Norfolk Boreas Offshore Wind Farm

Statement of Common Ground

Environment Agency

(Version 5)

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Table of Contents

Table of Tables

Glossary of Acronyms

CIA	Cumulative Impact Assessment
CoCP	Code of Construction Practice
CWS	County Wildlife Sites
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
EcoMP	Ecological Management Plan
EPP	Evidence Plan Process
HDD	Horizontal Directional Drilling
MMP	Materials Management Plan
MSA	Mineral Safeguard Area
OCoCP	Outline Code of Construction Practice
OLEMS	Outline Landscape and Environmental Management Strategy
PEIR	Preliminary Environmental Information Report
SoCG	Statement of Common Ground
SPZ	Source Protection Zone
WFD	Water Framework Directive

Glossary of Terminology

Landfall	Where the offshore cables come ashore at Happisburgh South
Mobilisation area	Areas approx. 100 x 100m used as access points to the running track for duct installation. Required to store equipment and provide welfare facilities. Located adjacent to the onshore cable route, accessible from local highways network suitable for the delivery of heavy and oversized materials and equipment.
National Grid overhead line modifications	The works to be undertaken to complete the necessary modification to the existing 400kV overhead lines.
Necton National Grid substation	The grid connection location for Norfolk Boreas and Norfolk Vanguard.
Offshore cable corridor	The corridor of seabed from the Norfolk Boreas site to the landfall site within which the offshore export cables will be located.
Offshore export cables	The cables which transmit power from the offshore electrical platform to the landfall.
Onshore cable route	The up to 35m working width within a 45m wide corridor which will contain the buried export cables as well as the temporary running track, topsoil storage and excavated material during construction.
Onshore project substation	A compound containing electrical equipment to enable connection to the National Grid. The substation will convert the exported power from HVDC to HVAC, to 400kV (grid voltage). This also contains equipment to help maintain stable grid voltage.
Trenchless crossing zone (e.g. HDD)	Areas within the onshore cable route which will house trenchless crossing entry and exit points.

1 INTRODUCTION

1. This Statement of Common Ground (SoCG) has been prepared between the Environment Agency and Norfolk Boreas Limited (hereafter the Applicant) to set out the areas of agreement or disagreement in relation to the Development Consent Order (DCO) application for the Norfolk Boreas Offshore Wind Farm (hereafter 'the project').

2. This SoCG comprises an agreement log which has been structured to reflect the topics of interest to the Environment Agency with regard to the Norfolk Boreas DCO application (hereafter 'the Application'). The agreement logs (section 2) outline all topic specific matters agreed and not agreed between the Environment Agency and the Applicant.

3. The Applicant has had regard to the Guidance for the examination of applications for development consent (Department for Communities and Local Government, 2015) when compiling this SoCG. Matters that are not agreed were the subject of ongoing discussion wherever possible to resolve or refine the extent of disagreement between the parties.

1.1 The Development

4. The Application is for the development of the Norfolk Boreas Offshore Wind Farm and associated infrastructure. A full description of the project can be found in Chapter 5 Project Description of the Environmental Statement (ES) (document reference 6.1.5 of the Application, APP-218).

5. The Application is seeking consent for the following two alternative development scenarios:

   - **Scenario 1** – Norfolk Vanguard proceeds to construction and installs ducts and other shared enabling works for Norfolk Boreas.
   - **Scenario 2** – Norfolk Vanguard does not proceed to construction and Norfolk Boreas proceeds alone. Norfolk Boreas undertakes all works required as an independent project.

6. Where a topic of agreement is specific to a scenario this is identified in the Agreement Log (section 2), otherwise the agreement applies to both scenarios.

1.2 Consultation with the Environment Agency

7. This section briefly summarises the consultation that the Applicant has had with the Environment Agency. For further information on the consultation process please see the Consultation Report (document reference 5.1 of the Application, APP-027).

1.2.1 Pre-Application

8. The Applicant has engaged with the Environment Agency on the project during the pre-application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to Section 42 of the Planning Act 2008.

9. During formal (Section 42) consultation, the Environment Agency provided comments on the Preliminary Environmental Information Report (PEIR) by way of a letter dated 11th December 2018.

10. Further to the statutory Section 42 consultation, consultation was undertaken with the Environment Agency through the Evidence Plan Process (EPP). For further details on the EPP consultation see sections 9.5.4, 12.5, 13.5, 18.5 and 21.6 of the Consultation Report (document reference 5.1 of the Application, APP-027). This included meetings for Water Resources and Flood Risk and Onshore Ecology and Ornithology. Minutes of these meetings are provided in Consultation Report Appendix 28.1 (document reference 5.1.28.1 of the Application, APP-192).

Table 1 Summary of pre-application consultation with the Environment Agency

Date	Contact Type	Topic
Pre-Application		
January / February 2018	Email from the Applicant	Issue of Method Statements and Agreement Logs for relevant Environmental Impact Assessment (EIA) topics.
November / December 2018	Section 42 consultation	Environment Agency response to section 42 consultation on PEIR. Appendix 24.01 of the Consultation Report (document reference 5.1.24.1 of the Application, APP-180).
January 2019	Emails from the Applicant	Offering any topic specific EPP meetings for relevant onshore EIA topics (for those topics not identified below it was concluded a meeting was not required).
February 2019	EPP Meeting (conference call)	Water Resources and Flood Risk agreement on approach to the Environmental Statement and section 42 responses. (minutes in document 5.1.28.1 of the Application, APP-192).
	EPP Meeting (conference call)	Onshore Ecology and Ornithology process meeting to discuss section 42 responses and approach to Environmental Statement (document 5.1.28.1 of the Application, APP-192).
July 2019	Email from the Applicant	Providing early sight of relevant chapters of the Environmental Statement.

11. Consultation with the Environment Agency was also undertaken by Norfolk Vanguard on matters relevant to both projects. This consultation has therefore been taken into account by Norfolk Boreas. For details see Norfolk Vanguard Statement of Common Ground – Environment Agency (Norfolk Vanguard examination document REP9-044).

