

Natural England's key to RAG status	Risk
<p><b>Purple</b></p> <p>Note for Examiners and/or competent authority. May relate to DCO/DML.</p>	
<p><b>Red</b></p> <p>Natural England considers that unless these issues are resolved it will have to advise that (in relation to any one of them, and as appropriate) it is not possible to ascertain that the project will not affect the integrity of an SAC/SPA and/or comply fully with the Environmental Impact Assessment requirements and/or avoid significant adverse effect on landscape/seascape, unless the following are satisfactorily provided:</p> <ul style="list-style-type: none"> <li>new baseline data;</li> <li>significant design changes; and/or</li> <li>significant mitigation;</li> </ul> <p>Natural England feels that issues given Red status are so complex, or require the provision of so much outstanding information, that they are unlikely to be resolved during examination, and respectfully suggests that they be addressed beforehand.</p>	
<p><b>Amber</b></p> <p>Natural England considers that if these issues are not addressed or resolved by the end of examination then they would become a Red risk as set out above. Likely to relate to fundamental issues with assessment or methodology which could be rectified; preferably before examination.</p>	
<p><b>Yellow</b></p> <p>These are issues/comments where Natural England doesn't agree with the Applicant's position or approach. We would flag these at the PEI stage with the view that they would be addressed in the Application. But otherwise we are satisfied for <u>this particular project</u> that it will not make a material difference to our advice or the outcome of the decision-making process. However, it should be noted that this may not be the case for other projects. Therefore it should be noted by interested parties that just because these issues/comments are not raised as part of our Relevant Representations in this instance it should not be understood or inferred that in other cases or circumstances Natural England will take this approach. Furthermore, these may become issues should further evidence be presented.</p>	
<p><b>Green</b></p> <p>Natural England supports the Applicant's approach.</p>	

<p><b>Grey</b></p> <p>These are issues/comments where the matter is closed.</p>	
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No.	Natural England's Relevant Representation - Appendix A - Generic Issues	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
<b>Appendix A - Generic Issues</b>						
1	We have continued concerns that not all the risks related to the proposal have been fully considered which means that, following the precautionary principle, we are unable to exclude, beyond all reasonable scientific doubt, no Adverse Effect on Integrity of the Wash SPA or The Wash & North Norfolk Coast SAC.		NE has advised the Applicant (in writing through our DAS service on 13th Sept) that unless the further information is provided to help determine the scale of the impacts, we will not be able to advice further on the appropriateness of any mitigation and/or compensatory measures and our advice will be more precautionary.		Ongoing	
2	Key plans identified to provide the necessary comfort to ExA and SoS that the projects will not have a detrimental impact have either not been provided or where they have they are too high level to demonstrate that necessary actions will be taken to avoid, reduce and mitigate impacts to acceptable levels. As with other NSIPs we advise that the Applicant provides Outline plans as part of the consenting phase.		Natural England await being consulted on Outline plans throughout the examination.		Ongoing	
<b>Environmental Statement</b>						

No.	Natural England's Relevant Representation - Appendix A - Generic Issues	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
3	We do not currently agree with Worst Case Scenarios presented and conclusions. In particular (but not exclusively) this concern relates to cumulative/in-combination assessments and/or in direct consequences of the proposal e.g. relocation of fishing boats, increased dredging.		<p>The Applicant provided clarification on this point (in writing on 13th August) "Worst case scenarios are defined in relation to many of the impacts, where relevant, in the Environmental Statement (Chapter 17, document reference APP-055). However, to remove any doubt or ambiguity we will confirm the basis of all assessments in a consistent format to stakeholders and the basis for their derivation during examination. Where such scenarios have an impact on features they are addressed within the impact assessment on that feature within the ES, HRA or both documents."</p> <p>However, whilst this clarity is welcomed the initial point hasn't currently been addressed and remains outstanding.</p>		Ongoing	
<b>Environmental Statement - Chapter 5 - Project Description</b>						
4	Ship numbers – RDF delivery; mentions 10 ships per week = 520 ships per year. Is this the maximum figure? This is single journeys so a return trip of 1040 vessel movements. In addition, need to consider pilot boats (1 or 2 vessels per high tide).		Natural England awaits an updated ES.		Ongoing	
5	Ship numbers – following on from paragraph 5.6.10 – it notes 580 vessels per year or 12 ships per week: but $12 \times 52 = 624$ ? Is 580 the maximum number of vessels, can this be clarified?		Natural England awaits an updated ES.		Ongoing	
<b>Environmental Statement - Chapter 17 - Marine and Coastal Ecology</b>						

No.	Natural England's Relevant Representation - Appendix A - Generic Issues	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
6	Disturbance to birds by vessel movement during construction – 89 vessels (178 return trips + pilot boats). Suggested numbers of 5 vessels per week (peak), typically 4 per month. This seems to be inconsistent with other sections of the ES.		Natural England awaits an updated ES.		Ongoing	
7	Increased vessel traffic/ movement – from c. 420 (based on 2019 figures) to c. 1000 vessels – which equates to 2000 vessel movements along with pilot boat movements. Again, this is inconsistent with other sections of the ES.		Natural England awaits an updated ES.		Ongoing	
5	Increase in pilot boats to accompany the vessels. The pilot travel faster and cause increased boat wash – is there a speed limit for the pilot boats?		Natural England awaits an updated ES.		Ongoing	

No.	Natural England's Relevant Representation - Appendix B - Offshore Ornithology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status at D1	Consultation, actions, progression	RAG status D2
<b>Appendix B - Offshore Ornithology</b>						
<b>Environmental Statement - Chapter 17 - Marine and Coastal Ecology</b>						
1	Please be advised that bird data required for March to June 2021 has not yet been submitted. Natural England advises for birds, a minimum of two years site specific data is collected to allow for variation in bird use between years.		The Applicant informed NE that they will include additional bird data and updated analysis in a HRA addendum (in writing on 13th August). We will respond to this through the examination process.		The Applicant submitted an Ornithology Addendum at Deadline 1 [REP1-026]. We welcome the additional survey data provided. While not representing two full years survey, as is best practise, the additional data does extend the surveyed period considerably and it now includes part of two winter seasons. However there still remains considerable evidence gaps relating to Annex I passage birds	
2	Natural England queries why citation text and list SPA species isn't fully utilised as well as SSSI features. For example, no mention of key species <i>i.e.</i> breeding Redshank and littoral sediment, SM4-28 saltmarsh etc.		The Applicant informed NE (in writing on 13th August) that this will be reviewed in the documents but the ES/HRA has discussed species/habitats that are likely to be affected. NE responded (in writing on 13th Sept) that we will be guided by the ExA on this as other NSIPs have been requested to submit the relevant site information in the past.		The Applicant submitted an Ornithology Addendum at Deadline 1 [REP1-026]. NE note that consideration has been given to impacts on a number of individual species which form features of the site, but there has been no assessment of the impacts to Annex I non-breeding waterfowl assemblage as a feature in its own right. This matter remains outstanding.	
3	Natural England notes that Redshank are shown as absent in table between April and July. However, we advise that they should be shown as present as they breed on The Wash. Also, Ringed Plover is missing a month, and this should be checked to be correct.		The Applicant informed NE (in writing on 13th Aug) that Redshank are "not designated as a breeding species as the size of the breeding population, although 'undoubtedly of national importance', had yet to be assessed." NE responded to say that breeding redshank are a notified feature of The Wash SSSI and impacts on the feature need to be considered further (even if outside the HRA).		NE note that REP1-026 includes redshank as a breeding species as a feature of The Wash SSSI. We note the document states that breeding redshank were not recorded during any of the surveys undertaken and that is why they are absent April-July. However, Natural England queries the outcome of this data.	

