Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

The Applicant's comments on Natural England's Deadline 2 Submission

Revision A
Deadline 3
May 2023
Document Reference: 16.6

China Resources
Better Life Together

Masdar
A MUBADALA COMPANY

equinor

Title: **Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects Examination submission** **The Applicant's Comments on Natural England's Deadline 2 Submission**		
PINS document no.: 16.6		
Document no.: C282-RH-Z-GA-00264		
Date:	Classification	
May 2023	**Final**	
Prepared by: **Royal HaskoningDHV**		
Approved by: **Tom Morris, Equinor**	Date: May 2023	

Table of Contents

Table of Tables

List of Annexes

Glossary of Acronyms

DCO	Development Consent Order
BAP	Biodiversity Action Plan
CIMP	Compensation Implementation and Monitoring Plan
CoCP	Code of Construction Practice
CRM	Collision Risk Modelling
CSCB	Cromer Shoal Chalk Beds
CSIMP	Cable Specification, Installation and Monitoring Plan
DDV	Drop-Down Video
DEL	Dudgeon Extension Limited
DEP	Dudgeon Offshore Wind Farm Extension Project
DOW	Dudgeon Offshore Wind Farm
DOW	Dudgeon Offshore Wind Farm
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
FOCI	Features of Conservation Interest
GBS	Gravity Base Structure
GIS	Geographic Information System
HDD	Horizontal Directional Drilling
HRA	Habitats Regulations Assessment
IPMP	In Principle Monitoring Plan
IROPI	Imperative Reasons of Overriding Public Interest
MCZ	Marine Conservation Zone
MEEB	Measures of Equivalent Environmental Benefit
MGOPP	Marine Geology, Oceanography and Physical Processes
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MRF	Marine Recovery Fund
OEMP	Outline Ecological Mitigation Plan
OLMP	Outline Landscape Mitigation Plan

OOMP	Offshore Operations and Maintenance Plan
OWIC	Offshore Wind Industry Council
PEMP	Project Environmental Management Plan
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SACO	Supplementary Advice on Conservation Objectives.
SEL	Scira Extension Limited
SEP	Sheringham Offshore Wind Farm Extension Project
SMP	Shoreline Management Plan
SNCB	Statutory Nature Conservation Body
SOW	Sheringham Shoal Offshore Wind Farm
SSSI	Site of Special Scientific Interest
WCS	Worst-Case Scenario

Glossary of Terms

Construction scenario	Scenario by which SEP and DEP could be built out. The options are 'sequentially' (i.e. one after another) or 'concurrently' (i.e. at the same time).
Dudgeon Offshore Wind Farm Extension Project (DEP)	The Dudgeon Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
DEP offshore site	The Dudgeon Offshore Wind Farm Extension consisting of the DEP wind farm site, interlink cable corridors and offshore export cable corridor (up to mean high water springs).
DEP North array area	The wind farm site area of the DEP offshore site located to the north of the existing Dudgeon Offshore Wind Farm
DEP South array area	The wind farm site area of the DEP offshore site located to the south of the existing Dudgeon Offshore Wind Farm
DEP wind farm site	The offshore area of DEP within which wind turbines, infield cables and offshore substation platform/s will be located and the adjacent Offshore Temporary Works Area. This is also the collective term for the DEP North and South array areas.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive. This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, potential Special Protection Areas, Special Protection Areas, Ramsar sites, proposed Ramsar sites and sites compensating for damage to a European site and is defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017, although some of the sites listed here are afforded equivalent policy protection under the National Planning Policy Framework (2021) (paragraph 176) and joint Defra/Welsh Government/Natural England/NRW Guidance (February 2021).
Evidence Plan Process (EPP)	A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the EIA and HRA for certain topics.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.

Offshore cable corridors	This is the area which will contain the offshore export cables or interlink cables, including the adjacent Offshore Temporary Works Area.
Offshore export cable corridor	This is the area which will contain the offshore export cables between offshore substation platform/s and landfall, including the adjacent Offshore Temporary Works Area.
Offshore export cables	The cables which would bring electricity from the offshore substation platform(s) to the landfall. 220 – 230kV.
Sheringham Shoal Offshore Wind Farm Extension Project (SEP)	The Sheringham Shoal Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
SEP offshore site	Sheringham Shoal Offshore Wind Farm Extension consisting of the SEP wind farm site and offshore export cable corridor (up to mean high water springs).
SEP wind farm site	The offshore area of SEP within which wind turbines, infield cables and offshore substation platform/s will be located and the adjacent Offshore Temporary Works Area.
Simultaneous piling	A scenario where two piles are installed at the same time at different locations.
Single piling	A scenario where one pile is installed in a 24 hour period.
The Applicant	Equinor New Energy Limited. As the owners of SEP and DEP, Scira Extension Limited and Dudgeon Extension Limited are the named undertakers that have the benefit of the DCO. References in this document to obligations on, or commitments by, 'the Applicant' are given on behalf of SEL and DEL as the undertakers of SEP and DEP.

1 The Applicant's Comments on Natural England's Deadline 2 Submissions

1. This document presents the Applicant's comments on Natural England's Deadline 2 submissions and is structured as follows:
   - **Section 1.1** - The Applicant's comments on Natural England's Cover Letter [REP2-060];
   - **Section 1.2** - The Applicant's comments on Appendix E1 - Advice on 13.5 Marine Processes Technical Note [REP1-059];
   - **Section 1.3** - The Applicant's comments on Appendix I2 - Advice on the Outline Code of Construction Practice [REP1-024], Outline Landscape Management Plan [REP1-025] and Outline Ecological Management Plan [REP1-028]
   - **Section 1.4** - The Applicant's comments on Appendix L1 - Comments on Responses by the Applicant [REP1036] to the Examining Authority's First Written Questions
   - **Section 1.5** - The Applicant's comments on Appendix K1 - Risk and Issues Log
2. The Applicant has responded to Natural England's Appendix C1 - Comments on 13.1 Gateshead Kittiwake Tower Modification [REP1-55] and 13.4 Sandwich Tern [REP1-058] - Quantification of Productivity Benefits Technical Notes in the following Technical Notes:
   - **Gateshead Kittiwake Tower Modification – Quantification of Productivity Benefits Technical Note (Revision B)** [document reference 13.1];
   - **Sandwich Tern – Quantification of Productivity Benefits Technical Note (Revision B)** [document reference 13.4].

1.1 Applicant's Comments on Natural England's Deadline 2 Cover Letter

Table 1 The Applicant's Comments on Natural England's Deadline 2 Cover Letter

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
REP1-002	3.1 Draft Development Consent Order (Revision C) Clean Version	Natural England notes the changes made to the conditions set out in Schedule 17 Part 1 and 2 Conditions 5 and 14. While the changes proposed do provide some assurances that the requirements to implement, notify the secretary of state of the implementation and to only decommission compensation requirements with approval of the secretary of state (SoS), remain in the event of third-party compensation. However, Natural England queries, especially with regard to (b) and (c) of this condition, what would happen if the third party did not provide the required compensation, or if the compensation was provided on a different timescale, location or agreed methodology? Should conditions 9 and 18 also be listed within those conditions stated as notwithstanding and should further drafting of (a)-(c) be made to make it clear the applicant would have duties to inform and gain approval of the Sos should any changes to approved timings and methodologies occur? We would recommend consideration of including requirements for adaptive management, approved by the SoS in consultation with the relevant SNCB, in the event of failure of third-party compensation. Further, we question how success of the compensation under third parties will be monitored and reported to the SoS. The current drafting does not cover such requirements. Further, it should be noted that the Marine Recovery Fund (MRF) will not be in place until after the Examination has closed. Therefore, it is difficult to judge which protective provisions will be captured within the MRF and which are required within the DCO. Therefore, we would advise a	The Applicant considers that the drafting within Schedule 17 of the **Draft Development Consent Order (DCO) (Revision F)** [document reference 3.1], together with the detail set out in the outline compensation, implementation and monitoring plans ([APP-070], [APP-073], [APP-075]) already addresses several of the points raised. The staged approach set out in Schedule 17 of the **Draft DCO (Revision F)** [document reference 3.1] to agree the final detail of the measures to be implemented and thereafter implement them is broadly the same for each species and is based on the approach that has been included by the Secretary of State in a number of DCOs for offshore wind farms: - **Stage 1** – a steering group is established to progress and finalise the scope and extent of the compensation measures to be delivered. - **Stage 2** – the undertaker consults with the steering group and formulates a compensation, implementation and monitoring plan (CIMP) for delivery of the compensation measures. The CIMP is submitted to the Secretary of State for approval. - **Stage 3** – The undertaker implements the CIMP. The drafting in conditions 5 and 14 does not remove that general structure as a whole. There would still be a CIMP in place, which could include detail of the required monitoring, reporting and adaptive management requirements in the event a collaborative approach to compensation was progressed. There is a section within the draft outline CIMPs
REP1-003	3.1.1 Draft Development Consent Order (Revision C) {Tracked)		
REP1-004	3.1.2 Schedule of Changes to Revision C of the Draft		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
		precautionary approach is considered with regard to ensure the DCO allows for monitoring, adaptive management and enforcement to ensure appropriate compensation should the MRF fund be used. There are several changes made to various conditions throughout the DCO, and its schedules, in response to other comments we have raised. Our response to these changes is recorded within the DCO section of our updated Risks and Issues Log.	for this detail to be included (see for example section 3 in [APP-073]). The effect of conditions 5 and 14 is to remove the need to implement the project specific measures, notwithstanding the other conditions in Schedule 17 that would otherwise require this. If the Secretary of State was concerned that collaborative measures could not be delivered in the necessary timescales to provide adequate compensation for SEP and DEP, then the Applicant considers it is highly unlikely he would agree to them. The **Draft DCO (Revision F)** [document reference 3.1] includes the need for consent of the Secretary of State in writing before a collaborative approach could be adopted instead of project-specific measures. That provides the necessary checks and balances. As set out in Table 3 of the **Strategic and Collaborative Approaches to Compensation and Measures of Equivalent Environmental Benefit** [APP-084] (page 27) the type of opportunities that the Applicant considers this might apply to include: - A financial contribution to another offshore wind developer to incorporate the compensation needs of SEP and DEP into a pre-existing commitment to deliver compensation - Financial contribution to a strategic pilot scheme (such as those proposed by Defra and the Offshore Wind Industry Council (OWIC) Derogation Subgroup) - Financial contribution to another strategic scheme managed by a third party (e.g. Environment Bank type model) should such a scheme become available In each case, the Applicant considers that a strategic/collaborative approach would only be proposed where there was a high degree of certainty that the necessary

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
			measures would be delivered, and would be delivered within suitable timescales. Otherwise, the Secretary of State would not agree to them. The Applicant maintains its position that including provision for the Applicant to potentially make use of strategic/collaborative measures should they become available makes the overall package of compensation measures more robust and is entirely appropriate in the rapidly developing policy environment. The Applicant also reiterates that the wording within the draft DCO is facilitative. If the measures do not come available within the necessary time, then the draft DCO would require the Applicant to deliver the project-specific measures in full. The Applicant will continue to engage with Natural England on concerns about the drafting of the provisions in Schedule 17 and would welcome further discussion on this. In response to specific drafting points raised: - The Applicant does not consider that conditions 9 and 18 should be added to the list of conditions detailed within condition 5 and 14 respectively. As noted above, the general structure of having an approved CIMP remains in place and any modification of it would still require consent of the Secretary of State, as required by conditions 9 and 18. - The Applicant does not understand the point being made about the Marine Recovery Fund, but would be willing to discuss this further.
REP1-005	3.1.3 Proposed Without Prejudice DCO Drafting	We note the Applicant is intending to submit an updated version of this document at Deadline 2, along with further updated documentation with regard to the proposed Measures of Equivalent Environmental Benefit (MEEB).	Noted. The Applicant will review Natural England's comments on this document at Deadline 3 and provide a response at Deadline 4, if required.

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
		Therefore, we will review the updated document in context along with the Deadline 2 submissions and provide a response to any changes to the proposed wording at Deadline 3.	
REP1-009	5.6.4.1 Appendix 4 - Assessment of Potential Impacts on Cromer Shoal Chalk Beds Marine Conservation Zone Features from Planting of Native Oyster Beds (Revision B) (Tracked)	Natural England supports the changes to address our concerns in relation to the location of the proposed Oyster Bed.	The Applicant welcomes this position.
REP1-010	5.6.4 Appendix 4 - Assessment of Potential Impacts on Cromer Shoal Chalk Beds Marine Conservation Zone Features from Planting of Native Oyster Beds (Revision B) (Clean)		
REP1-011	5.7.1 Appendix 1 In-Principle Cromer Shoal Chalk Beds (CSCB) Marine Conservation Zone (MCZ) Measures of Equivalent Environmental Benefit (MEEB) Plan (Revision B) (Clean)	Natural England advises the updates on biosecurity measures are welcomed and as above we support the change in location for the Oyster bed.	The Applicant welcomes this position.
REP1-012	5.7.1.1 Appendix 1 In-Principle Cromer Shoal Chalk Beds (CSCB) Marine Conservation		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
	Zone (MCZ) Measures of Equivalent Environmental Benefit (MEEB) Plan (Revision B) (Tracked)		
REP1-013	9.4 Draft Marine Mammal Mitigation Protocol (Revision (Clean)	Natural England notes the removal of "Annex 1: Vessel Good Practice and Code of Conduct to Avoid Marine Mammal Collisions" from the MMMP and an extra paragraph has been added to the start of the MMMP to state that this has been moved to the Offshore PEMP. The Offshore PEMP and the corresponding changes have been made. As understood, Natural England notes that the PEMP is a document that has to be agreed and signed off as part of pre-construction conditions so Natural England believes that this is equivalent to the vessel good practice and code of conduct being 'conditioned'.	The Applicant welcomes this position. Requirement for a Project Environmental Management Plan is secured through the conditions of the DMLs in the **Draft DCO (Revision F)** [document reference 3.1] which 'conditions' the requirement for the Vessel Good Practice and Code of Conduct to Avoid Marine Mammal Collisions.
REP1-014	9.4.1 Draft Marine Mammal Mitigation Protocol (Revision B) (Tracked)		
REP1-015	9.9 Outline Offshore Operations and Maintenance Plan (Revision B) (Clean)	Natural England apologises for any misconception as a result of our relevant and written representation in regards to the placement of cable protection over the lifetime of the project both inside and outside of designated sites. For audit trail purposes and avoidance of doubt Natural England advises that currently the assessed operational impact is specific to cable protection installed during the construction phase. Further cable protection installed during the operational phase/over the lifetime of the project would not be covered by the original ES/HRA assessment. It is important that a distinction is made between cable protection installed during construction and immediate remedial action that can be addressed whilst completing construction, and further remedial action needed once the project has become operational. If the Project anticipates that there may be a 'snagging' phase once construction has completed, we advise that further details of what may be required need to be provided. Once operational, any	The Applicant has assessed the worst-case areas of cable and scour protection over the project lifetime e.g. permanent or long term habitat loss and therefore the assessments within the ES and **Stage 1 CSCB MCZ Assessment** [APP-077] cover the operations and maintenance (O&M) phase. For clarity, the Applicant is not proposing that cable or scour protection can be installed at any time during the O&M phase – there are limits in terms of the locations, areas (m^2) and time period after completion of construction as described in the **Outline Offshore Operations and Maintenance Plan (Revision C) (Tracked)** [document reference 9.9] which has been updated at Deadline 3 to reduce the timescales, following completion of construction, at which an additional marine licence would be required to install cable or scour protection. The Applicant notes that one of the intended purposes of the DCO regime is to streamline the consenting process. Permitting the installation of additional cable/scour protection
REP1-016	9.9.1 Outline Offshore Operations and Maintenance Plan (Revision B) (Tracked)		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
		increase in the cable protection footprint over the lifetime of the Project within a designated site will require a new Marine Licence. Once operational, if there is any increase in the cable protection footprint outside of designated sites, the need for a new consent can be considered, but a clear assessment of WCS will be required in any event. The request for the 5 year review inside designated sites (and 10 outside) of the O&M plan is consistent across all marine industries to ensure that the plan remains fit for purposes and covers all O&M activities including associated works i.e. vessel movements from ports to the array or export cable. Please note this does not currently mean that cable protection and scour prevention can continue over a 5 year period. We would welcome further clarification on this point and have included it as a new point on our risks and issues log until resolved.	(that has been assessed) without the need for an additional marine licence (although approval will be required by the Marine Management Organisation (MMO)) would reduce the licensing burden on regulators and developers and so is considered to be appropriate.
REP1-017	Outline Project Environmental Management Plan (Revision B) (Clean)	Ornithology: As Natural England understands, the Applicant intends to submit further information in relation to ornithology, at Deadline 2. Therefore, Natural England will respond on the ornithological aspects of the PEMP at Deadline 3. In the interim, Natural England refers the ExA to comments within our Relevant Representation [RR-063] and our response to the Examiners question (Appendix L1 - Natural England's Further Responses to ExA Written Questions 1 Deadline 2). Marine Mammals: Natural England notes the PEMP now incorporates a Vessel Good Practice and Code of Conduct to Avoid Marine Mammal Collisions, which was originally included in Annex 1 of the Draft MMMP [APP-288]. We have no further comment in relation to these updated documents with regard to marine mammals.	Noted.
REP1-018	9.10.1 Outline Project Environmental Management Plan (Revision B) (Tracked)		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
REP1-019	9.13 Disposal Site Characterisation Report (Revision B) (Clean)	Natural England welcomes the updates in relation to a single gravity base foundation and commitments in relation to undertaking further sediment contamination samples. Natural England defers to the MMO and CEFAS to agree the proposals for those sediment samples. Natural England's advice in relation to sediment disposal occurring within areas of similar areas of similar particle size remain unchanged, especially within designated sites.	As described at ID 7 of Table 16 of the **Draft SoCG: MMO (Revision B)** [document reference 12.11], Regarding the **Disposal Site Characterisation Report** [APP-300], further contaminants sampling and analysis is being undertaken post-consent. Therefore, the licence for the disposal of sediment at sea will be applied for post-consent. Condition wording, as agreed with the MMO, to secure the requirement for post-consent contaminants sampling has been included with the **Draft DCO (Revision F)** [document reference 3.1] at Deadline 3. The Applicant therefore proposes to withhold any further updates to the Disposal Site Characterisation Report until the post-consent stage when more accurate details on the design (e.g. foundation types) and therefore quantities of material that are required to be disposed of, are known. This will enable a more accurate assessment to be undertaken. This approach has been agreed with the MMO.
REP1-020	9.13.1 Disposal Site Characterisation Report (Revision B) (Tracked)		
REP1-23	9.17 Outline Code of Construction Practice (Revision B) (Clean)	Please refer to Natural England's Comments on the CoCP, EMP, LMP [REP1-023, REP1-025, REP1-027]. Please note that for these documents, in line with our review of the 13.10 Bats - Alderford Common SSSI and Swannington Upgate Common SSSI Technical Note [REP1-63] we defer our comments in relation to bats to Deadline 3.	Noted. See **Table 3** to **Table 5** below.
REP1-24	9.17 Outline Code of Construction Practice (Revision B) (Tracked)		
REP1-25	9.18 Outline Landscape Management Plan (Revision B) (Clean)		
REP1-26	9.18.1 Outline Landscape Management Plan (Revision B) (Tracked)		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
REP1-27	9.19 Outline Ecological Management Plan (Revision B) (Clean)		
REP1-028	9.19.3 Outline Ecological Management Plan (Revision B) (Tracked)		
REP1-033, REP1-034 and REP1-035	The Applicant's Comments to Relevant Representations 12.3.1 Appendix A - Supporting Figures for the Applicant's Comments to Relevant Representations	This is still under review, and we may have further comments at Deadline 3 reflected through our Risk and Issues Log. However, we remind the Examining Authority (ExA) that, as stated in our Deadline 1 cover letter [REP1-035], Natural England will not be responding to commentary on our representations.	Noted.
REP1 36	12.4 The Applicant's Responses to the Examining Authority's First Written Questions	Please see Appendix L1 Natural England's Further Response and Comments on Responses by the Applicant [REP1-036] to the ExA's First Written Questions. Natural England has provided a response to Question Q1.3.4 Condition Assessment for the Marine Conservation Zone deferred from Deadline 1. In addition, Natural England has responded to the Applicant's response to questions highlighted in our Deadline 1 for our review. Natural England may have further comments, to the Applicant's responses, however we recognise there is likely to be a second round of ExA's written questions published on 12 April for submission at Deadline 3 and therefore any requirement for response may be superseded.	Noted. The Applicant has responded to NE's Appendix L1 [REP2-065] within **The Applicant's comments on Natural England's Deadline 2 Submission** [document reference 16.6].
REP1 37	12.4.1 Appendix A - Supporting Figures for the Applicant's Responses to the Examining Authority's First Written Questions		
REP1 39	12.4.2 Appendix B.4 -Supporting Documents for the Applicant's Responses to the Examining Authority's First Written Questions		

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
REP1-055	13.1 Gateshead Kittiwake Tower Modification – Quantification of Productivity Benefits Technical Note	Please see Appendix C1 Natural England's Comments on 13.1 Gateshead Kittiwake Tower Modification [REP1-055] and 13.4 Sandwich Tern [REP1-058] - Quantification of Productivity Benefits Technical Notes	The Applicant has updated the **Gateshead Kittiwake Tower Modification - Quantification of Productivity Benefits Technical Note (Revision B)** [document reference 13.1] to seek to address the Natural England's comments. Similarly, the **Sandwich Tern - Quantification of Productivity Benefits Technical Note (Revision B)** [document reference 13.4] has also been updated.
REP1-056	13.2 Collision Risk Modelling (CRM) Updates (EIA Context) Technical Note	As Natural England understands, the Applicant intends to provide a further update at Deadline 2. Therefore, following review, Natural England intends to provide detailed comments at Deadline 3.	This document was not updated at Deadline 2 and instead has been updated at Deadline 3, see the **Collision Risk Modelling (CRM) Updates (EIA Context) Technical Note (Revision B)** [document reference 13.2].
REP1-057	13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note	As Natural England understands, the Applicant intends to provide a further update at Deadline 2. Therefore, Natural England intends to provide further detailed comments at Deadline 3	Noted.
REP1-058	13.4 Sandwich Tern - Quantification of Productivity Benefits Technical Note	Please see Appendix C1 Natural England's Comments on 13.1 Gateshead Kittiwake Tower Modification [REP1-055] and 13.4 Sandwich Tern [REP1-058] - Quantification of Productivity Benefits Technical Notes	Noted. See the Applicant's response three rows above.
REP1-059	13.5 Marine Processes Technical Note	Please see Appendix E1- NE Further Response to [REP1-059] 13.5 Marine Processes Technical Note	See the Applicant's responses at **Table 2**.
REP1-061	13.7 Habitats Regulations Assessment Derogation and Compensatory Measures Update	Natural England will provide further detailed comments at Deadline 3 (D3).	Noted
REP1-063	13.10 Bats - Alderford Common SSSI and Swannington Upgate	Natural England will provide further detailed comments at Deadline 3 (D3).	Noted