1.2.2 Post-Application

12. This document has been updated throughout the examination process. This is the final version and captures the final position of both parties.

13. The Environment Agency submitted a Relevant Representation to the Planning Inspectorate on the 30th August 2019 and the Applicant contacted the Environment Agency to agree the approach to drafting the Statement of Common Ground (SoCG). Table 2 summarises the key consultation undertaken between the parties during the post-application phase.

Table 2 Summary of post-application consultation with the Environment Agency

Date	Contact Type	Topic
Post-Application		
30th August 2019	Relevant Representation	Environment Agency (EA) provide relevant representation.
13th September 2019	Email from Applicant	Proposing approach to SoCG consistent with Norfolk Vanguard.
18th September 2019	Email from EA	Agreeing to proposed approach.
29th October 2019	Telephone meeting	Discussion of SoCG prior to 4th November submission as requested in Rule 6 letter
9th December 2019	Email to EA	Proposing updates to SoCG
10th December 2019	Email from EA	Agreeing updated SoCG for Deadline 2
27th February 2020	Email to EA	Proposing updates to SoCG
5th March 2020	Email from EA	Agreeing updated SoCG for Deadline 6
21st April 2020	Email to EA	Draft of final SoCG
27th April 2020	Email from EA	Agreeing updates to final SoCG for Deadline 9
1st September 2020	Email from Applicant	Providing revised wording for the Protective Provisions to include deemed refusal mechanism

2 STATEMENT OF COMMON GROUND

14. Within the sections and tables below the different topics for areas of agreement and disagreement for the relevant subject areas between the Environment Agency and the Applicant are set out.

2.1 Marine Geology, Oceanography and Physical Processes

15. The project has the potential to impact upon marine geology, oceanography and physical processes. Chapter 8 of the Norfolk Boreas ES (document reference 6.1.8 of the Application, APP-221) provides an assessment of the significance of these impacts.

16. Details on the Evidence Plan Process for marine geology, oceanography and physical processes can be found in Consultation Report Appendix 9.16 (document reference 5.1.9.16 of the Application, APP-053) and Appendix 28.01 (document reference 5.1.28.01 of the Application, APP-192).

17. Table 3 outlines the topics for agreement with respect to marine geology, oceanography and physical processes between the Environment Agency and the Applicant. The Environment Agency remit is primarily focused on Water Framework Directive waterbodies including transitional and coastal waters.

Table 3 Agreement Log - Marine Geology, Oceanography and Physical Processes

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
Existing Environment	Survey data outlined in Table 8.9, ES Chapter 8 (APP-221) collected for Norfolk Boreas for the characterisation of Marine Geology, Oceanography and Physical Processes are suitable for the assessment.	Agreed	Both parties agree sufficient survey data has been collected.
	The ES adequately characterises the baseline environment in terms of Marine Geology, Oceanography and Physical Processes (section 8.6 of ES Chapter 8).	Agreed	Both parties agree the baseline is sufficiently characterised.
Assessment methodology	The list of potential impacts assessed in section 8.7 ES Chapter 8 for Marine Geology, Oceanography and Physical Processes is appropriate.	Agreed	Both parties agree the impacts identified are appropriate.
	The impact assessment methodologies used (section 8.4 of ES Chapter 8) provide an appropriate approach to assessing potential impacts of the proposed project. This includes: • The assessment using expert judgement based upon knowledge of sites and available contextual information (in particular, Zonal and East Anglia ONE studies and modelling), and therefore no new modelling (e.g. sediment plumes or deposition) was required to be undertaken for the assessment • The definitions of sensitivity and magnitude used in the impact assessment are appropriate. These are in line with the Method Statement provided in February 2018 and agreed at EPP meetings.	Agreed	Both parties agree the methodology is appropriate.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	The worst case scenario used in the assessment for Marine Geology, Oceanography and Physical Processes (as outlined in table 8.16 ES Chapter 8) is appropriate.	Agreed	It is agreed by both parties that the worst-case scenario presented in the ES is appropriate for this project.
Assessment findings	The characterisation of receptor sensitivity (section 8.4.1 of ES Chapter 8) is appropriate.	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
	The magnitude of effect (section 8.4.1 of ES Chapter 8) is correctly identified.	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
	The impact significance conclusions of negligible significance on marine geology, oceanography and physical processes receptors for Norfolk Boreas alone are appropriate (section 8.7 of ES Chapter 8).	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
Cumulative Impact Assessment (CIA)	The plans and projects considered within the CIA (Table 8.44 of ES Chapter 8) are appropriate.	Agreed	Both parties agree the plans and projects in the CIA are appropriate.
	The CIA methodology (section 8.4.2 of ES Chapter 8) is appropriate.	Agreed	It is agreed by both parties that the CIA is appropriate.
	The cumulative impact conclusions of negligible significance are appropriate (section 8.8 of ES Chapter 8).	Agreed	It is agreed by both parties that the CIA is appropriate.
Mitigation and Management			
Mitigation and Management	The proposed mitigation and monitoring outlined in the In Principle Monitoring Plan (document 8.12, APP-703) and outline Project Environmental Management Plan (document 8.14, APP-705) is adequate.	We consider that the matters around mitigation and management, and the wording of Requirement(s) are outside of our statutory role in relation to marine issues.	n/a

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Draft Development Consent Order (DCO)			
Wording of Requirement(s)	Part 4 of Schedules 9, 10, 11, 12 and 13 of the DCO appropriately reflects the commitments made in the ES.	We consider that the matters around mitigation and management, and the wording of Requirement(s) are outside of our statutory role in relation to marine issues	n/a

2.2 Marine Water and Sediment Quality

18. The project has the potential to impact upon marine water and sediment quality. Chapter 9 of the Norfolk Boreas ES (document reference 6.1.9 of the application, APP-222) provides an assessment of the significance of these impacts. The marine water and sediment quality assessment has informed the Marine Water Framework Directive (WFD) assessment provided in Appendix 9.1 of the ES (document reference 6.3.9.1 of the application, APP-554).