No.	Natural England's Relevant Representation - Appendix B - Offshore Ornithology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status at D1	Consultation, actions, progression	RAG status D2
4	<p>Natural England acknowledges that monitoring by an ornithologist was undertaken for the EA Boston Haven embankment works for activities carried out during the autumn/spring passage and overwinter. Monitoring considered noise and visual disturbance and recorded species, numbers, and bird behaviour. A stop trigger (based on 1% of the cited SPA numbers) was used when works were noted to show disturbance. At that time a 500m monitoring zone was required. For this project a 250m zone has been suggested based on the data collected. We advise that this appears to be appropriate for BAEF considering the distance from the SPA and the reduced numbers of birds using the upper stretches of The Haven; but note data has shown numbers of Ruff and Redshank in Area A and B have exceeded the 1% threshold during monitoring so assurances that the buffer remain correct for these species is required.</p>		<p>Natural England awaits a demonstration that the proposed 250m buffer zone is fit for purpose for ruff and redshank. The Applicant has informed NE that "buffer zones work to avoid and minimise disturbance, Cutts et al (2008) provides peer reviewed data on disturbance for waders. NE responded (on 13th Sept) to state that while Cutts et al. may be appropriate for identifying generic distances where no better data exists, disturbance and habituation are often subject to site specific variation. Some data had been collected as part of the bird surveys it would be appropriate to review behavioural response information to see how distances compare at this site and whether following Cutts et al is appropriate; precautionary; or not-precautionary enough.</p>		<p>This matter remains under discussion.</p>	
5	<p>Natural England notes that within the Haven there are likely to be seven SPA species likely to be disturbed by increased boat traffic i.e. dark-bellied brent goose, shelduck, lapwing, dunlin, black-tailed godwit, redshank, and turnstone.</p>		<p>The Applicant informed NE (in writing on 13th Aug) that an addendum to the HRA and a without prejudice derogation case will be submitted into examination.</p> <p>We will advise further once received.</p>		<p>Natural England awaits further information, this issue is ongoing.</p>	

No.	Natural England's Relevant Representation - Appendix B - Offshore Ornithology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status at D1	Consultation, actions, progression	RAG status D2
6	Natural England is concerned that disturbance to roosts at the mouth of the Haven may affect 24 species including <b>8 at greater than 1% of site population.</b>		See issue 4 and 5.		Please see section 1 of Appendix B2 at Deadline 2.	
7	Natural England notes that the area likely to be disturbed by the proposed works include: <ul style="list-style-type: none"> <li>golden plover and black-tailed godwit at over 20% of The Wash SPA total and over 2000 individuals; and</li> <li>lapwing 7.5% and 1100 individuals.</li> </ul> Therefore, we consider this to be an important area of supporting habitat of The Wash SPA. Natural England advises that an Adverse effect on integrity can't be excluded beyond all reasonable scientific doubt.		See response to 5 re disturbance. The Applicant informed NE (in writing on 13th Aug) that additional disturbance could occur to golden plover and lapwing as they appear to remain at the site of initial disturbance and the work above on energy budgets. If a significant impact is concluded from the additional energy budgets required by these species then mitigation would be recommended. NE responded (on 13th Sept) to state that if there are considered to be significant energy budget implications that cannot be avoided or reduced to acceptable levels this is likely to require 'compensation' not 'mitigation'.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
8	Natural England notes that it is recognised that birds are sensitive to boat disturbance.		See issue 5.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
9	Natural England agrees that displaced birds of some species fly 125-800m to alternate roosts. However, it is not clear if the alternative roost/s can accommodate all individuals of all species. But we note that there is also no information on the quality of alternative roosts and if these are secondary and only used as a second choice when their preferred area is not available for whatever reason.		Natural England await relevant documents on this issue.		Please see issue 7.	

No.	Natural England's Relevant Representation - Appendix B - Offshore Ornithology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status at D1	Consultation, actions, progression	RAG status D2
10	Natural England notes that phasing of boats up the Haven is identified, but how traffic down the Haven will be managed is not discussed. Natural England is concerned that birds would be at risk of being repeatedly pushed around over each high tide cycle.		<p>The Applicant informed NE (in writing on 13th Aug) that if measures are available that could be implemented to reduce the occurrences of disturbance, they will be incorporated into the addendum to the HRA and secured through an appropriate mechanism in the DCO. NE advised that this mitigation needs to be captured within the DCO/dML.</p> <p>We await further information to be provided by the Applicant.</p>		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
11	Please be advised that most birds relocate on disturbance, but some species repeatedly return e.g. Lapwing and golden plover. Therefore, we believe that there is the potential for repeated disturbance impacts on same individuals.		The Applicant informed NE (in writing on 13th Aug) that this is acknowledged in the ES and HRA but we advised a fuller assessment is required.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
12	Natural England notes that it is recognised that some species abandon roosts after disturbance e.g. Oystercatcher; redshank; black-t godwit. But this is contradictory to the HRA wording.		NE were informed that the wording within the HRA is being reviewed. NE will respond to the addendum to the HRA through the examination process.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	



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13	<p>Natural England advises that, for species, which return to the roost it is likely to take more than 120 sec to pass by the roost from first disturbance to departure. Note this is equivalent to a flight of approx. 1.8km (based on 15m/s = 1800m per 120 secs (Hedenström, A. &amp; Åkesson, S. (2017). <i>Flight speed adjustment by three wader species in relation to winds and flock size</i>. Animal Behaviour, 134, 209-215.)).</p>		<p>The Applicant informed NE "The flight times carry greater certainty than flight routes as they were directly measured by the field surveyor. A worst case flight time of 120 s, 30-100% higher than the typical flight times (60-90 s), has subsequently been used in calculations of energetic demand per disturbance flight, therefore the methodology has employed caution and should not impact on the relevance of resultant calculations."</p> <p>We advised that "calculations that reflect the distance flown by the birds (time in flight x flight speed) are likely to be more informative with reference to energy budgets than straight line distances between take-off and landing points."</p> <p>We await further correspondence from the Applicant.</p>		<p>Please see further advice which is relevant to this point in Deadline 2 Appendix B2.</p>	
14	<p>Natural England notes that under calculation of energetic consequence of disturbance reference to Krist et al (2001) and Collop et al (2016 are seemingly missing.</p>		<p>The Applicant has informed NE this will be reflected in the addendum to the HRA and submitted into examination.</p>		<p>NE note this has been updated in REP1-026.</p>	
15	<p>Natural England is concerned in relation to energy lost per flush which is quantified for repeatedly disturbed golden plover and lapwing. Range 0.39-0.51%.</p>		<p>The Applicant has informed NE this will be reflected in the addendum to the HRA and submitted into examination.</p>		<p>Please see further advice which is relevant to this point in Deadline 2 Appendix B2.</p>	

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16	Natural England is concerned that the daily loss of additional 2% energy input may be significant for species at the edge of their energy balance either as a default e.g. Black-tailed godwit (for which birds on the Wash have a negative daily energy budget in winter (Alves et al - Ecology, 94(1), 2013, pp. 11–17) or under certain conditions e.g. severe weather. Potential need for 2% increase in energy intake cannot be dismissed as insignificant or trivial.		The Applicant has informed NE this will be reflected in the addendum to the HRA and submitted into examination.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
17	Natural England notes that the displacement of 6980 birds is argued as being beneficial as birds are not present to be repeatedly disturbed. However, this is contradictory to the conservation objectives for The Wash SPA and HRA expectation that distribution of features within the designated site should not be affected. Therefore, we advise that the conservation objectives for the site are being hindered and an adverse effect on integrity can be ruled out.		We await proposed compensation measures that will need to be considered as part of a derogations case.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
18	Whilst Natural England agrees that some level of habituation may currently be occurring, there is no evidence presented to support the argument that this will be the case from a significant more than doubling of vessel disturbance, especially if preferred supporting habitat is also lost.		We advise that impacts are avoided, reduced, and mitigated to acceptable levels and where that is not possible compensation measures must be provided.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	



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19	Natural England is unaware of any supportive evidence to say that night-time vessel movement would be less disturbing.		The Applicant has informed NE this will be reflected in the addendum to the HRA and submitted into examination.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
20	Natural England requests confirmation from the Applicant that with the traffic increase the current 20% of days (equivalent 46 days/yr) that are quiet would be lost. Natural England also advises that clarity is also sought on the potential for further increases in disturbance during all high tides from vessels movements i.e. will the proposed works take the Haven to the maximum carrying capacity? How would potential increases in boat traffic over the lifetime of the project be taken into account?		Natural England have been informed (through writing on 13th August) that this will be clarified in future submissions.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
21	<p>Natural England notes proposals to enhance saltmarsh for redshank. And agrees that capital works are appropriate, but mechanism to maintain the works permanently are not identified.</p> <p>Please be advised that works will require (1) annual management to prevent succession to poor quality (for redshank) saltmarsh; and (2) a mechanism to prevent access and associated disturbance from users of the nearby footpath. Furthermore, the proposed roost is likely to be subject to vessel disturbance which may compromise its functionality as an alternate roost.</p>		Further consideration is required in relation to the suitability of any compensation measures.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	

