currently among the most congested roads not just in Essex but within the Eastern region. While some roads by private motorised transport are essential, the Commission is clear that there is a need to avoid or reduce unnecessary car journeys and substantially increasing walking, cycling, bus and train travel as a proportion of all trips is essential if the net zero targets are to be met. Other recommendations of particular relevance to this DCO application include the need to encourage the take up of hydrogen and electric vehicles (for which NH share significant responsibility, particularly around providing charging facilities for HGVs), the need to double the amount of natural green infrastructure in Essex, enhance biodiversity and develop integrated water management and natural flood management techniques. Clearly, achieving net zero will require considerable effort from the public, private, and voluntary sectors and wider society more generally. The council is working hard to play its part, and companies such as NH likewise to play a full and active role.
Applicant's Response	The Applicant is highly engaged in developing a low carbon strategy for the construction and operation of the Project which aligns closely to the Applicant's own Net Zero Plan. The Project is already certified to PAS 2080, the Carbon Management in Infrastructure standard, and has set out in the Project-specific Carbon and Energy Management Plan [**APP-552**] a series of commitments that will help the Project to accelerate the UK construction industry's transition to a low carbon future and leave a legacy of knowledge and an upskilled workforce in the Kent area.

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Page 42	**13. FLOODING AND SURFACE WATER MANAGEMENT** **Local Policy** ECC as Lead Local Flood Authority (LLFA) is responsible for managing risk of flooding from Surface water, ground water and from ordinary watercourses. ECC as LLFA is a statutory consultee on all major developments regarding surface water drainage design. ECC supports major planning applications to meet the increasing demand for housing and infrastructure and we aim to protect and maintain the existing natural features with the provision of additional green and blue infrastructure, best practices guidance, and multifunctional project design to mitigate any increase in flood risk due to proposed development. The proposed development has been assessed in relation to, national planning policies, local standards and guidance documents and industry best practice standards (NPPF 2021, Suds Design Guide 2020, Ciria SuDS Manual C753). The proposed A122 Lower Thames Crossing works consists of greenfield and brownfield catchments which require appropriate flood mitigation and surface runoff management throughout the development site. The management of surface runoff from these sites should mitigate the increased risk of flooding. ECC as LLFA has engaged collaboratively with National Highway commissioned drainage consultants to scope the detail required to assess the proposed surface water drainage strategy and other supporting documents including Flood Risk Assessment, Ground Investigation report, water quality assessment, flood management during construction phase of the Lower Thames Crossing Scheme. ECC as Lead Local Flood Authority for the county of Essex supports the proposed scheme.
Applicant's Response	ECC's satisfaction is noted.
Page 42	**Local Issue: Flood Risk** The Flood Risk Assessment (FRA) has been produced to support the Lower Thames Crossing development. Field survey, desk-based assessments and modelling have been undertaken to assess the risk. The FRA has assessed flood risk from all sources including existing risk of flooding and any flood risk increased due to proposed scheme, further the document has addressed the impact of flood risk elsewhere and have proposed mitigation to this. The FRA has considered the risk of flooding for the construction and operational phases of the proposed scheme as well. ECC as the LLFA is satisfied with the level of information provided to support that the proposed scheme would not increase risk of flooding from Surface water, Ground water and from ordinary watercourses during the operational phase of the development.
Applicant's Response	ECC's satisfaction is noted.