19. Details on the Evidence Plan Process for marine water and sediment quality can be found in Consultation Report Appendix 9.16 (document reference 5.1.9.16 of the Application, APP-053) and Appendix 28.01 (document reference 5.1.28.01 of the Application, APP-192).

20. Table 4 outlines the topics for agreement with respect to marine water and sediment quality between the Environment Agency and the Applicant. The Environment Agency remit is primarily focused on Water Framework Directive waterbodies including transitional and coastal waters.

Table 4 Agreement Log - Marine Water and Sediment Quality

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
Existing Environment	Survey data outlined in Table 9.7, ES Chapter 9 (document 6.1.9, APP-222) collected for Norfolk Boreas for the characterisation of Marine Water and Sediment Quality are suitable for the assessment.	Agreed	Both parties agree sufficient survey data has been collected.
	The ES adequately characterises the baseline environment in terms of Marine Water and Sediment Quality (section 9.6 of ES Chapter 9).	Agreed	Both parties agree the baseline is sufficiently characterised.
Assessment methodology	Appropriate legislation, planning policy and guidance in section 9.2 of ES Chapter 9 relevant to Marine Water and Sediment Quality has been used.	Agreed	It is agreed by both parties that the appropriate legislation, planning policy and guidance relevant to Marine Water and Sediment Quality has been used.
	The list of potential impacts on Marine Water and Sediment Quality assessed is appropriate (section 9.7 of ES Chapter 9).	Agreed	Both parties agree the impacts identified are appropriate.
	The impact assessment methodology (section 9.4 of ES Chapter 9) is appropriate and is in line with the Method Statement provided in February 2018 (see Consultation Report Appendix 9.16 (document 5.1.9.16, APP-053).	Agreed	Both parties agree the methodology is appropriate.
	The worst case scenario used in the assessment for Marine Water and Sediment Quality (section 9.7 of ES Chapter 9) is appropriate.	Agreed	It is agreed by both parties that the worst-case scenario presented in the ES is appropriate.
Assessment findings	The characterisation of receptor sensitivity (section 9.4.1 of ES Chapter 9) is appropriate.	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
	The magnitude of effect (section 9.4.1 of ES Chapter 9) is correctly identified.	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
	The impact significance conclusions of negligible or minor adverse significance for Norfolk Boreas alone are appropriate (section 9.7 of ES Chapter 9).	Agreed	It is agreed by both parties that the ES adequately assesses impacts.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
WFD assessment	The conclusions of the WFD assessment (ES Appendix 9.1, document 6.3.9.1, APP-554) are appropriate.	Agreed	It is agreed by both parties that the WFD assessment is appropriate.
Cumulative Impact Assessment (CIA)	The plans and projects considered within the CIA (Table 9.15 of ES Chapter 9) are appropriate.	Agreed	Both parties agree the plans and projects in the CIA are appropriate.
	The CIA methodology (section 9.4.2 of ES Chapter 9) is appropriate.	Agreed	It is agreed by both parties that the CIA is appropriate.
	The cumulative impact conclusions of negligible or minor significance are appropriate (section 9.8 of ES Chapter 9).	Agreed	It is agreed by both parties that the CIA is appropriate.

2.3 Ground Conditions and Contamination

21. The project has the potential to impact upon ground conditions and contamination. Chapter 19 Ground Conditions and Contamination of the ES, (document reference 6.1.19 of the Application, APP-232), provides an assessment of the significance of these impacts.

22. Details on the Evidence Plan Process for ground conditions and contamination can be found in Consultation Report Appendix 9.8 (document reference 5.1.9.8 of the Application, APP-045).

23. Table 5 outlines the topics for agreement with respect to ground conditions and contamination between the Environment Agency and the Applicant.

