

**HABITATS REGULATIONS ASSESSMENT FOR AN APPLICATION  
UNDER THE PLANNING ACT 2008**

**Immingham Green Energy Terminal**

**February 2025**

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# INTRODUCTION

## Background

1. This document (“the HRA Report”) is a record of the Habitats Regulations Assessment (“HRA”) that the Secretary of State for Transport has undertaken under regulation 63 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”) in respect of the Proposed Development Consent Order (“DCO”), for the proposed ‘Immingham Green Energy Terminal’ (“the Proposed Development”). The HRA Report includes an appropriate assessment for the purposes of regulation 63 of the Habitats Regulations.
2. The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (“the 2019 Regulations”) and the amendments were taken into account in the preparation of this HRA Report. Reference to the Habitats Regulations in this HRA Report are therefore to the latest amended version, unless otherwise stated.
3. Associated British Ports Limited (“the Applicant”) submitted an application for development consent (“the Application”) to the Planning Inspectorate (“the Inspectorate”) which was received in full on 21 September 2023. The application was made under section 37 of the Planning Act 2008 (“PA 2008”) [ER 1.1.1]. The Proposed Development to which the Application relates is described in more detail in Section 2 of this HRA Report.
4. The Proposed Development falls within section 24 of the PA 2008 and meets the definition of a Nationally Significant Infrastructure Project (“NSIP”) set out in section 14(1)(j) of the PA 2008, as a construction of harbour facilities (see section 24 of the PA2008). The Proposed Development therefore requires development consent in accordance with section 31 of the Planning Act 2008 [ER 1.4.5].
5. The Application was accepted for Examination by the Inspectorate (under the delegated authority of the Secretary of State) on 19 October 2023 [ER 1.1.1]. The Examination began on 20 February 2024 and concluded on 20 August 2024 [ER 1.6.2].
6. The ExA submitted the report of the Examination, including its recommendation to the Secretary of State for Transport on 6 November 2024.
7. The Secretary of State’s conclusions in relation to European sites have been informed by the Recommendation Report, documents and representation submitted during the Examination, late representations and responses to the Secretary of State’s requests for comments and further information issued on 4 December 2024, insofar as these have any bearing on the effects of the Proposed Development on European sites.

## Habitats Regulations Assessment (“HRA”)

8. The Habitats Regulations contain the relevant provisions for the protection of European sites. This is the broad term which is used to refer to Special Areas of

Conservation (“SAC”) and Special Protection Areas (“SPA”). SACs are designated for their habitat features and populations of non-avian species. SPAs are designated for their bird populations. These sites form the national site network which includes all SACs and SPAs currently designated and new SACs and SPAs designated under the Habitats Regulations (as defined in regulation 8).

9. The UK Government is also a signatory to the Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”). The Ramsar Convention provides for the listing of wetlands of international importance. Ramsar sites do not form part of the national site network, but all Ramsar sites are treated in the same way as SACs/SPA as a matter of Government policy<sup>1</sup>.
10. For the purposes of this HRA Report, in line with the Habitats Regulations and relevant Government policy, the term “European sites” includes SAC, candidate SACs (“cSAC”), possible SACs (“pSAC”), SPA, potential SPAs (“pSPA”), Sites of Community Importance (“SCI”), listed and proposed Ramsar sites and sites identified or required as compensatory measures for adverse effects on any of these sites.
11. Regulation 63(1) of the Habitats Regulations requires that:

*“(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which-*

*(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*

*(b) is not directly connected with or necessary to the management of that site,*

*must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives...”*

12. The Proposed Development is not connected with or necessary to the management of any European sites. Accordingly, the Secretary of State for Transport, as the competent authority for the purposes of Transport NSIPs under the PA 2008, has undertaken an assessment in line with the requirements of the Habitats Regulations. This HRA Report (Sections 1 to 5) is the record of the appropriate assessment for the purposes of regulation 63 of the Habitats Regulations.

### **The Report on the Implications for European Sites (RIES) and consultation with the appropriate nature conservation body**

13. The ExA, with support from the Inspectorate’s Environmental Services Team, produced a Report on the Implications for European Sites (“the RIES”). The purpose of the RIES was to compile, document and signpost information submitted by the Applicant and Interested Parties (“IPs”) during the Examination up to and including Deadline 5 of the Examination (11 July 2024). The RIES was issued to set out the ExA’s understanding on HRA-relevant information and the position of IPs, including Natural England (“NE”), in relation to the effects of the Proposed Development on

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<sup>1</sup> Paragraphs 185 and 187 of the National Planning Policy Framework, December 2023.

European sites at that point in time. The consultation on the REIS ran between 17 July 2024 and 15 August 2024. The Applicant submitted its comments on the REIS at Deadline 6 on 6 August 2024 and these comments were taken into account in producing the ExA's HRA assessment [ER 4.1.5].

14. Regulation 63(3) of the Habitats Regulations requires competent authorities (in this case the Secretary of State), if they undertake an appropriate assessment, to consult the appropriate nature conservation body and have regard to any representations made by that body. The Secretary of State is satisfied that NE, as the appropriate nature conservation body in respect of the Application for the Proposed Development, had been formally consulted on Habitats Regulations matters during the Examination [ER Appendix C 1.8].

### **Changes to the Application during Examination**

15. The Applicant submitted two change requests during the Examination [ER 4.1.7]. Only one change request contained a change that had implications for the HRA in relation to an increase in direct and indirect loss of intertidal and subtidal habitat compared to the original Application. This resulted in an update to the Shadow HRA [REP3-032]. Due to the scale of these changes, no new impact pathways or the significance of any outcome was identified. IPs did not raise any HRA matters related to the change requests during the Examination [ER 4.1.8].

### **Documents referred to in this HRA Report**

16. The Applicant provided a report entitled 'Habitats Regulations Assessment' ("the Applicant's HRA report") with the DCO application. The same report was submitted in duplicate as an appendix to the Environmental Statement. This report was revised six times during the Examination with the final seventh version being submitted at Deadline 7 (15 August 2024). The revisions to the Applicant's HRA Report were made to address questions from the ExA and issues raised by IPs. Unless otherwise stated, subsequent references to the Applicant's HRA Report in this report refer to the seventh version submitted at Deadline 7. The Applicant also provided a without prejudice Habitats Regulations Derogations Report ("the Derogation Report") revised at Deadlines 1 [REP1-008] and 3 [REP3-030] in the event that the Secretary of State would not agree with the conclusion of the Applicant's HRA of no Adverse Effect on Integrity (AEoI).

### **Structure of this HRA Report**

17. The remainder of this HRA Report is presented as follows:

- Section 2 provides a general description of the Proposed Development.
- Section 3 describes the location of the Proposed Development and its relationship with European sites.
- Section 4 identifies the European sites and qualifying features subject to likely significant effects, alone or in-combination with other plans or project (HRA Stage 1).

- Section 5 considers adverse effects on the integrity of European sites, alone or in-combination with other plans or projects and summarises the Secretary of State's appropriate assessment and conclusions (HRA Stage 2).
- Section 6 summarises the Secretary of State's conclusion in respect of HRA Stages 1 and 2.

## DEVELOPMENT DESCRIPTION

18. The Proposed Development is described in detail in Chapter 2 of the Environmental Statement [AS-069] which includes the two change request application changes made to the Proposed Development. Changes to this Chapter were submitted to the Examining Authority at Deadline 3 [REP3-02] and at the discretion of the Examining Authority as an additional submission. The examining authority report gives an overview of the Proposed Development [ER 1.3.6] and is summarised as follows.
19. The Proposed Development comprises the construction, operation and maintenance of a multi-user green energy terminal, to facilitate the import and export of liquid bulks associated with the energy sector. It also includes the erection and operation of a Hydrogen Production Facility.
20. The Proposed Development works comprise:
- **Work No 1** Immingham Green Energy Terminal (IGET);
  - **Work No.2:** Infrastructure to support the import of ammonia;
  - **Work No.3:** Ammonia storage tanks and related infrastructure and buildings;
  - **Work No.4:** Culvert under Laporte Road for pipelines, pipes and cables;
  - **Work No.5:** East Site – works to create three hydrogen production units;
  - **Work No.6:** Underground pipework to link East and West Site;
  - **Work No.7:** West Site – works to create three hydrogen production units, storage tanks, hydrogen vehicle and trailer filling stations, and additional building and including building controls, security and visitor building;
  - **Works No.8:** Temporary construction and laydown areas on Queens Road;
  - **Works No.9:** Creation of temporary construction compound off Laporte Road; and
  - **Works No.10:** Temporary modification of overhead cables/lines, temporary removal of highway signage, lamp posts and other street furniture.
21. Work No.1 comprises the NSIP component of the Proposed Development, with Works Nos. 2 - 10 comprising associated or ancillary development [ER1.4.1].
22. The works for the IGET (Works No.1) are primarily marine based, and include a loading platform and associated dolphins, fenders and pathways. A single berth will also be created, with a berthing pocket depth of up to 14.5m below chart datum. Topside infrastructure, including control rooms, marine loading arms, pipe-racks and associated infrastructure will also be built. Landside infrastructure includes a jetty access ramp, a flood defence access ramp and works to raise the seawall locally under the jetty access ramp.

### *Construction phase*

23. The preferred scenario set out by the Applicant would involve constructing the marine and landside works concurrently over a period of between two and a half and three years. A phased approach would be adopted, where the Terminal would be built within the first two and a half to three years (Phase 1) with a further five phases to build the hydrogen facility incrementally as the demand for hydrogen increase [APP-044]. Therefore, an indicative worst case scenario in EIA terms of the completion of all 5 phases of development (excluding phase 1) is 11 years.
24. The core landside construction works would be undertaken between 07:00 and 19:00 hours Monday to Saturdays. The marine works would be undertaken on a 24-hour basis, seven days a week, subject to seasonal restrictions [APP-044].

### *Operational phase*

25. The Applicant considered the IGET to be capable of handling up to 292 vessels per annum, with 12 of those anticipated to be for the delivery of ammonia [ER 1.3.9]. Air Products are intended to be the first user of IGET to pipe ammonia to the storage tank and onwards to the HPF which is to be constructed as part of the Proposed Development. Further uses will come forward in due course for the IGET, for the transfer and storage of other liquid bulks [ER 1.3.11]. IGET would be operational 24 hours a day, 7 days a week, 365 days a year [ER 1.3.12].