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22a	Natural England notes that the Applicant proposes to create additional mudflat with extra 10% over area lost. We require further evidence on the suitability of any chosen location/s proposed to compensate for supporting habitat lost.		We will continue to engage with the Applicant on this issue.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
22b	It can be reasonably expected to provide foraging habitat for redshank, the limitations for them utilising the area should also be noted. For example, the location is remote from the area of lost feeding and identified roost mitigation, so will require access to a roost area if it is to support function for redshank.		NE would like further clarity on the impacts of the proposed mitigation works for Redshank on the saltmarsh habitat e.g. there will be further loss (although limited) of saltmarsh habitat through the creation of scrapes.		NE note the need to manage the proposed alternative roost site with redshank-specific features and to undertake annual maintenance to secure the roost habitat has been acknowledged in REP1-026. However, our advice remains unchanged.	
22c	We note that a site and detailed proposal are not available at the current time and therefore we would welcome this information as soon as possible.		NE have been informed that further measures within and close to the mouth of The Haven are subject to further discussion once the potential area to compensate is defined. We will respond once documents are submitted into examination.		We will continue to engage with the Applicant on this issue.	
22d	We advise that there is some evidence that recreated mudflats can be of good quality (Lucas, M., Lucas, M. & Mike, E. (2013). The value of wader foraging behaviour study to assess the success of restored intertidal areas. Estuarine, Coastal and Shelf Science, 131, 1-5.) which provides reassurance.		RHDHV have been involved in studies to monitor created mudflat and have observed colonisation on such areas which have provided foraging areas for birds. NE queries how this has been taken into consideration for the project proposal?		We will continue to engage with the Applicant on this issue.	
<b>Outline Landscape and Ecological Mitigation Strategy</b>						



No.	Natural England's Relevant Representation - Appendix B - Offshore Ornithology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status at D1	Consultation, actions, progression	RAG status D2
23	Natural England advises that there appears to be an omission of mudflat and saltmarsh from calculations, which need addressing given this is also supporting habitats/functionally linked land for SPA birds.		NE awaits an updated OLEMS.		NE awaits an updated OLEMS.	
24	Is saltmarsh being classified as intertidal here in appendix 1 of the OLEMS?		NE awaits an updated OLEMS.		NE awaits an updated OLEMS.	
25	Summary of proposals for roost compensation: We advise that proposals need amending to reflect the need for annual habitat management and the need to manage disturbance (both people and boats) if this is to work. Ownership of (any) shooting rights is important to know and not articulated.		NE awaits an updated OLEMS.		NE awaits an updated OLEMS.	
26	Mudflat compensation 'not negotiated yet': we advise that there are no guarantees that the mudflat as a habitat will be suitable for foraging redshank; as not negotiated no certainty of delivery.		NE awaits an updated OLEMS.		NE awaits an updated OLEMS.	
<b>Environmental Statement - Habitats Regulations Assessment</b>						
27	Natural England acknowledges that the Applicant has confirmed that birds in the Haven are disturbed by vessels. But does not recognise that this will apply to the 'mitigation' roost area. And again, clarity is need in relation to vessel trip numbers etc.		Natural England awaits a further assessment of disturbance impacts from vessels.		NE note REP1-026 states alternative locations are being sought in order to provide additional locations for roosting birds, particularly redshank. We await an update on this issue.	



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28	<p>Natural England notes that the loss of feeding grounds for 14-27 redshank has not been compensated for, and as a species that is site loyal in winter there is no evidence to support the assumption that they will relocate to adjacent areas. It is not clear if the Haven is at capacity or not for its redshank population. As a Functionally Linked Population this will have a bearing on the Wash population, although as a relatively small part of the wider population and relatively distant from the SPA. It may, or may not be, of low risk to integrity. <b>Scheme should be aiming to compensate for this loss to mitigate impact on SPA.</b></p>		<p>Natural England awaits consultation on a compensation package.</p>		<p>Natural England awaits consultation on a compensation package.</p>	
29	<p>Natural England disagrees with the loss of foraging being dismissed as low risk.</p>		<p>Please see above point.</p>		<p>Please see further advice which is relevant to this point in Deadline 2 Appendix B2.</p>	
30	<p>Natural England advises that the quality of saltmarsh as a biological community is not the issue for redshank – suitability as a roost is. This is more dependent on physical than botanical community aspects of the site. This will require active management and a monitoring regime that can feed into adaptive management. In the event that the disturbance caused by boats negates the value of the habitat enhancement.</p>		<p>The Applicant informed NE " the mitigation proposed is designed to provide additional roosting areas ... The redshank in this area seem to prefer roosting on the rocks in the transition between marsh and mudflat. As discussed above the Habitat Mitigation Area is located to be outwith the predicted zone for disturbance from the operational facility." This remains a concern for NE.</p>		<p>Please see further advice which is relevant to this point in Deadline 2 Appendix B2.</p>	



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31	Natural England advises that the current description of proposed works to compensate for loss of habitat important to redshank is insufficient to have confidence that it will deliver the necessary compensation at the scale required.		NE await updated documents (addendum to HRA and OLEMS).		Natural England awaits consultation on a compensation package.	
32	Natural England advises that species identified at risk as individual features, are not combined to risk to assemblage features from these 8, plus those at A17.6.46.		Natural England awaits further evidence and assessment to support HRA statements.		Natural England also notes that REP1-026 gives consideration to impacts on a number of individual species which form features of the site, no assessment is made of the non-breeding waterfowl assemblage as a feature in its own right.	
33	Natural England notes that the period of disturbance limited to 1-3.5 hrs around high tide, which has been characterised by the Applicant as minimising risk. However, Natural England disagrees. This period is when alternate sites will be most limited so the most critical for roosting birds.		The Applicant has informed NE "The period of disturbance is restricted through the limitation of draft for the vessels entering and leaving The Haven. This does minimise the risk as large vessels will not be able to access The Haven at other times of the tidal cycle. This is when birds currently utilise the alternate roost sites as observed during the disturbance surveys undertaken at the mouth of The Haven". NE advice remains unchanged.		Our advice remains unchanged.	



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34	Natural England advises that the Applicants assumption that when redshank leave the roost, they are no longer disturbed is an <b>unsupported assertion as there has been no monitoring of receiver roosts to understand disturbance risks.</b>		The Applicant informed NE that "birds that were recorded as relocating in the disturbance area for the surveys at the mouth of the Haven (A. Bentley 2020 Changes in Waterbird Behaviour due to river traffic at the mouth of The Haven, Boston, Lincolnshire) were still within the count area and should there have been further disturbance during the same survey period they would have been recounted. " NE advised that a fuller assessment is required than what is currently included in the ES and HRA.		Please see further advice which is relevant to this point in Deadline 2 Appendix B2.	
35	Natural England advises that the Applicants assumption that when oystercatcher leave the roost, they are no longer disturbed is an <b>unsupported assertion as there has been no monitoring of receiver roosts to understand disturbance risks.</b>				No update.	
36	Natural England advises that the Applicants assumption that when black-tailed godwit leave the roost they are no longer disturbed is an <b>unsupported assertion as there has been no monitoring of receiver roosts to understand disturbance risks.</b>				No update.	





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37	Natural England advises that the Applicants assumption that when shelduck leave the roost they are no longer disturbed is an <b>unsupported assertion as there has been no monitoring of receiver roosts/adjacent to understand disturbance risks.</b>				No update.	
38	Natural England advises that the Applicants assumption that when oystercatcher leave the roost, they are no longer disturbed is an <b>unsupported assertion as there has been no monitoring of receiver roosts/adjacent to understand disturbance risks.</b>		Natural England awaits further evidence and assessment to support HRA statements.		No update.	
39	Natural England advises that the anticipated increase in energy expenditure of 2% per day characterised as trivial for lapwing and golden plover is an <b>unsupported conclusion without supporting evidence that birds are easily able to compensate for the additional energy need.</b>				No update.	
40	Natural England advises that the anticipated increase in risk for black-tailed godwit characterised as trivial for lapwing and golden plover is an <b>unsupported conclusion without evidence that birds are easily able to compensate for the additional energy need. Note that (Alves et al - Ecology, 94(1), 2013, pp. 11-17) identifies that black-tailed godwits on the Wash operate on a neutral or negative energy budget under baseline circumstances.</b>				No update.	