Table 5 Agreement Log - Ground Conditions and Contamination

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
Existing Environment	Sufficient survey data (as detailed in section 19.5.2 of ES Chapter 19 (document 6.1.19, APP-232) has been collected to undertake the assessment. As presented in the Method Statement (document reference 5.1.9.8, APP-045) issued in January 2018. Additional ground investigation reporting has also been provided to the Environment Agency (Terra Consult, 2017) during the Norfolk Vanguard Examination (Norfolk Vanguard Examination reference REP1-023 to 028).	Agreed	It is agreed by both parties that sufficient survey data have been collected to undertake the assessment.
Assessment methodology	Appropriate legislation, planning policy and guidance relevant to ground conditions and contamination has been used.	Agreed	It is agreed by both parties that the appropriate legislation, planning policy and guidance relevant to ground conditions and contamination has been used.
	The impact assessment methodologies used for the EIA (outlined in section 19.4.1 of ES Chapter 19) represent an appropriate approach to assessing potential impacts of the project. As presented in the Method Statement issued in January 2018.	Agreed	It is agreed by both parties that the impact assessment methodologies used in the EIA are appropriate to the project.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	The worst-case assumptions for Scenario 1 and Scenario 2, as outlined in Table 19.15 and 19.16 in ES Chapter 19 are appropriate.	Agreed.	It is agreed by both parties that the worst-case assumptions used in the EIA are appropriate.
	Groundwater receptors in the study area support abstractions for public and private water supply (both licensed and unlicensed and including shallow wells) should be considered to have a high sensitivity unless information is collected to show mains water is available to a particular household and it is not the sole source of drinking water supply. Within the assessment in sections 19.7.4.3 and 19.7.4.4 in ES Chapter 19 the groundwater water receptors supporting water abstractions for public water supply are considered to have high vulnerability and high sensitivity.	Given that they may be the sole source of drinking water supply to a household, unlicensed abstractors should be assumed to have the same sensitivity as public water supply SPZs 1 and 2 (i.e. high) unless information is collected to show that mains water is available to a particular household.	It is agreed by both parties that unlicensed water supplies are assigned high sensitivity unless information is collected to show mains water is available to a particular household and it is not the sole source of drinking water supply.
	Impacts to human health including construction workers and general public during any excavations associated with construction is set out in Chapter 19 Ground Conditions and Contamination – section 19.7.4.6. This identifies known sources of existing contamination and includes a consideration of impacts related to the mobilisation of existing contamination. The assessment is considered appropriate and adheres to the agreed methodology.	Agreed	The Environment Agency confirm that consideration should be given to the impacts of mobilising existing contamination on excavation.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Assessment findings	The assessment adequately characterises the baseline environment in terms of ground conditions and contamination (section 19.6 of ES Chapter 19). Further details on Land Quality are presented in the Land Quality Phase 1 Preliminary Risk Assessment (PRA), Appendix 19.2 of the ES (document reference 6.3.19.2, APP-583). The PRA includes a preliminary conceptual site model which identifies potential pollutant linkages and provides information on potential sources of contamination, pathways by which the contaminant can cause harm and potential receptors. The PRA acknowledges that the current extent of contamination within the construction area is currently unknown and recommends ground investigations and further assessments (including Human Health, Controlled Waters and Groundwater Risk Assessments) in the areas identified as having high risk prior to construction.	ES Chapter 19 section 19.6.1.4, Land Quality Paragraphs 66, 88 & 90 2.7. The assessment of these contamination sources does not seem to be particularly detailed; there are no comments on their current status, the extent of the contamination, and the potential receptor and transport (pathway) of the contaminants. We acknowledge the Applicant's PRA recommendation for Ground Investigations and further assessment in respect of Controlled Waters and Groundwater Risk Assessments. We wish to review and comment on the assessments prior to construction	Agreed and the Environment Agency will be consulted on the further investigation and assessment prior to construction.
	The assessment of impacts of both scenarios for construction, operation and decommissioning presented in section 19.7 of ES Chapter 19 is appropriate and, assuming the inclusion of the embedded mitigation described, impacts on ground conditions and contamination are likely to be non-significant in EIA terms under both scenarios.	We have concerns that some issues that were raised during the Norfolk Vanguard examination process have not been addressed in the submission for this application. We consider that the Applicant has identified a methodology to address our concerns in the post consent period.	Agreed

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	ES Chapter 19 section 19.7.4.5 assesses the impacts of the quality of surface waters fed by groundwater during constriction. Targeted ground investigation has been undertaken within the onshore cable route at key crossing locations, these confirmed the presence of shallow groundwater in many areas along the onshore cable route. As such the assessment assumes as a worst case that surface water and groundwaters are closely connected within the entire onshore cable route. A Preliminary Conceptual Site Model (Appendix 19.2 of ES Chapter 19 (document 6.3.19.1, APP583) has been developed which identifies potential sources of contamination, pathways by which the contaminant can cause harm and potential receptors and includes potential impacts to controlled waters. More detailed ground investigations will be undertaken to inform the post-consent detailed design process to reduce the uncertainties associated with the Preliminary Conceptual Site Model developed. The ES identifies mitigation measures which are sufficient to address the impacts associated with the worst case. However, specific mitigation measures will be developed for each site following the ground investigation programme.	ES Chapter 19 section 19.7.4.5. This matter has not been addressed sufficiently. It is recommended that: 1. all locations where the surface water and the groundwater systems are in hydraulic connection are identified and cross-correlated with the extent of the construction works; 2. the potential contaminants identified and their receptor and pathway assessed; 3. local risk assessments need to be carried out to clarify the potential impacts on controlled waters and associated specific mitigation measures proposed. We welcome the commitment to addressing our concerns in the post consent period. We wish to review and comment on the refined conceptual site models and mitigation measures once post-consent ground investigations have been undertaken and prior to construction.	Agreed and the Environment Agency will be consulted on the updated Conceptual Model prior to construction.

	Within ES Chapter 19, section 19.7.4.3 assesses the potential impacts on groundwater quality in the principal aquifer, including Source Protection Zone (SPZ) areas and abstractions, as a result of shallow excavation construction activities. Mitigation measures will be adopted, including ensuring cable excavations would be designed to minimise groundwater disturbance and the use of best available techniques (BAT) in accordance with the Energy Network Association Guidance and consultation with the Environment Agency and Anglian Water will be undertaken to ensure that any adverse effects are minimised. The assessment has considered the location of all known groundwater abstractions. However, it is acknowledged that the data sets for unlicensed abstractions available from Broadland District Council, North Norfolk District Council and Breckland Council are either unavailable, incomplete or not sufficiently accurate to enable a detailed assessment of potential impacts on individual abstraction points to be undertaken prior to consent. However, the location of private water supplies within the construction area will be identified through discussions with affected landowners as part of the post-consent detailed design process. Suitable measures to mitigate impacts or compensate landowners will be identified at this stage. Section 6.1.2 of the OCoCP [REP-010] includes that details of any groundwater abstractors identified along with a risk assessment for the works, a groundwater monitoring proposal if appropriate, or an evidence-based justification of the reasons why a risk assessment and monitoring are not required will be submitted to the Environment Agency prior to construction. The Applicant acknowledges the additional detail provided by the Environment Agency in response to ExA Q2.15.0.3 on groundwater abstractions and this has been captured within	ES Chapter 19 section 19.7.4.8. The applicant does not appear to have addressed the potential for a significant impact at any shallow wells in close proximity to the excavations. All abstractions within the study area need to be assessed in detail to ensure that local water supplies are not compromised. As detailed in response to Q2.15.0.3 Norfolk Boreas undertake to investigate the presence of so far unknown private groundwater abstractors when they commence work. The applicant should report all abstractions within 250 m of the works to the EA along with a Hydrogeological Risk Assessment; the assessment will determine whether or not there is a potential for a significant impact at any nearby shallow wells and whether the impact will be permanent or temporary. The HRAs should be submitted to the EA for review; monitoring work may be stipulated as well as / instead of mitigation works. We are satisfied that the applicant will be able to identify sufficient mitigation measures should any significant likely impacts be identified at any local abstractions. The OCoCP should be updated to reflect these detailed requirements.	Agreed