PINS Ref	Document Name	Natural England's Response/Position Summary	Applicant's Response
	Common SSSI Technical Note		

1.2 Applicant's Comments on Natural England's Appendix E1 Natural England's Advice on 13.5 Marine Processes Technical Note [REP1-059]

Table 2 The Applicant's comments on Appendix E1 Natural England's Advice on 13.5 Marine Processes Technical Note [REP1-059]

ID	Natural England Comment	Applicant's Response
Applicant's Response to NE Comments – Section 1.1.2 Applicant's Response to NE Comments ID 3, ID 8, ID 21 and ID 28		
1	We welcome the additional information and clarification provided by the Applicant regarding the characterization of the sandbank features present within the projects order limits. Natural England's concerns have now been addressed.	The Applicant welcomes Natural England's position.
Applicant's Response to NE Comments – Section 1.2.2 Applicant's Response to NE Comments ID 6 and ID 23		
2	We welcome the additional information on spring tidal ellipses/excursions provided by the applicant. Natural England's concerns have now been addressed.	The Applicant welcomes Natural England's position.
Applicant's Response to NE Comments – Section 1.3.2 Applicant's Response to NE Comment ID 47		
3	We welcome the updated Figure 6.11 (Figure 10) provided by the Applicant showing the Zone of Potential Influence on the tidal regime in the context of marine protected areas (MPAs). Natural England's concerns have now been addressed.	The Applicant welcomes Natural England's position.
Applicant's Response to NE Comments – Section 1.4.2 Applicant's Response to NE Comments ID 37, ID 38, ID 39 and ID 40		
4	Natural England welcomes the upscaled sediment disturbance volume, plume extent and deposition thickness for SEP/DEP export cable installation. We are content to agree with the conclusions drawn here and have updated our Risk and Issues log accordingly.	The Applicant welcomes Natural England's position.
Applicant's Response to NE Comments – Section 1.5.2 Applicant's Response to NE Comments ID 6 and ID 52		
5	We welcome the additional evidence provided by the Applicant from the comparison of pre and post construction geophysical surveys for Dudgeon Offshore Wind Farm (DOW). we agree that there appears to have been little change in overall sea bed depth between 2013 and 2018 appears. However, given that the DOW array was only completed in 2017, it is not possible to	The Applicant has included additional data and analysis from the other three sites monitored at DOW within the **Marine Processes Technical Note (Revision B) (Tracked)** [document reference 13.5.1] at Deadline 3.

ID	Natural England Comment	Applicant's Response
	establish any long term trends in sea bed morphological change based on the data presented in the Technical Note. The DOW array sandwave migration analysis (2007-2018) is extremely useful. however, of the six sites analysed, results from only three sites have been provided in this Technical Note. Of these, two sites show both a marked decrease in sandwave height and an increase in migration rate between 2017 (when the DOW array was completed) and 2018 (one year later). Therefore, we cannot agree with the conclusion in Point 46, that 'sandwave migrations are indicative of naturally occurring processes across the array site and are not driven by changes caused by DOW'. Further subsequent sandwave migration analysis would be required to support this conclusion.	
Conclusions		
6	We welcome and are content with the additional information provided by the Applicant, in regard to, Sections 1.1.2, 1.2.2, 1.3.2 and 1.4.2 in the Technical Note, as detailed above.	The Applicant welcomes Natural England's position.
7	However, we do not agree with the conclusions in Section 1.5.2 or Section 2 regarding sea bed bathymetry and bedforms. To establish long term trends in the overall sea bed bathymetry across the DOW array site which require comparison of further bathymetry datasets from different time periods to better inform quantification of trends in seabed erosion/accretion. Furthermore, in regard to, sandwave migration across the DOW array area, we advise that analysis of additional datasets from different time periods is needed to help establish whether bedforms changes and migration rates are due to natural or anthropogenic drivers.	See the **Marine Processes Technical Note (Revision B) (Tracked)** [document reference 13.5.1] at Deadline 3.

1.3 Applicant's Comments on Natural England's Appendix I2 Natural England's Advice on the Outline Code of Construction Practice (Revision B) (Tracked) [REP1-024], Landscape Management Plan [REP-026] and Ecological Management Plan [REP-028]

Table 3 The Applicant's Comments on Appendix I2 Natural England's Advice on the Outline Code of Construction Practice (Revision B) (Tracked) [REP1-024]

Document Reference			Natural England Response		Applicant's Comment
Section	Page	Para / Table	Point	NE Advice	
[REP1-024] 9.17 Outline Code of Construction Practice (Revision B) (Tracked)					
8	41	153	1	Natural England welcomes the intention by the Applicant to implement an invasive non-native species (INNS). Management Plan to as part of the CoCP. We advise that any condition relating to the named plan should specify that the plan will be agreed by the relevant LPA/s in consultation with the Environment Agency and Natural England prior to construction as stated.	Noted. Requirement 19 (Code of Construction Practice) of the **draft DCO (Revision F)** [REP2-008] states that: *No phase of the onshore works may commence until a code of construction practice (which must accord with the outline code of construction practice) for that phase has been submitted to and approved by the relevant planning authority following consultation with the Environment Agency, relevant statutory nature conservation bodies and, if applicable, the MMO.*
3.3.1	23	68	2	The outline Code of Construction Practice (OCoCP) refers to the Outline Landscape Management Plan (OLMP) and Outline Ecological Management Plan (OEMP) with regards to woodland and hedgerow protection, buffer zones and hedgerow mitigation. However, we advise that full details of potential mitigation measures should be included in an outline plan at the consenting phase to have confidence that impacts as be successfully mitigated. . We welcome the Applicant's commitment to undertaking an arboricultural survey and assessment prior to commencement of construction works. We	The **Outline Code of Construction Practice (Revision C)** [document reference 9.17], **Outline Ecological Management Plan (Revision C)** [document reference 9.19] and the **Outline Landscape Management Plan (Revision C)** [document reference 9.18] submitted are outline documents at this stage of the application and detail the broad principles which would be followed. The **Outline Code of Construction Practice (Revision C)** [document reference 9.17], **Outline Ecological Management Plan (Revision C)** [document reference 9.19] and the **Outline Landscape Management Plan (Revision C)** [document reference 9.18] would be developed post-consent, to be approved by the relevant planning authority following consultation with the Environment Agency, relevant statutory nature conservation bodies and, if applicable, the MMO. The

Document Reference			Natural England Response		Applicant's Comment
				believe that this has been adequately secured. Natural England advises that all tree, woodland and ancient woodland mitigations measures should be included in an OLEM during the consenting phases.	**Outline Code of Construction Practice** is secured by Requirement 19 (Code of Construction Practice), the **Landscape Management Plan** is secured by Requirement 11 (Provision of landscaping) and the **Ecological Management Plan** is secured by Requirement 13 (Ecological management plan) of the **draft DCO (Revision F)** [document reference 3.1]. Of note, Requirement 11(e) requires *details of existing trees and hedges to be removed and details of existing trees and hedges to be retained, with measures for their protection during the construction period where applicable and the details provided should be in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction and the Hedgerow Regulations 1997.* Full details of potential mitigation would be informed by pre-construction surveys, as such it is not feasible to include this level of detail pre-consent in the outline plans.
2.5.10, 7, 7.1.2	18, 37, 38	52, 137-141, 142	3	Colton Wood and Smeeth Woods are ancient woodlands 20m and 100m away from a trenchless crossing. As per our Appendix I of our Relevant Representations [RR-063], these sites are sensitive to dust impacts. Additionally, Alderford Common SSSI and small areas of the River Wensum SSSI and SAC would also be sensitive to these same impacts. Natural England advises clarification is needed as to whether these sites will be further impacted. The Zones of Influence (ZoI) for Ancient Woodland should be clearly stated with consideration given to any potential edge effects. We continue to advise this is included within the OLMP, OEMP and referenced in the CoCP.	The Applicant refers Natural England to the **Addendum to Environmental Statement Chapter 20 Onshore Ecology and Ornithology** [REP2-053] which concludes no impacts the sites detailed in its comment. With regard to the Dust Management Plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] would be prepared by the Principal Contractor and submitted and approved post consent. Outline details of the management measures to be included within those plans are set out within section 3.3.1 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17]. This will be progressed further during detailed design phase.

Document Reference			Natural England Response		Applicant's Comment
				The updated OCoCP states that Chapter 22 Air Quality of the ES (6.1.22) [APP-108] identifies receptors that are potentially sensitive to air and dust emissions. We note the Applicant's commitment to submit a Dust Management Plan to be developed as part of the CoCP. However, an outline plan should be provided at the consenting phase. We advise that the impacts mentioned above are incorporated into it.	
2.1, 3.7	19, 24	59, 62, 73	4	We welcome that details for artificial lighting will be set out in the Artificial Light Emissions Management and Mitigation Plan which will be submitted as part of the CoCP to the local authorities (in consultation with Natural England) for approval prior to construction. We advise that this should include details of lighting with regards to sensitive habitats and species and be provided as an outline plan during the consenting phase to provide the necessary confidence in the mitigation measures. We advise that lighting is kept to a minimum and where continuous hours of operation are required, lighting must be directed away from habitats, particularly linear features.	Noted. With regard to the Artificial Light Emissions Management and Mitigation Plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] would be prepared by the Principal Contractor and submitted and approved post consent during detailed design phase. Outline details of the management measures to be included within those plans are set out within section 3.7 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17]. Of note, as set out within paragraph 61, *lighting would be kept to a minimum and adhere to the Bats and Lighting in the UK* guidance. Full details of potential mitigation would be informed by pre-construction bat surveys and would be relevant to the habitat feature and its use/importance for bat species.
3.8	24	76	5	We welcome the Applicant's commitment to provide an Environmental Emergency / Incident Response plan and would request that a stipulation for all bentonite breakouts within designated sites to be reported to Natural England within 24 hours and before clean-up	Noted. With regard to the Environmental Emergency / Incident Response plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] would be prepared by the Principal Contractor and

Document Reference			Natural England Response		Applicant's Comment
				operations begin is included within the CoCP. However, we advise that full details of potential mitigation measures should be included in an outline plan at the consenting phase to have confidence that impacts as be successfully mitigated.	submitted and approved post consent and prior to the commencement of works. Outline details of the management measures to be included within those plans are set out within Sections 3.8 and 11.2 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] The Applicant agrees with the request for all bentonite breakouts within designated sites to be reported to Natural England within 24 hours and before clean-up operations begin. The **Outline Code of Construction Practice (Revision C)** [document reference 9.17] will be updated and submitted at Deadline 3 to reflect this.
46	25	81	6	The OCoCP refers to Chapter 17 Ground Conditions of the ES [APP-103] in relation to sensitive receptors to ground condition impacts. However, as per Appendix I of our Relevant Representations [RR- 063], the list of activities with the potential to cause contamination does not include potential impacts caused by horizontal directional drilling (HDD). The potential for bentonite breakout has not been included in the assessment of impacts, particularly given SEP and DEP crosses the River Wensum SAC and SSSI where the sensitivity of surface waters is considered to be high. Although reference to additional impacts relating to surface water quality and ecological habitats being provided in the Water Resources and Flood Risk Chapter 18 [APP-104] and Onshore Ecology and Ornithology Chapter 20 [APP-106]; Natural England continues to advise that consideration is given	The Applicant refers Natural England to the **Report to Inform the Appropriate Assessment (RIAA) (onshore) Technical Note** [REP2-050] which was submitted at Deadline 2 and provides further assessment of the risk of bentonite breakout to the River Wensum SAC and its features. The Bentonite Breakout Plan, which forms part of the OCoCP (secured by Requirement 19 of the **draft DCO (Revision F)** [document reference 3.1], would be developed prior to construction and would be informed by further detailed design and surveys including hydro-fraction survey at all drill sites. A site-specific risk assessment would then be undertaken as part of the post consent detailed design process (see paragraph 131 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17].

Document Reference			Natural England Response		Applicant's Comment
				to the potential for bentonite breakouts during HDD and for the necessary mitigation measures to be identified during the consenting phase	
6	30	102	7	We welcome the Applicant suggestion for a committed scheme and programme for each watercourse crossing, diversion and reinstatement and would welcome review of outline schemes during the consenting phase.	Noted. Section 7.1.3 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] sets out the information that will be included and the principles that would be adhered to within any Watercourse Crossing Scheme.
6.1.1	30	104	8	The potential impact of an HDD bentonite breakout was not included in the ES assessment for the Increased Sediment Supply scenario. We advise the potential impact of an HDD bentonite breakout on features of interest and their supporting habitats should be assessed and suitable mitigation provided in an OLEM and CoCP as part of the consenting phase.	The Applicant refers Natural England to the **Report to Inform the Appropriate Assessment (RIAA) (onshore) Technical Note** [REP2-050] which was submitted at Deadline 2 and provides further assessment of the risk of bentonite breakout to the River Wensum SAC and its features. As set out within the **Outline Code of Construction Practice (Revision C)** [document reference 9.17], the Bentonite Breakout Plan would be developed prior to commencement of works and would be informed by further detailed design and surveys including hydro-fraction survey at all drill sites. A site-specific risk assessment would then be undertaken as part of the post consent detailed design process.
6.1.4	33	114	9	Natural England welcomes the Applicant's commitment to provide a Bentonite Breakout Management. However, we advise that full details of potential mitigation measures should be included in an outline plan at the consenting phase to have confidence that impacts as be successfully mitigated. As with Point 5 above we advise that for all bentonite breakouts within designated sites to be reported to Natural England within 24 hours and before clean-up operations begin. Please also refer to	With regard to the Bentonite Breakout Plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision C)** [document reference 9.17] would be prepared by the Principal Contractor and submitted and approved post consent. Outline details of the management measures to be included within those plans are set out within section 7.1.4 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17].

Document Reference			Natural England Response		Applicant's Comment
				comments provided in our Relevant Representations [RR-063].	The Bentonite Breakout Plan would be developed prior to commencement of works and would be informed by further detailed design and surveys including hydro-fraction survey at all drill sites. A site-specific risk assessment would then be undertaken as part of the post consent detailed design process. The Applicant agrees with the request for all bentonite breakouts within designated sites to be reported to Natural England within 24 hours and before clean-up operations begin. The **Outline Code of Construction Practice (Revision C)** [document reference 9.17] will be updated to reflect this.
6.1.5	34	119	10	Natural England welcomes the Applicant's commitment to provide a Construction Surface Water Drainage Plan. However, we advise that full details of potential mitigation measures should be included in an outline plan at the consenting phase to have confidence that impacts as be successfully mitigated. We advise that the potential for bentonite breakout where the project crosses the River Wensum SAC and SSSI, where the sensitivity of surface waters are considered to be high, is included in this.	With regard to the Surface Water Drainage Plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision B)** [REP1-023] would be prepared by the Principal Contractor and submitted and approved post consent. Outline details of the management measures to be included within those plans are set out within Section 6.1.5 of the **Outline Code of Construction Practice (Revision B)** [REP1-023] (6.1.5).
6.1.6	35	121	11	As per Appendix I of our Relevant Representations [RR-063], we advise that the restoration of the HDD compound on the flood plain of the River Wensum should be restored in accordance with the River Wensum Restoration Strategy and the River Wensum SAC conservation objectives Supplementary Advice. Where possible, measures should restore appropriate soil/ground moisture conditions so that water levels are continuously	The Applicant refers Natural England to the **Outline Ecological Management Plan (Revision B)** [REP1-027, para.100] which states that: The HDD compound located on the floodplain of the river Wensum (but outside the SSSI and SAC) will be restored in accordance with the River Wensum Restoration Strategy and the River Wensum SAC conservation objectives.

Document Reference			Natural England Response		Applicant's Comment
				at or just above the ground surface throughout the year. We recommend that this stipulation is secured in the CoCP.	The **Ecological Management Plan** is secured by Requirement 13 (Ecological management plan) of the **draft DCO (Revision F)** [document reference 3.1].
10	46	168	12	We welcome the Control Measures for Public Rights of Way and advise that if the Applicant provide the necessary assurances at the consenting phase through proposed mitigation measures that any diversions of recreational routes will not significantly impact upon protected species or habitats this would allay NE's concerns.	The routing of temporary diversions to Public Rights of Way (PRoW) would be determined prior to commencement of works. Where diversions are required outside the Order Limits, the Applicant would seek to use the existing PRoW network, where possible. Where diversions are within the Order Limits, these would be informed, in part, by the results of further surveys, e.g. Extended UK Habitat classification surveys, where required. Routing would seek to avoid protected species or sensitive habitats, where possible.
N/A	N/A	N/A	13	A Schedule of Mitigation measures should be updated as part of the consenting phase to reflect the advice and changes accordingly.	The Applicant confirms that an updated Schedule of Mitigation will be submitted at the end of the examination.

Table 4 The Applicant's Comments on Appendix I2 Natural England's Advice on the Outline Landscape Management Plan (Revision B) (Tracked) [REP1-026]

Document Reference			**Natural England Response**		**Applicant's Comment**
Section	Page	Para / Table	Point	NE Advice	
[REP1-026] Deadline 1 Submission - 9.18.1 Outline Landscape Management Plan (Revision B) (Tracked)					
1.1	7	7	14	We welcome the Applicant's commitment to undertaking an arboricultural survey and assessment prior to commencement of construction works. We believe that this has been adequately secured. Natural England advises that all tree, woodland and ancient woodland mitigations measures should be included in an OLEM during the consenting phases.	Mitigation measures would be informed by the results of the full arboricultural survey and assessment which would be undertaken prior to commencement of construction work. This is secured by Requirement 11(e) of the **draft DCO (Revision F)** [document reference 3.1] which requires *details of existing trees and hedges to be removed and details of existing trees and hedges to be retained, with measures for their protection during the construction period where applicable and the details provided should be in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction and the Hedgerow Regulations 1997*
1.3.1	12	30	15	Natural England welcomes the Applicants commitment to use appropriate native and "of local provenance" species which will contribute towards habitat enhancements and promote biodiversity to achieve Biodiversity Net Gain. We believe that this hasn't been adequately secured. However, we highlight the importance of first following the mitigation hierarchy, with BNG considerations considered additionally.	Details of the voluntary biodiversity net gain commitments are set out within the **Outline Biodiversity Net Gain Strategy** [APP-219] which is appended to the **Outline Ecological Management Plan** [REP1-027], which is secured by Requirement 13 (Ecological management plan) of the **draft DCO (Revision F)** [document reference 3.1].
1.4.4	16	39	16	The document refers to the 'OEMP [REP1-028]' in terms of ecological enhancements, though details of these ecological enhancements are not provided in the OEMP Revision B [REP1-028]. Natural England advises that an OLEM should include details of	Details of habitat enhancements would be developed post consent once the pre-construction surveys have concluded and captured within the **Ecological Management Plan (Revision C)** [document reference 9.19, Appendix 1], and secured by Requirement 13 (Ecological management plan) of the **draft DCO (Revision F)** [document reference 3.1].

Document Reference			Natural England Response		Applicant's Comment
				enhancements such as (but not exclusively) scattered scrub and shallow scrapes.	

Table 5 The Applicant's Comments on Appendix I2 Natural England's Advice on the Outline Ecological Management Plan (Revision B) (Tracked) [REP1-028]

Document Reference			Natural England Response		Applicant's Comment
Section	Page	Para / Table	Point	NE Advice	
[REP1-028] 9.19.3 Outline Ecological Management Plan (Revision B) (Tracked)					
1.2.4	10	15	17	Natural England welcomes the Applicant's commitment that all ecological works will be carried out under the guidance of the appointed Ecological Clark of Works (ECoW). We advise it is also included within an OLEM that in the event that any protected species is found on site when the ECoW is not present, all works must cease immediately and the ECoW contacted for how to proceed. If this can be agreed and secured it would allay our concerns	Noted. The Applicant confirms that the **Outline Ecological Management Plan (Revision C)** will be updated and submitted at Deadline 3 [document reference 9.19] to include this requirement and cross reference and text will provided in the **Outline Landscape Management Plan (Revision C)** [document reference 9.18].
2.2	12	27	18	The potential for bentonite breakout where the project crosses the River Wensum SAC and SSSI, where the sensitivity of surface waters are considered to be high, have not been included in the OEMP. As per Appendix I of our Relevant Representations [RR-063], we advise that the restoration of the HDD compound on the flood plain of the River Wensum should be restored in accordance with the River Wensum Restoration Strategy and the River Wensum SAC conservation objectives Supplementary Advice.	The Applicant refers Natural England to the **Report to Inform the Appropriate Assessment (RIAA) (onshore) Technical Note** [REP2-050] which was submitted at Deadline 2 and provides further assessment of the risk of bentonite breakout to the River Wensum SAC and its features. The Applicant refers Natural England to the **Outline Ecological Management Plan (Revision C)** [document reference 9.19, para.100] which states that: The HDD compound located on the floodplain of the river Wensum (but outside the SSSI and SAC) will be restored in accordance with the River Wensum Restoration Strategy and the River Wensum SAC conservation objectives.