### *Decommissioning*

26. The Applicant's HRA does not assess impacts that may arise as part of the decommissioning stage for works associated with the Green Energy Terminal (Works No.1) as the Proposed Development is intended to '*become part of the fabric of the Pol*' and will be maintained on a long-term basis [ER C.2.8] During the Examination, the Applicant clarified that any decommissioning works associated with the HPF would be on the landward side of the shore and over 200 m from the foreshore in areas without terrestrial habitat that are considered functionally linked land [ER C.2.9]. There are, however, the removal of infrastructure associated with the HFP in work areas 1 and 2 is within 200 m of the foreshore and this information was subsequently added to the HRA [REP-012].

## **LOCATION OF THE PROPOSED DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES**

### **Location and existing land use**

27. The Proposed Development on its landward extent is located within the administrative boundaries of North East Lincolnshire Council (NELC). The marine side works fall outside of the local authority boundary and are on the bed of the Humber Estuary which is owned by the Crown Estate and over which the Applicant has the benefit of a long lease [ER 1.3.2].
28. The site is to the east of the Port of Immingham and falls outside of the Port operational area [ER 1.3.4]. The surrounding area is industrial in nature, comprising



power generating and chemical manufacturing facilities. Beyond the industrial land, agricultural land comprises the wider area.

### **European sites potentially affected by the Proposed Development**

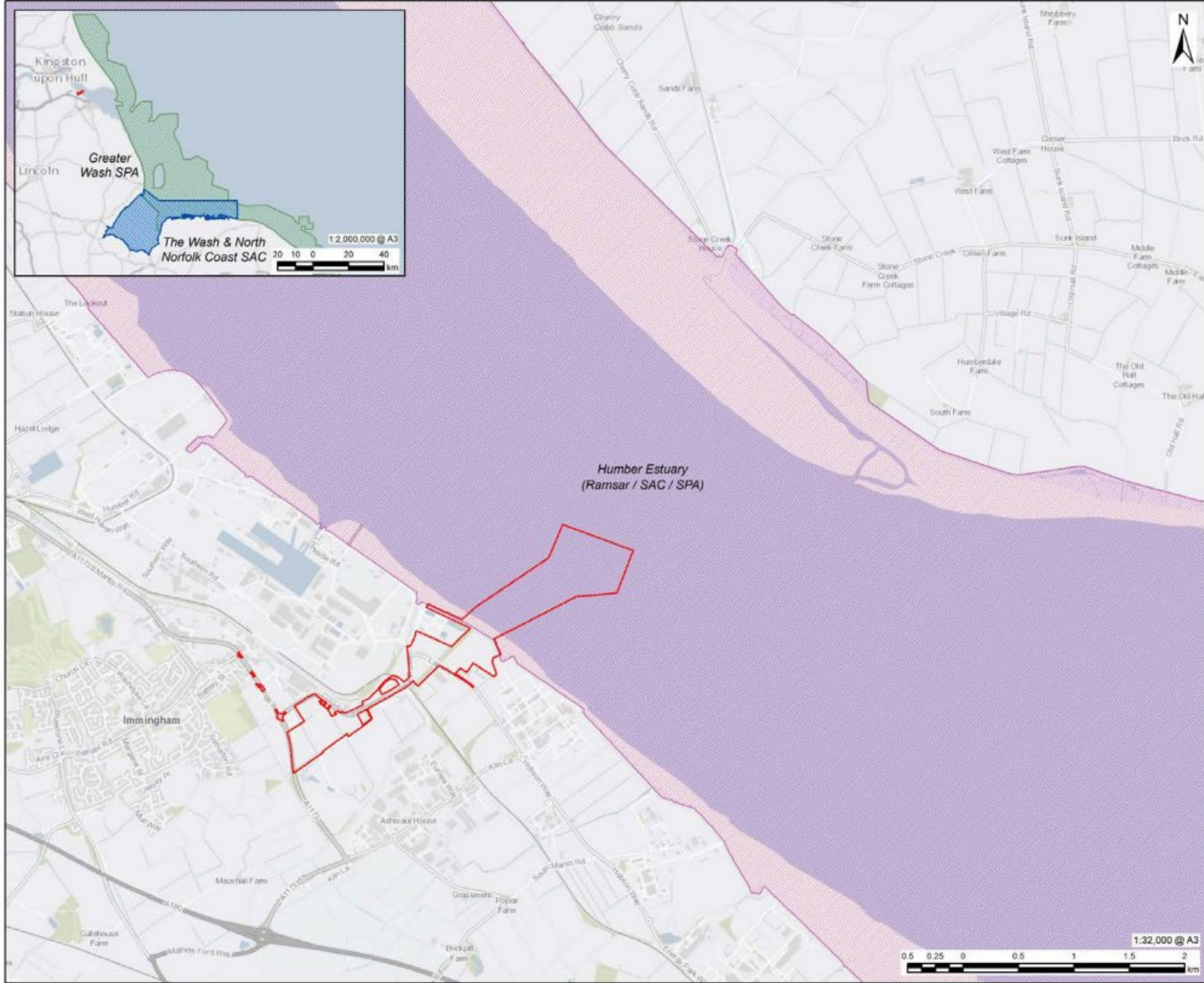
29. The Proposed Development is not directly connected with or necessary to the management of any European sites considered in the Applicant's HRA Report [ER C.1.1.12].
30. The Applicant considered the potential for likely significant effects (LSE) on five European Sites listed below in Table 1 [APP-238]. Figures showing the European sites identified in the Applicant's assessment are provided in Appendix A of the HRA Report and extracts from them are reproduced as Figures 1 below. Table 1 presents the proximity of the sites to the Proposed Development.

**Table 1 European sites screened into the Applicant's assessment**

| <b>Name of European Site</b>         | <b>Distance from the Proposed Development (km)</b> |
|--------------------------------------|--|
| Humber Estuary SAC                   | Within the Order Limits                            |
| Humber Estuary SPA                   | Within the Order Limits                            |
| Humber Estuary Ramsar                | Within the Order Limits                            |
| Greater Wash SPA                     | 20   |
| The Wash and North Norfolk Coast SAC | 75   |

**Figure 1 – The Proposed Development and the European sites**

Revision: 4 Drawn: OR Checked: CO Approved: AP Date: 2024-04-17



**AECOM**  
 PROJECT  
 Immingham Green Energy Terminal

CLIENT  
 Associated British Ports

CONSULTANT  
 AECOM Limited  
 5th Floor  
 2 City Walk  
 Leeds, LS11 9AR  
 www.aecom.com

LEGEND  
 Site Boundary  
 Humber Estuary (Ramsar / SAC / SPA)  
 Inset  
 Greater Wash (SPA)  
 The Wash & North Norfolk Coast (SAC)

NOTES  
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ISSUE PURPOSE  
 Environmental Statement

PROJECT NUMBER  
 00673509

DEVELOPMENT CONSENT ORDER NO  
 TR030008

FIGURE TITLE  
 Internationally designated conservation sites

FIGURE NUMBER  
 Figure A-1

- 31.1. The Applicant's approach to identifying relevant European sites is explained in Section 3.1.2 of its HRA Report. The entire Humber Estuary is designated as a SAC, SPA and Ramsar site and was therefore identified for assessment. Following advice from Natural England, the Wash and North Norfolk Coast and the Greater Wash SPAs were also identified as having the potential to be impacted by the project and were subsequently screened into the assessment.
- 32.2. The Secretary of State is content that the pathways that could lead to effects on European sites from the Proposed Development have been considered by the ExA.
- 33.3. Transboundary effects with EEA states (European Economic Area) were identified within the Planning Inspectorate's screening report in relation to Humber Estuary SPA species that had associated populations within Western Europe (Denmark and Iceland). Both countries were contacted, and responses were received from Denmark, who were content that the HRA would address any impacts on international bird assemblages within the SPA.

## **STAGE 1: ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS (LSE)**

### **Potential effects from the Proposed Development**

34. The Applicant's approach to identifying relevant European sites was explained in paragraph 3.1.3 of the Applicant's HRA: *'The judgement as to whether a site or feature needs to be considered is based on the available baseline information of the location, ecology and/or behaviour of interest features and the detailed description of the proposed development provided in Chapter 2 of the ES [REP3-022]'*.
35. The Applicant reported in its HRA Report (paragraph 1.3.10) that it considered the ruling of the European Court of Justice ("ECJ") in *People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)* ("the People Over Wind judgment") in its assessment of LSE. In this HRA Report, the Secretary of State has also had due regard to the ruling of the ECJ in *Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw (C-127/02)* ("the Waddenzee judgement").
36. The Secretary of State had reviewed the information within the Examining Authority's report and the final version of the Applicant's HRA (REP7-015) to summarise the impact pathways identified and the LSEs on the relevant qualifying features of the four European designated sites screened below in Table 2.
37. The Applicant screened out the Greater Wash SPA within Table 2 of the initial HRA report and identified no pathways to be screened in at Stage 1 screening that could have any LSE on the qualifying features of the SPA. The Applicant concluded no LSE would occur from the Proposed Development, either alone or in combination with any plans or projects. NE confirmed it agreed with that conclusion [RR-019]. The Secretary of State is satisfied with the conclusion of no LSE in respect of the Greater Wash SPA.

38. The only qualifying feature considered for the screening assessment for The Wash and North Norfolk Coast SAC was Harbour common seal (*Phoca vitulina*). All other qualifying (habitat) features were not considered for screening as the SAC is over 75 km from the Proposed Development, and so there was no potential for LSE. The Secretary of State agrees with this approach and only considers Harbour common seal in the screening below in relation to The Wash and North Norfolk Coast SAC.
39. The Proposed Development falls within the footprint of the Humber Estuary SAC, SPA and Ramsar site. Table 2 below summarises the screening exercise presented in the HRA report (REP7-015, Tables 3, 4 and 5). Tables 3, 4 and 5 of the HRA report includes all habitats, pathways and clarifications requested throughout the examination, including the addition of three pathways by NE [ER Appendix C 2.10-2.11], which the Applicant has incorporated. NE questioned why only a selection of the SPA species had been selected for screening [RR-019]. The Applicant explained that species that have been excluded from the assessment occur infrequently within the SPA in low numbers and supported this claim with additional data within Annex A of the HRA [REP1-021]. NE confirmed that they were content with the Applicant's assessment of the pathways and LSE conclusions [REP1-087].

