

ANNEX B

HABITATS REGULATIONS ASSESSMENT FOR AN APPLICATION UNDER THE
PLANNING ACT 2008

THE GREAT YARMOUTH THIRD RIVER CROSSING

24 SEPTEMBER 2020

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1. INTRODUCTION

Background

- 1.1. This document is a record of the Habitats Regulations Assessment (“HRA”) that the Secretary of State for Transport (“the Secretary of State”) has undertaken under regulation 63 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”) in respect of the Development Consent Order (“DCO”), for the proposed ‘Great Yarmouth Third River Crossing’ (“the Proposed Development”). This document (“the HRA Report”) includes an appropriate assessment for the purposes of regulation 63 of the Habitats Regulations.
- 1.2. Norfolk County Council (“the Applicant”) applied to the Secretary of State for a DCO under section 37 of the Planning Act 2008 (“PA 2008”) for the Proposed Development. The Proposed Development to which the Application relates is described in more detail in Section 2 of this HRA Report.
- 1.3. Following a qualifying request from the Applicant, the Secretary of State made a Direction on 26 February 2018 under section 35 of the PA 2008 that the Proposed Development is a Nationally Significant Infrastructure Project (“NSIP”) for which development consent is required. The reasons were:
 - The Port has a nationally significant role in the renewable energy sector and the offshore gas and oil industry and the Proposed Development would substantially improve connectivity and resilience for port activities;
 - The Proposed Development would support the delivery of existing and potential renewable energy NSIPs;
 - The Proposed Development would support the Port’s role as an International Gateway;
 - In addition, the Proposed Development would improve the offer of the Port through better connectivity to the South Denes Enterprise Zone (“EZ”).
- 1.4. The application for the Proposed Development was accepted for examination by the Planning Inspectorate (“the Inspectorate”) (under the delegated authority of the Secretary of State) on 28 May 2019.
- 1.5. The Secretary of State for the Ministry of Housing, Communities and Local Government (“MHCLG”) appointed Dominic Young as the Examining Authority (“ExA”) for the Application on 21 June 2019. The examination commenced on 24 September 2019.
- 1.6. The Applicant submitted requests to make changes to the Proposed Development to which the Application relates during the examination, as set out in Section 1.8 of the ExA’s Recommendation Report. Following notification from the Applicant on 28 November 2019, the changes were requested on 11 December 2019. The ExA accepted the changes as being ‘non-material’ amendments and issued a Procedural Decision confirming this on 25 February 2020. The Applicant duly produced revised application documents which were submitted at deadline 7 of the examination which took place on 3 March 2020. The documents updated relate to car parking and traffic restrictions and do not relate to the HRA or supporting information.
- 1.7. The examination concluded on 24 March 2020. The ExA submitted the report of the examination, including its recommendation to the Secretary of State for Transport on 24 June 2020. The Secretary of State’s conclusions in relation to

European sites have been informed by the ExA's report and the documents submitted during the examination as described below.

Habitats Regulations Assessment

- 1.8. Council Directives 92/43/EEC ("the Habitats Directive") and 2009/147/EC ("the Birds Directive") provide for the designation of sites for the protection of certain species and habitats. The sites designated under these Directives are collectively termed European sites and form part of a network of protected sites across Europe, known as the Natura 2000 network. In the UK the Habitats Regulations transpose these Directives into national law and apply up to the 12 nautical mile limit of territorial waters.
- 1.9. 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. UK Government policy is to give sites listed under this convention ("Ramsar sites") the same protection as European sites.
- 1.10. For the purposes of this HRA Report, in line with the Habitats Regulations and relevant Government policy, the term European sites includes Special Areas of Conservation (SAC), candidate SACs (cSAC), possible SACs (pSAC), Special Protection Areas (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.
- 1.11. Regulation 63 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..."
- 1.12. The Proposed Development is not connected with or necessary to the management of any European sites, as set out in Section 7.1 of the Applicant's Habitats Regulations Assessment NCC/GYRC/EX/028 (Rev 1) submitted at examination deadline 2. Accordingly, the Secretary of State, as the competent authority for the purposes of the DCO/Deemed Marine Licence ("DML"), has undertaken an assessment in line with the requirements of the Habitats Regulations. This HRA Report is the record of the appropriate assessment for the purposes of regulation 63 of the Habitats Regulations.

Consultation with the Appropriate Nature Conservation Body

- 1.13. 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.

- 1.14. Natural England (“NE”) provided a relevant representation (31 July 2019) and written comments at deadline 1 restating their position in this representation. At deadline 2 they provided responses to the ExA’s first written questions and at deadline 9 they stated they had no comments in relation to the ExA’s preferred draft DCO. A Statement of Common Ground (“SoCG”) between the Applicant and NE was first submitted by the Applicant at deadline 1 of the examination on the 8 October 2019 as Appendix A to their Statement of Commonality for Statements of Common Ground. An updated version was submitted at deadline 3 (28 November 2019) with all matters agreed. An updated and signed version was provided at deadline 6 (11 February 2020) and resubmitted at deadline 7 (3 March 2020). Subsequent references to the SoCG in this HRA Report are to the version submitted at deadline 7, signed by both parties on 4 February 2020. The SoCG confirmed that the HRA methodology and assessment, including that relating to in-combination effects, were agreed between the two parties, and NE accepted the findings of the Applicant’s HRA. No HRA matters were identified as outstanding between them in respect of the Proposed Development.
- 1.15. In certain circumstances, the ExA makes a procedural decision to issue a Report of the Implication for European Sites (“RIES”) during the examination, for comment by all Interested Parties and the statutory nature conservation body(ies). On the basis of the statement in NE’s relevant representation that it considered that, subject to mitigation, the Proposed Development would not have adverse effects on the integrity of the European sites considered (see below), and the absence of evidence to the contrary submitted during the examination the ExA decided not to issue a RIES during the examination of the Proposed Development.
- 1.16. The Secretary of State is satisfied that NE have been consulted and has been given suitable opportunities to make representations in accordance with regulation 63(3) of the Habitats Regulations.

Changes to the Application during Examination

- 1.17. In respect of the non-material amendments to the Application described at Section 1.8 of the ExA’s Recommendation Report, the Secretary of State is satisfied that the changes constituted non-material amendments that did not have any bearing on HRA matters. No specific updates were made to the Applicant’s HRA documentation in light of the changes. The Secretary of State accepts the changes as being non-material.
- 1.18. The Secretary of State concludes that the findings in the Applicant’s HRA (as described below) are unaffected by the non-material amendments.

Documents Referred to in this HRA Report

- 1.19. This HRA Report has taken account of and should be read in conjunction with the documents produced as part of the application and examination as listed in Annex 1 to this HRA Report.
- 1.20. The Applicant submitted a report entitled ‘Information to Inform the Habitats Regulations Assessment’ (“the Applicant’s HRA”) as part of their DCO application (Application Document Reference 6.11). This is the principal document prepared by the Applicant in support of HRA matters. The Applicant’s HRA comprises a screening assessment and an assessment of effects on the integrity of European designated sites. The Applicant concluded no adverse effects on the integrity of any European designated sites, so has not presented consideration of alternative solutions or Imperative Reasons of Over-riding Public Interest (“IROPI”).

- 1.21. The Applicant's HRA included screening and integrity matrices following the Planning Inspectorate format, a report of consultation undertaken, and supporting figures.
- 1.22. As set out in paragraph 5.3.4 of the ExA's Recommendation Report, a subsequent version of the Applicant's HRA with the matrices included and submitted as a stand-alone document were provided by the Applicant under their own volition at Deadline 2 as 'Habitat Regulation Assessment (Rev 1)' Document NCC/GY3RC/EX/028 and Document NCC/GY3RC/EX/031. 'Rev 1' of the Applicant's HRA is the most recent iteration of the document and all references to the Applicant's HRA by the Secretary of State in this HRA Report are to this version unless otherwise stated.

Structure of this HRA Report

- 1.23. 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.
 - Section 5 considers adverse effects on the integrity of European sites, alone or in-combination with other plans or projects.
 - Section 6 summarises the Secretary of State's appropriate assessment and HRA conclusions.