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41	Natural England disagrees with the assertion made that displaced birds are subjected to no further disturbance at alternate, and presumably sub-optimal (as they have not been selected initially), roosts. Please be advised that <b>no evidence from monitoring of receiver roosts has been provided so cannot assume that birds are able to occupy nearby alternates or that they are not subject to additional energy depletion as a consequence of relocation.</b>		Natural England awaits further evidence and assessment to support HRA statements.		Natural England's advice remains unchanged.	
42	Natural England is concerned that the Applicant believes that there is no impact along Haven, when there has been no assessment and support evidence provided.				NE note REP1-026 states "Given the updates above there is no change to the conclusion of no Adverse Effect on Integrity". NE disagree and our advice remains unchanged.	
43	Natural England advises that increased disturbance by a <i>minimum</i> (depending on final agreed figures for vessel movements) of 20-25% because of move to daily boat traffic, including an increase of 34% of days in the key winter period is not insignificant and therefore should not be dismissed.				No update.	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
Appendix C - Intertidal & Marine Ecology						
1	<p>Natural England notes that dredging of wharf completed in 2 phases will generate 75,000m<sup>3</sup> of silt during 1<sup>st</sup> phase, and 150,000m<sup>3</sup> of silt during 2<sup>nd</sup> phase (total 225,000 m<sup>3</sup>). However, it is not clear where this material will be taken? Will it be returned to the wider Wash? Answer may be explained in Chapter 17 (17.8.41) that material will be disposed of landward to minimise contamination of pollutants/ heavy metals, but material will be lost from The Wash and contradictory to the requirements for the Boston Barrage work. Note 17.8.97 – notes that dredging undertaken over 5 months; 2 months prior to wharf construction and 3 months following.</p>		<p>The Applicant informed NE (in writing on 13th Aug) that the dredged material will be retained as backfill for the wharf. They also stated that "Most of the sediment that will be removed from the Haven to complete the capital dredge will be relict Holocene sediment that is not part of the active sediment budget. This older sediment is currently 'locked-up' beneath a veneer of mobile silt that is part of the budget. Assuming an active layer of about 20cm, the volume of sediment potentially active in the system that would be extracted for the capital dredge is less than 10,000m<sup>3</sup> (or 15,000 tonnes)". NE query how this commitment to only use this amount of sediment and predominantly Holocene material will be documented to the ExA and secured?</p>		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
2	Piling of the wharf will require 300 piles, piled to the depth of -35 to -40m OD. Natural England requests confirmation what the piling method will be? And whether or not this will be undertaken at high tide/low tide or BOTH? Please be advised that if using a hammer technique then mitigation measures will be required for marine mammals if works are undertaken outside of low tide.		The Applicant informed NE (in writing on 13th Aug) that mitigation measures will be secured in accordance with the DCO requirement (para 14 of schedule 9 dML) . NE notes that the condition in the DML referred to does include a range of mitigation for piling: Use of pile pads/shrouds at all times, soft start, MMO during high tide, timing to avoid periods of maximum abundance, details of the piling spread throughout the day and monitoring. Our only observation is the mention of avoiding periods of abundance is a bit open. We would therefore welcome amending the condition to specify the periods when piling would be avoided.		NE note the Applicant submitted a Marine Mammal Mitigation Protocol [REP1-025]. NE have concerns over some proposed mitigation measures such as soft start and MMOs please see Appendix C3 at Deadline 2.	
3	Natural England requests details on slope protection extending over 10,000m <sup>2</sup> ? Fig 5.2 sheet 3 shows concrete facing on the mattress protection under wharf and possibly big rocks (no key) for slope protection. Natural England is concerned about the potential scouring of the Habitat Mitigation Area and also to the north, and on opposite bank.		On 13th August the Applicant informed NE that the effects of indirect impacts would be negligible (increase in tidal prism at the wharf is less than 2% of the tidal prism on the entire Haven). Natural England doesn't believe 2% change in the tidal prism is insignificant and therefore awaits further assessment to demonstrate that the impacts would be negligible.		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
4	Under the Habitat Mitigation Works within the Habitat Mitigation Area it mentions 4 shallow pools (max 15cm deep) created in the existing saltmarsh. Natural England is concerned that without maintenance these will quickly silt up. Therefore, we query what ongoing management will be needed to maintain these pools? Is the intention for these pools/ scrapes to remain unvegetated? Area of the 4 pools? Will the scrapes/ pools result in direct loss of further saltmarsh vegetation? Has this been calculated? this information is vital to assess the benefits of the proposed new area.		Please see issue 22b in the Offshore Ornithology section.		Please see issue 22b in the Offshore Ornithology section.	
5	Natural England notes that works in the Habitat Mitigation Area will be undertaken outside the overwintering bird period; and queries if can this also include outside the breeding bird period to minimise impacts (disturbance and physical) on ground nesting birds. Works should ideally be undertaken in August/ early September. Natural England requires further clarity and commitments on how impacts to breeding birds will be avoided, reduced, and mitigated.		The Applicant informed NE that "Maintenance will be discussed in the updated OLEMS document to ensure ongoing management of the Habitat Mitigation Area to ensure that it functions as required to mitigate the impact." NE queries how this mitigation will be secured?		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
6	Natural England queries how frequently will dredging be required over the lifetime of the project?		The Applicant informed NE that "Maintenance dredging is included within the dML (Para 5(l)(l) of Schedule 9 (DML) of the DCO authorises maintenance dredging)." NE notes that, as currently drafted, there are no limits on the dredging, volume or number of occurrences of dredging. Therefore, Natural England doesn't support this condition as written and requests that specific parameters are included.		No update	
7	Natural England notes that silt and clay will be used in the Lightweight Aggregate (LWA) process, with the silt being sourced from dredging along The Haven. Natural England queries what volume of silt will be taken? How will the sediment load remain balanced? Noting that this will be lost from The Wash, when it is normally returned to a deposit site in the wider Wash. NE requires further detail in relation to this operation. Please note that this is inconsistent with the Harbour Authorities dredging of the Haven where material is deposited in The Wash to ensure that it remains within the system.		The Applicant acknowledged that material would be lost from the system but stated that "estimated maintenance dredge volume is very small compared to the supply of sediment to the Wash from marine sources annually." Natural England advised that this must be disposed of within the Wash.		No update	
8	Natural England notes that under operation, change in vessel traffic on intertidal habitats (increased ship wash) it appears to include text on dredging, but limited information included.		Natural England awaits an updated HRA.		NE note the Applicant has reported to have addressed this issue in section 4.2 of REP1-028 however this issue remains outstanding.	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
9	<p>We note that saltmarsh loss due to construction of wharf and berth will be around 1ha (width is between 10-30m wide and about 400m long). Natural England understands that Biodiversity Net Gain off site at Freiston/ Frampton is being proposed, but this appears to be roosting/ feeding habitat with saline lagoon and shingle/ cockle banks rather than saltmarsh – is there any intention of using the saltmarsh turves elsewhere? The creation of pools and scrapes in Habitat Mitigation Area will result in saltmarsh loss – this needs to be accounted for.</p>		<p>Natural England requires further discussion and information.</p>		<p>No update</p>	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
10	<p>NE disagree with classification of poor saltmarsh quality; "poor quality saltmarsh due to limited extent, low diversity and poor zonation", "only 18 plant species were recorded" (previously 19 in 2014 and 17 in 2011). This number of species is high for saltmarsh on The Wash. The NVC communities identified show that there is the expected zonation with pioneer/low-marsh and transitions to landward habitat. A botanical assessment (NVC-level with quadrats) of this area needs to be undertaken a suitable time of year (i.e. May-September). The information provided is not sufficient to make an assessment – especially as the data is used to calculate the Biodiversity Net Gain Units for saltmarsh currently based on a poor condition therefore scoring only 1 for condition. The Applicant needs to confirm whether they used this <a href="http://publications.naturalengland.org.uk/publication/5850908674228224">http://publications.naturalengland.org.uk/publication/5850908674228224</a> pgs 26-27 for assessment. Also NE need to see the actual copy of the calculations used to check whether the number of units set out in OLEMS is correct. The assessment should also consider Transect B8 (as shown on Plate 17-3) as this lies in Habitat Mitigation Area.</p>		<p>NE undertook a saltmarsh survey on the 07/09,21 to assess the vegetation present in both the Wharf Area and Habitat Mitigation Area. 5 quadrats were taken in the Wharf Area and 10 in the Habitat Mitigation Area. We agree that the vegetation is broadly as described in the Marine and Coastal Ecology Chapter. These vegetation types are typical of The Wash, and are therefore no less important. Although the strip of SM16c (which is a more species-rich community type) in the wharf area is less common and only found at a limited number of locations in The Wash. Natural England also noted the presence of SM10, however access to the shoreline where the saltmarsh abuts the mudflats was limited. We would welcome the re-assessment of the condition of the saltmarsh to moderate value.</p>		<p>NE note that REP1-028 states that "The potential to change from poor condition to moderate will be considered in the updated OLEMS document to be submitted to the Examination at Deadline 2 which will include an update to the biodiversity net gain calculation." NE await the submission of this document.</p>	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
11	<p>In the embedded mitigation section it mentions underwater noise – when piling is undertaken at high tide additional mitigation will be applied (explained more clearly in HRA A17.6.106) including soft-start and ramp-up procedures and pre-piling watch for marine mammals, as this will reduce impacts to marine mammals and fish. Natural England advises that this mitigation will need to be secured in the DCO/dML.</p>		<p>Please see issue 2.</p>		<p>Schedule 9 Part 4 Para 13 of REP1-033 - This condition requires provision of a piling method statement. Natural England is concerned that the Applicant has removed the requirement for marine mammal observers from this condition. This might be due to the inclusion of a Marine Mammal Mitigation protocol. Please can the Applicant provide justification as to why the requirement for marine mammal observers has been removed?</p>	