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	an update to the OCoCP (Version 4, submitted at Deadline 8) in Section 6.1.2.		
	The assessment of cumulative impacts of both scenarios presented in section 19.8 of ES Chapter 19 is appropriate and, assuming the inclusion of the embedded mitigation described, cumulative impacts on ground conditions and contamination are likely to be non-significant in EIA terms.	Agreed	It is agreed by both parties that the assessment of cumulative impacts is appropriate.
Approach to mitigation	The provision of a Materials Management Plan (MMP) as outlined in the OCoCP is considered suitable to mitigate any potential impacts to the Mineral Safeguarding Areas (MSA). This will form part of the final CoCP which is secured by Requirement 20(2)(j) in the draft DCO. It is acknowledged that the Environment Agency does not have a statutory responsibility to safeguard minerals but has an interest in the environmental issues arising from this activity.	Agreed	It is agreed by both parties that the provision of an MMP will provide sufficient mitigation to the MSAs.
	A written scheme dealing with contamination of any land and groundwater will be submitted and approved by the relevant planning authority in consultation with the Environment Agency before any stage of the project commences (this is secured by Requirement 20(2)(d) in the draft DCO). The scheme will be based upon the model procedures for the management of land contamination. This will include known sources of existing/potential contamination including historic contamination at Happisburgh, potential contamination at the brick works at north east of North Walsham, the infilled clay and shale pit at Necton, and a military plane crash near Necton in 1996.	Agreed. The Environment Agency confirm that the assessment should be undertaken to assess the potential for petroleum hydrocarbon pollution within the landfall working area at Happisburgh and potential contamination at the brick works at north east of North Walsham, and the infilled clay and shale pit at Necton.	Both parties are in agreement that the written scheme for the management of contamination secured through DCO Requirement 20 represents appropriate control measures for the discovery of potential contamination.

	The site of a military plane crash near Necton in 1996 has the potential for historic contamination including hydrazine, aviation fuel and carbon composite fibre deposits. A clean up of the site was completed within 5 weeks of the incident by the Royal Air Force (RAF) and the Royal Danish Airforce (RDAF), which included armament specialists and hydrazine safety experts. A potential risk of radioactive material was initially highlighted, however based on the site recovery reports produced by both the RAF and RDAF there is no evidence that radioactive materials were present. The Applicant understands that to date Breckland Council has not classified the land as having a risk of historic radioactive contamination. Breckland Council has a duty to inspect land but there must be reasonable grounds which are defined in the statutory guidance. A written scheme dealing with contamination will be produced by the Applicant post-consent. Any site investigations would be designed taking into account the best available desk-based information and would be undertaken by appropriately qualified specialists. The written scheme for the management of contamination of any land and groundwater will be submitted and approved by the relevant planning authority in consultation with the Environment Agency. This is secured through Requirement 20 of the draft DCO which requires a CoCP to be approved by the local planning authority ahead of each phase of the onshore construction works.	The Environment Agency will only carry out an intrusive investigation on behalf of the Local Authority if desk studies and non-intrusive surveys show the need for one.	Both parties are in agreement that the written scheme for the management of contamination secured through DCO Requirement 20 represents appropriate control measures for the discovery of potential contamination.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	Given the impacts of the project under both scenarios, the mitigation proposed for ground conditions and contamination is considered appropriate and adequate.	Agreed	It is agreed by both parties that the proposed mitigation will result in non-significant impacts.
	The approach to mitigating potential impacts on Source Protection Zones (SPZ) at trenchless crossings (under Scenario 2 only), including undertaking pre-construction ground investigations and hydrogeological risk assessments is considered appropriate. Regulators will be consulted on risk assessments for key areas within SPZ1. For areas where piling works are proposed a pilling risk assessment will be undertaken in accordance with guidance by the Environment Agency; 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention NC/99/73 (EA, 2001).	Agreed. Environment Agency piling guidance must be adhered to.	It is agreed by both parties that the proposed mitigation will result in non-significant impacts.
Draft Development Consent Order (DCO)			
Wording of Requirement(s)	The wording of Requirement 20 provided within the draft DCO (and supporting certified documents) for the mitigation of impacts associated with ground conditions and contamination are considered appropriate and adequate. The Environment Agency will be consulted prior to approval of relevant elements of the final CoCP submitted for each phase, including but not limited to pollution control plans, invasive species, contaminated land and groundwater, soil management, construction method statements, site and excavated waste management and surface water drainage plans.	Agreed	It is agreed by both parties that the DCO wording to include the Environment Agency as a named stakeholder for consultation prior to approval for matters and issues under the Environment Agency's remit is appropriate.

2.4 Water Resources and Flood Risk

24. The project has the potential to impact upon water resources and flood risk. Chapter 20 Water Resources and Flood Risk of the ES, (document reference 6.1.20 of the Application, APP-233), provides an assessment of the significance of these impacts.

25. Details on the Evidence Plan for water resources and flood risk can be found in Consultation Report Appendix 9.22 (document reference 5.1.9.22 of the Application, APP-059) and Appendix 28.1 (document 5.1.28.1 of the Application, APP-192).

26. Table 6 outlines the topics for agreement with respect to water resources and flood risk between the Environment Agency and the Applicant.