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Page 42-43	**Surface water Drainage strategy proposal** NH as developed the Surface Water Drainage Strategy to support the NSIP application for the A122 Lower Thames Crossing scheme, in accordance with the requirements of the National Networks National Policy Statement (NNNPS) (Department for Transport, 2014). Surface water drainage system (SuDS) is developed in accordance with local standards (SuDS Design Guide) and national planning policies (NPPF) and industrial best practice guidance (CIRIA SuDS Manual C753) to minimize the impact from the proposed scheme to quantity and quality of the surface water runoff and to maximise the amenity and biodiversity opportunities along the length of the proposed scheme where possible. The scheme is providing storage for the 1 in 100 +Climate Change to manage off site flooding but the pipe network within the boundaries of the highway network will be designed to DMRB standards so will be subject to higher flood risk during extreme events.
Applicant's Response	The drainage infrastructure serving the highway will be designed in accordance with DMRB standards which stipulate no surcharge of the drainage system in the 1 in 1 year storm event and no flooding from the drainage system in the 1 in 5 year storm event. Surcharges from storms up to 1 in 5 year return period must not encroach onto running lanes and all drainage systems shall be designed so that highway surface water flooding does not extend beyond the highway boundary up to the 1-in-100 year rainfall event, including an allowance for climate change.
Page 43	**Pollution Control and Water Quality** Attenuation ponds, basins provide an effective pollution control measure for highway runoff, providing for settlement of suspended sediments and treatment of dissolved metals. The addition of lined sediments forebays are proposed as an addition to basins, these will provide additional treatment and betterment to the existing basins. The addition of a water flow control device will provide extra security for the watercourse in the event of a spillage. Surface water drainage strategy, in regard to the Lower Thames Crossing scheme, is utilising existing sustainable drainage systems within Essex, such as attenuation basins, ponds and ditches. The Lead Local Flood Authority (LLFA) is satisfied with the SuDS measures proposed to manage the runoff quantities from the M25 within the County of Essex boundaries.
Applicant's Response	ECC's satisfaction is noted.
Page 44-45	**14. ECONOMY, JOBS AND SKILLS** **Jobs and skills** The proposed development is a major project which could result in increased demand for construction skills and equipment at a time when other major projects may also commence with similar timeframes and result in shortages. The Construction

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	Growth in Essex 2020-2040 report produced by MACE on behalf of ECC suggested that major projects across the county will add 15,000 local labour demand at peak and that labour shortages are expected to peak in 2031. The applicant should cooperate and work with relevant partners, including other major projects across the county and use the skills, employment and education strategy to reduce the likelihood and severity of skills and construction worker shortages, as other projects may come forward within similar timeframes. Mitigation is likely to require investment in further education, apprenticeships, and training within the local area to deliver the required workforce for the construction phase, in order to reduce the risk of disruption to this projects and other projects coming forward. The applicant should consider the potential opportunities resulting from looking at how this project will run alongside other projects and the potential employment opportunities that this could offer, including the potential for skills training programmes, shared apprenticeships and traineeships. Approaching this within the wider context of various concurring schemes will ensure that social value is maximised. The proposed development is a major project which could provide an opportunity to incorporate green methods of construction and tools. This would provide an opportunity to develop skills and employment opportunities in green methods of construction and civil engineering. The applicant should use the skills, employment and education strategy to look at how they can maximise these opportunities and maximise the Social Value impact of the project locally. We would expect the applicant to fully engage with local supply chains for labour, material and equipment. This not only adds to local economic benefit but also reduced greenhouse gas and pollutants deriving from extended travel. There is likely to be a positive economic impact during construction as a result of the project, with the creation of job opportunities and potential to increase skills to the residents of the local area, through the skills education and employment strategy. Chapter 13 of the Environmental Statement estimates that the scheme could deliver more than 22,000 jobs in the areas to the south and north of the River Thames, with 45% of employees to be from within 20 miles of the Project route, including within the host local authorities of Gravesham, Medway, Dartford, Thurrock, Havering and Brentwood. Chapter 13 of the environmental statement estimates that the required construction workforce for the project would peak at 4,514 people and that 35% of the workforce would be drawn from the existing labour market. The environmental statement also suggests that the project would provide a significant number of new employment opportunities over the course of the construction period, both in terms of direct and indirect employment. Whilst these jobs are temporary, the skills attained would be transferrable to other infrastructure projects, and as such it is accepted that there would be a positive economic impact in the local area during the construction phase. It is therefore accepted that there would be a positive multiplier effect to the local area, generated by indirect and induced effects of the construction activity.
Applicant's Response	This comment is noted and the Applicant would refer back to its earlier response to items 5–9 on page 13 of ECC's LIR.