12	<p>Natural England advises that recent monitoring of the Wash Harbour seals population has demonstrated that the numbers in the Wash has significantly declined along with the national population. Therefore, further impacts to this species should be avoided. Further information on this will become available over the examination of this project. Reference to Russel 2017 is now incorrect and we advise that a 5-10% further decline in the population would be an adverse effect on integrity.</p>		<p>NE advised the Applicant that we await clarity on the ES as there are contradictory statements. The proposed mitigation is unlikely to reduce the impacts to acceptable levels. We remain concerned about vessels waiting in anchorage areas for appropriate tidal windows to enter the Haven and the potential for seal pups in the near vicinity becoming entangled in propellers during this time. Consideration should be given for there to be a requirement for guarded propeller ducts for all vessels associated with the project.</p>		<p>NE note the Applicant has quoted Onoufriou et al. 2016 (section 4.5.20 of REP1-025) to demonstrate that seals are not attracted to vessels in open seas, Natural England staff have observed seals and seal pups approaching several vessels associated with the Lincs OWF cable installation within The Wash. Please see NE Appendix C3 for our concerns about marine mammals.</p>	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
13	<p>Natural England notes that sediment rate across berthing area is calculated as length of berthing area x width x 0.5m/year. Ongoing dredging around the wharf will remove 400m x 40m x 0.5m = 8000m<sup>3</sup> per year of sediment removed from system and not returned to The Wash. This is in addition, to 24,000 tonnes of sediment dredged each year by Port of Boston. Presumably dredged material from Port of Boston will continue to be returned to The Wash and not used for LWA?</p>		Please see issue 6.		No update	
14	<p>Natural England notes that this section describes area under wharf as being mudflat but Fig 5.2 sheet 3 appears to show it as having mattress protection (what is this made of? One of the drawings says concrete). Also mentions that saltmarsh species may re-establish here under raised deck of wharf. However, we advise that saltmarsh habitat requires high light levels, so we believe this is unlikely.</p>		NE advised the Applicant that it remains unclear as to how the area under the Wharf has been taken into consideration in the assessments.		No update	
15	<p>Please note that width given here is 30m (previous section – 17.8.7 says 40m).</p>		NE await addendum to ES.		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
16	<p>Natural England notes that the Applicant has determined a Saltmarsh loss = 1ha. However, we advise that separation between each NVC type is provided As currently unable to agree with the following until provided</p> <p>Mudflat loss = 1.54ha Total loss of intertidal = 2.54ha or 24,500m<sup>2</sup> States wider Haven has c. 18ha of saltmarsh and 36ha of mudflats. Please be advised that the EA have recently released Saltmarsh Extent and Zonation maps which include this section (available on gov.uk webpage).If above correct, loss in creating wharf/ berth = 5.5% of saltmarsh resource; 4.3% of mudflat resource. Note in A17.6.18 values of saltmarsh in Haven differ.</p>		<p>The Applicant advised NE that "it is expected that some saltmarsh will grow under the wharf area and that some mudflat will remain on the slopes under the wharf below any limit of saltmarsh growth." However this is contradictory to previous responses, we advise the WCS is reviewed and assessments updated accordingly.</p>		No update	
17	<p>To mitigate loss of saltmarsh/ mudflat in Area A will enhance saltmarsh in Area B, but we advise that this is for birds rather than Priority saltmarsh habitat. See comments on OLEMS and BNG.</p>		<p>NE have advised the Applicant that we remain concerned about loss of priority saltmarsh and how this will be offset as any Net Gain should enhance that habitat (not just offset the impacts of the project).</p>		No update	
18	<p>Natural England advises that full agreement should be confirmed from Crown Estate to secure mitigation below MHWS; and secure purchase for remaining area. Need to ensure long-term management (and its funding). Note 30-year management plan will be secured as set out in OLEMS.</p>		<p>Natural England await this to be confirmed and agreed and secured within the DCO/dML.</p>		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
19	As permanent habitat loss will provide Biodiversity Net Gain, we advise at least 10% increase. However, no values given in Chapter – See comments on OLEMS and BNG.		Natural England await this to be confirmed and agreed and secured within the DCO/dML.		No update	
20	Natural England is concerned that smothering of saltmarsh vegetation in adjacent unaffected areas including Habitat Mitigation Area (downstream) has not been fully considered from release of sediment.		Natural England have advised the Applicant that sediment plume distribution maps would demonstrate the areas likely to be impacted.		No update	
21	Natural England notes that generic noise data levels are quoted as being 110DB. However, is there anything more specific to the method to be used? For the Boston Haven embankment works agreed screw piles/ helical piles would be used rather than hammered piles to minimise noise (and vibration). Fig 5. Sheet 1 notes 300 piles piled to a depth of -35 to -40m OD. Confirm how long piling is likely to take?		Natural England have advised the Applicant that noise impacts should be minimised as much as possible.		No update	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
22	<p>Following on from 17.8.79. it is noted that wharf construction expected to take 18 months – with nosiest activities undertaken during periods less sensitive to birds using the mudflats and saltmarsh <i>i.e.</i> piling will take place between May and September (a period of 5 months). Natural England queries if 5 months is sufficient time to undertake all the piling (300 piles)? Also, whilst this appropriate for birds it doesn't take into account impacts to Harbour seals when they are at their most vulnerable during the pupping and moulting period June - August.</p>		<p>The Applicant informed NE that they will use soft-starts and ramp-up for any piling undertaken at high tide and that "A construction programme including avoidance of sensitive periods is currently being prepared and will be shared with key stakeholders." We welcomed this and advised that for smaller piles it has been found that soft start procedures are not successful as max. hammer energy is often immediately achieved with no options to 'ramp up'. Better mitigation has been found to be from an ECoW observing 500m area 30 mins prior to commencement to ensure that no seals have entered the area.</p>		<p>Please see Appendix C3 at Deadline 2.</p>	
23	<p>Natural England notes that the applicant proposes to have an observer on the vessel to mitigate for potential collisions. However, Natural England advises that due to the elevation of the vessel and need for not only 360 degree views but also directly adjacent to the vessel this is unlikely to provide the required mitigation for potential collisions.</p>		<p>The Applicant informed NE that vessels would travel at no more than 4 knots when going through The Wash and The Haven. However, it is NE's understanding (call on the 19th August) that the 4 knots speed may not be appropriate for the large vessels. In addition there is no evidence presented to demonstrate why 4 knots would be acceptable in reduce potential collision risk. Therefore, this remains an outstanding concern.</p>		<p>NE note REP1-025 states vessels will travel at 6 knots. There is clearly confusion over the speed vessels will travel and NE have concerns that there is no evidence to demonstrate this vessel speed is mitigation. Please see Appendix C3 at Deadline 2 for more information.</p>	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
24	<p>Natural England notes that there is mention of the anchor areas but no assessment of their use when waiting for available tidal window to enter the Haven. It is our understanding that depending on the vessel and timeframes the vessel will either maintain its position using multiple anchors or dynamic positioning. Both of these options potentially increase the potential for Harbour Seals to be injured and/or killed through entanglement with anchor chains or being dragged into unguarded propellers. This is especially the case for pups are more inquisitive and therefore have shown to interact with stationary vessels.</p>		<p>Please see issue 12.</p>		<p>NE note REP1-025 discusses DP, we agree that there is unlikely to be a significant effect if Dynamic Positioning is not used in favour of anchorage. Therefore, we advise that there is a condition that only permits the use of anchors within the Boston Anchorage Area whilst waiting for optimum tidal windows to enter The Haven. Any use of DP will require ducted propellers.</p>	
25	<p>Natural England queries where 10.46km<sup>2</sup> for area of impact of BAEP came from to inform the Harbour seal assessment. When this figure is then used with outdated harbour seal numbers from 2017 there becomes increased uncertainty in the figures presented for collision risk.</p>		<p>NE await documents on mitigation measures.</p>		<p>No update</p>	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
26	Natural England notes that the vessel berth will be bedded with a layer of gravel/ chalk to prevent sediment release and further habitat damage. This area will therefore not recover to mudflats. It may be colonised by brown algae (fucooids), bryozoans and potentially ascidians, which we advise will be a change in habitat (possibility of invasive marine species establishing from boat hull). Natural England is also concerned about the potential habitat change and scouring of the riverbed in the surrounding areas as a result.		Natural England await consideration on how impacts from the placement of hard substrata in a soft sediment environment will potentially change the ecosystem and any potential lasting impacts.		No update	
27	Natural England notes that the extent of vessel bed differs from earlier sizes of wharf, suggesting this will extend over 300m (3 ships long x 100m each). But we query how wide?		Natural England await further detail on the design parameters is secured on the face of the DCO/dML.		No update	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
28	<p>We advise that the increased vessel movements (17.8.155) are likely to increase erosion of mud and saltmarsh along the channel edge resulting in cliffed saltmarsh. This could occur from the mouth of the Haven i.e. at SSSI Unit 9, 10 all the way to the proposed site.</p> <p>Both the Port of Boston and the project will undertake dredging of the channel to maintain navigation (est to be 24,000m<sup>3</sup> + 8000m<sup>3</sup>) which will also be lost from the system. Natural England queries if this has been accounted for? There is evidence that links boat wake energy to elevated turbidity and shoreline erosion, particularly in narrow waterways (Ellis et al., 2002; Baldwin, 2008; Houser, 2010; Currin et al., 2017). Due to the vastly different nature of boat waves and wind waves, there is at present no widely accepted method for making fair comparisons between boat- and wind waves with regard to shoreline erosion potential. To compare the two for the purpose of the environmental statement is not based on any robust science.</p>		<p>Natural England has expressed concern about potential changes to coastal processes from the proposed works and awaits a more in-depth assessment is provided.</p>		<p>No update</p>	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
29	We advise that the Applicant needs to consider the noise/ visual impact from the site to the proposed Habitat Mitigation Area particularly during construction (piling likely to be around 110dB) and during operation – what measures are in place to minimise/ avoid this? Paragraph mentions that Habitat Mitigation Area extends for 665m. [OLEMS paragraph 1.1.3 notes Habitat Mitigation Area lies 170m to south-east of site]. Remembering the Habitat Mitigation Area is existing habitat being used by bird species/ supporting saltmarsh/ mudflat – rather than a new habitat creation and also that this area will be impacted by the proposals too.		Natural England awaits further consideration of impacts to other areas proposed as compensation.		No update	
30	Natural England advises that the projects to be considered cumulatively/in-combination is not a full list. Taking into account projects in the full foraging range of interest features. For example, we would expect to see for MM consideration of Norfolk Vanguard, Boreas, G. Yarmouth Port, Lowestoft port and O&M for operation windfarms.		Natural England awaits an updated cumulative/in-combination assessment.			
<b>OLEMS</b>						
31	Natural England welcomes biodiversity gains by retaining and enhancing existing scrub vegetation along Roman.		No further action			