#### In combination Assessment

40. The Applicant's in-combination assessment was described in section 4.15 of its HRA Report [REP9-015]. The in-combination assessment was screened into the Stage 2 Appropriate Assessment of the Applicant's HRA. The shortlist of relevant plans and projects for the Applicant's in combination assessment was based on the long list developed for the ES Chapter 25 Cumulative and In combination Effects. No other plans and projects were highlighted by IPs during examination [ER Appendix C 2.27].
41. Table 35 of the Applicant's final HRA Report lists the plans and projects which could lead to possible in-combination effects [ER Appendix C 2.21].
42. NE raised concerns [RR-019] that in-combination effects should be presented at the screening stage and were not explicit in the initial HRA Report. The Applicant updated Tables 3, 4 and 5 [REP1-021] to satisfy this request. NE also advised in the same representation that in-combination road traffic emission should be assessed and sensitive habitat receptors, given the calculated Annual Average Daily Traffic identified within the Traffic and Transport Assessment of the ES. As no European sites are present within 200 m of the Affected Road Network (ARN), the Applicant maintained that this assessment would not be necessary to which NE agreed [REP3-112].
43. By the end of the Examination, NE were content with the approach to the in-combination assessment, including the impact pathways that had been screened out of the assessment [REP4-054].
44. The Secretary of State has had regard to representations from the MMO [RR-016] and NE [RR-019] both dated 4 December 2023 which highlight the presence of five projects within the Humber Estuary that could run concurrently with the Proposed Development and result in cumulative impacts on these designated sites, in addition to those cumulative impacts assessed by the Applicant with the Immingham Eastern

Ro-Ro project. The MMO suggested that the creation of a tracker or similar could be useful in managing cumulative impacts. The Secretary of State issued a consultation letter dated 4 December 2024 enquiring whether the MMO and NE were content that strategic oversight of projects in the Humber Estuary given their comments in their representations. The MMO confirmed in a letter dated 17 December 2024 that it had no further comments to make and its concerns had been addressed during the examination. NE confirmed that, in the context of HRA, its concerns in relation to cumulative and in-combination effects had been addressed, but it was happy to discuss the development of a tracker tool for projects in the Humber Estuary with the MMO, the Applicant and other IPs. The Secretary of State is therefore content that issues discussed during the Examination in relation to the in-combination assessment have been addressed, and encourages the development of a tracker tool, outside of the DCO process for the Proposed Development.

45. The ExA concluded that LSE could occur to the qualifying features of the four European sites from the Proposed Development alone or in combination with other plans and projects [ER Appendix C 2.30]. The Secretary of State agrees with this conclusion and these matters have been progressed to Stage 2 Appropriate Assessment.
46. The Secretary of State is content that the list in Table [2 identifies all sites, pathways and](#) qualifying features which should be considered at appropriate assessment, alone and/or in combination, summarising the information found in Tables 3, 4 and 5 of the last HRA report [REP7-015].

**Table 2 European sites and qualifying features requiring an appropriate assessment.**

| European site and qualifying features   | Pathway of effect                              | Phase of the Proposed Development which may cause an effect  | LSE conclusions  | Potential for LSE  |
|---|--|--|--|--|
| <p><b>Humber Estuary SAC:</b></p> <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tide</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Coastal lagoons</li> <li>• Salicornia and other annuals colonizing mud and sand</li> <li>• Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>• Embryonic shifting dunes</li> <li>• Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")</li> <li>• Fixed coastal dunes with herbaceous vegetation ("grey dunes") * Priority feature</li> <li>• Dunes with <i>Hippophae rhamnoides</i></li> <li>• Sea Lamprey</li> <li>• River Lamprey</li> <li>• Grey seal</li> </ul> <p><b>Humber Estuary SPA:</b></p> <ul style="list-style-type: none"> <li>• Avocet</li> <li>• Bittern</li> <li>• Hen harrier</li> </ul> | Direct loss of intertidal habitat              | Construction (as a result of capital dredging)               | Piling will result in the small loss of subtidal habitat.  | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |
|   | Direct loss of subtidal habitat                | Construction (as a result of the piles)                      | Direct impacts on marine sediments result in direct impacts on benthic fauna including changes to abundance, damage, mortality and relocation to the disposal site.  | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |
|   | Direct changes to benthic habitats and species | Construction (as a result of seabed removal during dredging) | Capital dredging and dredge disposal will result in the physical disturbance and smothering of seabed habitats and species. Impacts of sediment deposition through piling have been ruled out due to the negligible and localised resuspension of sediment during this activity. | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |

|   |  |   |  |           |
|---|--|---|--|-----------|
| <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Ruff</li> <li>• Bittern</li> <li>• Marash harrier</li> <li>• Avocet</li> <li>• Little tern</li> <li>• Shelduck</li> <li>• Knot</li> <li>• Dunlin</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage</li> </ul> <p><b>Humber Estuary Ramsar:</b></p> <ul style="list-style-type: none"> <li>• Ramsar Criterion 1: Natural wetland habitats that are of international importance</li> <li>• Criterion 3: Colony of grey seals</li> <li>• Criterion 5: Wintering waterfowl assemblage of international importance</li> <li>• Criterion 6: species of international importance: <ul style="list-style-type: none"> <li>• Eurasian golden plover</li> <li>• Red knot</li> <li>• Dunlin</li> </ul> </li> <li>• Black-tailed godwit</li> <li>• Common redshank</li> <li>• Common shelduck</li> <li>• Bar-tailed godwit</li> <li>• Criterion 8: Important migration route for river lamprey and sea lamprey</li> </ul> <p><b>The Wash and North Norfolk Coast SAC:</b></p> | <p>Direct changes to benthic habitats and species as a result of sediment deposition</p>                                       | <p>Construction (as a result of capital dredging and dredge disposal)</p>         | <p>The marine works (capital dredging and piles) as well as the dredge disposal have the potential to result in changes to hydrodynamic and sedimentary processes including flow rates, accretion and erosion patterns. As a result of the expected limited maintenance dredging requirements, smaller changes in SSC and sedimentation (within the dredge plumes and at the disposal site) as compared to the capital dredge will occur. Deposition of sediment as a result of dredging will be highly localised and similar to background variability, where benthic species are considered tolerant to some sediment deposition. Marine invertebrates inhabiting the sand and mud habitat show different tolerance ranges to physiological stresses, and so the changes caused by the works could affect the quality of marine habitats and distribution of marine species.</p> | <p>No</p> |
| <p><b>The Wash and North Norfolk Coast SAC:</b></p>   | <p>Indirect loss or change to seabed habitats and species as a result of changes to hydrodynamic and sedimentary processes</p> | <p>Construction (as a result of capital dredging, piling and dredge disposal)</p> | <p>The marine works have the potential to result in changes to hydrodynamic and sedimentary processes (e.g., flow rates, accretion and erosion patterns). only changes in hydrodynamic and sedimentary processes that are of a negligible magnitude are predicted. These changes will not be discernible against natural processes at nearby intertidal</p>  | <p>No</p> |

|   |   |  |   |   |
|---|---|--|---|---|
| <ul style="list-style-type: none"> <li>• Harbour [common] seal</li> </ul> |   |  | habitats. Furthermore, the predicted changes are not expected to modify existing subtidal habitat types found in the area. This impact pathway is, therefore, not considered further in the HRA.  |   |
|   | Changes in water and sediment quality on benthic habitats and species | Construction (as a result of capital dredging, piling and dredge disposal) | Maintenance dredging causes direct impacts to marine sediments, causing changes in water and sediment quality due to increased suspension of sediment concentrations and the release of toxic contaminants bound in sediments with direct impacts to benthic fauna and associated habitats. As a result, LSE cannot be ruled out. Temporary and localised impacts to habitats from piling will be negligible and so LSE can be ruled out due to this phase of construction. | <p>Yes, in relation to:</p> <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |
|   | The potential introduction and spread of non-native species           | Construction (as a result of capital dredging and dredge disposal)         | Non-native species have the potential to be transported into the local area during the construction phase of the Proposed Development   | <p>Yes, in relation to:</p> <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1- natural wetland habitats that are of international importance</li> </ul>  |



|  |   |  |   |    |
|--|---|--|---|----|
|  | Changes in water and sediment quality on migratory fish species | Construction as a result of capital dredging and dredge disposal   | The mobile nature of fish species allows them to utilise nearby alternative areas during temporary piling works. Although the works have the potential to result in the smothering of seabed habitats, qualifying fish species do not utilise the area subject to capital dredging for spawning grounds (which are upstream in freshwater). As the footprint of the dredging only utilises a small proportion of the ranges of lamprey, it is thought that they will be able to utilise available alternative habitat away from the dredging footprint. LSE can therefore be ruled out. | No |
|  | Direct loss or changes to migratory fish habitat                | Construction (as a result of piling, capital dredge and dredge disposal)<br>Operation: maintenance dredge and disposal | The mobile nature of fish species allows them to utilise nearby alternative areas during temporary piling works. Although the works have the potential to result in the smothering of seabed habitats, qualifying fish species do not utilise the area subject to capital dredging for spawning grounds (which are upstream in freshwater). As the footprint of the dredging only utilises a small proportion of the ranges of lamprey, it is thought that they will be able to utilise available alternative habitat away from the dredging footprint. LSE can therefore be ruled out. | No |

|  |  |   |  |  |
|--|--|---|--|--|
|  | Underwater noise effects on migratory fish species                           | Construction (as a result of capital dredging, piling and dredge disposal)  | Underwater noise and vibration levels caused by the movement of the dredger to and from the disposal site and from percussive impact (from vibro piling) could potentially affect migratory fish due to underwater noise being above baseline level during these phases, leading to behavioural changes.   | Yes, in relation to: <ul style="list-style-type: none"> <li>• Sea lamprey</li> <li>• River lamprey</li> <li>• Criterion 8 – Internationally important source of food for fishes, spawning grounds, nursery</li> </ul>  |
|  | Underwater noise effects on marine mammals                                   | Construction from marine piling, capital dredging and dredge disposal<br>Operation: maintenance dredge and disposal | Underwater noise and vibration levels caused by the movement of the dredger to and from the disposal site and from percussive impact (from vibro piling) could potentially affect marine mammals due to underwater noise being above baseline level during these phases, leading to behavioural changes.<br>No operational effects are anticipated, as noise levels are not discernible from background noise levels within the estuary. | Yes, in relation to: <ul style="list-style-type: none"> <li>• Grey seal</li> <li>• Harbour seal (common seal)</li> </ul>   |
|  | Direct changes to benthic habitats and species beneath marine infrastructure | Operation (due to shading)  | Marine infrastructure has the potential to cause changes in sunlight levels on a benthic community due to shading.   | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1- natural wetland habitats that are of</li> </ul> |