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Page 45-46	**Access for residents and businesses during construction phase** During the construction phase, potential negative impacts of the project include disruption to: • Residents accessing workplaces / businesses accessing workforce • Consumers accessing businesses, such as those in the retail and leisure sector, and public services that support the local economy • Businesses receiving / delivering goods and services Lower Thames Crossing – _6.1 Environmental Statement Chapter 13 – _Population and Human Health suggests that access to jobs, services and community infrastructure may be impacted as a result of increased journey times during construction. However, this would be managed through measures set out in a Traffic Management Plan (TMP) and appropriate communication with local residents and affected communities. Increased journey times for buses using the local road network may have an impact in relation to accessing services and employment for these groups, although it is noted that these impacts would be temporary in nature (although long-term, i.e. longer than two years). The majority of increases in journey time would be below six minutes in duration. The applicant should seek to minimise the disruption caused during the construction phase and allow access to be maintained as far as possible to mitigate the impact that the work will inevitably have on local residents and businesses.
Applicant's Response	The Applicant has sought to minimise disruption caused during the construction phase in terms of travel impacts for local residents and businesses through a variety of measures as set out in the outline Traffic Management Plan for Construction (oTMPfC) [**REP1-175**] including the creation of two Traffic Management Forums (TMFs) (covering roads in Kent and roads north of the Thames) following the grant of the DCO, as well as the comprehensive community liaison arrangements set out in ES Appendix 2.2: Code of Construction Practice, First Iteration of Environmental Management Plan [**REP1-157**]. The Applicant would cite SoCG [**REP1-099**] item 2.1.12 as an early example of successful engagement to manage disruption. In this example, at the request of ECC, works access to Beredens Lane Utility Logistics Hub has been restricted to motorway prohibited and emergency traffic only via the narrow residential Beredens Lane, with normal traffic routed via the M25. This has been secured through changes to the oTMPfC [**REP1-175**].
Page 46	**Access for residents and businesses upon completion of the project** Upon completion of the project, potential positive impacts of the project include benefits for: • Residents accessing workplaces / businesses accessing workforce • Consumers accessing businesses, such as those in the retail and leisure sector, and public services that support the local economy • Businesses receiving / delivering goods and services

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	Once construction is complete the new roads and tunnel could improve access for people to employment opportunities throughout the county and south of the River Thames. Businesses in the local areas could also benefit from greater accessibility for people to commute in to work within their businesses. For example, businesses in Essex may benefit from improved access to workers residing south of the river. There were 234,988 job postings across the south of Essex (including Brentwood, Basildon, Thurrock, Southend and Rochford) between May 2022 to May 2023. The new road and tunnel could mean greater access for employers in Essex to candidates that match the skills required for jobs advertised from south of the River Thames. However, this could mean that local residents face greater competition for employment in local businesses and/or that local businesses could see a reduction in available labour as local residents may be more likely to commute out of the local area to seek employment south of the river.
Applicant's Response	This comment is noted.
Page 46-47	**Adequacy of the application/DCO** The structure and methodology of the Environmental Statement (ES) is generally accepted, with the scheme achieving socio economic benefits during construction and post construction. ECC wish to minimise short term negative impacts during the construction phase of development. The cumulative impact of significant construction/infrastructure projects in the county requires consideration. This includes 11 NSIPs (including major highways works at the consented and currently being implemented M25/A12 junction, as well as changes to the A12 between Chelmsford and Marks Tey), four new Garden Communities and two Freeports in Essex. Consideration should include the timing/phasing of the projects and inter-project impacts – including the transportation of construction materials and availability of labour. This should be considered as part of the 'future baseline' scenario. Chapter 13 of the Environmental Statement notes that the scheme is committed to creating a skills legacy for the project through the skills, employment and education strategy. The number of people that would experience beneficial changes as a result of the creation of new employment and training opportunities is high. Legacy activities include the development of a significant education programme, aligned to the needs of local education providers and delivering science, technology, engineering and maths (STEM) workshops and activities in schools to educate and inspire future careers in construction, including future skills needs and carbon/sustainability education. The structure and strategic priorities of the published skills, employment and education strategy - which will be secured via S106 agreement (Application Document 7.3) are accepted. Although ECC would welcome additional assurances relating to data to support the strategic priorities of the strategy. ECC would also welcome further assurances on how the strategy will be monitored and the process for reporting on the progress against the objectives set within the strategy, consistent with the Construction National Skills Academy KPIs established by CITB. ECC has produced a 'Skills and Employment Principles for Major Project and Developments' document, which outlines

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	ECC expectations of what a Local Employment and Skills Plan/Strategy should cover. The requirement for the skills, employment and education strategy is justified in the Essex Developers' Guide to Planning Contributions document.
Applicant's Response	With regard to the comments from ECC on the consideration of the cumulative impact of significant construction/infrastructure projects in the county, this matter is comprehensively addressed within ES Chapter 16: Cumulative Effects Assessment [**APP-154**]. The document includes details of the projects included, the reason for their selection and the way in which the projects included have been treated, for example as part of the 'future baseline' or as projects for which construction activities are expected to overlap with the Project in terms of location, timing and nature of effects. If there are specific elements of that assessment that ECC would like to understand better, the Applicant will be happy to provide clarification. The comments regarding skills and employment are noted and the Applicant would refer back to its earlier response to items 5–9 on page 13 of ECC's LIR.

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