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
32	Natural England welcomes the management plan covering a 30-year period. Further consideration will need to be given as to whether or not inclusion in the OLEM is sufficient to secure this.		Natural England awaits further consideration by interested parties.		No update	
33	Natural England queries if low-level grazing within the Habitat Mitigation Area been considered? Grazing rates based on the approach used for saltmarsh at RSPB Frampton provides opportunities for increasing saltmarsh diversity and maintaining sward condition. This includes low-level grazing after 1 <sup>st</sup> June until 31 <sup>st</sup> October at a stocking rate of <0.5LU/ha. By introducing stock in June after Redshank have laid eggs and those eggs have hatched minimises the risk of eggs being trampled. Removal of stock by November helps prevent excessive damage to saltmarsh vegetation through trampling and poaching. Grazing could be agreed with a local grazier.		Natural England awaits further consideration of grazing to manage intertidal areas going forwards		No update	



No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
34	<p>NE notes that high level works included in Habitat Mitigation Area B include: • Shallow pools will be created, and existing pools scraped. This will result in saltmarsh vegetation loss – need to calculate areas of pools both new and existing. This loss needs to be considered in the BNG calculation. • re-profiling of some of the low banks will be undertaken to provide clear lines of sight for redshank. What is the vegetation along the low banks? Need habitat data? The flattening and removal of the bank may result in increased frequency of inundation of the saltmarsh behind – change in species composition, zonation, or even a loss of saltmarsh to mudflat. • The rocks at the edge of the saltmarsh help prevent erosion at the saltmarsh edge; the increase in rocks within the saltmarsh (moving those rocks from Area A the proposed wharf to Area B) will result in loss of saltmarsh habitat through their placement. This loss needs to be considered in the BNG calculation. • Where will surplus sediment from the lowering of the bank, and scrapes/ pools be used – the OLEMS document mentions the material will be used/retained on the marsh – for what purpose, what volume of material will be produced?</p>		<p>The details of mitigation area need to be finalised and agreed, before we can support this mitigation for saltmarsh habitat management. Please see previous comments in relation to compensation for impacts to birds.</p>		<p>No update</p>	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
35	<p>Natural England advises that the vegetation survey of Habitat Mitigation Area (Area B) needs to be completed before mitigation activities listed in A1.2.2 are finalised. In addition, the habitat losses caused by the mitigation proposed need to be calculated to inform the BNG strategy. The vegetation survey also needs to cover the saltmarsh in Area A. In both areas the vegetation survey needs to include an NVC-level survey with quadrat sampling, collect data to determine the condition i.e. following the criteria set out in the Defra Biodiversity Metric 2.0: Technical Guidance for Intertidal Habitats. The survey should check for local species i.e. <i>Artemisia maritima</i> (Sea Wormwood) and also the known Schedule 8 plant <i>Equisetum ramosissimum</i> (Boston Horsetail). Until this survey data is made available further discussions on the Habitat Mitigation Area and BNG strategy will be difficult.</p>		<p>Natural England has advised that further assessment is required.</p>		<p>No update</p>	
36	<p>See comments given previous (17.6.10-17.6.12) on saltmarsh condition.</p>		<p>Further discussion and information needed.</p>		<p>No update</p>	

No.	Natural England's Relevant Representation - Appendix C - Intertidal and Marine Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
37	<p>NE would like to see breakdown of how the biodiversity units have been calculated. Also understood applicant wished to see a 10% net gain target for the site (paragraph 17.8.34). However, we advise that this needs to consider in calculations saltmarsh loss due to Habitat Mitigation Area and other factors such as erosion and increased nitrates. We disagree with 'poor' condition used for saltmarsh which gives a score of 1. Having looked over the criteria we believe an assessment of Moderate with a score of 2 is more appropriate. This would increase the Biodiversity Unit values of the Saltmarsh. With limited information on habitats the following assessment has been made. Area A appears to meet criteria set out in our RR [RR-021 pg 17].</p>		<p>These calculations and details need to be shown and agreed, before Natural England can support.</p>		<p>No update</p>	
38	<p>Natural England agrees that using either RSPB Freiston Shore/ Frampton Marshes for Biodiversity Net Gain is appropriate. But suggested habitats are not creating saltmarsh or mudflat.</p>		<p>Areas of saltmarsh and mudflat need to be created, for this to be supported by NE.</p>		<p>No update</p>	