Document Reference			Natural England Response		Applicant's Comment
2.2	12	27	19	Natural England notes that Buffer zones for ancient woodlands (Colton Wood and Smeeth Wood) as also highlighted in our Relevant Representation [RR-063] have not been specified. These sites are sensitive to dust impacts. Natural England advises clarification is needed as to whether these sites will be further impacted. The Zones of Influence (ZoI) for Ancient Woodland should be clearly stated with consideration given to any potential edge effects. We advise that buffer zones should reflect the habitat and where assessment shows other impacts are likely to extend beyond this distance, such as the effect of air pollution from development that results in a significant increase in traffic, the proposal may need a larger buffer zone.	The Applicant would like to confirm that Colton Wood would not be directly crossed by the project. Colton Wood is located approximately 10m from the Order Limit at its closest point. The Order Limit is 100m wide near this woodland therefore a buffer of at least 30 metres from the woodland would be achieved. The Applicant confirms direct impacts to Colton Wood would be avoided. Smeeth Wood is located approximating 170m from the edge of the Order Limits. The buffer zone would be a minimum 170m. The Applicant refers Natural England to the **Addendum to Environmental Statement Chapter 20 Onshore Ecology and Ornithology** [REP2-053] which concludes no impacts the sites detailed in its comment.
2.2	12	27	20	Within a update of this document or ideally within an OLEM we advise that the arboricultural survey and impact assessment to be carried out prior to construction should inform an updated method statement to detail specific measures for tree protection to include figures. We advise as per our RR/WR [RR-063] that within the update document consideration must be given to tree root protection zones and make reference to the arboricultural assessment and mitigation.	Requirement 11(e) of the **draft DCO (Revision F)** [document reference 9.19] requires *details of existing trees and hedges to be removed and details of existing trees and hedges to be retained, with measures for their protection during the construction period where applicable and the details provided should be in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction and the Hedgerow Regulations 1997* The Applicant has committed to completing a full arboricultural survey at pre-construction stage. This would include a Tree Survey Schedule, Arboricultural Method Statement, Tree Protection Plans and an Arboricultural Impact Assessment. Relevant arboricultural protection measures from these reports will be reflected within the Outline Landscape Management Plan and Outline Ecological Management Plan where appropriate.

Document Reference			Natural England Response		Applicant's Comment
2.3.4	16	42	21	Natural England welcomes the Applicant's commitment to undertake pre-construction badger checks and that these surveys will be used to identify if any changes to the draft mitigation licence is required. In addition, if the Applicant can also commit to undertaking pre-construction surveys within previously inaccessible areas of the DCO boundary, then our concerns in relation to badger surveys will be addressed.	The Applicant has committed to completing a pre-construction badger survey covering the Order Limits and a surrounding 30m buffer as detailed in the **Outline Ecological Management Plan (Revision C)** [document reference 9.19, Appendix 1]. This will include the sections of the Order Limits which were previously inaccessible.
2.3.6	18	55	22	Natural England welcomes the Applicant's commitment to manage for reptiles prior to construction and the undertaking of a phased approach. We also welcome the Applicant's commitment to undertaking pre-construction reptile surveys to inform an update to the measures which should be included within an OLEM at the consenting phase to ensure that measures can be implemented to avoid killing/injury of reptiles during construction. If additional habitats are found during the walkover survey to be suitable for reptiles, and for where pre- construction reptile surveys find additional populations of reptiles, Natural England advises including a commitment to consult with the relevant planning authority on the need for additional measures to be implemented beyond those set out within the EMP/OLEM. There would also need to be a requirement to update the EMP/OLEM prior to	**Outline Ecological Management Plan (Revision C)** [document reference 9.19, Appendix 1] details that pre-construction reptile surveys would only be completed if new areas of suitable reptile habitat are found during the pre-construction Extended UK Habitat classification surveys, or if new information on reptile distribution comes to light (such as NBIS records). In the event that new sites are surveyed for reptiles and these surveys confirm the presence of reptiles, this information will be submitted to the relevant planning authority, along with a proposed mitigation approach for the site/s, as part of the submission of results of pre-construction surveys. Requirement 13 (Ecological management plan) of the **draft DCO (Revision F)** [document reference 3.1] states that: No phase of the onshore works may commence until a written ecological management plan (which accords with the outline ecological management plan and the relevant recommendations of appropriate British Standards or Industry Guidance) for that phase reflecting the survey results and ecological mitigation, enhancement and biodiversity net gain measures included in the environmental statement has been submitted to and approved by the relevant planning authority in consultation with the relevant statutory nature

Document Reference			Natural England Response		Applicant's Comment
				construction to ensure legal protection afforded to reptiles continues to be adhered to.	conservation bodies and (where works have potential to affect wetland habitat) the Environment Agency
2.3.6, Appendix A	18, 36	61,Table 2	23	Natural England notes that reptile translocation will be required for the slow worm population at Hickling Lane. Natural England advises that adjacent habitat in which slow worms will be relocated will need to be able to support the additional population and therefore we seek assurances on how this will be achieved.	The Applicant refers Natural England to **Annex A**. The proposed approach at Hickling Lane is firstly to avoid all areas of suitable reptile habitat e.g. through micro-siting and use of HDD. If any encroachment into suitable habitat is necessary and cannot be avoided, that habitat will be manipulated/managed to attempt to encourage reptiles to move away from the works areas. Such areas are expected to be small (<100 square metres) whereas the areas of suitable habitat bordering Hickling Lane are extensive (>5,000 square metres just within the order limits, with far more suitable habitat extending along the lane outside the order limits). If this is not completely effective, remaining reptiles would be moved out of the construction footprint and into adjacent suitable habitat. Full detail is outlined within the **Reptile Survey Report** [APP-221]. The reptile surveys here found a low population of slow worm (maximum count of one animal) within the areas covered by the surveys, noting that the surveys covered a larger footprint than that expected to be affected by the proposed construction works. It has therefore been considered that the habitat to which any slow worms could be moved would form part of their existing habitat and would have capacity to accommodate the animal/s. Given the homogeneity of the habitat along Hickling Lane (in terms of suitability for reptiles) there is no indication that habitat to which animals could be moved would be at full reptile capacity (when surveys of these areas found a maximum of one animal) and therefore unable to accommodate the very low numbers of slow worms which could need to be moved here.
23	23	86	24	Natural England welcomes that details for artificial lighting will be set out in the Artificial Light Emissions Management and Mitigation Plan as stated in the CoCP [REP1-024] and welcomes that all lighting required during the	With regard to the Artificial Light Emissions Management and Mitigation Plan, as detailed in **The Applicant's Responses to the Examining Authority's First Written Questions** [REP1-037, Q1.6.6.1], the Applicant confirms that the detailed plans listed in the **Outline Code of Construction Practice (Revision C)** [document

Document Reference			Natural England Response		Applicant's Comment
				construction phase will be designed in accordance with BCT guidance. We advise that a detailed lighting plan is included in the EMP/OLEM during the consenting phase to ensure impacts upon sensitive habitats and species, particularly in the area around Alderford Common SSSI/Swannington/Weston/Morton on the Hill, Scotchwood Hills areas can be suitably mitigated for. We continue to advise that the Applicant should demonstrate ensure there would be no adverse effect on the integrity of the potential Wensum Woods SSSI notification area, or upon the features which support it e.g. Supporting habitats such as bat foraging areas and commuting routes. Please refer to Natural England's comments in our Relevant Representations [RR-063]. We advise this should also include areas where construction activities will continue outside the hours specified in the CoCP (3.1, page 19, para 58-59) [REP1-024] where night-time working is required. Natural England advises lighting should be directed away from linear features such as watercourses and hedgerows important for foraging and commuting. In addition, we advise that for where lighting is required during the operational phase this must also follow BCT	reference 9.17] would be prepared by the Principal Contractor and submitted and approved post consent. Outline details of the management measures to be included within those plans are set out within Section 3.7 of the **Outline Code of Construction Practice (Revision C)** [document reference 9.17]. Full details of potential mitigation would be informed by pre-construction bat surveys and would be relevant to the habitat feature and its use/importance for bat species. The potential impacts upon the Wensum Woods SSSI cannot be assessed, nor mitigation proposed, given the extents of this SSSI are not yet defined. However, the Order Limits do not pass through any woodland habitat in the vicinity of the River Wensum so it is expected that all habitat which would be designated as part of the Wensum Woods SSSI would be avoided. Potential impacts to Core Sustenance Zones or key commuting/connective habitat surrounding the woodland would be informed by pre-construction surveys focusing on linear features such as hedgerows and watercourses which are at risk of impacts (i.e. features to be impacted through open-cut installation) and mitigation proposed accordingly

Document Reference			Natural England Response		Applicant's Comment
				guidance and be directed away from important habitats and linear features such as hedgerows and treelines.	
4.3	28	108	25	Natural England welcomes biodiversity net gain (BNG) and advises consultation and agreements with landowners and stakeholders is required to secure mitigation. We remind the Applicant the mitigation hierarchy must be followed with the commitment to BNG additional to this.	Noted.
Appendix A	35	Table 2	26	As per our comments in Appendix I of our Relevant Representation [RR-063], we continue to advise pre-construction bird surveys are committed by the Applicant (and secured) to determine the presence of sand martins at Weybourne Cliffs. If surveys reconfirm the presence of breeding sand martins within the bank which would be impacted by construction, we advise suitable mitigation measures must be followed.	The construction works are expected to entirely avoid Weybourne Cliffs SSSI, including all areas supporting nesting sand martins, through HDD at the coast and alignment of the construction footprint to the west of the cliffs.
			27	As per Appendix I of our Relevant Representations [RR-063], sediment increases as a result of bentonite breakout do not appear to have been considered with regards to lamprey species which are present in several watercourses including Swannington Beck where an adverse significant effect may result with increased sediment supply. We advise consideration is included within the EMP/OLEM.	The Applicant refers Natural England to the **Report to Inform the Appropriate Assessment (RIAA) (onshore) Technical Note** [REP2-050] which was submitted at Deadline 2 and provides further assessment of the risk of bentonite breakout to the River Wensum SAC and its features. The Bentonite Breakout Plan would be developed prior to the commencement of works and will form part of the Code of Construction Practice, which is secured by Requirement 19 of the **draft DCO (Revision D)** [REP2-008]. It would be informed by further detailed design and surveys including hydro-fraction survey at all drill

Document Reference			Natural England Response		Applicant's Comment
					sites. A site-specific risk assessment would then be undertaken as part of the post consent detailed design process.
			28	As per our comments in Appendix I of our Relevant Representations [RR-063], pre-works and post- construction mitigation measures including construction exclusion zones have been proposed in the Invertebrate Survey Report and include "Manipulation of dune communities to create mobile dune systems, with associated bare ground and habitat niches, are encouraged in other areas in the UK through the Dynamic Dunescapes initiative'". Natural England advises these measures are incorporated into the OEMP.	Dune communities are entirely avoided via the use of HDD. Therefore, this measure is no longer necessary.
			29	Natural England advises that the OEMP includes a commitment to post-construction surveying/monitoring of designated habitats and species (and their supporting habitats) to determine if updates are required for the second project (if appropriate) and/or restoration measures are required.	Pre-construction survey scope is outlined within the **Outline Ecological Management Plan (Revision C)** [document reference 9.19, Appendix 1]. Post-construction monitoring surveys would be informed by the findings of the pre-construction surveys and once the construction parameters are fully defined. Any requirement for remedial measures would be informed by the findings of the post-construction monitoring surveys, although the principles of remediation would be outlined within the final Ecological Management Plan (e.g. commitments to enact habitat restoration if monitoring surveys find initial habitat works have not achieved target condition). The Biodiversity Net Gain enhancement package for Habitats, Hedgerows and Rivers and Streams may also include commitments to remedial works to ensure target habitat conditions are achieved.

1.4 Applicant's Comments on Natural England's Appendix L1 Natural England's comments on responses by the Applicant [REP1036] to the Examining Authority's First Written Questions

Table 6 The Applicant's comments on Appendix L1 Natural England's comments on responses by the Applicant [REP1036] to the Examining Authority's First Written Questions

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
Q1.3.1 effects on Marine Life and Benthic Habitats including Cable Installation Methods					
Q1.3.1.7	**Cable Protection in the MCZ** NE states regarding the MCZ states [RR063, Appendix G, Paragraph 6,]: "Of particular concern is the area of mixed sediment within the cable corridor, which has a more diverse community. Should cable protection be placed in this location then the conservation objectives to restore/maintain features will not be achieved". In responding to this point, explain how the conservation objectives of the MCZ can be maintained or restored if cable protection is used in this area.	Natural England will review the Applicant's Response.	The Applicant will make reasonable endeavours to avoid the need for external cable protection within the whole of the MCZ including within the mixed sediment feature. Micro-siting of the export cables within the wider export cable corridor will be used to avoid areas where burial is more likely to be challenging on account of ground conditions and ensure the amount of external cable protection required is minimised. However, as shown on Figure 7.1 of the Stage 1 CSCB MCZ Assessment (MCZA) [APP-077], the area of mixed sediment bisects the entire cable corridor and therefore it would not be possible to microsite around this. The Stage 1 MCZA [APP-077] assesses the potential impact of long term habitat loss on the mixed sediment feature of the MCZ and concludes that that the conservation objective of maintaining the feature in a favourable condition or restoring it to favourable condition will not be hindered by the construction, operation and decommissioning phases of SEP and / or DEP. The CSCB MCZ is designated for seven broadscale marine habitat features (of which there are three in the offshore export cable corridor including Subtidal mixed sediments (A5.4)), two habitat features of conservation interest (FOCI) and one feature of ecological interest, as shown in Table 7 -1 of the Stage 1 MCZA [APP -077]). The FOCI are: peat and clay exposures; and subtidal chalk – these are the specific habitats that are known to be threatened, rare or declining in our seas, and present in this MCZ. FOCI species and habitats may be more sensitive to pressures and hence need targeted protection. By contrast, protecting examples of broadscale habitats, such as mixed sediments, across the MPA network aims to ensure that the full range of marine biodiversity in our seas is conserved. By definition, broadscale habitats are broadly (widely) distributed across both the MCZ (as shown in Figure 7.1 of the Stage 1 MCZA [APP-077]) and the wider region of the southern North Sea. Therefore there is very little basis for the suggestion that placing cable protection in one broadscale habitat over another in the same site will result in the Conservation Objectives not being achieved. As such, it is not necessary either to seek to avoid a particular broadscale habitat (nor could you do so with any degree of confidence – see below), or to suggest that avoiding works of a particular nature (in this case the use of external cable protection) is a necessary action to avoid hindering the Conservation Objectives. Further weight is given to this argument in considering what we know about the specific characteristics and distribution of this broadscale habitat feature within the cable corridor. As would be expected, there are differences in the distribution of habitats between the MCZ feature map (Natural England, 2020; Green and Dove, 2015) and the Applicant's own mapping, which is both more detailed and more recent. These differences are evident between Figures 7.1 and 7.2 of the Stage 1 MCZA [APP-077]. Specifically, with	Natural England welcomes the Applicants adoption of the mitigation hierarchy to minimise the impacts as much as possible. We also welcome the Applicant's acknowledgement that cable protection in mixed sediment which bisects the entire cable corridor is likely due to burial conditions. However, Natural England continues to disagree with the Applicants Stage 1 assessment due to the feature not being maintained where cable protection is placed for the lifetime of the project, with no guarantee of recovery post-decommissioning. Please see our RR/WR [RR-063]. As per our covering letter, Natural England will respond to Version B of the Proposed Without Prejudice DCO drafting document at deadline 3. Natural England notes and accepts the conditions for a Benthic mitigation plan. However, we consider that an outline mitigation plan should be provided to demonstrate the potential mitigation that could be implemented for all important receptors, including benthic reef features.	The Applicant maintains its position that the potential impact of long term habitat loss on the mixed sediment feature (or any other broadscale habitat feature) of the CSCB MCZ will not hinder the conservation objectives of maintaining or restoring the feature to a favourable condition. As a point of clarification it is not the Applicant's position that "*cable protection in mixed sediment which bisects the entire cable corridor is likely due to burial conditions*". The circumstances in which external cable protection may be required are set out in the **Outline CSCB MCZ Cable Specification, Installation and Monitoring Plan (CSIMP)** [APP-291]. Regarding the request to include an outline benthic mitigation scheme, the Applicant does not consider that this is required to be provided pre-consent. Condition 13-(i) of Schedules 10 and 11 and Condition 12-(j) of Schedules 12 and 13 of the **Draft DCO (Revision F)** [document reference 3.1] includes provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by pre-construction surveys and will be in accordance with the **Offshore In Principle Monitoring Plan** [APP-289]. This is the appropriate approach to mitigating impacts on benthic habitats of conservation, ecological and/or economic importance. Mitigation of potential impacts on benthic ecology receptors are described in Section 8.3.3 of **Chapter 8 Benthic Ecology** [APP-094]. The primary means of mitigating potential impacts on sensitive benthic features that are identified within the pre-construction surveys would be through avoidance during project design and through micro-siting of the wind turbines and cable routes. With specific regard to the CSCB MCZ, the **Outline CSCB MCZ CSIMP** [APP- 291] details the measures that will

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
			respect to subtidal mixed sediments (MCZA para 109), the Applicant's habitat mapping confirms that mixed sediment areas form a mosaic with subtidal coarse sediment areas for much of the offshore export cable corridor within the CSCB MCZ (these are the areas shown in green and orange on Figure 7.2). It is noted that it is difficult to delineate subtidal coarse and subtidal mixed sediment habitats in the offshore export cable corridor due to their similarity, with mixed sediment areas being close to the coarse sediment areas with a relatively low percentage of fines, but sufficient fine material to influence benthic communities. The key implication of this is that there can be no basis for any requirement to avoid areas of broadscale subtidal mixed sediment because they exist in a mosaic with other habitat types and it is not possible or appropriate to attempt to confirm their exact distribution, which is also likely to vary over time (Natural England, 2020). The final point relates to the suggestion that the mixed sediment areas have a more diverse community. This may be the case although as above cannot be said with any certainty with respect to any particular location due to the mosaic pattern of habitat distribution. Furthermore, as described in Section 8.2.2.2 of the Stage 1 MCZA [APP-077] (para 200) "All sediment biotopes, including those recorded in the SEP and DEP offshore export cable corridor, and the biotopes Natural England's AoO [Advice on Operations] identifies as being represented within CSCB MCZ sediment habitat features, have high sensitivity to physical change to another sea bed type with no resistance and very low resilience.". This confirms that, based on Natural England's own advice, there are no grounds for making a distinction between mixed sediment habitats and coarse sediment habitats because for the purpose of the assessment the sensitivity of benthic communities within them is the same. Condition 13 (i) of Schedules 10 and 11 and Condition 12 (j) of Schedules 12 and 13 of the Draft DCO (Revision C) [document reference 3.1] includes provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by preconstruction surveys and will be in accordance with the Offshore In Principle Monitoring Plan [APP- 289]. This is the appropriate approach to mitigating impacts on benthic habitats of conservation, ecological and/or economic importance, which would include the FOCI habitats discussed above.		be implemented to avoid, minimise and mitigate potential impacts on the MCZ features. Outcropping chalk reef in the nearshore area has been avoided through the use of HDD. The Applicant notes that no biogenic reef features have been identified during any surveys of the existing Sheringham Offshore Wind Farm (SOW) and DOW or SEP and DEP wind farm sites or export cable corridors. There may be a requirement for avoidance of for example geogenic reef or peat and clay exposures with piddocks however until detailed pre-construction surveys and project design are undertaken post-consent, the specific locations for avoidance cannot be determined. Therefore, the Applicant does not consider that there would be value in submitting an outline benthic mitigation plan during the Examination since the final plan will be so heavily reliant on the results of the pre-construction surveys and detailed design.
Q1.3.1.8	**Cumulative Effect to MCZ** NE [RR-063 Appendix G, Paragraph 9 and 10] state that "the O&M phase activities for DEP (and or) SEP combined with DOW, SOW, Hornsea Project Three and on-going Oil and Gas impacts will result in lasting habitat change / physical disturbance which will further hinder the conservation objectives of the CSCB MCZ" and that "The risk of, and observed, reduction in designated habitat	Natural England will review the Applicant's Response.	The conclusion within Chapter 9 Benthic Ecology [APP-094] is predicated on the evaluation of a medium sensitivity of the benthic habitats and biotopes within the export cable corridor (see Table 8-20 of [APP-094]) combined with a low magnitude of impact which is assessed given the small scale of the potential impact and the commitment that both projects have made to removal on decommissioning, thereby ensuring that although long lasting, the impact will not be permanent (i.e. the broadscale habitats concerned will not be removed and will therefore persist once the cable protection has been removed).	Natural England draws the ExA attention to the Secretary of State (SoS) decision letter for the Hornsea Project Three *6.22 '…the Secretary of State considers that habitats which are subjected to cable protection, will experience the effects of habitat loss, habitat modification and changes in epifauna communities. As the cable protection will be in place for 35 years, this is*	The Applicant draws the ExA's attention to the SoS's Stage 1 CSCB MCZ Assessment for Hornsea Project 3 which for the installation of rock protection assessed a greater extent of cable protection than SEP and DEP (2,940m^2 compared to 1,800m^2) and was able to conclude: *"7.62 In summary a stage 1 assessment on the Cromer Shoal Chalk Banks MCZ has ruled out beyond reasonable scientific doubt,*