|  |  |   |                      |  |
|--|--|---|----------------------|--|
|  |  |   |                      | international importance   |
| Changes to intertidal habitats and species | Operation (due to the movement of operational vessels)                   | There is the potential for physical disturbance to the foreshore as a result of the movement of operational vessels using the berths.                         | Yes, in relation to: | <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Avocet</li> <li>• Shelduck</li> <li>• Knot</li> <li>• Dunlin</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage of international importance</li> <li>• Criterion 5 (wintering waterfowl)</li> <li>• Criterion 6 (bird species occurring at levels of international importance)</li> </ul> |
| Changes to benthic habitats and species    | Construction (as a result of seabed removal during maintenance dredging) | Maintenance dredging causes direct impacts to marine sediments with direct impacts to benthic fauna and associated habitats, and so LSE can not be ruled out. | Yes, in relation to: | <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul>  |

|  |   |  |  |  |
|--|---|--|--|--|
|  | Direct changes to benthic habitats and species as a result of sediment deposition                       | Construction (as a result of seabed removal during maintenance dredging) | Capital dredging and dredge disposal will result in the deposition of sediments which has the potential to cause physical disturbance and smothering of seabed habitats. Temporary and localised impacts from piling will have a negligible impact on benthic habitats due to sediment deposition and so LSE can be ruled out. | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |
|  | Non-native species transfer   | Operation (vessel movements)   | Non-native species have the potential to be transported into the area by vessels during operation.   | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |
|  | Physical change to habitats resulting from the deposition of airborne pollutants (NOx and N deposition) | Operation and construction dust emissions                                | The assessment has considered a scenario of peak construction vessel operation (see Chapter 6: Air Quality of the ES. Given the limited number of construction vessel emissions sources, the frequency of operation and distance between source and sensitive receptors (over 3km away from the nearest                        | No   |

|  |  |   |  |  |
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|  |  |   | saltmarsh habitat), it is considered highly unlikely that this source could contribute to a significant effect on local air quality.   |  |
|  | Underwater noise effects on migratory fish               | Operation (as a result of vessel movements)   | Future maintenance dredging requirements are expected to be very limited and noise levels during this activity will be similar to baseline levels within the estuary.  | No   |
|  | Underwater noise effects on marine mammals               | Operation (resulting from maintenance dredge and maintenance dredge disposal)<br>Construction: dredging and dredge disposal | There is the potential for disturbance effects through noise and vibration from the operation of vessels, creating a pathway for LSE.  | Yes, in relation to: <ul style="list-style-type: none"> <li>• Grey seal</li> <li>• Harbour seal (common seal)</li> </ul> |
|  | Direct loss or changes in marine mammal foraging habitat | Construction (piling, dredging, dredge disposal). Operation   | Although the construction works will have direct impacts on mammal foraging habitat, the footprint of the Proposed Development covers a negligible fraction of the known ranges of local marine mammal populations, and therefore LSE can be ruled out.  | No   |
|  | Lighting effects on migratory fish and seals             | Construction and operation  | Lighting is required for safety and operational purposes. It is not thought that the lighting required will penetrate far into the water column given the high turbidity of the Humber Estuary, and seals and lamprey are not sensitive to foraging in artificially lit areas. As a result, LSE as a result of lighting from the Proposed Development have been ruled out. | No   |
|  | Visual disturbance of hauled out seals                   | Operation: vessel operations, maintenance dredge and dredge disposal  | The nearest established grey seal breeding colony is over 25 km away from the Proposed Development. During benthic   | No   |

|  |   |   |   |   |
|--|---|---|---|---|
|  |   |   | surveys, the Applicant recorded the presence of 10 to 15 grey seals hauled out 4 km north east of the Proposed Development, and none have been sighted closer to the site. As a result, visual disturbance effects have been scoped out of this assessment.   |   |
|  | Collision risk to marine mammals                        | Operation: vessel operations                            | Vessels operating the berths will be moving at slow speeds, and given the high existing baseline levels of traffic within the Humber Estuary, mammals will be habituated to operating within this high traffic area and therefore risks of collision as a result of operation of the proposed Development can be ruled out.   | No  |
|  | Changes in water and sediment quality on marine mammals | Construction (piling, capital dredge, dredge disposal)  | The extent of sediment dispersal is not expected to cause significant elevations in water column contamination, and will only impact a negligible amount of marine mammal habitat. Further, water quality changes as a result of accidental spillages will also be negligible due to the adherence of industry guidance and protocols. As a result, this impact pathway will not result in LSE on the qualifying mammal features. | No  |
|  | Direct loss or change to supporting intertidal habitat  | Construction as a result of piling and capital dredging | Capital dredging and piling will cause direct – although small – loss of intertidal habitat.  | Yes, in relation to: <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Avocet</li> <li>• Shelduck</li> </ul> |

|   |   |   |  |  |
|---|---|---|--|--|
|   |   |   |  | <ul style="list-style-type: none"> <li>• Knot</li> <li>• Dunlin</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage of international importance</li> <li>• Criterion 5 (wintering waterfowl)</li> <li>• Criterion 6 (bird species occurring at levels of international Importance)</li> </ul> |
| Indirect loss of supporting intertidal habitat as a result of changes to hydrodynamic and sedimentary processes | Construction (as a result of piling and capital dredging)   | The marine works (capital dredging and piles) as well as the dredge disposal have the potential to result in changes to hydrodynamic and sedimentary processes including flow rates, accretion and erosion patterns. Marine invertebrates inhabiting the sand and mud habitat show different tolerance ranges to physiological stresses, and so the changes caused by the works could affect the quality of marine habitats and distribution of marine species. | Yes, in relation to: <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tides</li> <li>• Sandbanks which are slightly covered by sea water all the time</li> <li>• Criterion 1 – natural wetland habitats that are of international importance</li> </ul> |  |
| Noise and visual disturbance to coastal waterbirds  | Construction activities including capital dredging, operational running of berths<br>Operation: berth operations<br>Decommissioning: Landside removal piper racks within Work Area 2 (the jetty access road)a and plant and | Qualifying bird species were recorded by the applicant ion the foreshore in the area of the Proposed Development. As the marine works will be in the vicinity of qualifying bird features, there exists a pathway for LSE through disturbance.  | Yes, in relation to: <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Avocet</li> <li>• Shelduck</li> <li>• Knot</li> <li>• Dunlin</li> </ul>  |  |

|  |  |   |  |   |
|--|--|---|--|---|
|  |  | equipment on the approach jetty topside associated with hydrogen production (Work Area 1) |  | <ul style="list-style-type: none"> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage of international importance</li> <li>• Criterion 5 (wintering waterfowl)</li> <li>• Criterion 6 (bird species occurring at levels of international Importance)</li> </ul>  |
|  | Direct changes to coastal waterbird foraging and roosting habitat as a result of marine infrastructure | Operation of berths   | Qualifying bird species were recorded by the applicant on the foreshore in the area of the Proposed Development. As the marine works will directly impact these foreshore habitats, there exists a pathway for LSE on coastal waterbird foraging and roosting habitat. | Yes, in relation to: <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Avocet</li> <li>• Shelduck</li> <li>• Knot</li> <li>• Dunlin</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage of international importance</li> <li>• Criterion 5 (wintering waterfowl)</li> <li>• Criterion 6 (bird species occurring at levels of international Importance)</li> </ul> |



|  |   |   |  |   |
|--|---|---|--|---|
|  | Airborne noise and visual disturbance to coastal waterbirds using functionally linked land outside the Ramsar and SPA boundary. | Construction  | There is no functionally linked land within or adjacent to the Site Boundary.  | No  |
|  | Lighting effects on coastal waterbirds  | Operation: Berth operations<br>Construction: Safety lighting on equipment | The Applicant highlighted literature that suggests artificial lighting could improve the foraging of waterbirds, however there is still potential for LSE to occur as foraging behaviour will be altered | Yes, in relation to: <ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Bar-tailed godwit</li> <li>• Avocet</li> <li>• Shelduck</li> <li>• Knot</li> <li>• Dunlin</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Waterbird assemblage of international importance</li> <li>• Criterion 5 (wintering waterfowl)</li> <li>• Criterion 6 (bird species occurring at levels of international Importance)</li> </ul> |
|  | Indirect loss of supporting intertidal habitat as a result of changes to hydrodynamic and sedimentary processes                 | Construction (marine works: jetty structure and capital dredging)         | As benthic prey species will not experience LSE as a result of the Proposed Development, prey availability for waterbird assemblages will still be available and therefore LSE are not anticipated.      | No  |

47. During the examination, NE disputed [RR-019] ruling out LSE for foraging waterbirds from artificial lighting during construction as can be beneficial for prey intake during nocturnal feeding and requested further justification on this. The Applicant updated their HRA [REP1-012] to provide further information that construction would mainly be undertaken during daylight hours, and the use of

a Lighting Management Plan (LMP) incorporated into the CEMP to manage lighting in sensitive areas [ER Appendix C 2.18]. In response to this, NE questioned how applying mitigation at the screening stage was consistent with the People Over Wind Sweetman v Coillte Teoranta Case (C-323/17) judgement. Subsequently, this pathway was taken to Stage 2: Appropriate Assessment in [REP4-014].

## STAGE 2: APPROPRIATE ASSESSMENT

48. As LSE cannot be excluded, the Secretary of State as the competent authority is required to undertake an appropriate assessment to determine the implications for the conservation objectives of the affected European sites. In line with the requirements of regulation 63 of the Habitats Regulations:

*“(5)...the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site’; and*

*“(6) In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given”.*

### Conservation objectives

49. As mentioned in paragraph 11 above, where an appropriate assessment is required in respect of a European site, regulation 63(1) of the Habitats Regulations requires that it be an appropriate assessment of the implications of the plan or project for the site in view of its conservation objectives. Government guidance also recommends that in carrying out the stage one assessment (screening), applicants must check if the proposal could have a significant effect on a European site that could affect its conservation objectives.

50. The conservation objectives relevant to this HRA Report, as published by NE, are set out in Annex 2 of this HRA Report.