No.	Natural England's Relevant Representation - Appendix D - Air Quality	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
<b>Appendix D - Air Quality</b>						
<b>Environmental Statement - Chapter 14 - Air Quality</b>						
1	Whilst dust impacts during construction are considered at Havenside LNR; what about on the area of saltmarsh being used for the Habitat Mitigation Area? This needs to be considered.		NE await all areas relevant to the proposals to be thoroughly considered.		Natural England notes mitigation measures will be secured in the Code of Construction Practice. We will review this document once it has been submitted into examination.	
2	As above, for Critical Loads/ Levels the ecological receptors considered statutory and non-statutory sites – but not Priority Habitats <i>i.e.</i> the saltmarsh adjacent to the site and part of the Habitat Mitigation Area.				Natural England is content that Table 4-6 of REP1-028 addresses this concern.	
3	Natural England is aware that only one other project has been included in the in-combination assessment. We would welcome a further check that this remains the case with other interested parties. We advise that the search consider any present or confirmed future projects which would not be included in the background data and other sources and sectors. The assessment should explain the criteria applied to the search.		We would welcome confirmation from other interested parties that all sources have been included.		REP1-028 4.3.21 – Natural England notes that no further projects have been identified by stakeholders for consideration within the assessment and that Natural England's SSSI Impact Risk Zone criteria, which were applied to all designated sites considered in the assessment. Therefore, we consider this matter resolved.	
4	We note that the consultant has used the higher daily NOx threshold of 200 ug/m3 rather than 75 ug/m3. Whilst this higher threshold is considered in casework, a robust and evidenced argument must be made to show that the criteria are met <i>i.e.</i> SO2 and O3 below their respective CLe. This assessment bases the justification on national and modelled data.		Natural England have requested that local, finer resolution or monitoring data is used to underpin the justification. And reassurance provided that O3 and SO2 will at no point exceed the CLe locally.		Please see Appendix C3 Deadline 2. This matter is resolved.	



No.	Natural England's Relevant Representation - Appendix D - Air Quality	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
5	We note that the construction phase of the assessment does not consider emissions from ammonia. This suggests that ammonia from vehicle and vessel emissions were not considered. We query if the justification for this can be provided and the rationale as to why ammonia would not be a significant contributor? Especially given that nitrogen deposition exceeds the 1% threshold.		Natural England have asked for more clarity and justification regarding the consideration of ammonia from vessels and vehicles and their contribution to nitrogen deposition. Especially in relation to why ammonia is not considered to be a significant contributor?		Please see further advice in Appendix C3 Deadline 2	
6	We support the consideration of an assessment on priority saltmarsh habitat. However, are there other sensitive habitats?		Natural England have asked the Applicant to provide recent survey data or evidence to support this decision to only consider saltmarsh. A footprint map confirming that only saltmarsh is present within the area of impact would be beneficial.		Natural England advises that the use of saltmarsh is an appropriate proxy for the other habitat types present and this matter is resolved. Please see Appendix C3 Deadline 2	
7	The assessment states that the minor adverse impact identified will be dealt with by monitoring. However, Natural England advises that this is not mitigating the adverse impact and does not negate the impact to sensitive features. What will monitoring be looking to identify? If a significant change occurs, what actions will be taken?		Natural England have asked that the purpose and outcome of the monitoring be expanded to explain how this will mitigate an adverse impact to the designated features? A minor adverse impact is acknowledged, but no mitigation proposed.		Whilst a minor adverse impact is acknowledged, there is no mitigation proposed. The matter remain outstanding	
8	Natural England queries how precautionary are the emissions which have been calculated? Was this based on a worst-case scenario e.g. worst-case MET data for Daily NOx and maximum run-times? This would be useful if made clearer.		It would be useful if these assumptions could be made clearer as it can influence the approach taken to the minor adverse impact i.e. if it's a highly conservative estimate.		Please see Appendix C3 deadline 2	



No.	Natural England's Relevant Representation - Appendix D - Air Quality	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
9	Natural England notes that Table 14-30 presents values during operational phase for The Wash with in-combination contributions of all pollutants above 1% of the relevant annual mean Critical Loads/ Levels. Therefore, we query how impacts will be mitigated for?	Red	NE await further clarity on how impacts to designated sites will be mitigated and any measures secured.	Red	Natural England notes that further information on the proposed mitigation measures is required before we can provide further nature conservation advice. We await further information.	Red
10	Natural England notes that all levels of pollutants exceeded for LNR and LWS. Therefore, we query what the effects of N deposition on the Habitat Mitigation Area will be? If based on similar values to Havenside LNR then PEC predicted to be marginally over the most stringent critical load range (20-30 kg N ha <sup>-1</sup> year <sup>-1</sup> ).	Yellow	All areas relevant to the proposals need to be thoroughly considered.	Yellow	Natural England welcomes the inclusion of data for proposed Habitat Mitigation Area. Therefore, this matter is resolved.	Green
11	"The Facility was not predicted to lead to any significant effects during its operation which would require mitigation measures. As the Facility would be required to operate under the conditions of its Environmental Permit, this is considered to be an adequate mechanism to ensure that significant impacts are not experienced." Natural England queries what mitigation is suggested for designated sites? Only mention monitoring of stacks.	Yellow	Further clarity is needed on how impacts to designated sites will be mitigated and any measures secured.	Yellow	Natural England notes that REP1-007 states mitigation measures will be secured in the Code of Construction Practice. NE will review this document once it has been submitted into examination  However, we advise that the CoCP will need to consider in-combination phase impacts during the construction phase as we do not believe these to be insignificant.	Yellow





No.	Natural England's Relevant Representation - Appendix E - Terrestrial Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
Appendix E - Terrestrial Ecology						
<b>Environmental Statement - Chapter 5 – Project Description</b>						
1	Design of new footbridge along the Roman Bank (sea bank) ECP – the new footpath alignment will alter the route of the ECP further inland. Natural England advises that full consultation would be required if the route were to be changed including an Appropriate Assessment.		Natural England have recommended that the Applicant continues to consult the English Coastal Path team on this issue and fully considers the implications of alterations to the route.		Please see Appendix E2 Deadline 2	
2	Fig. 5.3 shows English Coast Path – which is being diverted inland away from the channel.					
<b>Environmental Statement - Chapter 12 – Terrestrial Ecology</b>						
3	Natural England confirms that we believe that the surveys appear adequate. We agree that the surveys show low numbers of common species – Soprano Pipetrelle & Common Pipetrelle. Whilst we agree that the area concerned is low quality scrub/grass areas within existing industrial units, there is no indication of the route of transects so it is unknown if any bats are crossing the river when foraging.		Natural England have suggested that further right Bank transect may be required to assess this further.		No update	
4	Natural England queries if materials are to arrive by river would this be only during daylight hours to minimise light pollution affecting bat behaviour? If not, then the light pollution sections need updating to include potential light pollution from vessels.		Natural England have asked for further clarification to confirm if vessels will be transiting at night and if yes provide an updated assessment.		No update	



No.	Natural England's Relevant Representation - Appendix E - Terrestrial Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
5	Mitigation includes low pressure sodium lighting, locating lights away from areas used by bats. Ambient night-time levels to be maintained. Planting of new linear features around site boundary away from lighting. Bat enhancement features: bat boxes on retained trees. Additional planting incorporated into design that encourage bat foraging. All appropriate.		Natural England need to see more detailed plans which show new additional planting, locations & numbers of bat boxes. In addition, consideration should be given to motion operated lighting rather than 24/7.		No update	
<b>6.4.11. Appendix 12.1 Extended Phase 1 Habitat Report</b>						
6	Natural England notes that it is stated that the Facility will result in areas of habitat being lost. The north-eastern extent of the Facility adjoins Coastal Saltmarsh and Mudflat Priority Habitat. The Facility will involve a localised loss of these habitats (0.99 ha and 1.54 ha respectively) to accommodate the proposed wharf facilities on The Haven for feedstock delivery. This loss of Priority Habitat would account for a very small proportion of the overall saltmarsh and mudflat habitat locally. However, Natural England advises that any loss would need to be addressed in the form of Biodiversity net gain and replacement areas.		Natural England disagrees with the Applicant about the scale of the impact and, as set out in Appendix B, further detail is required.		No update	