Table 6 Agreement Log - Water Resources and Flood Risk

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
Existing Environment	Sufficient survey data has been collected to inform the assessment as detailed in section 20.5.2 of ES Chapter 20 Water Resources and Flood Risk (document 6.1.20, APP-233). Survey data collected as part of the Norfolk Vanguard project is suitable for use in the Norfolk Boreas EIA as presented in the Method Statement provided in January 2018 (document 5.1.9.22, APP-059).	Agreed	It is agreed by both parties that sufficient survey data have been collected to undertake the assessment.
Assessment methodology	Appropriate legislation, planning policy and guidance relevant to water resources and flood risk has been used (section 20.3 of ES Chapter 20).	Agreed	It is agreed by both parties that the appropriate legislation, planning policy and guidance relevant to water resources and flood risk has been used.
	The impact assessment methodologies used for the EIA (section 20.4 of ES Chapter 20), provide an appropriate approach to assessing potential impacts of the project. The methodologies used were presented in the Method Statement and agreed as part of EPP Meeting February 2019 (see document 5.1.28.1, APP-192).	Agreed	It is agreed by both parties that the impact assessment methodologies used in the EIA are appropriate.
	The worst-case assumptions presented in the assessment for Scenario 1 and Scenario 2, as outlined in Table 20.15 and 20.16 of ES Chapter 20 are appropriate.	Agreed	It is agreed by both parties that the worst-case assumptions presented in the ES are appropriate for this project.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	Groundwater receptors in the study area support abstractions for public and private water supply (both licensed and unlicensed and including shallow wells) and are considered to have a high vulnerability. These have been assigned a high sensitivity and high value within the assessment (refer to section 20.7.4.3 within Chapter 20 Water Resources and Flood Risk). This assignation is considered appropriate for the assessment. Additional ground investigation reporting has been provided to the Environment Agency (Terra consult, 2017 and GHD, 2018).	Agreed.	It is agreed by both parties that unlicensed water supplies are assigned high sensitivity unless information is collected to show mains water is available to a particular household and it is not the sole source of drinking water supply.
Assessment findings	The ES adequately characterises the baseline environment in terms of water resources and flood risk as outlined in section 20.6 of ES Chapter 20.	Agreed	It is agreed by both parties that the ES adequately characterises the baseline environment.
	The assessment of impacts of both scenarios for construction, operation and decommissioning presented in section 20.7 of ES Chapter 20 are appropriate and consistent with the agreed assessment methodologies.	Agreed	It is agreed by both parties that the ES adequately assesses impacts.
	The assessment of cumulative impacts of both scenarios presented in section 20.8 of ES Chapter 20 is appropriate and consistent with the agreed methodologies.	Agreed	It is agreed by both parties that the ES adequately assesses cumulative impacts.
Approach to mitigation	Under Scenario 2 the proposed locations for trenchless crossing techniques as detailed in Schedule 1, Part 3, Requirement 16 (13) of the draft DCO are appropriate and will be explored further and details agreed at each location at detailed design stage. Under Scenario 1 trenchless crossings will not be required as these will have been pre-installed by Norfolk Vanguard.	Agreed	It is agreed by both parties that the proposed trenchless crossing techniques under Scenario 2 are appropriate, subject to detailed design.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	Under Scenario 2 trenchless crossing techniques have been embedded within the scheme design to avoid impacts on the larger and most sensitive watercourses, including the main channels of the River Wensum, River Bure, King's Beck, Wendling Beck (two crossings) and the North Walsham and Dilham Canal. The cable will be installed at least 2m beneath the watercourse using a technique such as Horizontal Directional Drilling (HDD). Although these techniques will cause some surface disturbance at the entry and exit points, there will be no direct disturbance of the surface watercourses. Section 20.7.4.3 of ES Chapter 20 provides an assessment of the potential impacts of the accidental release of potentially polluting substances, including the inert drilling fluids from trenchless crossings into the aquatic system during construction. Additional mitigation measures will be implemented to prevent any release as detailed in the Outline Code of Construction Practice (OCoCP) (App-692). A commitment to use Best Available Techniques during HDD within the floodplain of main watercourses is secured in Section 11.1.4 of the OCoCP. Details on the mitigation proposed to manage bentonite breakout are presented in Section 11.1.6 the OCoCP, as agreed as part of the Norfolk Vanguard examination. A breakout contingency plan will be developed and will be included in the final CoCP and secured through DCO Requirement 20. The contingency plan will define the approach for responding to breakouts and will be informed by further ground investigation and the specific design of the trenchless crossing.	Our principal concern regards river crossings and in particular the use of horizontal directional drilling (HDD). Whilst this method limits disturbance to a waterbody, it is not without risks to the environment, mainly the potential damage in the event of a bentonite breakout. The project proposes to use HDD to cross several rivers including two chalk rivers. Both the Bure and the Wensum are Chalk Rivers, along with several of their tributaries including the Blackwater (GB105034051020). The River Wensum is designated as a SSSI and SAC which recognises its regional and national importance. Chalk rivers are defined as priority habitat under the UK Biodiversity Action Plan. A release of bentonite could smother the chalk bed which is a defining characteristic for this type of waterbody and important for its ecology. A further difficulty is that attempts to clean up any breakout could strip out sections of the sensitive river bed. Since we commented on Norfolk Boreas' twin project Norfolk Vanguard last year, there have been some instances of bentonite breakout whilst installing onshore cables for wind farms, with one incident occurring in the	Agreed, the Environment Agency are content with the Clarification Note provided.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	The Applicant has produced a clarification note to provide further information on the potential for bentonite breakout and the potential impacts on the River Wensum SSSI and SAC [REP1-039]. The Applicant has also requested information from other offshore wind farm developers on the occurrence of bentonite breakout to identify any potential areas for learning. Section 11.1.6 of the OCoCP [RE5-010] has been updated include the mitigations and controls as detailed within the clarification note.	neighbouring county of Suffolk. Whilst these incidents do not necessarily mean that they will occur for this project, it does offer an opportunity for the Applicant to apply learning from these incidents to ensure and demonstrate safeguarding and mitigation We are pleased the Outline Code of Construction Practice (OCoCP) commits to developing a Bentonite Breakout Plan. However, there is insufficient detail to assess either the risk of, likelihood or the extent of any breakout. We stress that there should be an emphasis on prevention of breakouts. The Applicant has issued a clarification note regarding methodology for trenchless crossings and we have requested sight of refined conceptual site models for our approval once post-consent ground investigations have been undertaken. We are satisfied that trenchless crossing can be undertaken in a manner that will not alter the current hydraulic continuity between aquifers/aquifers and watercourses and without contamination; drilling fluids can be inert and 'breakout' monitoring in	