2. DEVELOPMENT DESCRIPTION

- 2.1. The Proposed Development is located within Great Yarmouth, and involves the construction, operation and maintenance of a new dual carriageway road bridge linking the A47 at Harfrey's Roundabout on the western side of the River Yare to the A1243 South Denes Road on the eastern Side of the river.
- 2.2. The Proposed Development itself comprises:
- An opening span double leaf bascule (lifting) bridge across the River Yare, including all structures to support its operation eg counterweights and a control tower structure;
 - The construction of two 'knuckles' extending the existing quay wall into the river to support the bridge;
 - The bridge will include a span over the existing Southtown Road on the western side of the river and a span on the eastern side to provide an underpass for access to existing businesses;
 - A new five-arm roundabout connecting the new dual carriageway with Suffolk Road, Willian Adams Way and the western end of Queen Anne's Road;
 - A new signalised junction connecting the new road with the A1243 South Denes Road;
 - Associated changes, modifications and/or improvements to the existing local highway network;
 - Implementation of part of a flood defence scheme along Bollard Quay;
 - Provision of vessel waiting facilities to the north and south of the new crossing, either as floating pontoons or additional fendering to existing berths.
- 2.3. In connection with the above, cofferdams will be constructed within the river to accommodate the construction of the bridge substructures. Piling will be carried out to construct the bridge and other sections of road where deep soft ground is encountered. The Proposed Development includes the creation of temporary construction compounds, relocation of existing services and facilities, and associated works for demolition of existing structures, temporary access, temporary lay-down and work areas and ancillary works.
- 2.4. The Proposed Development is described in Section 5 of the Applicant's HRA and in Chapter 2 Volume I of the ES (Application Document 6.1) with further description of each of the key components listed above. This description is accompanied by the Applicant's Location Plan (Application Document 2.1), General Arrangement Plan (Application Document 2.2) and Landscaping Plan (Application Document 2.9).
- 2.5. The phased construction of the Proposed Development is expected to take approximately two years. Further detail on the timings and key activities involved is set out in Section 2.6 of the ES Volume I (Document 6.1), including:
- Preliminary Construction Programme (Table 2.2)
 - A description of construction activities and requirements, including site clearance, compound establishment, access and traffic management, vehicle movements, staffing levels and core working hours, and construction lighting.

- 2.6. The operation of the Proposed Development is expected to be 24 hours a day and 365 days a year, with the bridge opening an estimated average of 15 times each weekday. Maintenance would include routine planned activities as well as reactive maintenance and repairs.
- 2.7. Section 2.8 of the ES explains that the design life of the bridge is a minimum of 120 years and there are no plans to decommission the Proposed Development. The ES states that effects associated with decommissioning cannot be reasonably predicted and have not been assessed. This is also set out in Section 5.6 of the Applicant's HRA; as decommissioning and / or demolition works at the end of the Proposed Development's operational life are yet to be determined.
- 2.8. The potential effects on European sites associated with the construction, and operation of the Proposed Development are addressed in Section 4 and 5 of this HRA Report.

3. LOCATION OF THE PROPOSED DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES

Location and Existing Land Use

- 3.1. The Proposed Development is located in the town of Great Yarmouth, on Norfolk's coast, approximately 30 km east of Norwich. Great Yarmouth is located at the mouth of the River Yare, one of the main waterways providing access to the Norfolk Broads. The river bisects Great Yarmouth, with the town centre, seafront, industrial areas and outer harbour being located on the narrow, 4km long, South Denes peninsula, which lies between the river and the sea, isolated from the rest of the town. To the south of the River Yare, Gorleston-on-Sea is just a few hundred metres away from the South Denes peninsula as the crow flies, but by road it is over 7km in distance.

European Sites Potentially Affected by the Proposed Development

- 3.2. The Applicant's HRA report identified European sites within 2km of the application site boundary, extended to up to 30 km where potential hydrological connections may exist. In their response to the ExA's first written question 1.2.2 the Applicant confirmed that the 2km study area was determined by having regards to the likely impacts of the Proposed Development and potential receptors and that the wider study area represented the likely extent of hydromorphological effects. The Applicant also stated that the study area had been determined alongside consultation with NE.
- 3.3. The Development's Order Limits overlap with the Outer Thames Estuary SPA. The Applicant screened the following European sites for inclusion within the HRA:

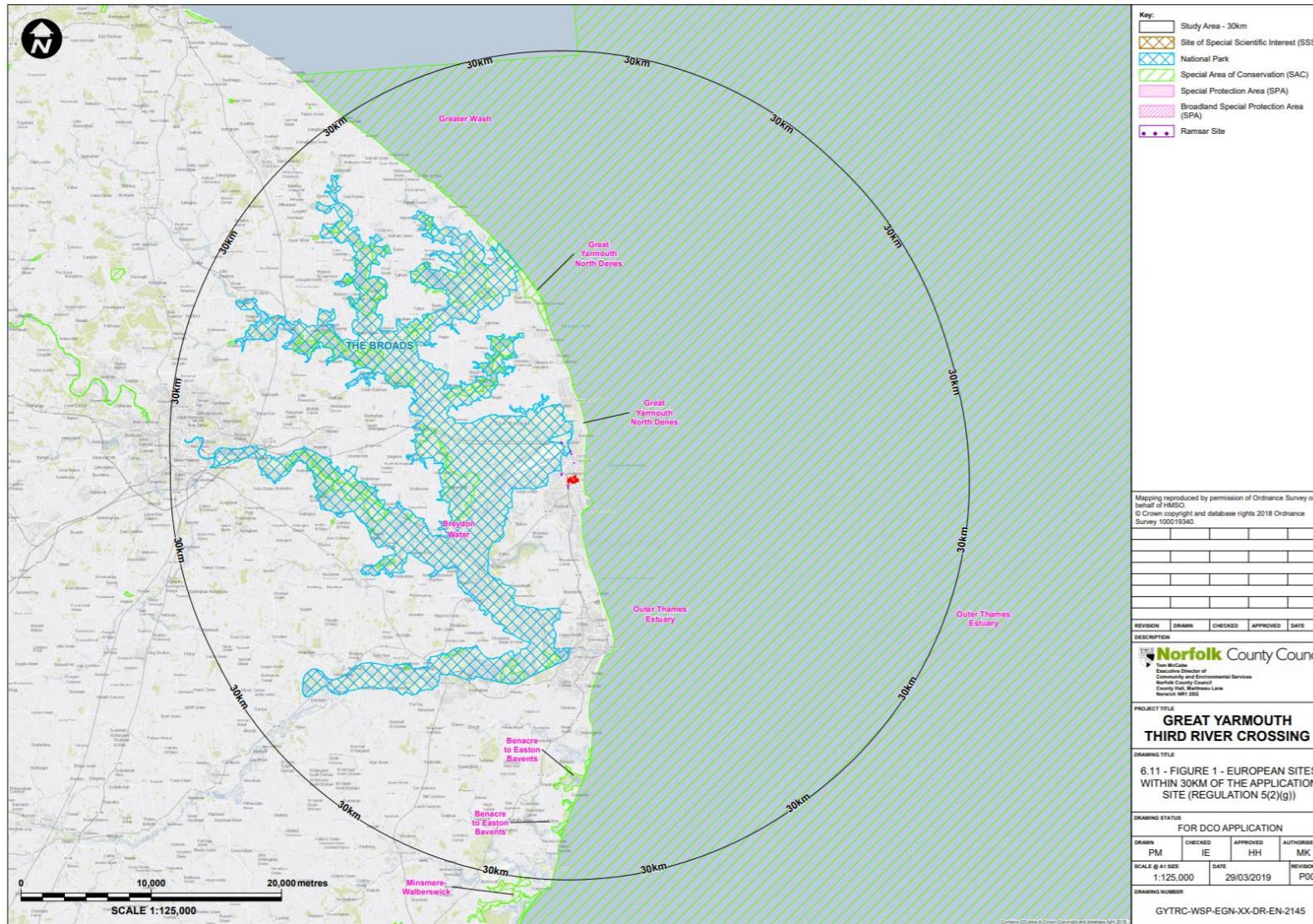
Table 1 European sites identified in the vicinity of the Proposed Development