51. The conservation objectives for the Humber Estuary Ramsar site are not available. The Secretary of State notes that the Applicant explains in Table 6 of its HRA Report that *“For Ramsar sites, a decision has been made by Defra and Natural England not to produce Conservation Advice packages, instead focussing on the production of High-Level Conservation Objectives. As the provisions of the Habitats Regulations relating to HRAs extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests”* and to *“See the conservation objectives for Ramsar interest features covered by the overlapping Humber Estuary SAC and Humber Estuary SPA.”* The Secretary of State finds no reason to disagree with this approach.

52. The Applicant further noted that it had been agreed with NE that the condition assessment for the Humber Estuary Site of Special Scientific Interest (SSSI) should be used where the SSSI features are the same as the European site features [ER C.3.2]. The Site of Special Scientific Interest (SSSI) units condition assessment statement predominantly class 88.21% of the area of estuary to be in ‘unfavourable recovering’ condition and 6.09% in favourable condition. The Supplementary Advice for Humber Estuary SAC is that the conservation objectives for the ‘mudflats and sandflats not covered by seawater at low tide’ is set to “*restore*” and certain waterbird features were also in unfavourable status, along with the Was and North Norfolk Coast SAC common seal feature.

## Consideration of mitigation measures

53. The Applicant's final HRA Report [REP7-015] provided a description of the mitigation measures for the pathways assessed. Following a request from the ExA, the final HRA Report also included Table 39 which summarised the proposed mitigation measures [ER Appendix C 4.10].

## In-combination Assessment

54. The Applicant's in-combination assessment can be found in Tables 36, 37 and 38 of the HRA report, with identified projects listed in Table 35. NE were not content with the assessment during the examination with providing a robust conclusion on no adverse on integrity (AEol), and the subsequent assessment of residual effects where present [RR-019]. NE was concerned for some impact pathways for the in-combination assessment, including:

- loss and fragmentation of SAC habitats;
- impacts of operational vessel traffic on marine mammals; and
- impacts arising from an increase in maintenance dredging.

55. The Applicant updated the HRA twice at [REP4-014 and REP5-021] which added information regarding residual effects for all projects. Further information was also provided for the pathways listed above at [REP-021] that satisfied NE [REP3-112]. Notwithstanding those changes, NE retained reservations regarding the in-combination assessment for the physical loss or change to habitat and cumulative underwater noise disturbance and barrier effects to grey seal during construction.

56. The Secretary of State will therefore discuss these two pathways further within the appropriate assessment below. The Secretary of State will also discuss matters of contention during the examination in relation to the in-combination assessment for the relevant pathways in the section below (titled *Consideration of where no AEol was disputed but resolved during the Examination*). For all other pathways and projects highlighted within the in-combination assessment, the Secretary of State is content with the conclusions drawn in Tables 36, 37 and 38 of the Applicant's HRA [REP7-015] and will not repeat those tables within this assessment. To conclude, the Secretary of State agrees with the Applicant's HRA (paragraph 4.15.5) and the ExA's conclusion [ER Appendix C5.4] that the Proposed Development is considered to result in no potential for an AEol on any interest features of European/Ramsar sites in combination with other plans, projects and activities.

### **Effect pathways for which no IPs raised concerns and no AEol was agreed**

57. For several effect pathways the Applicant has concluded no AEol from the Proposed Development on the qualifying features of the European sites and features assessed either alone or in combination with other plans and projects [ER Appendix C 4.13]. At the close of the Examination, the Applicant's conclusions for these pathways were not disputed by any of the IPs. It is noted that NE confirmed that subject to appropriate mitigation, as outlined in the Application documents being secured adequately, it was

satisfied that a number of potential effects would be unlikely to result in AEol on the Humber Estuary sites [ER Appendix C 4.14].

58. The ExA summarised these pathways and features in Table C [ER Appendix C]. The Secretary of State has reproduced Table C with some modifications for ease of reference as Table 3 below, and agrees – as does the ExA – [ER Appendix C 4.15] with the conclusion drawn in Table 4:

**Table 3 Effect pathways for which the Applicant concluded no AEoI alone and in combination and was not disputed by IPs and agreement with NE has been reached.**

| European site      | Qualifying features   | Effect pathway  | No AEoI alone and in combination    | Mitigation required | Agreement with NE        |
|--------------------|---|---|-------------------------------------|---------------------|--------------------------|
| Humber Estuary SAC | Estuaries<br>Sandbanks which are slightly covered by seawater all of the time                           | Changes to qualifying habitats as a result of sediment deposition during capital dredge disposal  | No AEoI (Table 12 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 10 |
|                    | Estuaries   | Changes to qualifying habitats as a result of the removal of seabed material during capital dredging                                      | No AEoI (Table 11 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 10 |
|                    | Estuaries<br>Mudflats and sandflats not covered by seawater at low tide                                 | Indirect loss or change to qualifying habitats and species from changes to hydrodynamic and sedimentary processes during the marine works | No AEoI (Table 15 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 14 |
|                    | Estuaries<br>Sandbanks which are slightly covered by seawater all of the time                           | Indirect changes to qualifying habitats from changes to hydrodynamic and sedimentary processes during capital dredge disposal             | No AEoI (Table 16 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 15 |
|                    | Estuaries<br>Mudflats and sandflats not covered by seawater at low tide                                 | Direct changes to qualifying habitats beneath marine infrastructure due to shading  | No AEoI (Table 21 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 17 |
|                    | Estuaries<br>Mudflats and sandflats not covered by seawater at low tide<br>Sea lamprey<br>River lamprey | Elevated SSC during capital dredging on qualifying habitats and species during construction and operational phases                        | No AEoI (Table 21 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 17 |
|                    | Estuaries<br>Mudflats and sandflats not covered by seawater at low tide<br>Sea lamprey<br>River lamprey | Impacts on qualifying habitats and species from the release of contaminants during capital dredging                                       | No AEoI (Table 23 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 18 |
|                    | Estuaries<br>Mudflats and sandflats not covered by seawater at low tide<br>Sea lamprey                  | Impacts on qualifying habitats and species from the release of contaminants during capital dredging disposal                              | No AEoI (Table 24 of HRA [APP-238]) | None required       | Yes, see RR-019 ID NE 18 |

|                       |   |   |                                     |                                      |                          |
|-----------------------|---|---|-------------------------------------|--------------------------------------|--------------------------|
|                       | River lamprey   |   |                                     |                                      |                          |
|                       | Sea lamprey<br>River lamprey<br>Grey seal   | Effects on qualifying species due to underwater noise and vibration during dredging   | No AEoI (Table 30 of HRA [APP-238]) | None required                        | Yes, see RR-019 ID NE 26 |
|                       | Estuaries<br>Sandbanks which are slightly covered by seawater all of the time<br>Mudflats and sandflats not covered by seawater at low tide   | Introduction and spreading non-native species during construction on qualifying habitats  | No AEoI (Table 31 of HRA [APP-238]) | Biosecurity measures within the CEMP | Yes, see RR-019 ID NE 28 |
| Humber Estuary SPA    | Common shelduck (Non-breeding)<br>Red knot (non-breeding)<br>Bar-tailed godwit (non-breeding)<br>Black-tailed godwit (non – breeding)<br>Dunlin (Non-breeding)<br>Common redshank (Non-breeding)<br>Waterbird assemblage            | Changes to qualifying species as a result of the removal of seabed material during capital dredging.  | No AEoI (Table 8 of HRA [APP-238])  | None required                        | Yes, see RR-019 ID NE 5  |
|                       | Common shelduck (Non-breeding)<br>Red knot (non-breeding)<br>Bar-tailed godwit (non-breeding)<br>Black-tailed godwit (non – breeding)<br>Dunlin (Non-breeding)<br>Common redshank (Non-breeding)<br>Waterbird assemblage            | Indirect changes to qualifying habitats and species as a result of changes to hydrodynamic and sedimentary processes as a result of the marine works. | No AEoI (Table 15 of HRA [APP-238]) | None required                        | Yes, see RR-019 ID NE 14 |
| Humber Estuary Ramsar | Criterion 1 – natural wetland habitats that are of international importance<br>Criterion 5 – Bird Assemblages of International Importance<br>Criterion 6 – Bird Species/Populations Occurring at Levels of International Importance | Changes to qualifying habitats resulting from sediment deposition during capital dredge disposal.   | No AEoI (Table 13 of HRA [APP-238]) | None required                        | Yes, see RR-019 ID NE 11 |
|                       | Criterion 1 – natural wetland   | The potential effects of changes to qualifying habitats as a  | No AEoI (Table 12 of HRA [APP-238]) | None required                        | Yes, see RR-019 ID NE 10 |

|  |   |  |                                     |               |                          |
|--|---|--|-------------------------------------|---------------|--------------------------|
|  |   | result of sediment deposition during capital dredging.   |                                     |               |                          |
|  | Criterion 1 – natural wetland habitats that are of international importance<br>Criterion 5 – Bird Assemblages of International Importance<br>Criterion 6 – Bird Species/Populations Occurring at Levels of International Importance | Indirect loss or change to qualifying habitats and species resulting from changes to hydrodynamic and sedimentary processes during the marine works. | No AEoI (Table 15 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 14 |
|  | Criterion 1 – natural wetland habitats that are of international importance   | Indirect changes to qualifying habitats resulting from changes to hydrodynamic and sedimentary processes during capital dredge disposal.             | No AEoI (Table 16 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 15 |
|  | Criterion 1 – natural wetland habitats that are of international importance   | Direct changes to qualifying habitats beneath marine infrastructure due to shading.  | No AEoI (Table 17 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 16 |
|  | Criterion 1 – natural wetland habitats that are of international importance<br>Criterion 8 – Internationally important source of food for fishes, spawning grounds, nursery and/or migration path.                                  | Direct impacts to qualifying habitats and species via releasing contaminants during capital dredging.  | No AEoI (Table 21 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 17 |
|  | Criterion 1 – natural wetland habitats that are of international importance<br>Criterion 8 – Internationally important source of food for fishes, spawning grounds, nursery and/or migration path.                                  | Direct impacts to qualifying habitats and species via releasing contaminants during capital dredging.  | No AEoI (Table 22 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 17 |
|  | Criterion 5 – Bird Assemblages of International Importance<br>Criterion 6 – Bird Species/Populations Occurring at Levels of International Importance  | Changes to qualifying species resulting from the removal of seabed material during capital dredging.   | No AEoI (Table 23 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 18 |
|  | Criterion 5 – Bird Assemblages of International Importance  | Effects on qualifying habitats due to potential underwater noise and vibration during piling.  | No AEoI (Table 30 of HRA [APP-238]) | None required | Yes, see RR-019 ID NE 26 |



|                                |   |  |  |   |                          |
|--------------------------------|---|--|--|---|--------------------------|
|                                | Criterion 6 – Bird Species/Populations Occurring at Levels of International Importance  |  |  |   |                          |
|                                | Criterion 3 – supports populations of plants and/or animal species of international importance<br>Criterion 8 – Internationally important source of food for fishes, spawning grounds, nursery and/or migration path. | Effects on qualifying species due to potential underwater noise and vibration during dredging. | No AEoI (Table 30 of HRA [APP-238])        | None required   | Yes, see RR-019 ID NE 27 |
|                                | Criterion 1 – natural wetland habitats that are of international importance   | The introduction and spread of non-native species during construction.                         | No AEoI (Table 31 of HRA [APP-238])        | Biosecurity control measures within the CEMP  | Yes, see RR-019 ID NE 28 |
| The Wash and Norfolk Coast SAC | Harbour seal (common seal)  | Underwater noise effects on marine mammals during piling and dredging                          | No AEoI (Table 29 and 30 of HRA [APP-238]) | Marine piling measures (soft start, vibro piling, seasonal restriction, night time restriction, marine mammal observer) | Yes, see RR-019 ID NE 24 |