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
		place to stop any breakout of drilling fluids as soon as possible.	
	Detailed Construction Method Statements will be developed by the Principal Contractor for relevant construction operations and will be included as part of the final CoCP for each stage of the works. These will provide details of the associated pollution control plans. The final CoCP for each stage of the works will be submitted to and approved by the relevant planning authority in consultation with the Environment Agency prior to works on that phase commencing. This represents an appropriate level of pollution prevention control. As agreed during the Norfolk Vanguard Examination, the Applicant will commit to develop a scheme and programme for each watercourse crossing, diversion and reinstatement, which will include site specific details regarding sediment management and pollution. This commitment has been captured within the OCoCP [REP5-010]. DCO Requirement 25 states that the scheme will be submitted and approved by the relevant planning authority in consultation with Norfolk County Council, The Environment Agency, relevant drainage authorities and relevant statutory nature conservation body. The OCoCP (para 143) has been updated to reflect this in Version 4 submitted at Deadline 8, in Section 11. The OCoCP to be submitted at Deadline 10, Section 13 Environmental Incident and Response and Contingency, will be updated to include that the '*Environment Agency incident response teams must be notified where an environmental incident could cause spillage or contamination into a watercourse including drains'.*	Agreed The OCoCP refers to Construction Method Statements but does not appear to commit to site specific water crossing plans. The Applicant for the Norfolk Vanguard project committed to producing site specific water crossing plans during the Examination phase. Each water crossing must be subject to individual plans and assessment because the physical and hydrogeological characteristics of each are important in devising a method of safeguarding against breakout in the first place and, safeguarding against disturbance of groundwater. Updated OCoCP [REP5-010] agreed except for: para 143 where the Environment Agency should also be a consultee given our responsibilities under WFD. Para 175 – 175 the Environment Agency incident response teams must be notified where an environmental incident could cause spillage or contamination into a watercourse including drains.	It is agreed by both parties that the development of a CoCP in consultation with the Environment Agency is an appropriate level of pollution control. Agreed subject to the OCoCP submitted at Deadline 10 being updated to include reference to informing the Environment Agency response team.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	A Surface Water and Drainage Plan will form part of the final CoCP (Requirement 20 (2)(i)). This will be developed, and agreed with the Environment Agency, to manage surface water within the working areas and ensure ongoing drainage of surrounding land. This typically includes interceptor drainage ditches being temporarily installed parallel to the trenches and soil storage areas to provide interception of surface water runoff and the use of pumps to remove water from the trenches during cable installation.	Agreed	It is agreed by both parties that the development of a Surface Water and Drainage Plan agreed with the Environment Agency is appropriate to manage surface water within the working areas to ensure sensitive water bodies are protected from the effects of sediment and soil mobilisation.
	Under Scenario 2 the onshore cable duct installation will be undertaken in a sectionalised approach with teams working on a short length at a time (approximately 150m section). Once the cable ducts have been installed, each 150m section will be back filled and the top soil replaced before moving onto the next section. Works in any given 150m section are expected to take approximately 2 weeks. Where a topsoil strip is required within existing grassland located within the functional floodplain, this will be undertaken using a turf cutter. Turf rolls will be retained and reinstated after the works to maximise the potential for reinstatement / restoration to be effective. Removed topsoil and turf will be stored outside of the functional floodplain. Theses controls are detailed in the OCoCP and will be included in the final CoCP secured through Requirement 20.	Agreed. The Environment Agency welcomes the Applicant undertaking to store topsoil outside of the floodplain and to minimise the mobilisation of sediment through the retention and replacement of existing turf.	It is agreed by both parties that the commitment to store topsoil outside of the floodplain will help to minimise the mobilisation of sediment and avoid removing flood water storage.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
	The worst case shallow depth of the cable duct installation (1.5m) under Scenario 2 and jointing bays (2m) under both scenarios and small volume of the installations means that any change in shallow aquifer groundwater flow will be localised and insignificant. Mitigation measures are proposed for trenchless crossings under Scenario 2 at SPZs (including ground investigations and hydrogeological risk assessments). It is acknowledged that some trenchless crossings will be deeper than 1.5m, but that the risks associated with SPZs have been discussed and agreed as part of the Norfolk Vanguard examination and the same approach has been adopted by Norfolk Boreas.	Agreed	Both parties agree that any change in shallow aquifer and groundwater flow should be localised and insignificant.
	Local landowners will be consulted on private water supplies during pre-construction works to ensure the proper assessment and protection of shallow wells in proximity to the works.	Agreed	It is agreed by both parties that consulting with landowners to identify private water supplies, will inform the assessment and protection of shallow wells.
	The mitigation proposed for water resources is appropriate and adequate.	Agreed	It is agreed by both parties that the ES provides adequate mitigation for water resources.
	The mitigation proposed for managing flood risk is appropriate and adequate.	Agreed	It is agreed by both parties that the ES provides adequate mitigation for flood risk.
Draft Development Consent Order (DCO)			
Wording of Requirement(s)	The wording of Requirement 20 provided within the draft DCO (and supporting certified documents) for the mitigation of impacts to water resources and flood risk is considered appropriate and adequate.	Agreed	It is agreed by both parties that the DCO wording is adequate subject to the Environment Agency being a named stakeholder.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Protective Provisions	Protective Provisions for the Environment Agency are set out in Schedule 17, Part 7 of the draft DCO, which seek to disapply the requirement for secondary consent for any works within 8m of a main river. Any works within 8m of a main river would still require prior approval from the Environment Agency, which would be delivered through the Protective Provisions as set out in the draft DCO. The Protective Provisions detailed in draft DCO Version 9 (to be submitted at Deadline 18) will include the deemed refusal mechanism as requested by the Environment Agency, whereby a lack of response from the Environment Agency within 2 months of submission of particulars for any specified works will be deemed to be a refusal of the scheme or plans sought by the Applicant. Previous references to deemed approval within the protective provisions have been removed or amended accordingly. The provisions have also been updated to reflect the minor amendments made to the drafting of the Protective Provisions adopted in the Norfolk Vanguard made order, as agreed by the Environment Agency and previously submitted with the draft DCO Version 8 at Deadline 13.	Agreed	Both parties agree with the Protective Provisions.