European Site	Approximate Distance from the Development boundary (km)*
Outer Thames Estuary SPA and Extension	0.00
Southern North Sea SAC (designated in March 2019. Identified as cSAC and SCI in the Applicant's HRA)	0.46
Breydon Water SPA	1.8
Breydon Water Ramsar	1.8
Great Yarmouth and North Denes SPA	2.7
The Broads SAC	6.7
Broadland SPA	6.7
Broadland Ramsar	6.7

**Approximate distances as set out in Tables 7.2 to 7.9 of the Applicant's HRA*

- 3.4. The location of the European sites in relation to the Proposed Development are shown on Figure 1 below, which is reproduced from Figure 1 of the Applicant's HRA originally submitted with the Application.
- 3.5. Figures 1 and 2 of the initial HRA Report also show the Greater Wash SPA; Minsmere-Walberswick SPA; Benacre to Bavents SAC (correctly referred to as Benacre to Easton Bavents Lagoons SAC), however the Applicant's HRA did not include these in the assessment. In response to the ExA's first written questions, question 1.2.4, the Applicant stated that these sites were not hydrologically linked and/or do not support any qualifying species considered likely to interact with the Proposed Development. In response to the same question NE confirmed that it considered the Greater Wash SPA, Benacre to Eastern Bavents SPA, SAC, and Minsmere and Walberswick SPA, SAC, Ramsar are unlikely to be significantly affected due to their distances from the Development. NE stated that it was "*satisfied that the relevant designated sites, interest features and impact pathways have been scoped into the Habitats Regulations Assessment*".
- 3.6. NE's relevant representation identifies that the Southern North Sea is a designated SAC rather than a cSAC, a point that was not addressed by the Applicant in its updated HRA. The ExA's recommendation report states that it is not considered that the change to the designation from cSAC/SCI to SAC affects the conclusions drawn in the Applicant's updated HRA since the conservation objectives are the same for the SAC and cSAC/SCI, and the Secretary of State agrees with this conclusion.
- 3.7. The Applicant did not identify any potential impacts on European sites in any other European Economic Area States.
- 3.8. No European sites or features were identified by any other Interested Party ("IP") in addition to those screened by the Applicant. The ExA's recommendation report states that no evidence was presented during the examination to suggest that effects from the Proposed Development could occur to any other European site. The Secretary of State is satisfied that based on the scale and nature of the project and commentary from NE in their SoCG with the Applicant, relevant representations and subsequent representations, the study area is appropriate to inform the selection of designated sites considered in the HRA, and that no other European site needs to be addressed in this HRA Report.
- 3.9. The Secretary of State is also satisfied the Proposed Development is not connected with or necessary to the management of any European sites, as set out in Section 7.1 of the Applicant's HRA NCC/GYRC/EX/028 (Rev 1).

Figure 1 Location of the Development in relation to European sites potentially affected¹



¹ The figure from the Applicant’s HRA (Document 6.11). The figure was not reproduced in the revised HRA submitted during the examination.

4. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS (“LSE”)

Potential Effects from the Development

- 4.1. The qualifying features of the identified sites are listed in Chapter 6 of the Applicant’s HRA. Screening and integrity matrices were provided in Chapter 7 of that report and as a standalone document. Chapter 6 outlines the vulnerability and threats applicable to the sites and sets out their conservation objectives (Annex 2 of this report).
- 4.2. Section 7 of the Applicant’s HRA outlines the approach to screening for likely significant effects (“LSE”). Table 7.1 sets out the types of potential impacts which could occur as a result of the Proposed Development, on a site by site basis. For each site considered, the potential effects considered are:
- **Habitat loss:** Habitat loss and fragmentation
 - **Displacement:** disturbance from noise, disturbance from vibration, disturbance from lighting
 - **Sediment deposition:** water quality changes resulting from sediment deposition
 - **Pollution:** watercourse contamination through pollution and/or run-off, watercourse and habitat contamination through reduction in air quality and/or nitrogen deposition.
- 4.3. In the signed SoCG between the Applicant and NE the record of engagement provides NE’s advice on the potential impacts to be considered in the HRA and the Applicant’s HRA accords with that advice.
- 4.4. The Secretary of State notes that the Applicant’s HRA refers to the information on site vulnerabilities within each European site’s Natura 2000 Standard Data Form, and reproduces this, with the exception of the Southern North Sea SAC. The Secretary of State has considered the Standard Data Form against the information provided in the Applicant’s HRA Paragraph 6.2.4 and is content that the appropriate vulnerabilities and threats have been identified.
- 4.5. Tables 7.2 to 7.9 present the screening matrices providing detail on the likely potential impacts which could affect each qualifying feature and at what stage i.e. construction or operation.
- 4.6. The Applicant’s HRA states that decommissioning, if required, was not anticipated to take place for a minimum of 120 years and therefore decommissioning effects could not be reasonably predicted. The Secretary of State is content that any significant decommissioning effects would have to be addressed by the relevant authority(ies) at the time and do not need to form part of this assessment.
- 4.7. No evidence was presented during the examination that the Proposed Development was likely to give rise to any other effects on European sites than those which had been considered by the Applicant as set out above. The Secretary of State is content that this list includes all of the likely significant effects on European sites and their qualifying features which require consideration given the nature, scale and location of the Proposed Development.
- 4.8. The conclusions of the screening exercise are summarised in Table 2 of this report, below.

Conservation Objectives

- 4.9. The conservation objectives for European sites define the desired state for a European site when it will contribute to favourable conservation status for the designated features. The conservation objectives, as published by NE and the Joint Nature Conservation Committee (“JNCC”) are provided in Annex 2 of this HRA Report. The Applicant supplied this information in Chapter 6 of their updated HRA.
- 4.10. The Applicant’s HRA identifies difficulties in finding information on the conservation objectives for Broadland Ramsar site and Breydon Water Ramsar site. In response to the ExA’s first written questions, NE confirmed that they accepted the application of the conservation objectives for Broadland SPA to the Broadland Ramsar site. For the purposes of this appropriate assessment, the Secretary of State is satisfied that the criterion of the Broadland Ramsar and the Breydon Water Ramsar sites are reflected by the qualifying features for the corresponding respective SPAs. These conservation objectives have therefore been considered as a suitable proxy in each case for the Ramsar sites.
- 4.11. The Secretary of State is satisfied that the correct conservation objectives have been applied in respect of the European sites progressed to an assessment of adverse effects on integrity.

Assessment of In-combination Effects

- 4.12. Section 7.12 of the Applicant’s HRA describes the approach to the potential effects of the Proposed Development in-combination with other plans and projects. Section 7.12.2 and 7.12.3 describe the planned and proposed projects within the vicinity of the Proposed Development and further afield considered in the assessment, with reference to the Applicant’s Scoping Report and Chapter 19 of the ES. Section 7.12 of the updated HRA states that significant effects are unlikely to arise in-combination with other developments, on the basis that all the other projects considered which have undertaken an assessment of effects on European sites have concluded no adverse effects. Where information is not available this has been identified. Specific types of impact have not been assessed in-combination with others within Section 7.12 of the Applicant’s HRA and Tables 7.2 to 7.9 do not provide any additional reasoning.
- 4.13. The ExA explored the approach to the in-combination assessment and the reasoning behind the conclusions through written questions 1.26 and 1.2.7. The Applicant’s responses provided more information about the methodology applied and confirmed the degree of consultation undertaken with the relevant authorities on the approach applied. The Applicant stated that the HRA had applied the same approach used in the assessment of cumulative effects reported in Chapter 19 of the ES, and provided justification as to why this approach was considered appropriate for the assessment of in-combination effects.
- 4.14. The signed SoCG between the Applicant and NE states their satisfaction with the methodology and approach to the in-combination assessment. The Secretary of State is satisfied that the approach to the assessment of in-combination effects is appropriate.