## **Consideration of where no AEol was disputed but resolved during the Examination**

59. Several effect pathways were concluded by the Applicant as having no AEol from the Proposed Development on the qualifying features of the European sites but were disputed and then resolved during the Examination. They are discussed within the Recommendation report (Appendix C 4.17 -4.90). The Secretary of State discusses these issues in the following paragraphs, and ultimately concludes no AEol for any of the designated sites identified, alone or in combination with other projects.

### **Habitat features of the Humber Estuary SAC and Ramsar site**

#### Physical loss of habitat

60. In [REP7-015] the Applicant concluded no AEol, alone or in combination with other plans or projects for the loss of inter tidal and subtidal habitat due to piling which is estimated to result in the loss of 0.0021 ha of intertidal mudflat, and 0.059 ha of subtidal habitat. The Applicant assessed these losses as less than 1% of the total footprint of the SAC/Ramsar site [ER Appendix C 4.20]. The Applicant therefore concluded no AEol, as losses would be inconsequential within the wider extent and would not alter the structure or function of the designated sites. NE requested further justification in relation to how this small but appreciable loss contributes to the characteristic components of the sites [ER Appendix C 4.21]. After the Applicant provided further justification [REP1-012] in relation to how this loss would not impact the conservation objectives of the sites, NE considered this matter resolved [REP1-087]. Considering the limited extent of habitat loss in the SAC and Ramsar site as a result of the Proposed Development, and taking into account the further justifications provided by the Applicant, the Secretary of State is content to conclude no AEol in relation to this impact pathway.

61. NE requested further justification to conclude no AEol in combination with other plans or projects, particularly with the Immingham Eastern Ro-Ro Terminal (IERRT) in relation to this impact pathway [REP4-054] and similar updates were requested and provided to those described above for LSE alone, detailing the quality, ecological integrity and contributions to structure and function of the habitat to be lost across these two projects. NE accepted the updates provided by the Applicant [REP5-058] and the Secretary of State is also satisfied to conclude no AEol, alone and in combination in relation to physical habitat loss.

#### *Physical damage of habitats through Disturbance and/or Smothering*

62. Physical damage to habitats from disturbance or smothering from capital dredging, maintenance dredging and dredge disposal was disputed during the Examination due to the language used around the characterisation of the affected habitats [ER Appendix C 4.29]. Benthic communities were described as impoverished by the Applicant in their assessments at the dredge sites, a characterisation NE disagreed with, stating that the site was of low to moderate ecological value [RR-019]. After further comparison [REP1-021] of the quality of the dredge area compared to that of

benthic communities in other coastal areas around the UK, NE considered this matter resolved [REP1-087]. In the same representation, NE were also content to conclude no AEoI on seabed habitats in relation to maintenance dredging after the Applicant provided further information regarding the frequency of the dredging campaigns. The Secretary of State agrees with the Applicant's conclusions in light of the further information provided.

#### *Deposition of airborne pollutants.*

63. The Applicant's HRA concluded no AEoI in respect of operational deposition of airborne pollutants on SAC habitats from landslide plant and docked marine vessels [REP7-015]. NE were content [REP3-112] with the 20 kg/ha critical load for nitrogen deposition after the Applicant provided further requested justification through the results of saltmarsh surveys (Humber Estuary SSSI: NFEU Saltmarsh Surveys 2018 [ER Appendix C4.35]) that showed the habitats in the estuary had a high tolerance to nitrogen and therefore the 20 kg/ha/yr critical load was appropriate to use in the assessment.
64. During the examination, NE questioned the worst-case scenario modelling for the maximum number of vessels per year [ER Appendix C4.36]. They sought further information on how this was calculated and whether the maximum number could be monitored and capped within the DCO. The Applicant provided further information relating to this, and explained that to reach vessel numbers close to the worst-case scenario, further landside infrastructure would be required, and therefore impacts would need to be assessed in further consents, which would render vessel caps in the DCO unnecessary. After further technical information was submitted by the Applicant [REP6-024] that distinguished source emissions in relation to sensitive receptors, NE considered this matter resolved [REP6-030]. The Secretary of State is content with the approach to air quality modelling, and therefore concludes no AEoI in relation to this impact pathway.

#### *Biological Disturbance due to Potential Introduction and Spread of Non-native Species*

65. Potential effects of the introduction and spread of non-native species during construction on qualifying habitats could not be ruled out during the screening stage. By way of example, the introduction of non-native species can lead to negative effects on existing habitats by outcompeting native species. The Applicant's HRA identified the risk of introduction of Invasive Non-Native Species (INNS) through ships' hulls and ballast water and noted that areas with high volumes of shipping traffic (such as the Humber Estuary) are more prone to the introduction of marine non-native species [REP7-015], paragraph 4.12.2]. Operational risks have also been identified, as the new marine piles and other artificial structures can provide a habitat resources and expansion corridor for invasive marine species.
66. The Secretary of State notes that the guidance for England and Wales pertaining to managing marine biosecurity risks will be adhered to during construction, and that existing protocols adopted by the Applicant during the operational phase will be in place to manage the risks associated with INNS. Based on the mitigation proposed during construction, and subject to the biosecurity measures stated by the Applicant in place during operation, NE agreed that no AEoI can be concluded [ER Appendix

C 4.41]. The Secretary of State is content to conclude no adverse effects on integrity on the designated sites in relation to the introduction of non-native invasive species.

### **Qualifying bird species of the Humber Estuary SPA and Ramsar site**

#### *The potential effects of airborne noise and visual disturbance during construction on qualifying species of coastal waterbird within the SPA/Ramsar boundary*

67. Winter disturbance can result in unnecessary use of energy by birds being moved on/flushed and by deterring use of habitats (including those used for roosting or feeding) - both of which impact individual overwinter survival. Birds typically show a dispersive response to disturbance with prolonged disturbance causing displacement. These effects are likely to be relatively localised to birds using habitat with line of sight and noise dispersal from the proposed development. The level of response also varies considerably between species with larger waders showing stronger responses to disturbance stimuli than smaller waders.
68. Research from the Institute of Estuarine and Coastal Services suggests that machinery is less disturbing to birds utilising the foreshore than a person at close distances. The evidence presented in Table 25 of the Applicant's HRA [REP9-015] suggests that birds are generally not disturbed by construction activity over 200 m from the source, and this is supported by the Applicant's findings of bird monitoring during ground investigation works at the IERRT over winter 2023. Further, birds generally appear to habituate to continuous noise as long as there is no large amplitude 'startling' component. This could include activities such as piling, for example.
69. In relation to the Proposed Development, noise stimuli caused by the vibro and percussive marine piling activity and the presence of jack-up or crane barged as well as construction machinery and personnel will all be potential sources of disturbance. Construction of the Jetty Platform and capital dredging will occur at distances of over 1 km from the foreshore. The Secretary of State notes the advice provided by NE in respect of IERRT that stated 'peak levels below 55 dBA can be regarded as not significant, while peak noise levels approaching 70 dBA and greater are most likely to cause an adverse effect.' Therefore, levels over 65.5 dBA may cause disturbance to SPA birds. Birds may habituate to regular noise below 70 dBA, but irregular above 50 dBA should be avoided'. Percussive marine piling associated with the Proposed Development is anticipated to reach noise levels above 70 dB are predicted within 645 m of the marine piling rigs and over 80 dB within 205 m in the absence of noise reducing controls.
70. Noise monitoring within the red line boundary of the Proposed Development recorded noises of over 70 dB almost every hour from operational activities associated with the Port of Immingham.
71. The Applicant's assessment of noise and visual disturbance on coastal waterbirds has therefore been based on distances within 200 m from the Proposed Development and the noise limits set out in paragraph 70 above. Although NE had some concern that a precautionary distance of 300 m from the piling activity should be used, however the Applicant's justification resolved this concern by stating that birds have

been observed foraging on the foreshore near the Port of Immingham where noise levels regularly reach 55 to 70 dB, suggesting a level of habituation to noise in the area to anthropogenic activities [REP1-021]. Given the research and arguments set out by the Applicant within their final HRA [REP9-015], the Secretary of State agrees with the parameters and conclusions of this assessment.

72. Responses from species more susceptible to disturbance can still be expected from startling activities. Table 26 within the Applicant's HRA include sensitive species such as Black-tailed Godwit, Redshank, Curlew and Shelduck. However, in areas such as Immingham where birds are relatively habituated to human activity, waterbirds perceive less risk associated with potential noise and visual disturbance stimuli so responses where birds stop feeding and increased stress levels are likely to be low compared to if new sources of human activity are introduced into more remote areas of coast (where birds are less habituated).

73. Despite the levels of habituation to existing disturbance within the Humber Estuary, adverse effects on integrity cannot be ruled out on coastal waterbirds, especially in relation to species more sensitive to disturbance. Paragraph 4.10.30 of the Applicant's HRA summarises that noise and visual disturbance during construction is likely to be high. Therefore, mitigation must be applied in order to reach a conclusion of no AEoI. NE raised the point [RR-019] that cumulative noise impacts from terrestrial and marine works should also be considered, to which the Applicant explained that terrestrial piling would be some distance from the foreshore and therefore impacts are negligible [REP7-015].