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
	extent which has occurred and/or is predicted to arise from the above developments has meant that the MCZ is highly likely to be taken further away from its required conservation state in the future." In that regard provide further explanation why the ES (APP -094, Paragraph 333] concludes that the cumulative effects on the MCZ with other projects amounts to only minor adverse significance.		The cumulative Stage 1 MCZA [APP-077] conclusions are summarised in Section 9 of that document. The assessments conclude that the conservation objective of maintaining the protected features of the CSCB MCZ in a favourable condition or restoring them to favourable condition will not be hindered by the construction, operation and decommissioning phases of SEP or DEP in isolation, SEP and DEP, or cumulatively with any other plan, project or activity. To explain further, key points of note to draw out from the assessments already provided include: • SOW and DOW do not contribute to lasting habitat change/loss (the O&M activities required only relate to temporary sea bed disturbance from export cable reburial, repair or replacement (i.e. there is no external cable protection to add to the cumulative long term habitat loss assessment from SOW and DOW)); • The Hornsea Project Three impact from lasting habitat change/loss is both very small (0.0009% of the total area of the MCZ or up to 0.016% of the subtidal sand feature) and only affects the subtidal sand broadscale habitat (the majority of the SEP and DEP export cable corridor is within subtidal coarse and mixed sediments); • Impacts from the existing pipelines at Bacton are considered to be part of the baseline. No information is available on any planned decommissioning works although if such works are undertaken, it is reasonable to assume that once the pressure has been removed from the site, habitats will recover; and • Consideration of the recent introduction of EIFCA fisheries management measures including byelaws and fisheries closures within the CSCB MCZ (see para 259 of the Stage 1 MCZA [APP077]). These have been established in order to protect the features of the CSCB MCZ from the pressures of commercial fishing. The successful operation of these measures will lead to a reduction in pressure on the features of the CSCB MCZ. The reduction of such a pressure and the likely recovery that will follow, with that pressure having affected a much larger extent of the site and over a much longer timeframe than any OWF proposal, must be given its due consideration in the balance of the overall cumulative assessment.	*considered a long-term effect. Furthermore, cable protection measures are likely to impede the restoration of the Annex 1 habitats for the duration that they are in place. These habitats are currently in an unfavourable condition, and delays to their restoration would be contrary yo the Conservation Objectives for the SACs. The Secretary of State concludes that adverse impacts on Annex 1 feature 'sandbanks slightly covered by sea water all the time' from the Development alone and in combination with other projects and plans cannot be ruled out…'* *6.23 The Secretary of State therefore concludes that the Development does not meet the integrity test and that the further tests set out in the Habitats Regulations must be applied. These include an assessment of alternatives, Imperative Reasons of Overriding Public Interest ("IROPI") and environmental compensation*. Similar conclusions were also included for the Norfolk Project SoS decision letters. We advise that, whilst the impact relates to SAC features the same argument should also apply to other marine protected areas in similar condition and with restore/maintain conservation objective, such as Cromer Shaol MCZ. Natural England also highlights; whilst the original oil and gas pipelines within the site are part of the baseline, the additional pipeline protection is not part of the baseline and should be considered in combination. Again we draw the ExA attention to the revised Conservation Advice package for the Cromer Shoal Chalk Beds MCZ which is due to be published in Spring 2023 which will set out the in-combination impacts on the site.	*significant risk of the activity hindering the achievement of the conservation objectives stated for the MCZ on the basis that although the potential impacts are long term (for the duration of the project), they will have a temporary (reparable effect) and therefore not affect the conservation objectives of the site."*[1] The Applicant notes that the updated conservation advice package has not yet been released so is unable to comment on its content. However, a change in the condition assessment is not anticipated to result in a change to the Applicant's assessment conclusions that the conservation objective of maintaining or restoring the MCZ features to a favourable condition would not be hindered. This is because the assessment has already considered a recover objective in reaching its conclusions (as set out at paragraph 15 of the **Stage 1 CSCB MCZA** [APP-077]) and the fundamental points that underpin that assessment remain unchanged. However, once an updated condition assessment is available, the Applicant will review the evidence that the updated condition assessment relies on.
Q1.3.2 Impacts on subtidal chalk features					
Q1.3.2.1	**Effects of HDD Exit Pits** NE [RR-063 Appendix G, Paragraph 15] advises against the HDD exits pits being	We draw the ExA attention to Point Q1.3.1.1 above.	During the pre-application consultation, including the early MEEB ETG discussions, the option for surface laid cables pinned to the seabed to avoid the need for external cable protection in the MCZ was considered. However, this was	Natural England acknowledges that the Applicant intends to install cables within the more stables areas of sand and sand/veneer which given the detailed	The Applicant firstly clarifies that a cofferdam will not be required at the HDD exit point. The methodologies for the works at the HDD exit are as

[1]https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-003225-Hornsea%20Project%20Three%20Minded%20To%20Letter%20-%201%20July%202020.pdf

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
	located in an area of subcropping chalk, with concern over cable protection use on chalk features within the MCZ. What alternatives were considered in this regard, and why were they dismissed?	Natural England will review the Applicant's Response.	subsequently removed as an option due to fisheries related concerns raised by stakeholders (both snagging risk and the additional disturbance to fishing activity through the presence of surface marker buoys). It was also considered by the Applicant (paragraph 264 of ES Chapter 4 Project Description [APP-090]) that surface lay was not a viable option as it would not provide the necessary level of cable protection in the shallow nearshore environment. It would also be necessary to secure or 'pin' the cables to the sea bed in some manner to prevent their movement in the shallow water depths and the presence of unconsolidated surface sediments (sand) in this area would not support such an action. The primary objective of the long HDD is to avoid the sensitive outcropping chalk feature in the nearshore for which the MCZ has been designated. This objective is achieved. The location of the HDD exit is described at paragraph 257 of ES Chapter 4 Project Description [APP-090]: "The HDD will exit in the subtidal, approximately 1,000m from the coastline (up to 1,150m from the onshore entry point)."). As is evident from the habitat map in the Stage 1 MCZA [APP-077] (Figure 7.2), this will be in an area of subtidal sand and/or coarse sediment (both broadscale habitats). Natural England's advice against the HDD exits pits being located in an area of 'subcropping chalk' requires an appreciation of: • What is meant by the subcropping chalk, in what form does it exist in the export cable corridor and how does it correspond to the subtidal chalk FOCI for which the MCZ is designated (noting Natural England's advice in their Relevant Representation [RR-063] that 'chalk with sediment veneer' should be considered as subtidal chalk feature); • How, if deemed necessary, it would be possible to avoid subcropping chalk; • If it were possible to locate the HDD exit to avoid the subcropping chalk what alternative feature would it be possible to move the works to in order to secure a better environmental outcome; and • The limitations with respect to how far it is technically feasible to drill. These are addressed in turn below. Subcropping chalk covers a large extent of the MCZ and was discussed with stakeholders in the ETG meetings, with those discussions resulting in the Applicant producing ES Appendix 6.3 Sedimentary Processes in the Cromer Shoal Chalk Beds MCZ [APP-182] and ES Appendix 6.4 Sheringham Shoal Nearshore Cable Route - BGS Shallow Geological Assessment [APP-183] which describe the sedimentary processes and geology along the export cable corridor in the MCZ. These were, in part, intended to address concerns around subcropping chalk and the potential for it to become exposed. It was subsequently agreed with Natural England and the MMO at Seabed ETG 2 following presentation of evidence contained in Appendix 6.3 [APP182] that seabed sediments in the offshore export cable corridor within the CSCB MCZ are static, with the exception of Holocene sand / subtidal sand, which is mobile under some conditions.	information provided by the Applicant we can agree is not chalk. However, in order to punch out there is uncertainty that subcropping chalk will/won't be drilled through/impacted and if in creating the exit pits the use of a cofferdam etc. increases the likelihood of exposing subcropping chalk which has the potential to be impacted by machinery. Natural England advises that the onus is on the Applicant to avoid this happening. And that this will need to be revisited post consent as part of the HDD implementation plan.	described in ES **Chapter 4 Project Description** [APP-090] (refer to Section 4.5.2). As explained at ISH6 the HDD exit point will be located in the deep infilled channel cut through the chalk to 17m below seabed level and filled with Weybourne Channel deposits (Appendix 6.3 of the ES [APP-182] [visible on Figure 3.4]). Subcropping chalk will not be encountered in this area and therefore the Applicant considers this issue to be resolved. Notwithstanding this, the Applicant maintains its position, as reflected in its response at Deadline 1 (see left) that avoidance of subcropping chalk more generally is not an appropriate or necessary action with respect to the environmental assessment, although subcropping chalk will be avoided where possible as part of the process of maximising the chance of success of cable burial.

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
			Therefore, the potential for subtidal chalk to be exposed in the future is restricted to the subtidal sand areas identified by the geophysical survey (as shown in Figure 7.2 of the Stage 1 MCZA [APP-077]). However, as set out in paras 116-117 of the Stage 1 MCZA [APP-077]: "given the thickness of the Holocene sands (generally up to 3m where it occurs from 500m to 4.5km offshore, and up to 2m, locally to 6m, in the seaward 2km of the cable corridor inside the MCZ), it would only be possible for movement of the feather edges (where the sediment is thin and could all move), to generate new sea bed substrate, including the potential to expose previously buried chalk if present directly below the sand layer without a static gravelly sand/sandy gravel layer in between. There is a deep infilled channel cut through the chalk to -17m LAT filled with Weybourne Channel deposits (Appendix 6.3 of the ES [APP-182] [visible on Figure 3.4]) located across the export cable corridor from approximately 750m to 1.5km offshore (Gardline, 2020a). It is likely that the offshore HDD exit location will be in this channel and therefore, given the depth of overlying sediment deposits there is no potential for exposure of chalk in this area. Survey data indicates that areas where there is potential for subtidal chalk to be exposed are of very limited extent within the offshore export cable corridor, and it is unknown if any such exposures would meet the criteria to be classified as the subtidal chalk habitat FOCI (e.g. criteria provided by Natural England for the Hornsea Project Three (RPS, 2020), or how persistent they would be. Therefore the MCZA is based on the known locations of subtidal chalk restricted to the outcropping subtidal rock feature in the inshore area of the CSCB MCZ only.". The Applicant considers that this provides a very clear and evidenced rationale for why it would not be appropriate to consider chalk with sediment veneer (subcropping chalk) as subtidal chalk feature – namely the subcropping chalk is too deep and/or unlikely to be exposed by the largely immobile sediments that lie on top of it. Of further note, the Applicant would draw attention to the description of the subcropping chalk feature provided throughout ES Appendix 6.3 [APP-182] which explains that the subcropping chalk is in an eroded form to a relatively flat and regular surface and that it is in no way similar to the complex erosional geo-structures of exposed chalk (such as ridges, pinnacles and arches) present in the nearshore. The implication of this is that in the unlikely event that subcropping chalk was in some way impacted by the works it is not reasonable to treat it as the same feature (the outcropping chalk) for which the MCZ has been designated. For these reasons the suggestion that subcropping chalk should be considered as subtidal chalk feature for the purpose of the assessment significantly overreaches the Conservation Objectives of the MCZ designation. Alongside this, there is a complete absence of any substantiated technical evidence to support such an action being necessary		

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
			or appropriate. On the same basis, if it was deemed necessary to avoid subcropping chalk, it is difficult to see the case for how this would be possible based on the information that is available (which is extensive). The habitat mapping discussed above indicates that a shorter drill would reduce the distance between the HDD exit and the nearshore outcropping chalk feature, which would not be desirable, and would still be in the subtidal sand area. A longer drill would result in the HDD exit being in either sand or coarse sediment with the same or similar environmental outcome.		
Q1.3.4 Effects on Marine Conservation Zone					
Q1.3.4.4	**Condition Assessment for the Marine Conservation Zone** In the absence of any official condition assessment, what assumptions can be made with regards to the condition and quality of the MCZ [APP-084] and the desirability for its conservation?	As the SNCB with responsibility for updating the conservation advice and condition assessment, Natural England advises the Cromer Condition Assessment is likely to be submitted in spring 2023. We will provide further update at Deadline 2.	The Applicant does not consider it appropriate to make assumptions with regard to the condition and quality of the MCZ and defers to Natural England as the competent authority for providing condition assessments for MCZs. It does however note that the recent introduction of fisheries byelaw areas will have a positive effect on the MCZ by reducing pressure from fishing. The reduction of such a pressure and the likely recovery that will follow, with that pressure having affected a much larger extent of the site and over a much longer timeframe than any OWF proposal, must be given due consideration. It is noted that at the time of writing (February 2023) the condition assessment has not been updated, although Natural England has advised in its relevant representation [RR-063] that it expects this to be available in the New Year (2023). Natural England has since advised the Applicant that the condition assessment is expected to go online this quarter and Conservation Advice published by end of March. However we highlight that a change in the condition assessment is not anticipated to result in a change to the Applicant's assessment conclusions that the conservation objective of maintaining or restoring the MCZ features to a favourable condition would not be hindered. This is because the assessment has already considered a recover objective in reaching its conclusions (as set out at paragraph 15 of the Stage 1 CSCB MCZA [APP-077]) and the fundamental points that underpin that assessment remain unchanged. Notwithstanding this, once it is available the Applicant will review the evidence that the updated condition assessment relies on. We do however note that the anticipated timing for its release during Examination will be a challenge, more so the later it is received.	Natural England advises that updated Conservation Advise packages will be published in Spring 2023 and we will work with the Applicant to ensure that it is taken into consideration for this site.	Noted. Once an updated condition assessment is available, the Applicant will review the evidence that the updated condition assessment relies on and consider, in consultation with Natural England, potential next steps.
Q1.3.4.5	**Marine Conservation Zone position statement** Confirm, in a simple tabular format, whether you are content with the Applicant's assessment of effects, mitigation, MEEB and conclusions regarding the Marine Conservation Zone, or if more work is required. Suggested table headings: Species / Agree	Natural England has spoken to the MMO and recognise this is our remit. We will respond on this for Deadline 2.	N/A	Please see Natural England's assessment of effects, mitigation, MEEB and conclusions regarding the Marine Conservation Zone in NE Table 1 below	Refer to rows below which respond to each of NE's notes (N1-6) from Table 1.
				1. Methodology based on function of broadscale habitat. Doesn't account for sub-features of broadscale features which do have defined function and sensitivities for which impacts should be	Pre-construction surveys are required to confirm presence/absence of any such sub-features, which will inform the benthic mitigation scheme.

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
	methodology (Y/N) / Agree assessment of effects (Y/N) / mitigation suitable (Y/N) / MEEB suitable (Y/N) agree conclusions (Y/N) The table produced will also be requested for the final deadline in the Examination to provide a summary of where outstanding issues, if any, remain. This may form part of the statement of common ground.			avoided. (Se NE R&I Log, point G2). Discussions ongoing.	Condition 13-(i) of Schedules 10 and 11 and Condition 12-(j) of Schedules 12 and 13 of the **Draft DCO (Revision F)** [document reference 3.1] includes provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by preconstruction surveys and will be in accordance with the **Offshore In Principle Monitoring Plan** [APP- 289]. This is the appropriate approach to mitigating impacts on benthic habitats of conservation, ecological and/or economic importance, which would include the relevant subfeatures/ FOCI habitats.
				2. Methodology limited to assessing outcropping (exposed chalk) only. Natural England consider sub-cropping chalk (chalks covered with a veneer of sediment) to also comprise the subtidal chalk feature. Discussions ongoing, but reflect that this is in relation to the exit pits only as agreed on the cable route.	See response above to Q1.3.2.1. Since this is noted as being in relation to the exit pits only, and the HDD exit point will be located in the deep infilled channel cut through the chalk to 17m below seabed, the Applicant considers this issue to be resolved.
				3. Natural England doesn't agree with the Applicant's stage one MCZ assessment in relation to defining magnitude of impact. See point G1 of Natural England's R&I log, discussions ongoing on assessment methodologies.	The Applicant refers to its response provided at ID 1 of Table 4.18.6 of **The Applicant's Comments on Relevant Representations** [REP1-033].
				4. Whilst Natural England are content with some of the proposed mitigation measures there are still ongoing concerns relating to other methods of mitigation and other proposed mitigation methods which will need to be secured with a dML/DCO. Therefore, mitigation for each of these protected features currently classified as "N" until issues are resolved. Please see Table 1 of Appendix G of Natural England's Relevant Representations [RR063] for summary of our position.	No further comments.
				5. Further work required on how sediment will be removed, stored and redistributed from exit pits and sediment transportation impacts from secondary scour.	**ES Chapter 4 Project Description** [APP-090] para 262: A jack-up barge vessel with backhoe excavator would be used for the excavations and/or installing any necessary external cable protection. All excavated sea bed sediments will be temporarily stored alongside the works location and within the export cable corridor (i.e. sidecast),

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
					prior to being backfilled after cable installation (for a period of up to approximately nine months for SEP and DEP). The sea bed footprint of the deposited material is estimated to be up to approximately 400m^2 (SEP and DEP). Alternatively, the excavated sediment could be stored on a barge. The Applicant notes that a potential concern relates to whether sediment will be returned within an area of similar sediment type. The Applicant considers that this will be the case in this instance since the excavated sediments will be backfilled into the same location that they were removed from and the excavated sediments are likely to be relatively homogenous in nature on account of the depth (17m) within which the Weybourne Channel deposits have infilled the channel. A second potential concern relates to the possible mobility of the deposited sediment before it is backfilled. The sediment removed from the Weybourne Channel will be predominantly cohesive (compacted over 1,000s of years) laminated sandy clay. Sub-bottom profiles distinguish these sediments from an underlying unit of older sand and gravel, which is unlikely to be penetrated during excavation. Due to its cohesive nature, the sediment that is sidecast will be in the form of aggregated 'clasts' that will remain on the seabed rather than being disaggregated into individual fine sediment components. Because of their potential size, future transport of the aggregated clasts in the sidecast material would be limited, and most would remain static on the seabed. If left for a significant amount of time (decades), the flow of tidal currents over the sidecast material would gradually winnow (there would be a gradual disaggregation of the clasts into their constituent particle sizes) the topmost clasts. However, given there will be a relatively short period of time (approximately nine months) between sidecasting and backfill, the loss of particulate material from the clasts through winnowing will be negligible.

ID	Question	Natural England's Response at Deadline 1	Applicant's Response at Deadline 1 [REP1-036]	Natural England's Response at Deadline 2 [REP2-065]	Applicant's Response at Deadline 3
					Regrading secondary scour, the limited geographical extent of secondary scour means that the potential impact would be anticipated to be nugatory. Hence, an assessment of secondary scour has not been undertaken. However, the **Offshore IPMP** [APP-297] includes provision for monitoring of secondary scour around scour protection.
				6. Natural England Doesn't agree with the applicant's conclusion that there is no significant risk of activity hindering conservation objectives either alone or in combination form this development.	No further comments.

Table 7 NE Table 1 Q1.3.4.5 Marine Conservation Zone Position Statement – NE Responses

Designated feature	Agree methodology (Y/N)	Agree assessment of effects (Y/N)	Mitigation suitable (Y/N)	Agree conclusions (Y/N)
Moderate energy infralittoral rock	N1	Y	Y	Y
High Energy infralittoral rock	N1	Y	Y	Y
Moderate energy circalittoral rock	N1	Y	Y	Y
High energy circalittoral rock	N1	Y	Y	Y
Subtidal chalk	N2	N3	N4	N6
Subtidal Coarse Sediment	N1	N3	N4	N5,6
Subtidal mixed sediments	N1	N3	N4	N5,6
Subtidal Sand	N1	N3	N4	N5,6
Peat Clay exposures	Y	N3	N4	N6
North Norfolk Coast (Subtidal)	Geomorphological feature, relevant features above used as a proxy to assess feature.			

Greyed Out – Habitat scoped out due to HDD beyond nearshore features

1. Methodology based on function of broadscale habitat. Doesn't account for sub-features of broadscale features which do have defined function and sensitivities for which impacts should be avoided. (See NE R&I Log, point G2). Discussions ongoing.
2. Methodology limited to assessing outcropping (exposed chalk) only. Natural England consider sub-cropping chalk (chalks covered with a veneer of sediment) to also comprise the subtidal chalk feature. Discussions ongoing, but reflect that this is in relation to the exit pits only as agreed on the cable route.
3. Natural England doesn't agree with the Applicant's stage one MCZ assessment in relation to defining magnitude of impact. See point G1 of Natural England's R&I log, discussions ongoing on assessment methodologies.
4. Whilst Natural England are content with some of the proposed mitigation measures there are still ongoing concerns relating to other methods of mitigation and other proposed mitigation methods which will need to be secured with a dML/DCO. Therefore, mitigation for each of these protected features currently classified as "N" until issues are resolved. Please see Table 1 of Appendix G of Natural England's Relevant Representations [RR063] for summary of our position.
5. Further work required on how sediment will be removed, stored and redistributed from exit pits and sediment transportation impacts from secondary scour.
6. Natural England Doesn't agree with the applicant's conclusion that there is no significant risk of activity hindering conservation objectives either alone or in combination form this development.

General point: should the Applicant revise their assessment in line with out comments or otherwise, our vies on the assessment as outlined in the Table may also change.

1.5 Applicant's Comments on Natural England's Deadline 2 Appendix K1 Risk and Issues Log [REP2-064]

3. The section provides the Applicant's comments on Natural England's Deadline 2 Appendix K1 Risk and Issues Log [REP2-064] for Marine and Coastal Processes (Tab E), All Other Marine Matters (Tab F) and Cromer MCZ (Tab G) and forms the response to the second written question Q2.3.1.7. The Applicant thanks Natural England for providing REP2-064 in an excel format.