Table 2 Summary of Applicant's HRA screening for LSE

Name of European site and location in relation to the Development	Qualifying features	LSE identified
<p>Southern North Sea SAC UK0030395 (designated in March 2019. Identified as cSAC and SCI in the Applicant's HRA) 0.46km from the Development Applicant's HRA Table 7.2</p>	<p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Harbour porpoise (<i>Phocoena phocoena</i>) <p>The Applicant's HRA does not provide population status information in Chapter 6. From the Natura 2000 Standard data form population estimates from 2016 are stated as a minimum of 20237 (lower 95% CI) and maximum of 41538.</p>	<ul style="list-style-type: none"> • Sediment deposition: the Applicant's HRA refers to modelling of sediment reported in Chapter 11 of the ES, concluding that sediment entering the Yare as a result of the Development could migrate to the North Sea. Table 7.2 footnote <i>f</i> states that the magnitude of change to the SAC would be very small, however, the table shows that an LSE cannot be excluded. • Water pollution: in the absence of control measures, water pollution arising from construction is concluded to potentially give rise to LSE. Operational water pollution is not discussed in the text, however the screening matrix (Table 7.2 of the Applicant's HRA) concluded that operational pollution should be subject to further assessment.
<p>Outer Thames Estuary SPA and Extension UK9020309 0.00km from the Development Applicant's HRA Table 7.3</p>	<p>Annex II species</p> <ul style="list-style-type: none"> • Red-throated diver <i>Gavia stellata</i> – non-breeding; 6,466 individuals (1989-2006/7): 38% of GB population • Little tern <i>Sternula albifrons</i> – breeding; 746 individuals (2011-2015) 19.6% of GB population. 	<ul style="list-style-type: none"> • Sediment deposition: the Applicant's HRA identifies potential sediment deposition effects to the River Yare, and presents evidence that while the qualifying bird species are unlikely to be present, in the absence of mitigation measures LSE cannot be excluded.

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> • Common tern <i>Sterna hirundo</i> – breeding; 532 individuals (2011-2015) 2.7% of GB population. 	<ul style="list-style-type: none"> • Air, Noise and lighting pollution: the Applicant's HRA concludes that given the proximity of the Proposed Development to the European site that air, noise and lighting impacts during construction; and noise and lighting impacts during operation could give rise to LSE. • Water pollution: in the absence of control measures, water pollution arising from construction and operation is concluded to potentially give rise to LSE.
<p>Breydon Water SPA UK9009181 1.8km from the Development Applicant's HRA Table 7.4</p>	<p>Annex II species</p> <p>During the Breeding Season</p> <ul style="list-style-type: none"> • Common tern <i>Sterna hirundo</i> – 155 pairs (1992-94 and 1996): 1.3% of GB population. <p>Over Winter</p> <ul style="list-style-type: none"> • Avocet <i>Recurvirostra avosetta</i> – 33 individuals (5-year peak mean 1991/92 to 1995/96): 2.6% of GB population. • Bewick's swan <i>Cygnus columbianus bewickii</i> – 391 individuals (5-year peak mean 1991/92 to 1995/96): 5.6% of GB population. • Golden plover <i>Pluvialis apricaria</i> – 5,040 individuals (5-year peak mean 1991/92 to 1995/96): 2.0% of GB population. 	<ul style="list-style-type: none"> • Water pollution: in the absence of control measures, water pollution arising from construction and operation is concluded to potentially give rise to LSE.

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> Lapwing <i>Vanellus vanellus</i> – 24,940 wintering individuals (5-year peak mean 1991/92 to 1995/96): 1.2% of European breeding population. <p>Passage</p> <ul style="list-style-type: none"> Ruff <i>Philomachus pugnax</i> – 54 individuals (5-year peak mean 1991/92 to 1995/96): 7.7% of GB population. <p>Assemblage</p> <p>Regularly supporting 43,225 individual waterfowl (5-year peak mean 1991/92 to 1995/96) including black-tailed godwit <i>Limosa islandica</i>, dunlin <i>Calidris alpina</i>, lapwing <i>Vanellus</i>, shoveler <i>Anas clypeata</i>, wigeon <i>Anas penelope</i>, white-fronted goose <i>Anser albifrons</i>, cormorant <i>Phalacrocorax carbo</i>, golden plover <i>Pluvialis apricaria</i>, avocet <i>Recurvirostra avosetta</i>, Bewick's swan <i>Cygnus columbianus bewickii</i>.</p>	
<p>Breydon Water Ramsar UK11008</p> <p>1.8km from the Development</p> <p>Applicant's HRA Table 7.5</p>	<p>Ramsar Criterion 5: assemblage of international importance</p> <ul style="list-style-type: none"> 68,175 waterfowl (5-year peak mean 1998/99 to 2002/03). <p>Ramsar criterion 6: species occurring at levels of international importance:</p> <ul style="list-style-type: none"> Bewick's swan <i>Cygnus columbianus bewickii</i> – 171 individuals (5-year peak mean 1998/99 to 2002/03): 2.1% of GB population. 	<ul style="list-style-type: none"> Water pollution: in the absence of control measures, water pollution arising from construction and operation is concluded to potentially give rise to LSE.

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> • Lapwing <i>Vanellus</i> – 20,142 individuals (5-year peak mean 1998/99 to 2002/03): 1.3% of GB population. <p>Species identified subsequent to designation for possible future consideration under criterion 6:</p> <ul style="list-style-type: none"> • Pink-footed goose <i>Anser brachyrhynchus</i> – 5,816 individuals (5-year peak mean 1998/99 to 2002/03): 1.3% of Greenland & Iceland/UK population. • Wigeon <i>Anas penelope</i> – 15,624 individuals (5-year peak mean 1998/99 to 2002/03): 1.0% of NW Europe population. • Shoveler <i>Anas clypeata</i> – 478 individuals (5-year peak mean 1998/99 to 2002/03): 1.1% of NW & C Europe population. • Golden plover <i>Pluvialis apricaria</i> – 10,656 individuals (5-year peak mean 1998/99 to 2002/03): 1.1% of Iceland & Faroes/East Atlantic population. • Black-tailed godwit <i>Limosa islandica</i> – 1,100 individuals (5-year peak mean 1998/99 to 2002/03): 3.1% of Iceland/Western Europe population. 	
<p>Great Yarmouth and North Denes SPA UK9009271</p> <p>2.7km from the Development</p> <p>Applicant's HRA Table 7.6</p>	<p>Annex II species</p> <p>Breeding</p>	<ul style="list-style-type: none"> • LSE excluded – see Paragraphs 4.33 to 4.35 below

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> • Little tern <i>Sternula albifrons</i> – 220 pairs (5-year mean, 1992-1996): 9.2% of GB breeding population. 	
<p>The Broads SAC UK0013577 6.7km from the Development Applicant's HRA Table 7.7</p>	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • 3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. The Broads is the richest area for charophytes (stoneworts) in Britain with twenty species having been recorded, which represents over 65% of the British flora. • 3150 Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation. The Broads in East Anglia contain several examples of southern natural eutrophic lakes. Although artificial, having arisen from peat digging in medieval times, these lakes and the ditches in areas of fen and drained marshlands support relict vegetation of the original Fenland flora, and collectively this site contains one of the richest assemblages of rare and local aquatic species in the UK. • 7140 Transition mires and quaking bogs. The Broads contain examples of transition mire in a flood plain in the south-eastern part of the UK, where the habitat is rare. • 7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>* Priority feature. This flood plain mire site in East Anglia has the largest example of calcareous fens in the 	<ul style="list-style-type: none"> • LSE excluded – see Paragraphs 4.33 to 4.35 below