74. Mitigation measures are described in paragraph 4.10.31 of the Applicant's HRA, and have been informed by suggestions from NE during the Examination (as listed in ER Appendix C 4.76) and are summarised below:

- Winter construction restriction from 1 October to 31 March (approach jetty, sea wall and landside jetty ramp). This will ensure that a buffer of at least 200 m is maintained between the foreshore and the marine construction activity during winter months. The restriction distance will be controlled through a digital Global Positioning System (GPS).
- The use of barriers/visual screens/acoustic barriers are also required during winter months (1 October – 31 March inclusive) during the winter months.
- A noise suppression system to be adopted during all piling activities associated with the approach jetty. The system has insulating properties that are predicted to reduce noise to <70 dB at distances greater than 200 m from the marine piling.
- Soft starts of piling machinery will allow a more gradual increase in noise levels and reduce a startling effect on birds; applied to all marine piling activity.
- Cold Weather construction restriction will also be applied. Following seven consecutive days of freezing (zero or sub-zero temperatures) a temporary cessation of activity within 200 m of the foreshore will be applied and not lifted until after 24 hours of above freezing temperatures.

- An Ecological Clerk of Works (ECoW) will be employed throughout the wintering period to ensure the above mitigation measures in relation to qualifying bird features are adhered to and to provide guidance throughout the construction works.

75. The Secretary of State agrees with the Applicant's conclusion of no adverse effects on integrity in light of the mitigation measures applied to mitigate the impacts of visual noise and disturbance on qualifying bird features within the Humber Estuary. Any residual effects are not considered to compromise any conservation objectives for these sites.

76. In terms of in-combination effects, the Applicant's assessment (Table 37, REP7-015) considers cumulative disturbance effects with nine other projects that may occur concurrently on the Humber Estuary. AEoI are, however, ruled out based on the mitigation measures, and seasonal winter restrictions that will be applied at all projects to reduce disturbance effects on wintering birds, as well as the availability of alternative feeding sites within the Humber Estuary. NE was particularly concerned about cumulative disturbance impacts with the IERRT, and the Applicant provided further information of the timings and temporal interaction of these two projects within REP3-032, as well as information regarding the types of piling and when they would be in use [REP4-047]. Subsequently, NE was content with the in-combination assessment in relation to qualifying bird species at REP 4-054, and a piling protocol has been agreed with the MMO, secured in the oCEMP [REP7-011] and Deemed Marine Licence at Schedule 3 of the DCO [REP7-004] that will monitor timings and implement restrictions over four week periods. The Secretary of State is therefore content to agree no AEoI for this impact pathway, subject to the application of the mitigation measures identified.

77. Operational noise and disturbance on qualifying bird species were identified as a pathway to LSE through operation vessel movements and berthing operations, which includes the movement of vehicles on the approach jetty. NE asked the Applicant [RR-019] to provide further data on the locations of roosting turnstone and black godwit, and where birds are diving offshore. The updated HRA [REP1-021] clarified that no roost sites or diving birds would be impacted by operational activities, as birds were present in such low numbers that impacts on the designated sites would be negligible. NE agreed with this conclusion [REP1-087] and the Secretary of State concurs.

*Changes to waterbird foraging and roosting habitat as a result of the presence of marine infrastructure during operation*

78. The Applicant ruled out AEoI in qualifying bird species as the presence of new marine infrastructure is unlikely to alter the distribution of the waterbird assemblage in the area currently, and any effects will be highly localised [REP7-015]. NE requested further data (as described in paragraph 70 above) and was content to conclude no AEoI due to operational marine infrastructure on the justifications the Applicant provided [REP1-087].

## **Qualifying marine mammals and fish of the of the Humber Estuary SAC, Ramsar site and the Wash and North Norfolk Coast SAC**

### *Disturbance through Underwater Noise and Vibration*

79. Construction activities can cause elevated underwater noise and vibration which can lead to behavioural reactions and/or physiological damage to marine mammals and fish designated within the Humber Estuary SAC and Ramsar site. Underwater noise assessments for the project [Appendix 9.B APP-187] have shown that percussive marine piling creates the highest levels of noise, with vibro marine piling producing lower levels of noise as piles are vibrated into the seabed [REP-015; para 4.11.3]. Noise modelling focussed on the largest piling size (up to 2.3m diameter) which forms under 1% of the total piling activity, and the second largest of up to 1.5m diameter piles, which comprises 45% of all piles, covering the worst case scenarios in terms of noise levels from piling activities.
80. The Applicant's HRA report [APP-015] in section 4.11 discusses studies that have identified River Lamprey and Sea Lamprey as being sensitive to noise changes due to their physiology, as well as the hearing sensitivities of grey and common seals.
81. The assessment concluded that AEol in relation to fish qualifying species could not be ruled out. Fish within 60m of the 2.3m diameter piles may receive a recoverable injury, whereas fish within 40m of the large piles face a risk of mortality. Piles that are 1.5m in diameter create a risk of mortality within 10 m of the source of impact, and a recoverable injury is a risk within 20m. The local area has not been identified within the assessment to be a key foraging and spawning nursery for lamprey species, and given the mobility of fish, individuals are expected to be able to move out of the way of harm. This is, however, dependent on the hearing abilities of fish species and the varying sizes of fish which affects the ability to swim independently within the estuary channel. Noise impacts have also been considered in relation to existing background noise levels, as piling will be occurring seven days a week for 343 days. It is thought that fish are habituated to a certain degree of anthropogenic activity and noise due to the operational port activities present within the Humber estuary. The Secretary of State notes that the piling could create an acoustic barrier that covers the majority of the estuary at low tide, which is especially problematic for qualifying fish species during sensitive migratory periods for lamprey. Therefore, the Secretary of State agrees that mitigation is required to conclude no adverse effects on integrity in relation to these fish species, despite the temporary nature of the piling works.
82. The assessment concluded that there would be short term changes in the local distribution of seals due to avoidance responses and intermittent barrier effects during marine piling operations. The potential for injury effects is considered to be limited, due to the very localised area where this could take place and the proposed mitigation that will be put in place. During the Examination NE requested a separate Marine Mammal Mitigation Protocol (MMMP) to capture the relevant mitigation measures [RR-019, REP1-012, REP5-058]; however, the Applicant remained of the view that the relevant measures had been captured within the CEMP and the Deemed Marine Licence (DML (Schedule 3 of the DCO). NE [REP5-058] conceded

on this point, as that it would not make a material difference to the outcome of the HRA.

83. NE requested that night time restriction on vibro piling, as well as percussive piling were included within the mitigation measures for migrating lamprey [RR-019] and the Applicant obliged at Deadline 4 [REP4-004]. Mitigation measures developed to reduce disturbance on qualifying fish and seal species in relation to underwater noise and vibration are summarised from REP015, paragraph 4.11.44 below.

- Soft start procedures: gradual increases of marine piling power incrementally to give fish and marine mammals the opportunity to vacate the piling area before the onset of full impact strikes.
- Vibro marine piling to be used where possible to reduce the amount of time peak source noise levels are reached from percussive marine piling.
- Seasonal marine piling restrictions between 1 April and 31 May to avoid disturbance on migratory fish in the Humber Estuary which will also protect fish in earlier life stages on a number of migratory fish species.
- Monitoring during summer migration season (comprising all of June and between August and October) of marine piling will occur to reduce impacts on migratory fish species. Reporting to the MMO will be submitted once a week, and forward planning with the contractor and the environmental representative will take place to ensure no more than 330 minutes a day of percussive piling takes place.
- Night time marine piling restrictions will also be in place during the March, June and August to December due to the nocturnal migration of river lamprey during these times. Further details regarding the night time restriction is detailed in point d at 4.11.44 [REP-015].
- Marine Mammal Observer. The JNCC 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals during marine piling (Ref 1-209) will be followed during percussive marine piling.

84. The Recommendation report at Appendix C, paragraphs 4.53 – 4.54 outlines NE's concerns with the in combination assessment in relation to grey seal. In summary, there were concerns over the screening distance for the zone of influence, disagreement on the conclusion of no AEoI due to cumulative noise disturbance and barrier effects, and, it was considered that mitigation focused on avoiding injury and did not aid in reducing disturbance impacts.

85. The Secretary of State is satisfied that the justification provided by the Applicant at [REP1-021] that due to physical constraints within the geography of the Humber estuary, the screening distance applied is sufficient in this instance as agreed by NE at [REP1 -087].

86. The Applicant also provided a quantification of the worst case scenario for the piling activities across IGET and IERRT [REP3-033 and REP5-021], stating that any project that involves piling in the estuary (such as the North Killingholme project, IERRT,



Able Marine Energy Park and the Humber International Terminal Berth 2) will all have to use similar mitigation measures in order to avoid AEol on marine mammals (as well as qualifying fish species in relation to timing restrictions). Although NE consider that more information would be useful in relation to simultaneous piling campaigns across multiple projects, they agreed that with the mitigation measures applied, AEol in relation to seal can be ruled out [REP5-058], and the Secretary of State agrees with this conclusion.

87. With consideration of the effectiveness of mitigation measures listed above, the Secretary of State agrees with the conclusion of no adverse effects on integrity in relation to underwater noise and vibration disturbance on marine mammals and fish.

#### Consideration of combined effects

88. The HRA considered the potential for the identified effect pathways to interact with each other in the context of the sites' conservation objectives. The Secretary of State agrees with the conclusions set out in paragraph 4.14.4 [REP7-015] that the identified intra-project effects of all impact pathways are small scale and negligible. The Secretary of State further agrees that mitigation measures are required to reach a conclusion of no AEol for airborne noise and visual disturbance in combination with loss of habitat, and from underwater noise and vibration with contamination events on marine species. This is despite the small amount of habitat that is expected to be lost and the lack of contaminants that are expected to be released into the water column during construction.

#### **Conclusion of the appropriate assessment**

89. The Secretary of State has carefully considered all the information presented within the Application, during the Examination and the representations made by IPs, along with the Recommendation Report and the responses to the Secretary of State's further consultations. As the competent authority for Transport Nationally Significant Infrastructure Projects as defined under the PA 2008, the Secretary of State for Transport has undertaken an appropriate assessment under regulation 63 of the Habitats Regulations in relation to the following European sites:

- Humber Estuary SAC
- Humber Estuary SPA
- Humber Estuary Ramsar
- The Wash and North Norfolk Coast SAC

#### Proposed development alone

90. The Secretary of State is satisfied that, given the relative scale and magnitude of the identified effects on the qualifying features of these European sites and where relevant, the measures in place to avoid and reduce the potential harmful effects, there would not be any implications for the achievement of the conservation objectives for all of the European sites identified above from the Proposed

Development alone. Those conservation objectives are set out in Annex 2 of this HRA Report.