1.5.1 Applicant's comments on Tab E Marine & Coastal Processes of Natural England's Deadline 2 Risk and Issues Log

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
Document Used: [APP-090] 6.1.4 Chapter 4 Project Description						
E1	1	Natural England advises that the maximum trench width needs to be clarified in an updated document. Trench sizes quoted use a burial depth of 1.5m and a trench width of 5.2m (assuming a 30-degree trench side slope). However, in 6.1.6 [APP-092] Marine Geology, Oceanography and Physical Processes, it is stated that infield and interlink cables would be buried up to 1.5m below the seabed, with an indicative sediment displacement width of 1m for jetting. Similarly, it is stated that offshore export cables would be buried up to 1m below the seabed, with an indicative sediment displacement width of 1m. This is also contradictory to 5.1.2 [APP-182] relating to sediment process in the MCZ. Until this is clarified, we are unable to confirm that the Worst-case Scenario (WCS) has been assessed and provide nature conservation advice on the significance of the any predicted impacts.		The Applicant's Marine Processes Technical Note [REP1-059] provides further information on the SEP/DEP export cable trench size, which we welcome. However, the worst case scenario(s) for infield and interlink cable trench sizes have not yet been clarified.		As noted at ID 13 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033], cable installation by jetting technique is considered to be the worst-case scenario for suspended sediment concentrations and seabed level assessments in ES **Chapter 6 Marine Geology, Oceanography and Physical Processes (MGOPP)** [APP-092]. This would create a trench approximately 1m wide. The 5.2m width dimension described in Section 4.4.7.5.4 of **Chapter 4 Project Description** [APP-090], which also applies to interlink and infield cables, assumes cable burial using a cable plough and relates to the footprint of disturbance for ploughing which is not the worst-case scenario for suspended sediment concentrations and seabed level assessments in APP-092. The worst case volume of displaced sediment assuming cable burial by jetting is provided in Table 6-2 of APP-092.
E2	2	Natural England would welcome the provision of a subtidal crossing schedule for the proposed and existing cables due to make landfall at Weybourne. It would also be useful to provide information such as water depth at the cable crossings and their distance offshore. This is particularly important for those cable crossings in the nearshore part of the export cable corridor in order to understand potential impacts on sediment transport processes.		No change at Deadline 2.		As noted in the **Outline CSCB MCZ CSIMP** [APP-291] the offshore cable corridor has been sited to completely avoid the need for any cable crossings (which necessitate the use of external cable protection) in the MCZ (i.e. out to 11km offshore). The Applicant is committed to, if required, cutting a section of the disused Stratos cable to avoid the need for a cable crossing and therefore there would be no potential effect on sediment transport processes from the installation of external cable protection at cable crossings within the MCZ. Other offshore wind farm developments and cables are shown in **Figure 16.3** of the ES [APP-128].
E3	3	The maximum dimensions of cable protection for crossings are given as 21m and 100m with the maximum height of cable crossings at 1.7m. However, in Chapter 6, Para. 371, it states that the height of the protrusion will be up to 0.5m in most cases which is also confirmed in Appendix 6.3 APP-182 for the Cromer Shoal MCZ. The maximum height of cable crossings should be clarified and consistent throughout all submitted documents. Furthermore, there are no cross-section or plan schematics of cable crossing layout, it would be helpful if these were provided in an updated chapter or part of a outlined named plan to further advise on potential impact to sediments transportation.		No change at Deadline 2.		As noted at ID 15 of Table 4.18.4 in **The Applicant's Comments on Relevant Representations** [REP1-033] the height of cable protection will be up to 0.5m except at cable crossings where it could be up to 1.7m. As noted in the cell above, the Applicant has avoided the need for cable crossings in the MCZ.
Document Used: [APP-091] 6.1.5 Chapter 5 EIA Methodology						

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E4	4	Para. 88 states that only projects which are well described and sufficiently advanced, with sufficient detail available will be included in the cumulative impact assessment. Please clarify a cut-off date for assessing whether or not to include a project, noting that several PEIRs (Section 42 consultations) are expected in February 2023. Natural England draws the Applicant's attention to our latest Best Practice Guidance 2022 of recommended tiers for scoping plans and projects for the cumulative environmental assessment and advises that assessments are updated accordingly. However, we do note that, since submission of our relevant/written representations, the submission dates for some of the PEIRs have been delayed to late spring. However, this is still within the examination timeframe for SEP and DEP		No change at Deadline 2.		As noted at ID 15 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the Applicant confirms that there was a cut off for inclusion of other offshore wind farms within the ES of May 2022. However, Table 6-42 of **Chapter 6 MGOPP** [APP-092] provides a summary of projects considered for the CIA in relation to marine geology, oceanography and physical processes. The closest other offshore wind farm to SEP and DEP is Race Bank (9km). Other offshore wind farms such as Outer Dowsing, North Falls and Five Estuaries which may be submitting PEIRs this spring are all over approximately 13km from SEP and DEP and therefore are screened out of the cumulative assessment.
Document used: [APP-181] 6.3.6.2 Volume 3: Appendix 6.2: Wave Climate Assessment						
E5	5, 6	Fig. 6-2 shows the dimensions of the GBS simulated by DIFFRACT for input to the wave model. This shows WCS turbine foundations for DEP and SEP. The maximum diameter at water level is 13m and the shaft at the seabed is 36m. However, in Section 4.4.3.3 of The Environmental Statement Chapter 4 [APP-090], it states that the WCS for 18+ MW WTG foundations is a maximum diameter at water level of 14m and shaft diameter at the seabed of 40m. Therefore, the WCS GBS foundations modelled have narrower dimensions at water level and at seabed than the WCS presented in Chapter 4 [APP-090] which would lead to slightly greater impact on the wave climate. Additionally, Para. 59 [APP-181] states that the GBS have diameters of 13m and 30m wide bases. This differs from the base diameter presented in Figure 6-2. Natural England advises that the assessment currently doesn't reflect the worst case scenario and advises that this needs addressing in an updated document before a >36m shaft diameter can be agreed with certainty.		No change at Deadline 2.		As noted at ID 15 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the Applicant confirms that there was a cut off for inclusion of other offshore wind farms within the ES of May 2022. The Applicant acknowledges that the GBS dimensions simulated by DIFFRACT are slightly smaller than the dimensions of the largest 18+MW turbine (18+MW = 14m at water level and shaft diameter at seabed of 40m). However, the wave climate assessment assumes that there would be up to 30 of the DIFFRACT simulated turbines in DEP and 23 in SEP which is associated with the smaller 15MW turbine (compared to 24 and 19 respectively for an 18+MW turbine) which has a maximum diameter at the water level of 11m and shaft diameter at the seabed of 30m. Therefore, a worst-case assessment of a larger number of slightly smaller sized turbines has been provided.
Document used: [APP-102] 6.1.16 Chapter 16 Petroleum Industry and Other Marine Users						
E6	7	There are potential cumulative impacts due to overlapping Operation and Maintenance (O&M) activities at Waveney, Blythe Hub and Elgood Wellhead. We note that Blythe Hub has been considered in Chapter 6, but not Waveney or Elgood. Natural England advise that Waveney and Elgood should be included in the cumulative impact assessment (CIA) to fully understand the potential impacts.		No change at Deadline 2.		As noted at ID 9 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the Waveney Gas Platform and Elgood Wellhead gas production platforms could have the potential for cumulative impacts during the operation of SEP and DEP. Both are single platforms supported by several legs through the water column and into the seabed. The addition of two more platforms to a DEP array of 30 foundations and 67 foundations in DOW (and associated offshore platforms), will cumulatively make little difference to the overall effect on waves, tidal currents, and sediment transport.
Document used: [APP-289] 9.5 Offshore In Principle Monitoring Plan (IPMP)						

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E7	8	We note that whilst sandwave recovery/migration has been included for post-construction in the Tab. 3. of the IPMP, sandbanks have not. Natural England advise that sandbank monitoring should also be included in the IPMP to ensure that the null hypothesis is correct in relation to marine processes.		This item remains under consideration. Please see our advice in the IPMP.		Noted. The Applicant is intending to update the **Offshore IPMP** [APP-289] at Deadline 4 and will consider include of monitoring of sandbanks as well as sandwaves.
Document used: [APP-092] 6.1.6 Chapter 6 Marine Geology, Oceanography and Physical Processes						
E8	9	The text describes a sandbank in NW of DEP N array area and also a sandbank in the NW of DEP S array area. The bathymetry shows the presence of significant sandbanks, which are probably Cromer Knoll and Inner Cromer Knoll, but no information has been provided regarding their form, spatial extent, elevation, depth, rate of migration and stability. In order to understand impacts of the development on marine process associated with these sandbank features, please can the Applicant provide further information.		The Applicant has now provided further information in Marine Processes Technical Note [REP1-059] which addresses this evidence gap and this issue has now been resolved.		The Applicant welcomes this comment and considers this matter closed.
E9	10	Natural England queries if there is an equivalent shallow geology schematic for the Interlink Cable Corridor to help inform advice on significance of impacts?		No change at Deadline 2.		As noted at ID 22 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] there is no shallow geology schematic of the Interlink Corridor presented in the geophysical interpretive reports. However, in a broad sense the shallow geological make-up is similar to those of SEP, DEP North and DEP South presented as Plates 6.1 to 6.3 of the ES **Chapter 6 MGOPP** [APP092].
E10	11	Natural England advises that the neap and spring tidal excursions should be provided. The spring tidal excursion is useful for estimating the potential extent of direct changes to flows as well as the anticipated maximum zone of influence for sediment plumes. We advise that the neap/spring tidal excursions should be quantified. It would also be useful for the Applicant to provide a map showing the spring tidal ellipses across the study area.		The Applicant has now provided further information in Marine Processes Technical Note [REP1-059] which addresses this evidence gap and this issue has now been resolved.		The Applicant welcomes this comment and considers this matter closed.
E11	12	Para. 137 notes that owing to the mobility of Holocene sand along the SEP and DEP cable corridor, there is the potential for movement of this sediment and exposure or burial of the underlying geological units. Natural England queries what is the potential seabed mobility here and sediment transport potential? Has this been quantified? It would be helpful if the sediment transport potential could be provided by the Applicant in an updated chapter in order to assess cable burial success.		We continue to advise that the Applicant will need to consider seabed mobility here in order to assess cable burial success. Thus, this item remains under discussion.		**Appendix 6.3 Sedimentary Processes in the Cromer Shoal Chalk Beds MCZ** [APP-182] of the ES provides a detailed appraisal of potential sediment transport across the MCZ. In addition, an **Export Cable Burial Risk Assessment** is provided in Appendix 2 of the **Outline CSCB MCZ CSIMP** [APP-291].
E12	13	The HR Wallingford (2002) suspended sediment concentration (SSC) data sets are old. Whilst the Cefas (2016) data are newer, they are not site-specific, instead referring to 'the seas around the UK'. SSC should ideally be collected throughout the water column over a range of representative tidal, seasonal, and wave conditions. If data have been collected for DOW and/or SOW, those data would be considered appropriate and should be included.		No change at Deadline 2.		As noted at ID 25 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the Applicant agreed with the ETG to use the Cefas (2016) average suspended sediment concentration dataset which was obtained in a Geographic Information System (GIS) form and the data interrogated for the site. Therefore, the data is site specific and showed that average suspended sediment concentrations across SEP and DEP are 5-10mg/l between 1998 and 2015. The site specific data extracted from

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
						Cefas' dataset is provided in Figure 6.10 of the ES (APP-119). This is a recent long time series of data (17 years) and it is highly unlikely that the average concentrations up to the present day have changed.
E13	14	Para. 145. The regional net sediment transport rates provided are now old (2002). Natural England's best practice (2021) advises that data older than five years should be used with care. Furthermore, it is not clear which geographical area these sediment transport rates relate to, and it would be useful to clarify this. Natural England advises that more recent regional net sediment transport data should be used and more context provided within an updated chapter on the regional net sediment transport rates in order to have any certainty in the conclusions drawn by the Applicant.		No change at Deadline 2.		As noted at ID 26 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the numbers for transport quoted in the HR Wallingford (2002) work are reproduced in the Shoreline Management Plan (SMP) 2 for this coast and so are considered 'the most recent'. A search found no other estimates.
E14	15	Natural England welcomes the inclusion of sandbanks in the list of impact receptors. However, we believe it is important that the Applicant includes in this list, all marine protected areas that could be affected by changes to physical processes due to the proposed development (even if they are considered and assessed in other chapters). This should also include supporting habitats. Furthermore, all relevant marine protected areas should be identified on the appropriate figures or maps within this chapter.		We are content that Marine Protected Areas have now been identified on the Zone of Potential Influence map within the Marine Processes Technical Note [REP1-059].		The Applicant welcomes this comment and considers this matter closed.
E15	16	Natural England notes that the 'Sand banks (and associated sandwaves)' Receptor Group does not include any mention of Sheringham Shoal, Pollard Bank, Cromer Knoll, Inner Cromer Knoll, sandwaves in SEP, sandbanks situated at the NW of DEP N array and in DEP S, and in the north of the cable corridor between DEP N array and SEP. Natural England advises that all sandbanks within the outer limits for the project, should be included and named to ensure that all potential impact pathways have been thoroughly assessed.		The Applicant has now provided further information in Marine Processes Technical Note [REP1-059] which addresses this evidence gap and this issue has now been resolved.		The Applicant welcomes this comment and considers this matter closed.
E16	17	Para. 153. Please include information on the source of the cliff erosion rate and how the shoreline erosion has been taken into account in Chapter 3 (Site Selection and Assessment of Alternatives). Natural England advises that it is important to consider recent cliff and beach profile survey data, alongside longer-term records (i.e. years), in order to establish the baseline. It is also vital to consider climate change impacts on cliff retreat and beach downwearing. This information should be included in an updated chapter to ensure that impacts over the lifetime of the protects have be thoroughly assessed.		No change at Deadline 2.		Section 2.7 of **Appendix 3.2 - Cable Landfall Concept Study** [APP-176] includes consideration of coastal erosion which informed the concept design of the HDD. The 'Landfall HDD Profile Weybourne' figure shown on page 84 of that document includes an erosion profile and shows the distance between that and the HDD entry point. At the detailed design stage the Applicant will use the most up to date cliff retreat and beach profile data.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E17	20	Natural England queries if multiple coincident dredging operations are likely to occur during development and what would the worst case scenario would be? This could potentially lead to more spatially extensive and/or higher concentration sediment plumes. The WCS should be quantified in terms of suspended sediment concentration, plume extent, persistence and sediment deposition thickness. Natural England advises that further clarity is required within an updated chapter covering these points to ensure that the WCSs has been fully considered.		No change at Deadline 2.		As noted at ID 32 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] suspended sediment concentrations arising from multiple coincident dredging operations could potentially interact to create a larger plume which could lead to greater thicknesses of deposition. However, the principle still holds true that the re-suspension of a (slightly) thicker deposit (maximum 3mm for a worst case of three overlapping plumes) would disperse rapidly and it would become immeasurable over a short period of time and have negligible impact on the seabed.
E18	21	Para. 180. The WCS for changes in SSCs due to seabed preparations for foundation installations would be associated with Gravity Base Structures (GBS). The discharge of dredged sediments during the preparation of GBS foundations will lead to elevated SSCs, and sediment plumes. There is a chance that sediments disturbed during construction of the SEP array, will enter the Inner Dowsing, Race Bank and North Ridge SAC (within 10km tidal excursion). The predicted deposition footprint has not, however, been provided for discharge of dredged material at the sea surface and near the seabed. Natural England advises that predicted deposition footprints from the sea surface and near seabed discharges of dredged material at the SEP array is provided by the Applicant. This would provide further information on the potential effects due to discharged dredged material at the development site.		No change at Deadline 2.		The Applicant has not quantified spatial distribution of deposition resulting from sediment plume dispersion for any of the offshore infrastructure. This is because the assessment was conceptual expert-based using the existing data from SOW / DOW as analogues. No bespoke modelling of sediment dispersion and subsequent deposition has been undertaken. The analogous SOW and DOW data suggests that worst-case thickness of sediment deposited from the plume would not likely exceed a maximum of 1mm and be less than 0.1mm over large areas of the seabed. After this initial deposition, this sediment will be continually re-suspended to reduce the thickness even further to a point where it will be effectively zero. This will be the longer-term outcome once the sediment supply from foundation installation or export cable installation has ceased. Hence, the footprint of deposition from the plumes is irrelevant to the assessment because regardless of its geographical extent, it will have an immeasurable thickness once dredging has stopped.
E19	24	Natural England notes that no sandwave levelling is expected for the "SEP in isolation" scenario because there are no sandwaves present along the ECC. Therefore, any requirement for sandwave levelling activities haven't been assessed. Please clarify whether the exclusion of sandwave levelling within SEP will be secured by a condition within the DML/DCO and/or named plan.		No change at Deadline 2.		As noted at ID 32 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the Applicant is not aware of any precedent in securing this type of 'nonactivity' within DMLs and does not consider that it is appropriate or required.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E20	25, 26, 27	Paras. 239-241. The SOW and DOW-based model simulation quantification of magnitude of change are useful analogues for sediment disturbed by export cable installation of the current proposals. However, it is not clear if/how the SOW/DOW max temporary disturbance widths for export cable installation and burial, or amount of sediment disturbed compare with those planned for SEP/DEP. Further more in Para. 239, it is stated that although SSCs will be elevated during the development, they are likely to be lower than concentrations during storm conditions (including the Dec 2013 storm surge), which are likely to drive greater changes to the seabed than those due to the OWF infrastructure. Para. 245 notes that elevated SSCs above prevailing conditions are anticipated at the HDD exit point, but that they are also likely to remain within the range of background nearshore levels. Para. 255 & 256. Results from the sediment dispersion modelling for the SOW and DOW export cables (Para.s 170 & 171 in Chapter 6), suggest that suspended load for disturbed mud would extend as a plume over <2km for SOW, and <1km for silt in either direction. In all instances, Natural England advises that, within an updated chapter, it should be shown how the SOW/DOW trench size and amount of disturbed sediment compare with those for SEP/DEP and quantitative evidence should be provided to support the predictions regarding SSCs. Until this is provided Natural England is unable to support the conclusions drawn by the Applicant.		The Applicant has provided further information in Marine Processes Technical Note [REP1-059] on the upscaled sediment disturbance volume, plume extent and deposition thickness for SEP/DEP export cable installation., which we welcome. We are now content to agree with the conclusions drawn here.		The Applicant welcomes this comment and considers this matter closed.
E21	28	Para. 255. Given that the ECC traverses the CSCB MCZ, it would be very helpful if the plume model data for SOW/DOW could also be provided as predicted deposition footprints for representative locations between the HDD exit location and seaward boundary of the MCZ. These should be representative of the different sedimentary zones along the ECC within the MCZ and also include the HDD exit location. Furthermore, it is not stated what the estimated deposited sediment thickness may be for the different sediment fractions (i.e. fine/medium/coarse) caused by the export cable installation. Can estimated deposited sediment thickness be provided for the different sediment fractions? If so, modelled deposition footprints and thickness should be provided for locations representative of the different sedimentary zones along the ECC within the MCZ and include the HDD exit location. Until this is provided we are unable to agree with the Applicant's conclusions relating to SSC deposition and potential impacts as a result of smothering		Natural England welcomes the upscaled sediment disturbance volume, plume extent and deposition thickness for SEP/DEP export cable installation data provided by the Applicant in the Marine Processes Technical Note [REP1-059]. We are content with the updated information provided by the Applicant.		The Applicant welcomes this comment and considers this matter closed.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E22	29	In the Stage 1 CSCB MCZA (Doc Ref 5.6), the pressure 'Smothering and siltation rate changes (light)' has been used for the sensitivity assessment where 'light' deposition is defined as 'of up to 5cm of fine material added to the habitat in a single, discrete event', and 'heavy' deposition is up to 30cm of fine material. In Section 8.1.2.3 (Stage 1 CSCB MCZA), it states that deposits would be up to 3cm depth, but in 6.6.4.6, there is no similar estimate of deposited sediment thickness stated. Consequently, it is not evident whether the smothering and siltation rate changes (light) pressure is the most appropriate, or whether the sensitivity of the CSCB MCZ is 'negligible' as stated in Table 6-23 (Chapter 6), or the impact 'negligible adverse', given the predicted two year recovery time In Para. 259 & 262 (Chapter 6). it would be helpful if the rationale for the 3cm sediment deposition thickness could be provided and also the rationale for the negligible sensitivity assessment for the CSCB MCZ. Until this clarification is provided we are unable to agree with the Applicants conclusions		No change at Deadline 2, awaiting clarification from the Applicant.		As noted at ID 32 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] the 3cm of sediment deposition described in the ES [APP-092] is in reference to changes in seabed level due to drill arisings for installation of piled foundations for wind turbines and OSPs. It does not refer to sediment thicknesses generated by installation of the export cable. There has been a mistranslation of the information from the ES into the **Stage 1 CSCB MCZA** [APP-077] in this regard. There are no thicknesses of deposition from the plume presented in the ES for export cable installation. Information is presented on the destination of sand-sized material; it would settle out of suspension within less than 20m from the point of installation within the offshore export cable corridor and persist in the water column for less than half an hour. Almost no sand was predicted to be carried more than 100m from the cable.
E23	30, 48	We note that no sandwave levelling is anticipated for the "SEP in isolation" scenario. However, it may be required in a "DEP in isolation" or SEP and DEP scenarios. This could lead to impacts on nearby subtidal geomorphological features (e.g. the Cromer Knolls, Sheringham Shoal) through sandwave levelling. We advise a precautionary approach is adopted with regards to direct impacts to sandbanks and morphological features across the DEP/SEP arrays and adjacent cable corridors due to sandwave levelling, and potential indirect effects on other receptors (e.g. CSCB MCZ and/or the East Anglia Coast). Natural England advises that impacts to subtidal geomorphological features due to sandwave levelling should be adequately assessed, and indirect effects on other receptors be considered in an updated chapter. An assessment should be carried out to provide reassurance that there will not be any long-term morphological effects. We advise that Table 6-46 may need revision following this work.		In the Marine Processes Technical Note [REP1-059], the Applicant has provided a more detailed characterisation of the sandbanks and sandwaves that exist across the study area. We advise monitoring to establish long-term trends in the overall seabed bathymetry across the array site(s) through comparison of further bathymetry datasets from different time periods. We also advise that analysis of additional datasets from different time periods is needed to help establish whether sandwave morphological changes and migration rates are due to natural or anthropogenic drivers.		The Applicant has committed to monitoring of sand waves and sand banks within the SEP and DEP wind farm sites, as described in the **Offshore IPMP** [APP-289] which the Applicant is intending to update at Deadline 4. The Applicant has updated the **Marine Processes Technical Note (Revision B)** [document reference 13.5] to address the further comments received from Natural England in REP2-062, including those in relation to analysis of additional bathymetry datasets.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E24	31, 32, 48	Para. 292 & 293. The evidence from Race Bank OWF provides some useful insight to the potential impact of sandwave levelling at DEP N-DEP S. However, in order to understand whether the sandwaves are likely to regenerate after levelling, or be adversely impacted along with any adjacent bank system, it is first necessary to assess the seabed morphology at the locations requiring sandwave levelling using bathymetric survey data. In turn, the anticipated ranges of natural seabed change, sandwave migration rates and expected sediment variability should be assessed. This would inform the baseline upon which morphological change and variability can be assessed throughout the project development and lifetime. This work should enable forecasting of site-specific sandwave regeneration timescale. We advise that anticipated ranges of natural seabed change, sandwave migration rates and anticipated sediment variability should be further assessed using bathymetric survey data, for those locations likely to require levelling (pre-sweeping). In addition, we are unable to agree with the magnitude of effects on bedload sediment transport for sandwave levelling within offshore cable corridors (presented in Table 6-26) owing to the uncertainty regarding sandwave recovery at SEP/DEP and potential impacts on adjacent bank systems. Natural England advise that the assessment described above should be carried out in order to gain more certainty regarding the likely regeneration of sandwaves following levelling. Until this is provided we are unable to agree with the Applicant's conclusions on sandwave recovery with any certainty.		The Applicant has now provided [REP1-059] a more detailed characterisation of the sandbanks and sandwaves that exist across the DEP N and DEP S Zones of Influence which will form a useful baseline upon which to compare future sandbank/sandwave morphological change trends and migration rates.		The Applicant welcomes this comment and considers this matter closed.
E25	34	Given the greater spatial extent of the combined SEP/SOW and DEP/DOW arrays and complex seabed topography, there is the potential for more spatial variability in tidal behaviour across the arrays. Yet, in Para. 314, it is stated that changes to seabed distribution due to turbine foundations at DOW were minimal, implying that changes to tidal currents (and waves) are local and do not have a significant effect on sediment transport further afield. Natural England advises that quantitative evidence to support this implication is provided so that the significance of the potential impacts can be considered further.		Please see our comment to E30 on post-construction monitoring of DOW with regards to changes to seabed distribution.		See response at E30.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E26	36, 48	Para. 319 states that no significant impact on the tidal current regime is anticipated for SEP/DEP and therefore the impact on sandbanks is anticipated to be negligible adverse. However, we advise that a precautionary approach should be adopted. Given the greater spatial extent of the combined SEP/SOW and DEP/DOW scenarios, complex seabed topography, and potential for more spatial variability in tidal behaviour across the arrays the potential impacts on a nearby sandbank systems should be considered and assessed. Until this is provided Natural England is unable to agree with the Applicant's conclusion on the significance of the potential impacts		Please see our comment to E30 below. We would also advise that monitoring of the sandbank systems that exist across the DEP S and DEP N Zones of Influence is necessary in order to validate the Applicant's conclusions that the impacts on the sand banks due to the Project will be negligible.		See response at E30.
E27	37	Natural England are not able to agree with the assessment of 'Frequency' as 'Medium' in Table 6-31. We would advise that the 'Frequency' of the effect to the wave regime is 'High' rather than 'Medium' because the effect is permanent and occurring with a high frequency. Natural England advises that the assessment is updated accordingly to better determine impacts alone and cumulatively.		No change at Deadline 2.		As noted at ID 32 of Table 4.18.4 in **The Applicant's Comments on Relevant Representations** [REP1-033] the Applicant agrees with this change, and the Frequency magnitude of waves during operation is High. This does not change the Magnitude of Effect, when the other factors (Scale, Duration, Reversibility) are considered in combination.
E28	38	Para. 334 states that changes to marine geology, oceanography and physical processes would be low in magnitude and largely confined to local wake or wave shadow effects attributable to individual WTG foundations. Natural England requests that evidence or analysis should be provided to support these conclusions. Until this evidence is presented we are unable to support the Applicant's conclusions.		The Applicant has provided the Marine Processes Technical Note (PINS Doc Ref No. 13.5), in which it is stated that 'There have been significant changes within the six sandwaves areas shown on Figure 14'. These changes were noticeable within the first year of construction of DOW. Therefore, we remain unable to support the Applicant's conclusions that 'changes to the marine geology, oceanography and physical processes would be 'small in geographical extent'. We would again advise monitoring of the sandbank systems across the study area post-construction in order to establish any long-term alterations in seabed morphology due to development-related changes in the sediment transport or hydrodynamic regimes.		The Applicant has submitted the **Marine Processes Technical Note (Revision B) (Tracked)** [document reference 13.5.1] at Deadline 3 which provides further analysis of sandwave migration data from DOW.
E29	39	Para. 335 refers to 'the evidence from theoretical studies….', however it is not clear which theoretical studies are being referred to. Natural England requests that the predicted effects on sediment transport processes due to the O&M of SEP and DEP should be provided. For example, changes to the predicted frequency exceedance of the critical shear stress could be assessed. This could inform changes to the percentage of time that the spatially-varying typical seabed sediment across the development is predicted to be mobilised by tidal and wave processes. Natural England advises that the predicted effects on sediment transport processes due to the O&M of the development should be considered over the lifetime of the project and included in an updated assessment. Until this is provided Natural England advises that there is uncertainty in the conclusions drawn.		Please refer to our comment above.		As noted at ID 32 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033] theoretical work referred to is the tidal currents analysis at DOW reported in Section 6.6.3.3 Theoretical Model Basis of ES **Chapter 6 MGOPP** [APP-092]. Also, 'the evidence from theoretical studies' should read 'the evidence from numerical modelling (waves) and theoretical studies (tidal currents)'.