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<p>UK and possibly the largest occurrence in the EU outside Sweden.</p> <ul style="list-style-type: none"> • 7230 Alkaline fens. The Broads is one of two sites selected for alkaline fens in East Anglia, in eastern England, where a main concentration of lowland fen occurs. • 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>AlnoPadion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) * Priority feature. The complex of sites in the Broads of East Anglia contains the largest blocks of alder wood in England. <p>Qualifying features not a primary reason for selection</p> <ul style="list-style-type: none"> • 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>). Purple moor-grass meadows. <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> • 1016 Desmoulin`s whorl snail <i>Vertigo moulinsiana</i>. The Broads is the main stronghold of Desmoulin`s whorl snail in East Anglia and is one of several sites selected in this part of its range. Several large populations are known, associated with standing and flowing water and ditch systems. This is a very important area for its wetland invertebrate fauna, and many Red Data Book and Nationally Scarce species occur here. • 1903 Fen orchid <i>Liparis loeselii</i>. The Broads in eastern England provide representation of the 	

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<p>Fenland form of fen orchid in the eastern part of its UK range. Three small populations of var. <i>loeselii</i> are known to occur on this site, and 242 plants were found in 1996.</p> <ul style="list-style-type: none"> • 4056 Ramshorn snail <i>Anisus vorticulus</i>. This species occurs across a range of sites in southern and eastern England. The Broads is one of the three main population centres for this species in the UK. <p>Annex II species that are a qualifying feature but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> • Otter <i>Lutra lutra</i>. 	
<p>Broadland SPA UK9009253 6.7km from the Development Applicant's HRA Table 7.8</p>	<p>Annex II species</p> <p>The site is used regularly by 1% or more of the GB population of the following species in any season:</p> <ul style="list-style-type: none"> • Bittern <i>Botaurus stellaris</i>: 10-15% (5-year peak mean 1987/88 to 1991/92) • Bewick's swan <i>Cygnus columbianus bewickii</i>: 8.6% (1996/97) • Whooper swan <i>Cygnus cygnus</i>: 1.8% (1996/97) • Marsh harrier <i>Circus aeruginosus</i>: 16% (5-year peak mean 1987/88 to 1991/92) • Hen harrier <i>Circus cyaneus</i>: 3% (5-year peak mean 1987/88 to 1991/92) 	<ul style="list-style-type: none"> • LSE excluded – see Paragraphs 4.33 to 4.35 below

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> • Ruff <i>Philomachus pugnax</i>: 6.4% (5-year peak mean 1987/88 to 1991/92). <p>The site is used regularly by around 1% of the biogeographic population of the following regularly occurring migratory species in any season:</p> <ul style="list-style-type: none"> • Wigeon <i>Anas Penelope</i>: 1.3% of north-west European population (5-year peak mean 1990/91 to 1995/96) • Gadwall <i>Anas strepera</i>: 1.0% of north-west European population (5-year peak mean 1990/91 to 1995/96) • Shoveler <i>Anas clypeata</i>: <1% of north-west European population (5-year peak mean 1990/91 to 1995/96). 	
<p>Broadland Ramsar UK11010 6.7km from the Development Applicant's HRA Table 7.9</p>	<p>Ramsar Criterion 2:</p> <ul style="list-style-type: none"> • The site supports a number of rare species and habitats within the biogeographical zone context, including Habitats Directive Annex I and Annex II features as listed above in The Broads SAC description of key features. <p>Ramsar Criterion 6: Species/populations occurring at levels of international importance:</p> <p>Species with Peak Counts in Winter:</p> <ul style="list-style-type: none"> • 196 individuals of Bewick's swan <i>Cygnus columbianus bewickii</i> (Northwestern Europe) representing an average of 2.4% of the GB population (5-year peak mean 1998/9-2002/3); 	<ul style="list-style-type: none"> • LSE excluded – see Paragraphs 4.33 to 4.35 below

Name of European site and location in relation to the Development	Qualifying features	LSE identified
	<ul style="list-style-type: none"> • 6,769 individuals of wigeon <i>Anas penelope</i> (North-western Europe) representing an average of 1.6% of the GB population (5-year peak mean 1998/9-2002/3) • 545 individuals of gadwall <i>Anas strepera</i> (North-western Europe) representing an average of 3.1% of the GB population (5-year peak mean 1998/9-2002/3) • 247 individuals of shoveler <i>Anas clypeata</i> (North-western and Central Europe) representing an average of 1.6% of the GB population (5-year peak mean 1998/9-2002/3). <p>The species/populations identified subsequent to designation for possible future consideration under Criterion 6:</p> <ul style="list-style-type: none"> • 4,263 individuals of pink-footed goose <i>Anser brachyrhynchus</i> (Greenland, Iceland/UK) representing an average of 1.7% of the population (5-year peak mean 1998/9-2002/3) • 1,007 individuals of greylag goose <i>Anser</i> (Iceland/UK, Ireland) representing an average of 1.1% of the population (source period not collated). 	

LSE Screening Conclusions Development Alone

Southern North Sea SAC

- 4.15. LSEs from sediment deposition and from water pollution during both construction and operation were identified (see Table 2).
- 4.16. *Habitat loss*: The Applicant's HRA excluded LSE from habitat loss during construction and operation as the Proposed Development would not require any construction activities or operational land-take from within the European site.
- 4.17. *Displacement from noise, vibration and lighting*: LSE due to displacement with increased vibration and underwater noise were also excluded by the Applicant due to the temporary nature of the construction works and the distance of the Proposed Development from the SAC. The construction and operational noise and vibration impacts are considered likely to dissipate before reaching optimal harbour porpoise habitat (open marine habitat). Effects from lighting (visual disturbance) are discussed alongside pollution effects in the Applicant's HRA. LSE are excluded on the basis that lighting is stated as only likely to impact the immediate vicinity of construction works and would not result in impact extending to the European site. Operational lighting is not discussed in the Applicant's HRA in the footnotes accompanying Table 7.2, however, the screening matrix excludes LSEs and this was not challenged by any evidence submitted through the examination. The Secretary of State also notes that in Table 8.10 of the ES Volume 1, Chapter 8, disturbance from operational lighting is screened out for the Outer Thames Estuary and effects from operational noise are assessed as negligible adverse (not significant). The Secretary of State's conclusions in Paragraph 4.41 has been informed by this evidence.
- 4.18. *Air quality effects (Nitrogen deposition)*: The Applicant's HRA considers nitrogen deposition effects to habitats from air quality changes, and excludes LSEs due to modelled conditions at Breydon Water SPA/Ramsar, an equivalent distance from the Development, showing no change in conditions as a result of the Proposed Development (see Paragraph 4.28 below).

Outer Thames Estuary SPA and Extension

- 4.19. LSEs from sediment deposition and from air (construction only), noise, lighting, and water pollution during both construction and operation were identified for all qualifying features (see Table 2).
- 4.20. *Habitat loss*: the Applicant's HRA states that construction activities would require temporary land take of less than 3.7ha of the European site, within the River Yare at the new bridge crossing. LSE on Red-throated diver are excluded as this species is known to forage offshore and is not ordinarily present in the River Yare. Little tern are known to have a limited coastal foraging range and are not known to breed in the vicinity of the Proposed Development, and for these reasons LSE have been excluded for this qualifying feature. Common tern breed in the adjacent Breydon Water SPA, however, the Applicant's HRA and Chapter 8 of the ES describe targeted surveys for this species, detailed in Appendix 8D of the ES, which recorded no Common tern in the four surveys undertaken between mid-May and mid-June 2018, and therefore no LSE are predicted.
- 4.21. During operation, permanent land take of approximately 3.7ha in the location of the bridge piers is identified in the Applicant's HRA. The screening matrix concludes that given that red-throated diver forage at distance is offshore no LSE

would occur on this species. The Applicant's HRA does not provide specific discussion of operational habitat loss effects on little tern or common tern, however the screening matrices provided record no LSE. The Secretary of State notes that Paragraphs 8.8.84 to 8.8.85 of Chapter 8, Volume 1 of the ES discuss fragmentation and barrier effects on statutory sites and conclude negligible effects given the absence of key species from the bird survey results.