#### Proposed development in combination with other plans and projects

91. At the time of the pre-application stage, NE had not come to an agreement with the Applicant on excluding AEol beyond reasonable scientific doubt the impact on the Humber Estuary SAC and Ramsar site in respect of the permanent loss of intertidal habitat associated with the Proposed Development, alone and in combination with other plans or projects. The Applicant has therefore produced a 'Without Prejudice Derogations Report' (APP-235) which assessed the Proposed Development against three tests. Each test must be passed sequentially before proceeding to the next in order for the project to proceed. This report set out a consideration of alternatives, imperative reasons of overriding public interest, and suitable compensation measures for the Proposed Development to continue. Although the Secretary of State welcomes this submission and notes that the Derogations Report states that the Proposed Development would pass the derogations tests, as the Secretary of State agrees with the conclusions of the ExA and the Applicant – that no AEol can be concluded in relation to permanent inter tidal habitat loss, the HRA undertaken by the Secretary of State has concluded at Stage 2: Appropriate Assessment and the need to engage with the HRA derogations, including the need for compensatory measures, is not required. It is understood that the compensatory measures provided will go ahead regardless as an enhancement measure to the estuary habitat.
92. The Secretary of State is satisfied that, given the relative scale and magnitude of the identified effects on the qualifying features of these European sites and where relevant, the measures in place to avoid and reduce the potential harmful effects, there would not be any implications for the achievement of the conservation objectives from the Proposed Development in combination with other plans and project for the Humber Estuary SPA, SAC, Ramsar site and The Wash and North Norfolk Coast SAC. Those conservation objectives are set out in Annex 2 of this HRA Report.
93. Based on the submissions to the examination as summarised in the ExA's RIES and Report, together with the further consultations undertaken by the Secretary of State after the close of examination, the Secretary of State is satisfied that the views of NE as the appropriate nature conservation body have been considered and that they align with the position taken by the Secretary of State.
94. The Secretary of State agrees with the conclusion drawn in Table C within Appendix C of the Recommendation Report that concluded no AEol, alone or in combination with any other plans or projects for any of the European sites discussed, where no IPs disputed this conclusion during the Examination.
95. The Secretary of State has also had regard to those issue which were disputed during the Examination, and has had regard to the additional representations from the Applicant and the relevant IPs. She is content to conclude no AEol on these impact pathways on all designated sites identified, alone or in combination with other plans or projects.

## SUMMARY OF CONCLUSIONS

96. The Secretary of State has carefully considered all the information presented within the Application, during examination and the representations made by IPs, along with the ExA's Report and the responses to the Secretary of State's further consultations and requests for information.
97. The Development is not directly connected with, or necessary to, the management of the European sites, and is not likely to have a significant effect alone on Humber Estuary SAC, Humber Estuary SPA, Humber Estuary Ramsar site, the Greater Wash SPA and The Wash and North Norfolk Coast SAC.
98. The Development is not directly connected with, or necessary to, the management of the European sites, and is likely to have a significant effect in combination with other plans and projects on Humber Estuary SAC, Humber Estuary SPA, Humber Estuary Ramsar site and The Wash and North Norfolk Coast SAC. The Secretary of State therefore carried out an appropriate assessment to determine whether there would be any adverse effects on site integrity of these European sites.
99. The Secretary of State concludes that when mitigation measures are taken into account, adverse effects, from the Proposed Development alone and in combination with other plans and projects, on the integrity of the Humber Estuary SPA, the Humber Estuary SAC, the Humber Estuary Ramsar site and The Wash and North Norfolk Coast SAC can be excluded.
100. The Secretary of State has therefore concluded, as competent authority for the purposes of the Habitats Regulations, that taking into account the package of mitigation measures it is permissible for her to give consent for the Proposed Development.

## **Annex 1 Documents used to inform this HRA Report**

NB. This list is not exhaustive. The HRA Report is informed by the application and submissions to the Examination, together with submissions after the close of Examination.

### Application Documents

- Environmental Statement (including supporting figures and appendices)
- Habitats Regulations Assessment

### Examination Documents produced by Applicant

- Updates to the Habitats Regulations Assessment at Deadline
- Without Prejudice Habitats Regulations Derogations Report
- Outline Construction Environmental Management Plan

### ExA Procedural Documents

- Report on the Implications for European Sites
- Recommendation Report

### Submissions after close of Examination

- Responses from Natural England and the Marine management Organisation to consultation undertaken by the Secretary of State on 4 December 2024

## Annex 2 Conservation objectives for sites considered in the appropriate assessment

The conservation objectives reproduced below are available from:

<http://publications.naturalengland.org.uk/category/6490068894089216<sup>2</sup>>

NB. In the case of all European sites identified below, the Conservation Objectives are to be read in conjunction with the accompanying Supplementary Advice documents, which provides more detailed advice and information to enable the application and achievement of the Objectives set out.

### Humber Estuary SAC (Site Code UK0030170)

With regard to the SAC and the natural habitats and/or species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

The extent and distribution of the qualifying natural habitats and habitats of qualifying species;

- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of the qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks.

H1130. Estuaries.

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats.

H1150. Coastal lagoons\*.

H1310. *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand.

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

H2110. Embryonic shifting dunes.

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<sup>2</sup> Accessed 25/05/2024

- H2120. Shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”); Shifting dunes with marram.
- H2130. Fixed dunes with herbaceous vegetation (“grey dunes”); Dune grassland\*.
- H2160. Dunes with *Hippophae rhamnoides*; Dunes with sea buckthorn.
- S1095. *Petromyzon marinus*; Sea lamprey.
- S1099. *Lampetra fluviatilis*; River lamprey.
- S1364. *Halichoerus grypus*; Grey seal.

\* denotes a priority habitat or species

### **Humber Estuary SPA (Site Code: UK9006111)**

With regard to the SPA and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed below), and subject to natural change:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of the habitats of qualifying species;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

Qualifying Features:

- A021. *Botaurus stellaris*; Great bittern (non-breeding).
- A021. *Botaurus stellaris*; Great bittern (breeding).
- A048. *Tadorna tadorna*; Common shelduck (non-breeding).
- A081. *Circus aeruginosus*; Eurasian marsh harrier (breeding).
- A082. *Circus cyaneus*; Marsh harrier (non-breeding).
- A132. *Recurvirostra avocetta*; pied avocet (non-breeding).
- A132. *Recurvirostra avocetta*; pied avocet (non-breeding).
- A140. *Pluvialis apricaria*; European golden plover (non-breeding).
- A143. *Calidris canutus*; Red knot (non-breeding).
- A149. *Calidris alpina alpina*; Dunlin (non-breeding).

- A151. *Philomachus pugnax*; Ruff (non-breeding).  
 A156. *Limosa limosa islandica*; Black-tailed godwit (non-breeding).  
 A157. *Limosa lapponica*; Bar-tailed godwit (non-breeding).  
 A162. *Tringa totanus*; Common redshank (non-breeding).  
 A195. *Sterna albifrons*; Little tern (breeding).

Waterbird assemblage.

### Humber Estuary Ramsar (Site Code: UK11031)

Ramsar Criteria:

The site is representative example of a near-natural estuary with the following component habitats: dune system with humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons.

The site supports a breeding colony of grey seals *Halichoerus grypus* at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast. The dune slacks at Saltfleetby-Theddlethorpe on the southern extremity of the Ramsar site are the most north-easterly breeding site for natterjack toad *Bufo calamita*.

Assemblages of international importance:

- Species with peak counts in winter: 153934 waterfowl (5-year peak mean 1998/99 – 2002/03)

Species/populations occurring at levels of international importance

Qualifying species/populations (as identified at designation):

Species with peak counts in spring/autumn:

European golden plover, *Pluvialis apricaria apricaria*, *P. altifrons* Iceland & Faroes/E Atlantic 17996 individuals, representing an average of 2.2% of the population (1996-2000)

Red knot, *Calidris canutus islandica*, W & Southern Africa 18500 individuals, representing an average of 4.1% of the population (1996-2000)

(wintering)

Dunlin, *Calidris alpina alpina*, W Siberia/W Europe 20269 individuals, representing an average of 1.5% of the population (1996-2000)

Black-tailed godwit, *Limosa limosa islandica*, Iceland/W Europe 915 individuals, representing an average of 2.6% of the population (1996-2000)

Common redshank, *Tringa totanus totanus* 7462 individuals, representing an average of 5.7% of the population (1996-2000)

Species with peak counts in winter:

Common shelduck, *Tadorna tadorna*, NW Europe 4464 individuals, representing an average of 1.5% of the population (1996-2000)

European golden plover, *Pluvialis apricaria apricaria*, *P. a altifrons* Iceland & Faroes/E Atlantic 30709 individuals, representing an average of 3.8% of the population (1996-2000)

Red knot, *Calidris canutus islandica*, W & Southern Africa 28165 individuals, representing an average of 6.3% of the population (1996-2000)

(wintering)

Dunlin, *Calidris alpina alpina*, W Siberia/W Europe 22222 individuals, representing an average of 1.7% of the population (1996-2000)

Black-tailed godwit, *Limosa limosa islaponica*, Iceland/W Europe 1113 individuals, representing an average of 3.2% of the population (1996-2000)

Bar-tailed godwit, *Limosa lapponica lapponica*, Iceland/W Europe 2752 individuals, representing an average of 2.3% of the population (1996-2000)

The site acts as an important migration route for both river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus* between coastal waters and their spawning areas.

### **The Wash and North Norfolk Coast SAC (Site Code: UK0017075)**

With regard to the SAC and the natural habitats and/or species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:



- The extent and distribution of the qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- The populations of qualifying species; and,
- The distribution of qualifying species within the site.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sand banks.

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats.

H1150. Coastal lagoons\*.

H1170. Reefs.

H1310. Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand.

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).

H1420. Mediterranean and thermos-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub.

S1355. *Lutra lutra*; Otter.

**S1265. *Phoca vitulina*; Common seal.**

\* denotes a priority habitat or species