2.5 Onshore Ecology

27. The project has the potential to impact upon onshore ecology. Chapter 22 Onshore Ecology of the ES, (document reference 6.1.22 of the Application, APP-235), provides an assessment of the significance of these impacts.

28. Details on the Evidence Plan for onshore ecology can be found in Consultation Report Appendix 9.17 (document reference 5.1.9.17 of the Application, APP-054) and Appendix 28.1 of the Consultation Report (document reference 5.1.28.1 of the Application, APP-192).

29. Table 7 outlines the topics for agreement with respect to onshore ecology and ornithology between the Environment Agency and the Applicant.

Table 7 Agreement Log - Onshore Ecology

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
Survey methodology	Survey methodologies for Phase 1 Habitat Surveys are appropriate and sufficient as presented in the Method Statement issued in January 2018 (document 5.1.9.17) and discussed during the EPP meeting in February 2019.	Agreed	It is agreed by both parties that survey methodologies are appropriate.
	Survey methodologies for Phase 2 Surveys are appropriate and sufficient as presented in the Method Statement issued in January 2018 and discussed during the EPP meeting in February 2019.	Agreed	It is agreed by both parties that survey methodologies are appropriate.
Existing Environment	Survey data collected for Norfolk Boreas for the characterisation of onshore ecology summarised in section 22.5.2 of ES Chapter 22 are suitable for the assessment.	Agreed	It is agreed by both parties that survey data is suitable.
	The ES adequately characterises the baseline environment (section 22.6) in terms of onshore ecology.	Agreed	It is agreed by both parties that the baseline is adequately characterised.
Assessment methodology	Appropriate legislation, planning policy and guidance relevant to ecology has been considered for the project (listed in section 22.2 of Chapter 22 Onshore Ecology).	Agreed	It is agreed by both parties that policy and legislation has been appropriately considered.
	The list of potential onshore ecology impacts assessed is appropriate as discussed during the EPP meeting in February 2019.	Agreed	It is agreed by both parties that the potential impacts identified within the EIA are appropriate.
	The impact assessment methodologies used for the EIA (section 22.4 of ES Chapter 22) provide an appropriate approach to assessing potential impacts of the project. The methodologies used were presented in the Method Statement issued in January 2018 and discussed during the EPP meeting in February 2019.	Agreed	It is agreed by both parties that the impact assessment methodologies used in the EIA are appropriate.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
	The worst case assumptions for Scenario 1 and Scenario 2 presented in the ES Chapter 22 Table 22.22, are appropriate for the project.	Agreed	It is agreed by both parties that the worst case assumptions are appropriate.
Assessment findings	The assessment of impacts of both scenarios for construction, operation and decommissioning presented in section 22.7 of ES Chapter 22 are appropriate and consistent with the agreed assessment methodologies.	Agreed	It is agreed by both parties that the assessment of impacts is appropriate.
	The assessment of cumulative impacts for both scenarios presented in section 22.8 of ES Chapter 22 is appropriate and consistent with the agreed methodologies.	Agreed	It is agreed by both parties that the assessment of cumulative impacts is appropriate.
Mitigation and Management			
Approach to mitigation	All mitigation measures required are outlined in the OCoCP (document 8.1, APP-692) and Outline Landscape and Environmental Management Strategy (OLEMS) (document 8.7, APP-698).	Agreed	It is agreed by both parties that the required mitigation measures are outlined in the OCoCP and OLEMS, subject to the provision of the final CoCP to be developed post-consent.
	Under Scenario 2 the use of trenchless crossing techniques at County Wildlife Sites (CWS) is acceptable subject to detailed design. Under Scenario 1 trenchless crossings will not be required as these will have been pre-installed by Norfolk Vanguard.	Agreed	It is agreed by both parties that the use of trenchless crossings at CWS are acceptable, subject to detailed design.
	Commitments to avoid all CWS, either through site selection work or through trenchless crossing techniques, will result in no impacts to these sites associated with the construction, operation and decommissioning of the project.	Agreed	It is agreed by both parties that no impacts will result to CWS.

Topic	Norfolk Boreas Limited position	Environment Agency position	Final position
Environmental Impact Assessment			
	The provision of an Ecological Management Plan (EcoMP) (based on the OLEMS submitted with the DCO application, document reference 8.7) is considered suitable to ensure potential impacts identified in the EcIA are reduced to acceptable levels.	Agreed	It is agreed by both parties that the mitigation measures outlined in the OLEMS is considered suitable.
Draft Development Consent Order (DCO)			
Wording of Requirement(s)	Requirement 24 provided within the draft DCO (and supporting certified documents) for the mitigation of impacts to onshore ecology are considered appropriate and adequate.	Agreed	It is agreed by both parties that the DCO wording for Requirement 24 is adequate for mitigation of impacts to onshore ecology.

The names inserted below agree to the positions within this SOCG

Signature and Printed Name	[redacted] Ali Taylor
Position	Environment, Planning & Engagement Manager
On behalf of	Environment Agency
Date	25 September2020

Printed Name	Jake Laws
Position	Norfolk Boreas Consents Manager
On behalf of	Norfolk Boreas Limited (the Applicant)
Date	25 September 2020