- 4.22. *Displacement from noise and lighting*: LSE during construction and operation are excluded due to evidence that none of the three qualifying bird species are likely to be present within the vicinity of the Proposed Development. This conclusion is based on the habitat and foraging requirements of red-throated diver and little tern, and the results of the breeding bird surveys reported in Chapter 8 and Appendix 8D of the ES.
- 4.23. *Air quality effects (Nitrogen deposition)*: the Applicant's HRA considers nitrogen deposition effects to habitats from air quality changes and excludes LSE due to modelled conditions at Breydon Water SPA/Ramsar, an equivalent distance from the Proposed Development, showing no change in conditions as a result of the Proposed Development (see Paragraph 4.28 below). The Secretary of State notes that the Applicant does not exclude construction 'air pollution' as an impact that could give rise to significant effects. Potential adverse effects due to dust generation during construction are discussed in Section 5 of this report.

Breydon Water SPA

- 4.24. LSE from water pollution during both construction and operation were identified (see Table 2).
- 4.25. *Habitat loss*: LSE are excluded in the Applicant's HRA as construction and operation activities, including construction transport routes, are stated as not occurring within the European site.
- 4.26. *Noise and visual disturbance (including lighting)*: LSE are excluded in the Applicant's HRA, supported by the information in the ES, due to the distance between the Proposed Development and the European site and the anticipated magnitude and extent of these impacts. Evidence is presented to support the conclusion that none of the qualifying species are likely to be present within the River Yare in the vicinity of the Proposed Development and within the anticipated extent of these impacts.
- 4.27. *Sediment deposition*: the Applicant's HRA and ES provide evidence that the Proposed Development will increase scour and deposition close to the Proposed Development and small increases in sediment deposition within the existing engineered channel northwards upstream to Haven Bridge immediately south of Breydon Water SPA, however no LSEs are predicted.
- 4.28. *Air quality effects (Nitrogen deposition)*: the Applicant's HRA considers nitrogen deposition effects to habitats from air quality changes and excludes LSE due to the results of modelled transect points across the SPA which showed no change in conditions as a result of the Development. during construction. The Applicant's HRA footnote 'e' to the matrix does not distinguish between construction and operation in its justification, however with reference to Chapter 6 of the ES and Appendix 6G, Volume 2 of the ES construction nitrogen deposition effects were screened out (Paragraphs 6.4.7 to 6.4.8) and operational effects assessed with the conclusions presented in Paragraphs 6.8.42 to 6.8.45.

- 4.29. *Air, noise and lighting pollution:* LSE are excluded in the Applicant's HRA and ES given the distance between the Proposed Development and the European site, and the anticipated magnitude and extent of these impacts during both construction and operation.

Breydon Water Ramsar

- 4.30. The Applicant's HRA, supported by the ES, has assessed Breydon Water Ramsar separately for the criterion for which it is designated. However, the potential for LSE is excluded but the evidence and reasoning provided are as for the corresponding SPA, above.
- 4.31. The Applicant's HRA concluded that the Proposed Development would have no LSE, either alone or in-combination with other plans or projects, on any of the qualifying features of the following European sites from any of the impact pathways identified:
- Great Yarmouth and North Denes SPA
 - The Broads SAC
 - Broadland SPA
 - Broadland Ramsar
- 4.32. In each case, pathways for LSEs are excluded due to separation and distance from habitats which are qualifying features (or which are supporting habitats for the qualifying features) and the likely extent of air quality, noise and visual disturbance effects, and hydrological effects including sediment deposition. Ornithological survey evidence is also stated to show that the bird populations which are the qualifying features of the Great Yarmouth and North Denes SPA, Broadland SPA, and Broadland Ramsar designated sites do not use the River Yare in the vicinity of the Development.
- 4.33. With regard to the qualifying features of The Broads SAC, the Applicant's HRA identifies that otters from the European site may be present within the River Yare but concludes that the Proposed Development would not prevent their movement or present additional risk through injury, entrapment in construction areas, or any reduction in foraging ability.
- 4.34. During the examination the ExA explored the likely construction impacts and resulting effects through written questions. Matters addressed were the use of dredging during construction, an activity that is referenced in the HRA and highlighted as having potential to give rise to significant effects. The Applicant's response to first written questions confirmed that references to construction dredging within sections 5 and 6 of the HRA report were made in error and that no construction dredging would be required. The MMO confirmed at deadline 6 that "all matters regarding the dDCO, dDML and environmental impacts have been agreed". Based on the evidence gathered during examination, the Secretary of State is satisfied that the likely impacts of the Proposed Development have been assessed and that should dredging be required in future the subsequent licencing process would require adherence with the Habitats Regulations.
- 4.35. The ExA also explored the Applicant's proposed use of floating cranes and barges described in Chapter 10 of the ES in written question 1.2.1 with respect to likely air quality and noise effects. The Secretary of State has considered the Applicant's response confirming the nature of this apparatus and the existing context of daily

tug movements for the river and is content that there are unlikely to be significant noise or air quality effects.

LSE Screening Conclusions In-combination

- 4.36. Significant in-combination effects have been excluded for each site and feature included in the assessment. The Secretary of State has considered the information within Chapter 19 of the Applicant’s ES and supporting appendices and figures, and the information within the ExA’s recommendation which states that no further representations were received in relation to the in-combination assessment methodology and conclusions of no LSE.
- 4.37. The Secretary of State is content that all plans and projects with the potential to have significant in-combination effects with the Proposed Development in terms of the HRA have been identified. The Secretary of State is satisfied that the Proposed Development is not likely to give rise to significant effects in-combination with other plans or projects.
- 4.38. The Applicant’s HRA reaches conclusions on LSE without detailed consideration of any measures proposed to be secured and delivered through management plan during construction and operation. Where applicable, these matters are further considered within Section 5 of this report (Appropriate Assessment).
- 4.39. The Secretary of State is content that there will be no LSE to any of the qualifying features for these European sites, alone or in combination with other plans or projects from all impact pathways, with the exception of those listed in Table 3, below.
- 4.40. NE reached agreement with the Applicant on their HRA screening methodology and conclusions of no LSE in respect of the four European sites screened out by the Applicant. This is set out in their SoCG (dated 11 February 2020) with the Applicant.

Summary of European sites requiring appropriate assessment

- 4.41. The Secretary of State has summarised the European sites, pathways of effect and qualifying features for which an appropriate assessment is required in Table 3 below.

Table 3 Summary of European sites and qualifying features requiring an appropriate assessment

European Site	Pathway of effect	Construction (C) / Operation (O)	Qualifying Features
Southern North Sea SAC	Sediment deposition	C,O	All features (Harbour porpoise)
	Water Quality Effects	C,O	All features (Harbour porpoise)

Outer Thames Estuary SPA	Sediment deposition	C,O	All features
	Air pollution effects (not Nitrogen deposition)	C	All features
	Noise and lighting pollution effects (not displacement)	C,O	All features
	Water Quality Effects	C,O	All features
Breydon Water SPA	Water Quality Effects	C,O	All features
Breydon Water Ramsar	Water Quality Effects	C,O	All features

5. APPROPRIATE ASSESSMENT

- 5.1. 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, 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...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'.

- 5.2. As noted in Section 1 of this HRA Report, the competent authority is obliged to consult the appropriate nature conservation body and have regard to any representations made by that body. With reference to Paragraphs 1.14, 1.15 and 1.16 above, the Secretary of State is satisfied that NE have been consulted in line with regulation 63 of the Habitats Regulations.
- 5.3. If the competent authority cannot exclude adverse effects on the integrity (AEoI) of the affected European sites on the basis of objective scientific evidence, then it can only consent a plan or project if it complies with the requirements of regulation 64 of the Habitats Regulations. It provides that the competent authority may agree to the plan or project only if satisfied that there are no alternative solutions to the delivery of the plan or project that would have lesser effects on the European sites, and that the plan or project must be delivered for imperative reasons of overriding public interest. In addition, regulation 68 requires compensatory measures to be secured which maintain the overall coherence of the Natura 2000 network.
- 5.4. The Applicant sets out their methodology for identifying adverse effects on integrity in Section 9 of their HRA report.