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
E30	40	Para. 337. Geophysical survey data from the existing OWFs are useful but conclusions drawn are too vague to provide any useful comparison with SEPDEP. Natural England requests that further information such as when this survey was undertaken, what the minor and localised effects might be that remain, how the seabed is not greatly changed and since when. Furthermore, does the post-construction survey show any evidence of change to sandbank morphology or migration rate across DOW? This information is required to better determine potential changes to sandbank morphology, and provided the necessary evidence to support the Applicant's conclusions.		The Marine Processes Technical Note (Doc Ref No 13.5) provided by the Applicant shows that significant morphological change has occurred at a number of sandwave fields within the DOW array area since its construction. Therefore, we cannot agree with the conclusion that 'sandwave migrations are indicative of naturally occurring processes across the array site and are not driven by changes caused by DOW.' To support this conclusion would require further subsequent sandwave migration analysis.		The Applicant has submitted the **Marine Processes Technical Note (Revision B) (Tracked)** [document reference 13.5.1] at Deadline 3 which provides further analysis of sandwave migration data from DOW.
E31	41	Point 339. Predicted effects on sediment transport processes due to the O&M of the development have not been evaluated, neither have the sandbanks in the array(s) been sufficiently characterised to enable us to agree with the sensitivity and value assessment (Table 6-34). Natural England advises that further evidence should be provided to support this assessment, before conclusions can be confidentially supported.		Whilst the Applicant has now provided a more detailed characterisation of the sandbanks situated within the DEP N and DEP S Zones of Influence, operational phase impacts on sediment transport processes (and in turn seabed morphology) also need to be adequately considered. Therefore, this item remains under discussion.		Any effect on sediment transport would be manifest as changes to the morphology of the sandbanks and sandwaves, and so a morphological approach was adopted. More information on the baseline sandbanks is provided in the **Marine Processes Technical Note (Revision B)** [document reference 13.5]. The magnitude of effects are considered appropriate based on the additional information provided on sandbanks, and the approach adopted in the assessment of effects. The Applicant considers the Natural England request would require detailed sediment transport modelling, which is disproportionate to the potential effects during operation. The approach taken by the Applicant to use a conceptual assessment using changes in the morphology of the sand banks and sand waves as a proxy for sediment transport is considered to be proportionate and robust.
E32	42, 43	The WCS (Para. 345) is for scour protection to be provided for all foundations, it is not clear whether a scour assessment has been carried out. Whilst Para. 347 states that it is likely that any secondary scour effects would be confined to within a few metres of the direct footprint of the scour protection material. We advise that a scour assessment and secondary scour assessments should be carried out and the impact of scoured material from around foundation structures in terms of elevated SSCs and resulting deposition should be considered to provide a WCS in relation to potential scour effects		No change at Deadline 2.		As noted at ID 54 and 55 of Table 4.18.4 in **The Applicant's Comments to Relevant Representations** [REP1-033], no scour assessment has been carried out. An assumption has been made for the worst-case scenario that scour protection will be used wherever scour will occur, reducing sediment release to negligible quantities. A conservative worst-case scenario of all foundations having scour protection is considered for footprint loss. The limited geographical extent of secondary scour means that any impact would be nugatory. Hence, an assessment of secondary scour has not been undertaken within **Chapter 6 MGOPP** [APP-092]. However, the **Offshore IPMP** [APP-297] includes provision for monitoring of secondary scour around scour protection. If no scour protection is installed, then sea bed sediments and shallow near-bed sediments within SEP or DEP could be disturbed by scour around the foundations and any installed external cable protection. The worst-case scenario assumes that sediment would enter the water column at the sea bed causing a localised, gradual and medium-term release of suspended sediment at the point of scour and in its immediate vicinity. Mobilised sediment from scour would be transported by tidal currents in suspension in the water column, and would be 'trickle-fed' over a number of years until the scour pit reaches an equilibrium with the physical processes driving the scour. Conceptual evidence-based assessment suggests that, due to the predominance of medium and coarse grained sand across SEP and DEP offshore sites, most of the sediment disturbed by scour at the sea bed would remain close to the bed and settle back to the

Point	Point Number(s) from Appendix E [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix E - Marine Processes [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's Comment
						bed rapidly. Some of the finer sand fraction from this release and the very small proportion of mud that is present are likely to stay in suspension for longer and form a very low concentration plume which would become advected by tidal currents. Due to the gradual development of the scour and the time scale over which this sediment will be gradually released into the water column, the concentrations would be indistinguishable from background levels.
E33	44	Para. 378. A crossing is shown between the offshore ECC and the disused Stratos telecom cable in the CSCB MCZ. It is not stated what the depth of this crossing would be, however, if it is sited inshore of the closure depth, then this could have an effect on sediment transport in the nearshore. Natural England advise that if this crossing is located inshore of the closure depth, then the potential effect on sediment transport processes will need to be considered. Therefore, we would welcome commitments to cut and remove the section of disussed cable to negate the need to place cable protection.		No change at Deadline 2.		See response at ID 2 of this table.
E34	46	Para. 395 states that it is not known whether cable repair and reburial will directly impact on sandbanks and sandwaves in the area during the operation phase. Natural England queries if there is any relevant evidence available from DOW/SOW that could be drawn upon here? Without this information we are unable to advise on the significance of any ongoing disruption to marine processes over the life time of the projects		No change at Deadline 2.		As described within Section 1.6.3.1 of the **Outline CSCB MCZ CSIMP** [APP-291], to date, no cable repair or remedial reburial works have been undertaken since SOW and DOW have been in operation.
E35	47	Para. 416. The cumulative effect on sediment transport processes at sandbank systems is not discussed here but should be considered. Until this is provided we are unable to support the conclusions which have been drawn.		No change at Deadline 2.		The evidence base for assessments of changes to tidal currents across wind farm arrays has consistently demonstrated that changes in the tidal regime due to the presence of foundation structures would be both small in magnitude and localised in spatial extent. The greatest effect would be adjacent to each foundation with a return to baseline conditions in the farfield. Sandbanks are landscape-scale bedforms driven by large-scale regional tidal currents. Hence, the larger-scale (landscape) effect on nearby sandbank systems caused by small-scale changes to currents (and hence bedload sediment transport) restricted to areas adjacent to relatively small structures within this landscape would be immeasurable. Although the Zones of Potential Influence on the Tidal Regime (for both SEP/DEP and SOW/DOW together) based on tidal ellipse data extend over nearby sandbanks, the actual magnitude of change within these zones would be zero to very small. All the change (i.e. spatial variability) would be restricted to local areas around the foundations themselves and would not extend regionally into the Zone of Potential Influence. Hence, the assessment is already precautionary, and a more detailed regional view would be disproportionate to the potential effect that would occur, regardless of how complex the regional seabed is.

1.5.2 Applicant's comments on Tab F All Other Marine Matters of Natural England's Deadline 2 Risk and Issues Log

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
Document Used: [APP-093] 6.1.7 Chapter 7 Marine Water and Sediment Quality						
F1	4 & 6	In light of sediment disposal potentially across the construction area including Cromer Shoal MCZ, we consider pre-construction sediment contaminant monitoring will be required for the purposes of suitability for sediment disposal. We advise this must be agreed with the MMO/CEFAS and secured within the DCO/DML.		Please refer to the Deadline 2 cover letter, we continue to defer to the advice of Cefas and the MMO regarding the sufficiency of the sediment sampling.		As described at ID 7 of Table 16 of the **Draft SoCG: MMO (Revision B)** [document reference 12.11], regarding the **Disposal Site Characterisation Report (Revision B)** [REP1-019], further contaminants sampling and analysis is being undertaken post-consent. Therefore, the licence for the disposal of sediment at sea will be applied for post-consent. Condition wording, as agreed with the MMO, to secure the requirement for post-consent contaminants sampling has been included with the **Draft DCO (Revision F)** [document reference 3.1] at Deadline 3. The Applicant therefore proposes to withhold any further updates to the Disposal Site Characterisation Report until the post-consent stage when more accurate details on the design (e.g. foundation types) and therefore quantities of material that are required to be disposed of, are known. This will enable a more accurate assessment to be undertaken. This approach has been agreed with the MMO.
Document Used: [APP-094] 6.1.8 Chapter 8 Benthic Ecology						
F2	8	Whilst Natural England welcomes the Applicant's commitment to decommission cable protection within the MCZ we advise that an Outline Decommissioning Plan should be provided at the consenting phase to secure and assess decommissioning activities in one location. However, regarding the decision to leave in-situ scour protection, surface laid cables and external cable and crossing protection outside the Cromer MCZ, we continue to advise that regardless of legislation, decommissioning should aim to remove infrastructure to avoid irreversible (permanent) habitat loss, thus returning the seabed habitat to its pre-developed baseline status as required by OSPAR.		No change at deadline 2		Noted. Requirement 8 of the **Draft DCO (Revision F)** [document reference 3.1] requires a written decommissioning programme to be submitted to the Secretary of State for approval before offshore works may commence. The Applicant does not consider that an outline version of this is required to be submitted pre-consent. During the post-consent stage when more accurate details of the project design are known, a decommissioning programme can be prepared based on those details, including the understanding of any requirement for external cable protection to be installed within the CSCB MCZ.
F3	10	Natural England welcomes the commitment to microsite around sensitive benthic features and habitats if identified by preconstruction surveys, such as those protected under Annex 1 and UK priority habitats identified under Section 41 of the NERC Act 2006. However, Natural England advises this commitment needs to be secured through a condition within the DCO/DML or within an outline named plan. Natural England agrees any Annex I habitat such as Sabellaria spinulosa reef habitat identified would be outside of a site designated for benthic features. However, with regard to footnote 6, we advise if Annex I habitat is identified the Applicant recognises their value to be equivalent to if they were within an MPA. This forms part of the UK government strategy of achieving the UK Marine Strategy of achieving Good Environmental Status		No change at deadline 2		As noted at ID 4 of Table 4.18.5 in **The Applicant's Comments to Relevant Representations** [REP1-033], As secured through the DMLs, pre-construction surveys will be undertaken to identify any potentially sensitive features that are required to be avoided. The pre-construction survey methodology would be agreed with the MMO in consultation with Natural England. The survey design would be based on best practice at the time and is anticipated to consist of a mixture of geophysical, drop-down video (DDV) and grab surveys (as applicable) to ensure a comprehensive ground-truthing of the proposed final cable route design. Initial geophysical surveys will be reviewed with DDV groundtruthing surveys to confirm presence as appropriate. This shall then be used to inform detailed layout design and will inform the mitigation scheme requirements. If potentially sensitive benthic features are identified, the results of the survey

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
		(GES) of the UK wider seas regardless of whether sensitive species and habitats are located within an MPA network. We advise the Applicant to be fully committed to the protected status of protected sensitive habitats and species, regardless of whether they are located within a MPA.				will be discussed at that time with the MMO and Natural England to agree whether the features are required to be avoided through micro-siting. Condition 13-(i) of Schedules 10 and 11 and Condition 12-(j) of Schedules 12 and 13 of the **Draft DCO (Revision B)** [AS-009] includes provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by pre-construction surveys and will be in accordance with the Offshore In Principle Monitoring Plan [APP-289]. This is the appropriate approach to mitigating impacts on benthic habitats of conservation, ecological and/or economic importance.
F4	11	Natural England welcomes the Applicant's consideration of the guidance documents as outlined. However, when developing outlined named plans, we advise that the Applicant also uses guidance developed by Natural England for "Environmental Considerations for Offshore Wind and Cable Projects". This includes "Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards" for baseline characterisation, pre-application, data and evidence expectations at examination and for post-consent monitoring. In addition, advice is also provided on "Nature considerations and environmental best practice for subsea cables in English inshore and UK offshore waters".		No change at deadline 2		Noted.
F5	13	Natural England welcomes the characterisation of the out-cropping chalk feature observed from seabed video imagery at Station EC-26 adjacent to landfall using guidance within NERR080 Natural England Marine Chalk characterisation Project. However, Natural England continues to advise that across much of Cromer Shoal MCZ there are areas of subtidal chalk lying underneath a thin veneer of sand/sediment which we also consider should be protected as outcropping chalk/subtidal Chalk Feature of Conservation Importance (FOCI). This is in accordance with our advice on fishing activities and would ensure consistency with MCZ assessments undertaken for other industries.		No change at deadline 2		See ID 12 to 13 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033] and the response provided at point F3 above. Also refer to the Applicant's response to Q2.3.2.3 [document reference 16.2] which addresses the avoidance of sub-cropping chalk.

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
F6	14	We acknowledge the assessments for stony reef at Stations EC_03 and EC_24 were classed as 'low 'resemblance to stony reef according to Irving (2009 and Golding (2020) and therefore at these locations where seabed imagery was acquired there was insufficient evidence to classify as Annex I Reef Habitat. However we advise that the habitat classification for Station EC_03 of sublittoral coarse sediment (SS.SCS) and Station EC_24 of circalittoral mixed sediment (SS.SMx.CMx) are among the biotopes listed in Golding (2020) as biotopes where reef may be found. As such we continue to advise that the potential for stony reef Annex I habitat is not entirely ruled out from pre-construction survey assessment. We advise the Applicants commitment to avoid and microsite for Annex 1 habitats continues to include Annex I stony reef as a precautionary measure and as such is secured in DCO/dML named outline plans.		No change at deadline 2		
F7	15, 18	It is stated "A section of transect SS_21A in the SEP wind farm site represented the biotope A4.231 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay'". This biotope is classed as illustrative of the UK BAP priority habitat 'peat and clay exposures with piddocks''. We request that the Applicant provides clarification on the classification of this habitat and as a precautionary measure commitments to avoiding impacts to this feature if identified.		No change at deadline 2		As noted at ID 25 of Table 4.18.5 in **The Applicant's Comments on Relevant Representations** [REP1-033], the biotope 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay' (A4.231) was assigned to transect SS_21A. For context this biotope was only confirmed at one location in the western corner of the SEP wind farm site. To clarify the point raised by Natural England, the biotope is classed as an illustrative biotope of the UK Biodiversity Action Plan (BAP) priority habitat 'peat and clay exposures with piddocks' (UK BAP, 2008). As described in ES Appendix 8.4 – SEP Benthic Habitat Report [APP-187]: *"No specific assessment criteria have been defined for this habitat. However, when reviewing the geophysical and video data, identification of peat and/or clay seabed sediments would be further investigated for presence of piddocks and potentially the sponges Dysidea fragilis and Suberites carnosus, foliose red algae and the crabs Necora puber and Cancer pagurus, which are often associated with this habitat."*. The Applicant considers that the assessment provided appropriately differentiates between 'biotopes' (including A4.231) and 'Annex I and UK BAP priority habitats with the potential to be present in the benthic ecology study area'. With respect to the latter, pre-construction surveys will be undertaken to identify any potential Annex I / UK BAP priority habitats which, if required, will be avoided during detailed design. The commitment to undertake such a survey at the pre-construction stage is the normal and appropriate means of addressing such matters and the commitment remains the same regardless of the assessment outcome. Also refer to the response provided at point F3 above.
F8	16	Please be advised that, *Sabellaria spinulosa* reef of all quality is protected under Section 40 and 41 of the Natural Environmental and Rural Communities (NERC) Act 2006. Therefore, outline DCO/dML named plans must be updated to demonstrate that due regard will be given to the conservation of this habitat where it forms definable reef.		No change at deadline 2		Noted. Refer to the response provided at point F3 above.