No.	Natural England's Relevant Representation - Appendix E - Terrestrial Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
7	<p>The hedgerows and woodland habitats within the survey area provide suitable foraging and commuting habitat for bats. As the proposed facility will require the removal of these habitats, we advise that further surveys to understand their current usage by foraging/commuting bats will be required. In addition, mitigation measures will need to be considered during the construction and operational phases of the Facility to minimise impacts to local bat populations. We advise that these measures are provided in principle now to give the Examining Authority comfort that impacts to protected species can be mitigated for.</p>		<p>The Applicant must provide further detail on in-principle mitigation measures which could be adopted to remove significant impact to protected species.</p>		<p>No update</p>	
8	<p>We note that there are suitable habitats within the survey area for which reptiles could use. No further reptile survey will be required; however, mitigation measures will need to be considered during the construction and operational phases of the proposed facility to minimise impacts to local reptile populations. We advise that these measures are provided in principle now to give the Examining Authority comfort that impacts to protected species can be mitigated for.</p>		<p>The Applicant must provide further detail on in-principle mitigation measures which could be adopted to remove significant impact to protected species.</p>		<p>No update</p>	



No.	Natural England's Relevant Representation - Appendix E - Terrestrial Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
9	The proposed facility will result in direct and indirect impacts to birds because of disturbance and habitat loss. Therefore, mitigation measures will need to be considered during the construction and operational phases of development to minimise impacts to local bird populations.		The Applicant must provide further detail on in-principle mitigation measures which could be adopted to remove significant impact to protected species.		No update	
10	The grassland, scrub, trees, and woodland on site may support common species of terrestrial invertebrates. The tidal River Witham and mudflats may also provide suitable habitat for common species of aquatic invertebrates. No further surveys are required for invertebrate species, but mitigation measures are recommended during the construction and operational phases of the Facility to minimise impacts to invertebrate populations which is a key prey resource to Annex I birds.		Natural England have asked to see how this will be provided and secured before we can be certain that impacts have been avoided, reduced, and mitigated to acceptable levels.		No update	
11	Natural England notes that no evidence for the presence of badgers, otters or water voles was detected during the surveys in 2017 and 2018 - General Ecological Awareness is detailed in section A12.13 which will be followed.		Natural England have advised that Preconstruction surveys would need to be carried out to verify presence or absence of these species.  This will need to be captured in the in-principle plans		No update	
<b>Chapter 19 Traffic and Transport</b>						

No.	Natural England's Relevant Representation - Appendix E - Terrestrial Ecology	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
	<p>The England Coast Path team at Natural England has been consulted on the diversion routes. During the construction, the following footpath sections would be permanently closed: BOST/14/4, BOST/14/10 and BOST/14/5. The closure would also affect the England Coast Path route which follows these footpaths, as does Macmillan Way (which is a series of inter-connected footpaths). The diversion for these route closures would follow the route of an existing footpath, which follows the route of Roman Bank (also known as 'Sea Bank') along footpath sections BOST/14/11 and BOST/14/9.</p>		<p>Natural England requires clarification regarding the diversion of the England Coast Path. Any proposed changes would require a full consultation and Appropriate Assessment in its own right.</p>		<p>No update</p>	

No.	Natural England's Relevant Representation - Appendix F - DCO/dML	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
<b>Appendix F - DCO/dML</b>						
1	The MMO and LPA have overlapping responsibility for the intertidal habitat. The current drafted DCO appears to put the responsibility for the intertidal areas on the Local Planning Authority to discharge. While there are no issues with the MMO deferring to another regulator we will make the MMO aware of this to ensure that they are content with the approach given NE provided advice to both regulators.		Natural England have advised further consultation with the MMO and awaits an updated DCO.		No update	
<b>Project ES description</b>						
2	The project ES description considers the Local plans, but no reference is made to the Eastern Inshore Marine Plans. Given the project impacts below mean high water springs then there should be some reference to this relevant plan.		Natural England have advised that the project should be considering all relevant plans and policies within those plans.		No update	
<b>Draft Development Consent Order</b>						
3	Definition of commence includes conduction of environmental surveys. This may lead to conflict as conditions/requirements timing may be linked to commence.		Natural England await further consideration.		NE note that Article 2 [REP1-002] has been updated and this issue is now resolved.	

No.	Natural England's Relevant Representation - Appendix F - DCO/dML	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
4	<p>There is no definition of relevant statutory nature conservation body. As a matter of consistency with other DCOs and to future proof the DCO against changes to Natural England's function, all references to Natural England within the DCO should be amended to the relevant statutory conservation body and a new definition of statutory nature conservation body should be added. Example wording from an OWF DCO: "statutory nature conservation body" means the appropriate nature conservation body as defined in regulation 5 of the 2017 Regulations;"</p>		<p>We await an updated DCO.</p>		<p>The Applicant has added the definition of statutory nature conservation body in response to our comments [REP1-002]. We are content with the wording use.</p>	

No.	Natural England's Relevant Representation - Appendix F - DCO/dML	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
5	<p>Natural England has not seen an article securing limits of deviation before. In OWF DCOs it is not included as an article but as an interpretation. The article allows extension of the project outside the limits of deviation as defined within the works plans, with approval of the LPA and secretary of state. The DCO explanatory memorandum makes it clear that the Applicant needs this for flexibility. There is reference to two made DCOs with similar provisions; National Grid (Kings Lynn B Power Station) Order 2013 and National Grid (North London Reinforcement Project) Order 2014. Those are both old order. King's Lynn Order does not include provision for extension beyond the limits of deviation. It is very close to the model provisions. North London DCO is close to the model provisions but does include allowance to deviate to any extend downwards as may be necessary or convenient. Upwards a stick? 3m limit is given. The model provisions do include a limits of deviation article. However, this article does not allow for extension beyond the limits of deviation shown on the plans. It is important to note that the Applicant links the approval required to schedule 2 Part 2 for discharge. Which means an 8-week period and if no answer is given within the 8 weeks then an approval is assumed. We therefore question if that is appropriate for a potential extension beyond the worst-case scenario assessed.</p>		<p>Given that an extension beyond this line could create additional impacts and that a refusal appears to be based on having materially different impacts. As a minimum, we advise that this article be amended to include consultation with the Relevant statutory nature conservation body. Natural England is seeking further legal and MMO advice on this article. The Applicant may also wish to discuss with the MMO as this would apply to all works in the marine area as well and therefore could have implications on their DML.</p>		<p>Natural England notes that changes that have been proposed. We welcome the inclusion that the relevant statutory nature conservation body will be consulted by the Applicant on any deviation beyond the maximum limitation. However, with the exception of works detailed under Article 7 (1) (c), the article provides no maximum extent for the limit of deviation. Could clarification be provided on what these maximum extents are? Are they located on the works plans referenced within the condition?</p>	



No.	Natural England's Relevant Representation - Appendix F - DCO/dML	RAG status Rel and WR Rep	Consultation, actions, progression	RAG status D1	Consultation, actions, progression	RAG status D2
6	The definition of arbitration within this DCO would allow for arbitration against both the MMO and the Secretary of State who both act as decision makers under this DCO. On several projects Natural England and the MMO have raised concerns over the inclusion of such arbitration articles. Those arguments were considered within the Hornsea 3, Thanet and Vanguard applications and the Secretary of State determined that it was not appropriate for the Secretary of State or MMO to be subject to arbitration. Therefore, this article should be amended.		Natural England advises that this requirement is amended. Also, please see the concerns raised on the Tilbury 2, Hornsea 3 and Vanguard projects and the determination that the BEIS SoS came to as precedent that these articles should be amended.		The Applicant has updated Article 50 to reflect the wording used in OWF DCOs excluding the SoS and MMO from arbitration [REP1-002]. This is the change NE requested.	
7	This requirement is for the Code of Construction practice. There are a large swathe of environmental mitigation documents under this overarching plan. The condition as currently drafted does not secure consultation with Natural England on any documents. Does the outline plan itself secure consultation?		Natural England requests to be a named as consultee on this requirement to ensure we get the chance to provide feedback to the LPA on the draft plans and their sufficiency.		NE Notes that this requirement has been amended to secure that the SNCB will be consulted.	