Mitigation and avoidance measures

- 5.5. Section 9 of the Applicant's HRA makes reference to various mitigation measures, to be delivered through management plans during construction and operation.

Construction

- 5.6. The mitigation measures are specified in the Outline Code of Construction Practice (OCoCP) submitted to the examination at deadline 6 and which includes the framework for a construction surface water drainage strategy. The measures are outlined in the ExA's recommendation and detailed in the Applicant's HRA, and those of relevance to the HRA comprise:
- During construction the implementation of measures to avoid or minimise emissions of dust, sediment, noise, and surface water runoff;
 - Prevention of spillages or pollution entering the River Yare during construction;
 - The use of cofferdams during construction to exclude work areas from the River Yare;
 - Operational pollution control measures (part of the Development's design and outlined in the Drainage Strategy (Appendix 12C to the ES (Document 6.2)));

- Scour protection incorporated in the design and operation of the Development;
 - Measures to minimise the effects of construction lighting.
- 5.7. In their relevant representation NE stipulate the need for specific construction methods to limit impacts to designated sites:
- implementation of the JNCC 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (2010);
 - Vegetation clearance should avoid the breeding bird season and be checked prior to removal, and appropriate exclusion zones used. In the event that an active nest is found this should be retained and works delayed until birds have fledged and until the nest becomes inactive;
 - Any translocation of fish should be carried out by suitably qualified ecologists/scientists using evidenced and accepted methods. Where this involves changes in water level the EA should be consulted in advance.
- 5.8. The Applicant describes these measures in the OCoCP, which is to be finalised and agreed in an authorised CoCP which is secured in the ExA's preferred draft DCO under Schedule 2 requirement 2.
- 5.9. Other requirements in the preferred draft DCO that secure the mitigation outlined in the OCoCP include:
- Requirement 5 – Contamination. This secures mitigation of contamination if discovered on site during construction;
 - Requirement 6 – Emergency preparedness and response plan; and
 - Requirement 7 – Surface water drainage. This secures the detail of the surface water drainage system and must be in accordance with Drainage Strategy.
- 5.10. During the examination the OCoCP was amended (at deadline 6) with information about mitigation measures for potential impacts on fish from piling, stating these are secured through the conditions of the DML (Schedule 13 of the dDCO). Neither NE nor MMO has raised any specific comments in relation to these amendments from an HRA perspective.

Operation

- 5.11. The ExA's preferred draft DCO includes other requirements that secure the avoidance measures which have been incorporated into the design and operation of the Proposed Development and are relevant to the assessed impacts on European sites:
- Requirement 3 - Landscaping and ecological management plan. Secures timing of landscaping and ecological management works;
 - Requirement 8 – Lighting. This secures the authorisation of a written scheme of operational lighting.

Adverse Effects on the Integrity of the European sites

- 5.12. For the purposes of the following sections, adverse effects on integrity (AEoI) of European sites will be considered having regard to the relevant impact pathways identified above.
- 5.13. As set out in paragraphs 4.9 – 4.10 of this HRA Report, the appropriate assessment has been made in light of the conservation objectives for the relevant

sites which are included in Annex 2 of this document. Section 9 of the Applicant's HRA sets out their assessment of AEoI for all features of the four European sites assessed.

Southern North Sea SAC

Sediment deposition

- 5.14. The Applicant's HRA identifies that sediment arising from construction could enter the Southern North Sea SAC via the River Yare. It is stated that the sediment would have to travel approximately 2.5km to be deposited within the European site. The assessment makes reference to the proposed control measures set out within Chapter 11 of the ES, and the OCoCP. The Applicant's HRA refers to the ES, Appendix 11C which presents an analysis of the likely scour and deposition during operation and concludes that the presence of the Development would result in increases within the application boundary but is expected to result in small changes extending to the existing engineered channel northwards and upstream to Haven Bridge. No adverse effects are predicted to the integrity of the European site.
- 5.15. In their relevant representation and subsequent written representation, the Marine Management Organisation (MMO) raise queries around the sufficiency of information in the ES related to the assessment of sediment deposition and scour. The Applicant responded during the examination with reference to the ES and to consultation undertaken regarding the methodology applied. A signed SoCG between the MMO and the Applicant was submitted at deadline 7 with agreement reached that the assessment in the ES is sufficient.

Water Quality Effects

- 5.16. The Applicant's HRA explains that pollutants from construction and operation could enter the Southern North Sea SAC via the River Yare. Evidence is presented with reference to Chapter 11 of the ES, the OCoCP and the operational Drainage Strategy (Appendix 12C to the ES) to demonstrate that the route for pollutants along the River Yare to the European site is approximately 2.5km, and given the proposed pollution control measures the river is not anticipated to be subject to significant contamination. The Applicant concludes that there would be no AEoI.

Outer Thames Estuary SPA

Sediment deposition

- 5.17. The Applicant's HRA identifies that sediment arising from construction could enter the River Yare, however, when allowing for the specific control measures set out as above the risk of adverse effects to the river and the European site is minimised. The Applicant's HRA refers again to the analysis of the likely scour and deposition during operation presented within the ES, Appendix 11C and concludes that the presence of the Proposed Development is not expected to result in changes beyond the existing engineered channel northwards (upstream) to Haven Bridge. No AEoI are predicted to the European site.
- 5.18. The Secretary of State has also had regard to the discussions between the MMO and the Applicant during examination.

Water Quality Effects

- 5.19. The Applicant's HRA explains that pollutants from construction and operation could enter the River Yare but refers to the pollution control measures necessary to avoid contamination and in so doing minimise the risk to the European site. The Applicant concludes that no effects are anticipated to the qualifying features and therefore there would be no AEoI of the Outer Thames Estuary SPA.

Air (dust), Noise and lighting effects

- 5.20. The Applicant's integrity matrices do not present any specific assessment of air (dust), noise and lighting impacts which were identified as a pathway for LSE on all qualifying features within their screening exercise. Section 9.1, Paragraph 9.1.7 of the Applicant's HRA outlines specific measures for minimising dust generation and effects to air quality during construction. Measures related to construction and operational noise and light pollution impacts are set out in the OCoCP which is referred to in the Applicant's HRA, however the mitigation measures are not directly applied to the assessment of AEoI.
- 5.21. The Secretary of State has had regard to the written representations of NE and of the MMO, as well as the Applicant's responses to those representations during the examination.
- 5.22. In their relevant representation NE states that it is satisfied that noise levels produced during construction are unlikely to significantly affect the qualifying features of the Outer Thames Estuary SPA as the evidence presented shows these bird species are not present within the River Yare in the vicinity of works. The Secretary of State considers that no AEoI to red-throated diver, little tern or common tern from dust, noise or from light, would arise from the Proposed Development.
- 5.23. The Examination considered the noise impact of piling on fish and other supporting prey populations within the River Yare that could support features of interest in the designated sites. In their relevant representation and subsequent written representations the MMO raise queries around the sufficiency of information in the ES related to the assessment of noise impacts including piling and the subsequent effects on benthic ecology and fish. The Applicant responded during the examination with reference to the ES, and to the consultation undertaken regarding the methodology applied. The Applicant also highlighted contextual information in their responses related to the existing pressures within the River Yare, concluding that the Proposed Development would not give rise to significant change in the existing conditions. A signed SoCG between the MMO and the Applicant was submitted at deadline 7 with agreement reached that the assessment in the ES is sufficient and that the mitigation secured by the DML (Schedule 13 to the DCO) and CoCP is adequate to address the risks and avoid significant effects. The Secretary of State is satisfied that no AEoI on Outer Thames Estuary would result from impacts of piling on benthic ecology and fish.

Breydon Water SPA and Breydon Water Ramsar

- 5.24. These two European sites are considered together as they share the same geographical boundary which is of relevance to the evidence which forms the basis of the assessment. In addition, the conservation objectives for the SPA have also been applied to the Ramsar site, in accordance with the rationale set out in Paragraph 4.10 above.