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
F9	19, 21, 23	In the context of the conservation objectives for the features /habitats within the Cromer MCZ, Natural England advises that the sensitivity of these habitats within the site should be considered high in recognition of their representative protection 'value' through the MCZ and not medium as classified by MarESA. We advise that the impact significance of 'moderate adverse' is applied to both the assessment of the habitats and biotopes within the MCZ and the WCS for Annex I / UK BAP priority habitat S. spinulosa reefs and the UK BAP priority habitat 'peat and clay exposures with piddocks'. The assessments should be updated to inform the HRA/MCZ Assessments.		No change at deadline 2		As noted at ID 29 of Table 4.18.5 in **The Applicant's Comments on Relevant Representations** [REP1-033], the Applicant notes Natural England's position. As described in Section 8.4.3.1.2 of **Chapter 8 Benthic Ecology** [APP-094], it is important to understand that value and sensitivity are not the same and are judged on a receptor by receptor basis. A receptor could be of high value (e.g. Annex I habitat) but have a low or negligible physical/ecological sensitivity to an effect. Similarly, low value does not equate to low sensitivity. The value is considered, where relevant, as a modifier for the sensitivity assigned to the receptor, based on expert judgement. The Applicant maintains that since the outcropping chalk feature of the MCZ will be avoided by HDD, the worst case sensitivity of identified habitats and biotopes potentially subject to temporary disturbance or long term habitat loss impacts within the MCZ is considered to be medium. Therefore, it follows that the impact significance conclusions are also unchanged.
F10	20	We advise that a commitment is required to mitigate potential operational impacts during any operational and maintenance (O&M) activities to ensure that every effort is made to avoid impacts to Annex I / UK BAP habitats if naturally present on the surrounding seabed.		No change at deadline 2		See the **Outline Offshore Operations and Maintenance Plan (Revision C)** [document reference 9.9] which describes the process for managing potential impacts during the operational phase.
F11	22	Impact 3: Long Term Habitat Loss. Natural England welcomes the commitment, as also outlined in the Outline CSCB MCZ CSIMP, to the use of removable rock bags as cable protection, thus minimising permanent habitat loss within the MCZ. However, every effort should be made to minimise the need for cable protection within the MCZ. Natural England advises that commitment to undertaking a stepwise approach through the mitigation hierarchy.		No change at deadline 2		Noted. As described in the **Outline CSCB MCZ CSIMP** [APP-291] the Applicant will make reasonable endeavours to bury offshore export cables and thus minimise the requirement for external cable protection within the MCZ.
Document Used: [APP-188] Appendix 6.3.8.5 – Benthic Habitat Mapping						

F12	24	Figs. 22 and 23 provides best available evidence of sediment most likely to support herring spawning and sand eel habitats. We advise that this highlights the importance of DEP N to sand eels and thereby Annex I Sandwich terns. We advise further consideration is given to removal of turbines from DEP N		No change at deadline 2		See ID 34 of Table 4.18.5 in **The Applicant's Comments on Relevant Representations** [REP1-033], As noted by the Applicant in **Chapter 9 Fish and Shellfish Ecology** [APP095] and as agreed with the MMO and Cefas [RR-053], efforts to quantify impacts to spawning grounds are likely to provide inaccurate and/or misleading figures for the following reasons:
						• Spawning areas can change over time or become recolonised.
						• Whilst spawning and nursery ground maps are used to provide the most recent and appropriate information to identify spawning areas, they do not fully define/consider/identify:
						  • All potential areas of spawning.
						  • Any habituation that may occur i.e., identify areas where higher densities of spawning are present.
						  • Specific substrate requirements e.g., substrates which are more suitable within wider broadscale sediments.
						  • More suitable topography e.g., ridges/edges of sandbanks where sandeel may spawn or furrows where herring may spawn.

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
						• Environmental factors that may influence spawning intensity such as temperature, oxygenation, natural disturbance, anthropogenic disturbance etc. Regarding the point in relation to mitigation hierarchy, see the Applicant's response to this point in its responses to Appendix B of Natural England's Relevant Representation [REP1-033].
No change at deadline 2						
F13	25, 26	Natural England note that data from otter trawl surveys in 2005 and 2008 showed that herring was the most abundant species caught. Additionally, pre and post-construction herring spawning surveys were conducted in 2009 and 2010. Both data sets support herring being a key prey resource for Annex I Sandwich terns in the second part of the breeding season. However, in both instances, Natural England acknowledges the age of the data. And, while we defer to CEFAS for recommendations of further data sources to complement this data and potential requirement for pre-construction surveys, we highlight the wider ecosystem benefits in terms of management measures for Annex I birds from further data collection. Natural England will continue to discuss this with the Applicant and other interested parties.		No change at deadline 2		Noted. The Applicant has attended an initial meeting with Natural England, the MMO and Cefas to discuss potential evidence gathering with respect to Sandwich tern prey species and will maintain the dialogue.
Document Used: [APP-192] Appendix 6.3.10.2 – Underwater Noise Modelling Report						
F14	27	Natural England advise further underwater noise assessment is undertaken which includes concurrent piling from SEP and DEP. However, Natural England defers to CEFAS to assess the outcomes from this additional assessment for fish species.		No change at deadline 2		As noted at ID 29 of Table 4.18.5 in **The Applicant's Comments on Relevant Representations** [REP1-033], simultaneous piling is defined in ES Chapters 9 and 10 as *'A scenario where two piles are installed at the same time at different locations.'* . This is the same as concurrent piling however the Applicant has used 'concurrent' when referring to general offshore construction activities that are being undertaken in tandem in order to differentiate between piling and 'other' construction activities that could emit underwater noise if activities are occurring at the same time. Simultaneous piling is possible should SEP and DEP be constructed concurrently. In this scenario, one piling operation could occur in the SEP wind farm site at the same time (i.e. simultaneously) as a piling operation in the DEP wind farm site (one piling operation per Project). A scenario whereby simultaneous piling could occur solely within the SEP wind farm site or solely within the DEP wind farm site could also potentially occur however simultaneous piling is unlikely to occur (see Marine Mammals Technical Note and Addendum [16.14]). To clarify, the worst-case scenario for underwater noise assessments for marine mammal receptors is based on simultaneous piling and for fish receptors is based on sequential piling (within the same 24 hour period). Updated assessments based on simultaneous and sequential piling are provided in the **Marine Mammals Technical Note and Addendum** [document reference 16.14].
Document Used: [APP-296] 9.9 Offshore Operation and Maintenance Plan (OOMP)						

<table>
<tr><th>Point</th><th>Point Number(s) from Appendix F [RR-063]</th><th>Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]</th><th>RAG Status Rel and WR Rep</th><th>Consultation, actions, progression</th><th>RAG Status D2</th><th>Applicant's comment</th></tr>
<tr><td>F15</td><td>28, 29, 30, 31, 21</td><td>Natural England advises that because O&M activities are only mentioned and not clearly defined we do not believe that they have been assessed and therefore further information is required to undertake any HRA/MCZ assessment.

Natural England advises more information is required on what is considered to be 'corrective work' and if that is permitted on the DML. The following information is required to assess the impacts from O&M activities:
• Number of vessel transits per activity per day/month
• Timing of planned maintenance work
• Agree what are emergency works
• Separate out inside MCZ with outside MCZ and other designated sites
• Monitoring to be undertaken to inform 5 yearly review
• How often will a sub-bottom profiler be used and how will the noise be taken account of
• Volume of additional scour prevention around the turbines over the project lifetime
• If scour/cable protection in new location – where, how much etc.
• Confirm bird scarers are not noisy scarers which can disturb Annex I birds
• More detail on the use of drones for offshore inspections</td><td></td><td>Within our cover letter at Deadline 2 we have provided clarification regarding the deployment of cable protection, both within and outside of designated sites, after construction has completed. This includes the need for additional marine consents to cover said works.</td><td></td><td>As per the Applicant's response at ID 41 of Table 4.18.5 in The Applicant's Comments to Relevant Representations [REP1-033]:

<table>
<tr><td>Number of vessel transits per activity per day/month</td><td>These are assessed within the relevant ES chapters (Chapters 6, 7, 8, 9, 10 and 13).</td></tr>
<tr><td>Timing of planned maintenance work</td><td>The MMO would be notified of any of the works being undertaken.</td></tr>
<tr><td>Agree what are emergency works</td><td>These aren't listed in the Outline OOMP (Revision C) [document reference 9.9].</td></tr>
<tr><td>Separate out inside MCZ with outside MCZ and other designated sites</td><td>See the Outline OOMP (Revision C) [document reference 9.9] however has been updated.</td></tr>
<tr><td>Monitoring to be undertaken to inform 5 yearly review</td><td>Monitoring would be undertaken in accordance with the Monitoring Plan which would inform the O&M Plan review updates. Conditions 13(1)(f) and 14(1)(f) in the relevant DMLs specify that the OOMP must be resubmitted and reviewed every 3 years therefore ensuring continual review of the position in relation to cable protection and scour protection alongside all other operation and maintenance activities and will enable the MMO to continually review at the appropriate time during operation whether or not a new consent/licence is required for any further deployment of cable protection or scour protection.</td></tr>
<tr><td>How often will a sub-bottom profiler be used and how will the noise be taken account of</td><td>As and when required with more specific details to be reflected in the Final OOMP noting that this will be managed as a live document.</td></tr>
<tr><td>Volume of additional scour prevention around the turbines over the project lifetime

If scour/cable protection in new location – where, how much etc.</td><td>As noted in the Outline OOMP (Revision C) [document reference 9.9], unless the total area of scour protection installed for the chosen foundation type exceeds that assessed in the ES, or a period of five years has elapsed since the completion of construction then no additional marine licence would be required. However, approval from the MMO will be required prior to the installation of additional scour protection in different locations. If these conditions</td></tr>
</table></td></tr>
</table>

Point	Point Number(s) from Appendix F [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix F - All Other Marine Matters [RR-063]	RAG Status Rel and WR Rep	Consultation, actions, progression	RAG Status D2	Applicant's comment
						were not met then a new marine licence would be required.
						Confirm bird scarers are not noisy scarers which can disturb Annex I birds — As noted, these are 'passive' and therefore are not noise emitting however this is clarified in the **Outline OOMP (Revision C)** [document reference 9.9].
						More detail on the use of drones for offshore inspections — As and when required with more specific details to be reflected in the Final OOMP noting that this will be managed as a live document.

1.5.3 Applicant's comments on Tab G Cromer MCZ of Natural England's Deadline 2 Risk and Issues Log

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
Broadscale theme 1: Small Scale Losses						
G1	1	Natural England doesn't agree with the Applicant's Stage One MCZ assessment in relation to the defining the magnitude of impacts because the assessment has been approached from an EIA perspective rather than one considering whether or not the conservation objectives for the site will be hindered. Please see Annex 1 of [RR-063] Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ for further details on Natural England's standard position.		No change at deadline 2.		As noted at ID 1 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]: The Applicant has followed the available guidance for MCZA as detailed in Section 2.2 of the Applicant's **MCZA** (APP-077). This includes the MMO 2013 MCZ and marine licensing guidance, as well as Natural England's own guidance (2020) on how to use the Conservation Advice Packages for Environmental Assessments. The assessment methodology defines criteria for magnitude of effect which includes consideration of amongst other things, duration of the loss, scale of the loss and impact on structure, functioning or supporting processes of the habitat. In order to determine the sensitivity of the protected features of CSCB MCZ, Natural England's Advice on Operations (AoO) which indicates the current condition of protected features and the sensitivity of each receptor to relevant pressures was used. Following determination of effect magnitude and receptor sensitivity, the Stage 1 assessment then goes on to consider the risk that SEP and/or DEP could hinder the conservation objective of maintaining the protected features of the CSCB MCZ in a favourable condition or restoring them to favourable condition. The assessment uses Natural England's Supplementary Advice on Conservation Objectives (SACO). SACOs present attributes which are ecological characteristics or requirements of the designated species and habitats within a site. The listed attributes are considered to be those which best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Therefore, the Applicant considers that the correct approach to Stage 1 assessment has been followed.

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
G2	2	Whilst Natural England acknowledges that the MCZ consists of broadscale habitat types rather than features akin to Annex I habitats there are areas that are FOCI or have broadscale habitat sub features that provide a defined function with differing sensitivity in which impacts should be avoided. Unless the Applicant can suitably avoid, reduce or mitigate impacts to these features we believe that a Stage 2 assessment is required.		No change at deadline 2.		The Applicant's position is that it has suitably avoided, reduced or mitigated impacts as set out in the **MCZA** [APP-077] and associated documents including the **Outline CSIMP** [APP-291]. As noted at ID 2 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]: The surveys undertaken to inform the assessments that have been undertaken at this stage of the Projects are characterisation surveys with the aim of describing the receiving environment that may be impacted by the proposed works and providing information on which to base the assessments. The methodology for the benthic characterisation survey and subsequent data analysis was agreed with Natural England and the MMO through the EPP (see **ES Chapter 8 Benthic Ecology**, APP-094). Characterisation surveys are distinct to pre-construction surveys. The latter aim to confirm the presence and location of sensitive features and to establish the environmental baseline for monitoring purposes, closer to the point of construction. As secured through the DMLs, pre-construction surveys within the MCZ will be undertaken to identify any potentially sensitive features that are required to be avoided. The pre-construction survey methodology would be agreed with the MMO in consultation with Natural England. The survey design would be based on best practice at the time and is anticipated to consist of a mixture of geophysical, DDV and grab surveys (as applicable) to ensure a comprehensive ground-truthing of the proposed final cable route design. Initial geophysical surveys will be reviewed with DDV groundtruthing surveys to confirm presence as appropriate. This shall then be used to inform detailed layout design and will inform the mitigation scheme requirements. If potentially sensitive benthic features are identified, the results of the survey will be discussed at that time with the MMO and Natural England to agree whether the features are required to be avoided through micro-siting. This is the routine and accepted approach for dealing with such matters. Condition 13-(i) of Schedules 10 and 11 and Condition 12-(j) of Schedules 12 and 13 of the **Draft DCO (Revision F)** (document reference 3.1) includes provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by pre-construction surveys and will be in accordance with the **Offshore IPMP** [APP-289]. This is the appropriate approach to mitigating impacts on benthic habitats of conservation, ecological and/or economic importance.
G3	3	Para. 193 [APP-077]. Natural England advises that calculating impacts as a percentage of the whole MCZ is misleading given the size of the site. The impacts from SEP and DEP combined are still sizeable at 0.19ha from cable protection. Natural England queries if further refinement of the assessment relating to feature extent could be undertaken?		No change at deadline 2.		As noted at ID 3 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033], impacts are provided as a percentage against each relevant MCZ feature (broadscale habitats) within Table 8-2 and Table 8-3 of the **MCZA** [APP-077]. The provision of percentage areas impacted across the whole MCZ provides wider context. Further refinement of the assessment relating to feature extent is not needed.
Broadscale theme 2: Lasting Habitat Change/loss						
G4	4	Natural England welcomes consideration of removal of cable protection at the time of decommissioning. If removal could be achieved, impacts would still last for the lifetime of the infrastructure (40 years) and potentially longer as a residual impact. Therefore, because this impact is lasting/long term and site recovery wouldn't be assured, Natural England's view is that reasonable scientific doubt would likely remain regarding the impact of the proposals on the conservation objectives for the site. Accordingly, we advise that a more precautionary approach		No change at deadline 2.		See ID 4 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]. No further comments.

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
		is required when considering the generational impacts to the designated site features both alone and cumulatively and potential requirement for MEEB to offset these impacts.				
G5	5, 6	Natural England doesn't agree with the Applicant's conclusion in Para. 268 of [APP-077] that there will be no significant risk of the activity hindering the achievement of the conservation objectives for Cromer Shoal Chalk Beds (CSCB) MCZ. Of particular concern is the area of mixed sediment within the cable corridor, which has a more diverse community. Should cable protection be placed in this location then Natural England advises the conservation objectives to restore/maintain features will not be achieved.		No change at deadline 2.		With respect to mixed sediment, the Applicant responded to this comment in detail at ID 6 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033] and the matter was also discussed at ISH6 [EV-084] [EV-088]. Those points are not repeated here but the Applicant confirms that its position has not changed. It is noted that in their pre-hearing submission dated 23 March 2023 [AS-041], Natural England states that "*…it is unlikely that further mitigation measures can be implemented…*". Also refer to the Applicant's response to Q2.3.4.10 [document reference 16.2].
Broadscale theme 4: Significance of Impact - In combination/cumulative (including TIERS)						
G6	7, 8	Whilst, the Marine and Coastal Access Act (2009) does not provide any legislative requirement for explicit consideration of in combination or cumulative impact assessment to be undertaken when assessing the impacts of licensable activities upon an MCZ; we agree with the MMO in considering that in order to fully discharge regulatory duties under section 69 (1) of the MCAA, in combination and cumulative effects must be considered. We acknowledge that Para. 31 of the Stage 1 MCZ Assessment [APP-077] considers TIERs to inform such an assessment. However, we advise that the 2013 guidance on TIERs has been updated in Natural England's Best Practice Guidance. see Para. 8 App. G of [RR-063].		No change at deadline 2.		See ID 7 and 8 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]. No further comments.
G7	9, 10, 11, 12	Natural England advises that due to existing/predicted impacts from post designation sustainable development the site's carrying capacity for further development is compromised. This will be reflected in the updated Conservation Advice due to be published in Spring 2023. Natural England considers the operational and maintenance phase activities for DEP (and or) SEP combined with existing Windfarm and Oil and Gas projects will result in lasting habitat change / physical disturbance which will further hinder the conservation objectives of the CSCB MCZ. The risk of, and observed, reduction in designated habitat extent which has occurred and/or is predicted to arise from the above developments has meant that the MCZ is highly likely to be taken further away from its required conservation state in the future. Unless these unanticipated significant impacts on the MCZ are addressed, Natural England advises that the overall coherence of the national site network as designated is at risk from a lasting habitat change/loss over the lifetime of the consented/built projects.		No change at deadline 2.		See ID 9 to 11 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]. No further comments.

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
		We strongly advise that Applicant's potentially affecting the MCZ will need to intensify their use of the mitigation hierarchy to avoid, reduce and mitigate their impacts to a level where such effects cannot arise.				
Broadscale theme: Impacts to Chalk						
G8	13	Whilst Natural England agrees that areas of current outcropping chalk have been identified from the geophysical survey it does not agree with the Applicant's assessment that CSCB MCZ Subtidal Chalk FOCI is are restricted to these areas. Across much of the site there are areas of subtidal chalk lying underneath a thin veneer of sand/sediment i.e. subcropping chalk. We advise that chalk with sediment veneer should be considered as subtidal chalk feature (HOCI 20) when assessing impacts. This is in accordance with our advice on fishing activities. We advise that any assessments are updated accordingly.		No change at deadline 2.		See ID 12 to 13 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]. Also refer to the Applicant's response to Q2.3.2.3 [document reference 16.2] which addresses the avoidance of sub-cropping chalk.
G9	14	We note that the Applicant's sensitivity biotope mapping ([APP-079] 5.6.2 Appendix 2) is based on the veneer within the glacial channel rather than the sub cropping chalk, which does not align with our advice (point G7). Thereby whilst we may be able to agree with an assessment that indicates that if cables are installed as described within the veneer, chalk will not be physically impacted, this position would change should cable protection be proposed in these areas no matter the current stability of the sediments within the glacial channel.		No change at deadline 2.		As above
G10	15	Natural England advises against locating the HDD exit pits in any area of sub cropping chalk and wishes to emphasise the significance of the potential impacts will increase if this can't be secured in the DCO/dML.		No change at deadline 2.		Refer to the Applicant's response to Q2.3.2.1 [document reference 16.2] which addresses the impact to chalk features at the HDD exit pits. This confirms that the HDD exit will be located within the deep infilled channel cut through the chalk to 17m below the seabed, filled with Weybourne Channel deposits (**Appendix 6.3 of the ES Sedimentary Processes** [APP-182] - visible on Figure 3.4), located across the export cable corridor from approximately 750m to 1.5km offshore. Given the depth of overlying sediment deposits there is no potential for exposure of chalk in this area (the depth of the excavation is only up to 1m, as described at Section 5.4.2.5 of the **MCZA** [APP-077]). The detail and precise location of the HDD exit pit would be confirmed post-consent and approved by the MMO as part of the CSIMP, as required by condition 12(e) in Schedules 12 and 13 of the **Draft DCO (Revision F)** [document reference 3.1].

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
						As such the Applicant considers that this point can be closed.
Broadscale theme 5: Mitigation - Standard Best Practice mitigation and application to SEP/DEP						
G11	16b	Reduce number of export cables though use of HVDC system or coordinated approach with other projects – Norfolk Projects: [APP-077] Section 5.1 (Para. 47) notes the potential for progressing a single ops serving both windfarms. Natural England is most supportive of this option due to the ecological benefits both for marine and terrestrial receptors. Otherwise, we would strongly encourage commitment to an integrated transmission system being progressed with HDD ducts for both SEP and DEP being installed when the first project constructs to reduce the impacts.		No change at deadline 2.		No further comments.
G12	16e	Micrositing cables around reef and other features of ecological importance: Natural England notes that this is referred to in the various SEP and DEP documents for the MCZ, but equally this is not secured as a condition on the face of the DCO/dML. Natural England would welcome this being secured as a condition. See item A4 of the DCO/DML tab.		No change at deadline 2.		See ID 18 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]: Condition 13-(i) of Schedules 10 and 11 and Condition 12-(j) of Schedules 12 and 13 of the **Draft DCO (Revision F)** [document reference 3.1] include provision for a mitigation scheme for any benthic habitats of conservation, ecological and/or economic importance constituting Annex I reef habitats identified by pre-construction surveys and will be in accordance with the **Offshore IPMP** [APP-289].
G13	16f	Sandwave levelling to reduce risk of free spanning cables and requirement for external cable protection: Natural England notes that there is no requirement for this mitigation measure within the MCZ, but would welcome this mitigation measure being secured.		No change at deadline 2.		Sandwave levelling is not a requirement in the MCZ (nor any part of the export cable corridor). The four areas identified that may require sandwave levelling (pre-sweeping) are described at paragraph 165 of **ES Chapter 4 Project Description** [APP-090]. As such this mitigation does not apply and this point can be resolved.
G14	16g	Adoption of the reburial hierarchy with external cable protection being last resort – Whilst reburial is mentioned in various documents the reburial hierarchy is not. An outline of the process for reburial should be included with the MCZ Cable Specification, Installation Plan and Monitoring Plan [APP-291].		No change at deadline 2.		See ID 20 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]: Section 1.6.5.2 of the **Outline CSCB MCZ CSIMP** [APP-291] includes a protocol for export cable remedial reburial including (paragraph 69): "*the Applicant has made the commitment to attempt to rebury any cables which do become exposed within the MCZ during operation prior to the installation of any external cable protection (Chapter 4 Project Description (document reference 6.1.4)*).". Also included in Table 4 of the same document. As such the Applicant considers that this point can be closed.
G15	16h	Pre consent undertake a cable burial risk assessment using geotech data to focus cable protection requirements to areas where cables are likely to be sub-optimally buried e.g. mixed sediment - to apply for a realistic worse-case scenario: Whilst, the Applicant has undertaken a cable burial study 9.7.1 and 9.7.2 [APP-292 and 293] these are only interim and are reliant on being updated post consent. Therefore, there is no indication of the areas most likely to require cable protection. We advise that more information is required at the consenting stage.		No change at deadline 2.		See Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033, particularly ID 12 to 13 (subcropping chalk) and ID 6 (mixed sediment) (also refer to G5 above). As explained at ISH 6 [EV-084] [EV-088], the Applicant has provided very detailed information at the consenting stage to assist in dealing with these matters as reflected in the Outline CSIMP [APP-291], including use of lessons learnt from the existing SOW and DOW, a geotechnical survey, a draft export cable risk assessment [APP-293] and the interim cable burial study [APP-292]. These documents will be updated pre-construction, as is the routine and accepted approach, to take account of the detailed route engineering studies and the selection of the cable burial tool. For this reason, it is not possible to provide further information at this stage, nor should it be required. The Applicant considers that this point can be closed.