Water Quality Effects

- 5.25. The Applicant's HRA provides the same rationale as for the Outer Thames Estuary, regarding the risk of pollutants from construction and operation entering the River Yare. The standard pollution control measures set out as above are again concluded to avoid contamination and in so doing minimise the risk to the European site. The Applicant concludes that no effects are anticipated to the qualifying features and therefore there would be no AEol of the European sites.

In combination effects (all sites)

- 5.26. The Applicant's HRA includes in-combination effects within the integrity matrices but does not add any additional evidence to that presented under the assessment for likely significant effects. The Applicant concludes that as no likely significant effects could arise in-combination, there can be no AEol as a result of the Proposed Development in combination with other developments.

Assessment outcomes

- 5.27. The Applicant concluded that subject to the mitigation measures proposed, an AEol can be excluded for all features of all the European sites considered. In their relevant representation, NE state that they consider the Proposed Development would not have significant adverse impacts on all of the European sites included in the assessment, subject to the specific construction mitigation measures as described in the CoCP and as set out in Paragraph 5.6, above. The signed SoCG between NE and the Applicant states agreement with the conclusions of the Applicant's HRA subject to the mitigation proposed. A signed SoCG has also been submitted between the Applicant and the MMO which confirms agreement regarding the assessment of effects and proposed mitigation for which the MMO has responsibility.
- 5.28. These conclusions were not disputed by any IP and the Secretary of State is satisfied that there would be no AEol on any of the European sites assessed from any of the impact pathways considered.
- 5.29. Following on from the rationale set out in Paragraphs 4.37 to 4.39 above the Secretary of State considers that there would be no AEol in combination with the other plans and projects considered in the Applicant's HRA.

6. CONSIDERATION OF ALTERNATIVES, IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST (IROPI) AND COMPENSATORY MEASURES

- 6.1. The Applicant has not presented an assessment of alternatives or a consideration of IROPI, as the Applicant's HRA concludes no AEol for any of the sites and features assessed. No other evidence in relation to alternatives and IROPI has been gathered during the examination. The Secretary of State does not consider that a consideration of these matters is required.

7. HRA CONCLUSIONS

- 7.1. As the competent authority for Transport NSIPs 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:
- Southern North Sea SAC
 - Outer Thames Estuary SPA
 - Breydon Water SPA
 - Breydon Water Ramsar
- 7.2. The Secretary of State has considered the relative scale and magnitude of the identified effects on the qualifying features of these European sites, and subject to the delivery of the mitigation measures to be secured, the Secretary of State is satisfied that there would not be an AEol either from the Proposed Development alone or in combination with other plans and projects, or implications for the achievement of the conservation objectives for those European sites. Those conservation objectives are set out in Annex 2 of this HRA Report.
- 7.3. Based on the submissions to the examination as summarised in the ExA's Recommendation Report, the Secretary of State is satisfied that the views of NE as the appropriate nature conservation body have been considered and that they are in agreement with the scope and conclusions of the Applicant's HRA.

Annex 1 Documents used to inform this HRA Report

Application Documents

Norfolk County Council Habitat Regulation Assessment 'Information to Inform the Habitats Regulations Assessment' Document 6.11

Norfolk County Council Environmental Statement: Written Statement Volume I Document 6.1.

Norfolk County Council Environmental Statement: Appendix 8D Bird Survey Report Document 6.2

Norfolk County Council Environmental Statement: Appendix 6G Ecological Assessment – Detailed Results and Impacts Document 6.2

Norfolk County Council Environmental Statement: Appendix 19B In-Combination Assessment Stage 1 Supporting Information Document 6.2

Norfolk County Council Environmental Statement: Appendix 19C In-Combination Assessment Stage 3 Information Gathered Document 6.2

Norfolk County Council Environmental Statement: Volume III Figures Chapter 19 Document 6.3

Norfolk County Council Environmental Statement: Appendix 12C Drainage Strategy Document 6.2

Norfolk County Council Location Plan Document 2.1

Norfolk County Council General Arrangement Plans Document 2.2

Norfolk County Council Landscaping Plans Document 2.9

Norfolk County Council Environmental Statement EIA Scoping Report Document 6.6

Examination Documents produced by Applicant

Norfolk County Council Deadline 4 Submission Proposed Changes Application

Norfolk County Council Habitat Regulation Assessment (Rev 1) Document Reference NCC/GY3RC/EX/028

Norfolk County Council Habitat Regulation Assessment Screening and Integrity Matrices Document Reference NCC/GY3RC/EX/031

Norfolk County Council Deadline 2 Submission - Responses to the Examining Authority's First Written Questions

Norfolk County Council Deadline 1 Submission-Applicant's Responses to Relevant Representations.

Norfolk County Council Deadline 2 Submission-Applicant's Responses to Written Representations.

Norfolk County Council Deadline 3 Submission-Applicant's Responses to Written Representations and comments on Responses to First Written Questions

Norfolk County Council Deadline 4 Submission-Applicant's Responses to Written Representations submitted by Interested Parties at Deadline 3

Norfolk County Council Deadline 6 Submission - Update to Outline Code of Construction Practice

Statement of Common Ground between Norfolk County Council and Natural England (Appendix A to Statement of Commonality) (Signed version at deadline 7)

Statement of Common Ground between Norfolk County Council and the Marine Management Organisation (Appendix J to Statement of Commonality) (Signed version at deadline 7)

Examination Documents produced by Interested Parties

Relevant Representation of Natural England 31 July 2019

Relevant Representation of the Marine Management Organisation 1 August 2019

Written Representation of Natural England Deadline 1 Submission - Summary of relevant Representation

Written Representation of Natural England Deadline 9 Submission - Comments on ExA's preferred Development Consent Order

Natural England Deadline 2 Submission - Responses to Examining Authority's First Written Questions

Marine Management Organisation Deadline 1 Submission - Written Representation

Marine Management Organisation Deadline 3 Submission – Post hearing submissions including written submissions or oral case

Examining Authority Procedural Decisions

Examining Authority's First Written Questions

Notification of Procedural Decision-Rule 9- in respect of proposed changes to the application.

Examining Authority's preferred draft Development Consent Order

Post Examination

The Examining Authority's Recommendation Report to the Secretary of State

Other Documents

Direction by the Secretary of State under section 35 of the Planning Act 2008

Annex 2 Conservation Objectives

Available from: <http://publications.naturalengland.org.uk/category/6490068894089216>

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.

Southern North Sea SAC (UK0030395)

To avoid deterioration of the habitats of the harbour porpoise or significant disturbance to the harbour porpoise, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to maintaining Favourable Conservation Status (FCS) for the UK harbour porpoise. To ensure for harbour porpoise that, subject to natural change, the following attributes are maintained or restored in the long term:

- The species is a viable component of the site;
- There is no significant disturbance of the species; and
- The supporting habitats and processes relevant to harbour porpoises and their prey are maintained.

Outer Thames Estuary SPA (UK9020309)

With regard to the SPA and the individual species and/or assemblage of species for which the site has been designated, and subject to natural change; it should be ensured that the integrity of the site is maintained or restored as appropriate, and ensured that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

Breydon Water SPA (UK9009181)

To maintain or restore the integrity of the site by maintaining or restoring:

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

Breydon Water Ramsar (UK11008)

Information is not readily available, for the purposes of this appropriate assessment, the conservation objectives for Breydon Water SPA which covers the same land area and location as Breydon Water Ramsar are considered to be applicable.

Great Yarmouth North Denes SPA (UK9009271)

To maintain in favourable condition the habitats for little tern, including:

- Sand/shingle areas; and
- Shallow coastal waters.

The Broads SAC (UK0013577)

With regard to the SAC and the natural habitats and/or species for which the site has been designated and subject to natural change; it should be ensured that the integrity of the site is maintained or restored as appropriate, and ensured that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of 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 the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

Broadland SPA (UK9009253)

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified and subject to natural change; it should be ensured that the integrity of the site is maintained or restored as appropriate, and ensured that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

Broadland Ramsar (UK11010)

Information is not readily available, for the purposes of this appropriate assessment, the conservation objectives for Broadland SPA which covers the same land area and location are considered to be applicable.