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
G16	16j	Requirement to install cable protection with the minimal footprint: Natural England notes that concrete/glass reinforced plastic protection covers have been included as an option to reduce the footprint of any cable protection. But this still has similar impacts to concrete mattresses. Therefore, given the Applicant's requirement to bury the cables options to secure surface laid cables have not been considered. We advise that this is considered further by the Application as part of the consenting phase.		No change at deadline 2.		As noted in the **MCZA** [APP-077] and **Outline CSIMP** [APP-291] unprotected surface laid cables, including pinning to the sea bed, was considered but removed from the project design envelope at the pre-application stage. This was primarily due to snagging concerns with fishing vessels, as well as the additional disturbance to fishing activity that would arise through the presence of surface marker buoys for the lifetime of the Projects. The Applicant confirms that this position has not changed.
G17	16l	No use of jack –up barges along export cable routes through benthic MPAs: Natural England advises further consideration of this mitigation measure in the operation and maintenance plan 9.9 [APP-296]		No change at deadline 2.		This matter was discussed at ISH 6 [EV-084] [EV-088] where the Applicant explained that the use of a small jack-up vessel was only required at the HDD exit point for construction. This remains the case and as explained at ID G10 above the HDD exit will be located within the deep infilled channel cut through the chalk to 17m below the seabed, filled with Weybourne Channel deposits and so will not impact on subcropping chalk.
G18	16m	No cable protection in fisheries byelaw areas to avoid hindering reef recovery, noting that cable may still go through the outskirts of these areas: Natural England notes that there has been no consideration of the potential fisheries byelaw areas and potential to hinder the positive environmental outcomes with Cromer Shoal MCZ that they are designed to achieve. We would welcome further consideration of this.		No change at deadline 2.		See ID 26 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]: The fisheries byelaw area in the CSCB MCZ covers the majority of the site, including the area covered by the export cable corridor. Therefore, if cable protection is required the Byelaw area will not be able to be avoided. The Byelaw is considered within the cumulative effects Section 9 of the **Stage 1 CSCB MCZ Assessment** [APP-077]. The Byelaw is considered to have a positive effect on the broadscale habitat features by reducing pressures from fishing activities.
G19	16n	Designing rock armouring to mirror the structure and function of geogenic reef: Due to the requirement to remove the cable protection at the time of decommission this is not considered a viable mitigation option for these projects.		No change at deadline 2.		No further comments.
Broadscale theme 6: Mitigation - Sediment Deposition						
G20	17	Natural England would welcome more information on how, if required (based on the installation technique), sediment will be removed at the exit pit(s), stored and redistributed. And how impacts to surrounding features can be avoided/reduced. We advise that Section 8 of the [APP-077] MCZ Stage I assessment requires more detail and consideration of this aspect.		No change at deadline 2.		See ID 28 of Table 4.18.6 in **The Applicant's Comments on Relevant Representations** [REP1-033]. See also response to Q2.3.2.1 [document reference 16.2] where it is further explained that: The Applicant notes that a potential concern relates to whether sediment will be returned within an area of similar sediment type. We consider that this will be the case in this instance since the excavated sediments will be backfilled into the same location that they were removed from and the excavated sediments are likely to be relatively homogenous in nature on account of the depth (17m) within which the Weybourne Channel deposits have infilled the channel as described above. A second potential concern relates to the possible mobility of the deposited sediment before it is backfilled. The sediment removed from the Weybourne Channel will be predominantly cohesive (compacted over 1,000s of years) laminated sandy clay. Sub-bottom profiles distinguish these sediments from an underlying unit of older sand and gravel, which is unlikely to be penetrated during excavation. Due to its cohesive nature, the sediment that is sidecast will be in the form of aggregated 'clasts' that will remain on the seabed rather than being disaggregated into individual fine sediment components. Because of their potential size, future transport of the aggregated clasts in the sidecast material would be limited, and most would remain static on the seabed. If left for a significant amount of time (decades), the flow of tidal currents over the sidecast material would gradually winnow (there would be a gradual disaggregation of the clasts into their constituent particle sizes) the topmost clasts. However, given there will be a relatively

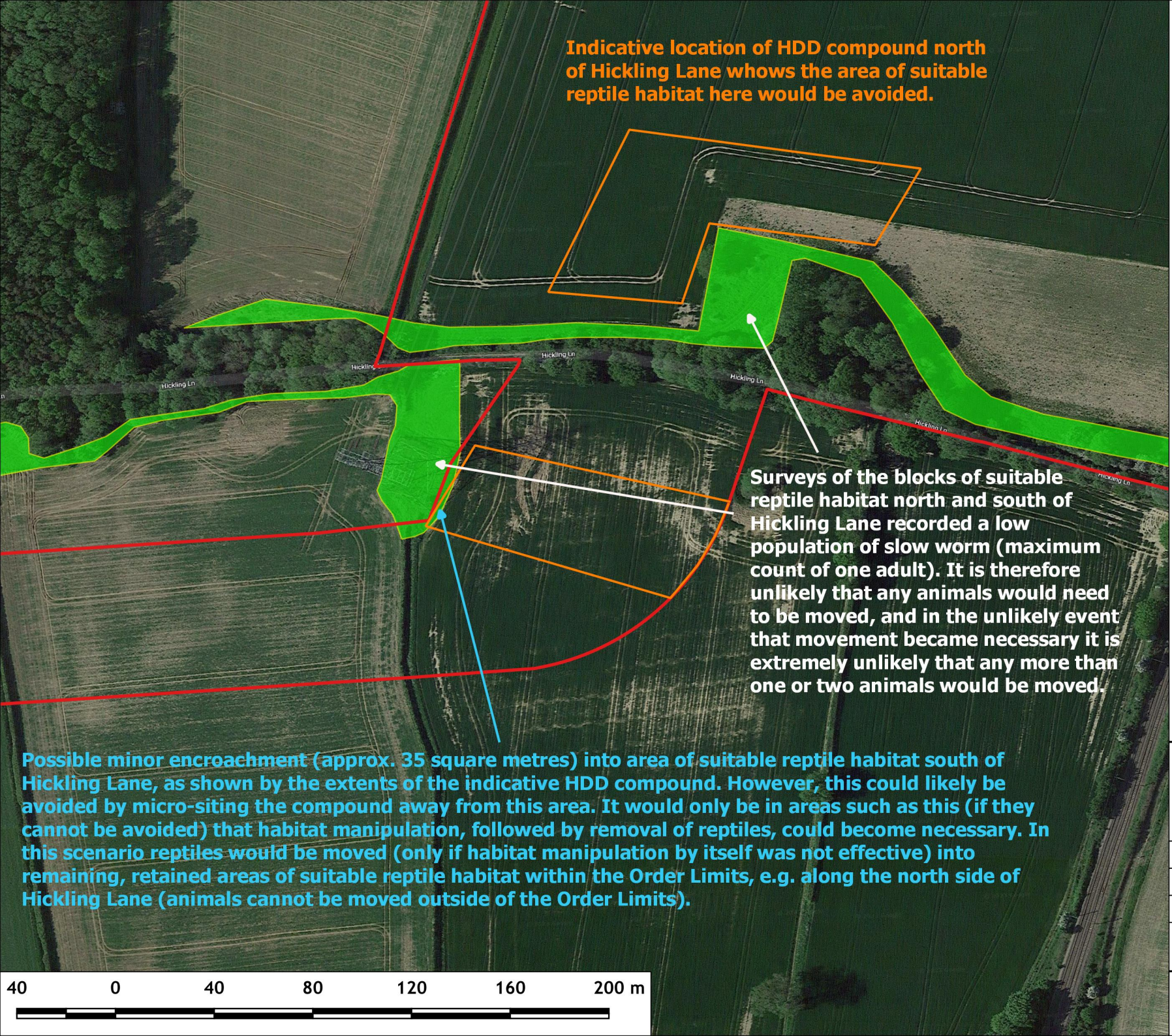
Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
						short period of time (approximately nine months) between sidecasting and backfill, the loss of particulate material from the clasts through winnowing will be negligible. The Applicant considers that this point can be closed.
Broadscale Theme 7: Secondary Scouring						
G21	18	Natural England notes that secondary scouring needs further consideration in the [APP-077] Stage I MCZ assessment (para. 192, 197 and 209) in relation to impacts to sediment transportation		No change at deadline 2.		The Applicant considers that the limited geographical extent of secondary scour means that the potential impact would be anticipated to be nugatory. Hence, an assessment of secondary scour has not been undertaken within **Chapter 7 MGOPP** [APP-119]. However, the **Offshore IPMP** [APP-297] includes provision for monitoring of secondary scour around scour protection. If no scour protection is installed, then sea bed sediments and shallow near-bed sediments within SEP or DEP could be disturbed by scour around the foundations and any installed external cable protection. The worst-case scenario assumes that sediment would enter the water column at the sea bed causing a localised, gradual and medium-term release of suspended sediment at the point of scour and in its immediate vicinity. Mobilised sediment from scour would be transported by tidal currents in suspension in the water column, and would be 'trickle-fed' over a number of years until the scour pit reaches an equilibrium with the physical processes driving the scour. Conceptual evidence-based assessment suggests that, due to the predominance of medium and coarse grained sand across SEP and DEP offshore sites, most of the sediment disturbed by scour at the sea bed would remain close to the bed and settle back to the bed rapidly. Some of the finer sand fraction from this release and the very small proportion of mud that is present are likely to stay in suspension for longer and form a very low concentration plume which would become advected by tidal currents. Due to the gradual development of the scour and the time scale over which this sediment will be gradually released into the water column, the concentrations would be indistinguishable from background levels.
Document Used: [APP-080] 5.6.3 Assessment of Sea Bed Disturbance Impacts from Unexploded Ordinance (UXO) Clearance						
G22	19	Natural England welcomes the consideration of ORDTER (2018) when considering the potential size of UXO detonation craters. However, we advise that further information is required in relation to the depth of any crater and the impacts this may have on any subcropping chalk, peat and clay. In particular if chalk, peat/clay or mixed sediment are impacted features likely to destroyed as part of any explosion. Limited evidence is presented to demonstrate that the structure and function will fully recover. In addition, we advise that impacts from UXO detonations are considered in-combination with Hornsea Project Three.		No change at deadline 2.		As agreed with the MMO and Natural England through the evidence plan process, UXO will be a separate Marine Licence post consent (see SoCGs: **Draft SoCG with Natural England (Offshore)** [REP2-044] and **Draft SoCG with MMO (Revision B)** [document reference 12.11]). During the Marine Licensing process, an accurate assessment of the potential impact (including potential cumulative and in-combination impacts) on benthic communities taking account of the number of UXO to be detonated, their locations, and the method of UXO clearance, will be undertaken in consultation with the MMO and Natural England. If there are UXO identified for explosion within proximity of potentially sensitive benthic habitats then strategies for avoidance and mitigation will be discussed at that time. The Applicant is not aware of any other studies of UXO impacts on benthic communities however it is anticipated that the width and depth of any crater will be dependent on the size of the UXO, the method of detonation, and the underlying sediment and geology. As noted in response to second written question Q2.12.2.7, the preferred method of UXO detonation is a low order clearance technique such as deflagration whereby explosive energy is reduced – see Section 1.4.2.1 of **Draft MMMP (Revision B)** [REP1-013]. Since the number of UXO required to be cleared is unknown, and a detailed assessment will be undertaken based on the actual number and size of UXO to be cleared at that time, the Applicant does not propose to provide any further updates to the **Assessment of Sea Bed Disturbance Impacts from Unexploded Ordinance (UXO) Clearance** [APP-080].

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
						As noted in that document, the assessment was provided for information purposes only in response to stakeholder comments (see Section 4 of the **Stage 1 CSCB MCZ** [APP-077].
Document Used: [APP-081] 5.6.4 Appendix 4 - Assessment of Potential Impacts on Cromer Shoal Chalk Beds Marine Conservation Zone Features from Planting of Native Oyster Beds						
G23	20, 21, 22, 23	Natural England advises that the idea behind the MEEB option is sound i.e. the recreation of mixed sediment/reef epifauna communities in a new location. Natural England highlights the importance of the existing mixed sediment within the Cromer Shoal MCZ. The Cromer Shoal MCZ mixed sediment in this location has several sub features to that of the generic habitat type and there is no current requirement to restore/enhance these habitats. Natural England therefore advises against the placement of clutch and restoration of an Oyster bed in the middle of a mixed sediment area. For this to be considered as additionality we advise that it would be better to extend/enhance the area of the mixed sediment on the boundary with impoverished coarse sediment e.g. in the centre of the 'c' shaped mixed sediment area or north/south of the blue rectangle.		Natural England supports the changes to address our concerns in relation to the location of the proposed Oyster Bed.		The Applicant notes that Natural England supports the changes to address its concerns in relation to the location of the proposed Oyster Bed. The Applicant believes this RAG status should be green as is agreed in ID 4 of Table 2.10 of the **Draft SoCG with Natural England (Offshore)** [REP2-044].
Document Used: [APP-083] 5.7.1 Appendix 1 - In-Principle Cromer Shoal Chalk Beds (CSCB) Marine Conservation Zone (MCZ) Measures of Equivalent Environmental Benefit (MEEB) Plan & [APP-084] 5.8 Strategic and Collaborative Approaches to Compensation and Measures of Equivalent Environmental Benefit						
G24	24, 25	Natural England advises that regardless of the potential project progression scenarios the size/scale of oyster bed is dependent on ecological functionally and therefore will not change. Natural England recognises the time required for ecological functionally to occur and therefore would advise the implementation of oyster restoration prior to the cable installation but reflecting that it may not be fully delivering at time of cable installation. (Para. 93)		No change at deadline 2.		As agreed through the evidence plan process, in order for the MEEB to be deemed successful, a self-sustaining reef would be required to be maintained. The Applicant has calculated that, once fully functioning, a 10,000m^2 reef would be self-sustaining (see the **In-Principle CSCB MCZ MEEB Plan** [APP-083]). As noted at ID 6 of Table 2-10 of the Draft SoCG with Natural England (Offshore) [REP2-044], Natural England state that that *'the scientific evidence used to inform a 10,000m^2 restoration area to enable a self-sustaining reef is agreed.'.* Regarding timescales these are set out within the **Without Prejudice DCO Drafting Revision B** [REP2-011].
G25	26	Natural England advises that removal of anthropogenic marine debris will not provide the necessary compensation measure alone, but could form part of a package with something much more substantive or a positive Net Gain option. As with our advice to the Secretary of State (dated 20 January 2022) on Hornsea Project Three, it is challenging to demonstrate that this option will offset habitat loss.		No change at deadline 2.		Noted. The Applicant's preferred option for delivery of MEEB is the planting of native oyster bed within the CSCB MCZ. The requirement for potential other MEEB options would be discussed and agreed with the MEEB Steering Group as part of adaptive management.
G26	28	Natural England recommends working with local fishermen to source the clutch as has been done on previous projects (Section 8.4.3.1 of [APP-083]) and would welcome any commitment that could be made to this end.		No change at deadline 2.		As noted in Section 8.4.3.2 of the **In-principle CSCB MCZ MEEB Plan (Revision C)** [REP2-020], the Applicant would, as far as possible, seek to use suppliers and partners from within the Norfolk region, providing benefits to local communities.
Document Used: [APP-182] 6.3.6.3 Environmental Statement Appendix 6.3 - Sedimentary Processes in the Cromer Shoal Chalk Beds MCZ & [APP-183] 6.3.6.4 Environmental Statement Appendix 6.4 - Sheringham Shoal Nearshore Cable Route - BGS Shallow Geological Assessment						

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
G27	30	Natural England notes the age of the data presented in APP-182 and advises that consideration of more recent data included within other documents gives a more holistic characterisation of the site. Of particular note is the use of these data as evidence of the stable nature of the sediment along the glacial channel.		No change at deadline 2.		Appendix 6.3 - Sedimentary Processes in the Cromer Shoal Chalk Beds MCZ [APP-182] uses all of the data that was available at the time of writing (July 2020). As set out in Sections 3 and 4 of the report this includes the site specific geophysical data that Equinor collected in 2019, as well as a variety of other historical data collected across the existing SOW and DOW projects and more widely since approximately 2013. As such the Applicant has reviewed and used a very significant amount of data over a long period of time to inform its characterisation of the site and, specifically, to help understand how the site has changed over that time due to natural processes. Relative to most new OWF developments this is a unique position to be in and the Applicant has worked hard to maximise the value obtained for the purpose of informing its assessment, as reflected in the report. The Applicant considers that this point can be closed.
G28	31, 32	Natural England notes that, in some places, sediment veneer is likely to be less than 1m, with 0.3 -1.25m stated at Section 5.1.2.[APP-182]. Natural England advises that impacts to chalk should be avoided either through installation or further external cable protection. As per comments G8, G9 and G10, Natural England advise that sediment veneers over chalk to constitute a subtidal chalk feature (HOCI 20). Natural England advises that impacts to peat and clay should also be avoided from cable installation and potential cable protection.		No change at deadline 2.		See the Applicant's response to G8, G9 and G10 above.
Document Used: [APP-283] 8.1 Cable Statement						
G29	33	Natural England would welcome the adoption of an integrated system and therefore concurrent development. If the projects are taken forward separately then we would strongly advise the Applicant to commit to installing the cable ducts for both projects when the first project is installed as per several other local major development projects. Natural England advises that should this approach be adopted then many of the transmission asset impacts will be significantly reduced.		No change at deadline 2.		Noted – as set out in the Scenarios Statement [APP-314], the preferred option is a development scenario with an integrated transmission system, providing transmission infrastructure which serves both of the wind farms, where both Projects are built concurrently. However, given the different commercial ownerships of each Project, alternative development scenarios such as a separated grid option will allow SEP and DEP to be constructed in a phased approach, if necessary. Therefore, the DCO application seeks to consent a range of development scenarios in the same overall corridors to allow for separate development if required, and to accommodate either sequential or concurrent build of the two Projects.
Document Used [APP-291] 9.7 Outline Cromer Shoal Chalk Beds (CSCB) Marine Conservation Zone (MCZ) Cable Specification, Installation and Monitoring Plan (CSIMP)						
G30	34	Natural England advises that prior to construction, sign off of this document should be required in consultation with the relevant SNCB.		No change at deadline 2.		Noted. The final CSCB MCZ CSIMP would be agreed with the MMO in consultation with Natural England.
G31	35	Natural England advises that where there is shallow veneer there should be a commitment to undertake ongoing monitoring and management.		No change at deadline 2.		The appropriate pre and post-construction survey requirements are included in the **Draft DCO (Revision F)** [document reference 3.1], with the surveys being carried out in accordance with the **Offshore IPMP** [APP-289]. Areas of shallow veneer (and any other priority areas or features for ongoing monitoring) will be informed through a combination of the pre-construction surveys, the outcome of the installation process and the emerging outcomes from the post-construction surveys, as per the routine approach to such matters. Provision for adaptive management in the context of environmental monitoring is included within the **Offshore IPMP**.
G32	36	Natural England notes that the information included in Fig. 2 and supporting text (1.3.1 para.12) doesn't reflect the more detailed information in 6.3.8.5 [APP-188] Fig. 14. Natural England advises the CSIMP is amended with the more detailed information		No change at deadline 2.		Noted and agreed. Within the next iteration of the document, the Applicant will update this figure to reflect the project-specific benthic habitat mapping as shown in Figure 7-2 of the **Stage 1 CSCB MCZ Assessment** [APP-077].

Point	Point Number(s) Appendix G [RR-063]	Taken from Natural England's Relevant and Written Representations SEP AND DEP Appendix G - Cromer MCZ [RR-063]	RAG Status Rel and WR Rep D1	Consultation, actions, progression	RAG Status D2	Applicant's comment
		provided in Environmental Statement [AP-188] given the purpose of this document.				
G33	37	Natural England highlights that the cable installation plan will need to take into consideration potential impacts to other designated sites. For example, potential disturbance/displacement impacts to Annex I Red Throated Diver and possible implications of mitigating impacts to the Greater Wash SPA.		No change at deadline 2.		The Applicant has included a best practice protocol for minimising disturbance on red-throated divers within the **Outline PEMP (Revision C)** [document reference 9.10]. This is considered to be the most appropriate document for managing potential impacts on red-throated diver in the post-consent phase.
G34	38	Natural England highlights the need for the implementation of adaptive management measures should monitoring demonstrate the impacts are greater than predicted or unforeseen. Natural England recommends that this is incorporated into the CSIMP. See item A21 of the DCO/DML tab.		No change at deadline 2.		Provision for adaptive management in the context of environmental monitoring is included within the **Offshore IPMP** [APP-289] which is considered to be the most appropriate document to secure adaptive management.
G35	39	Natural England advises that monitoring will be required to inform the as yet to be agreed 5 yearly review of the Operations and Maintenance plan. Natural England recommends this monitoring requirement is acknowledged in the CSIMP.		No change at deadline 2.		Noted. Within the next iteration of the document, the Applicant will include reference to the five yearly review period of the **Outline OOMP (Revision C)** [document reference 9.9].
G36	40	Natural England advises that any increase in the footprint of cable protection within the MCZ during the operational phase of the project will require a separate marine licence due to the potential impacts to designated site features which may have changed over time.		No change at deadline 2.		Additional external cable protection during the operational phase, if it were required, is not included in the DCO application.
Document Used [APP-293] 9.7.2 Appendix 9.7.2 - Export Cable Burial Risk Assessment						
G37	41	Natural England advises that standard best practice to inform the cable burial risk assessment is to undertake geotechnical investigations prior to submission. However, for these projects we advise that the geotechnical and cable installation data from Dudgeon OWF is the best available evidence available. We would expect additional geotechnical data to be collected prior to cable installation to inform the necessary regulatory sign off in consultation with Natural England and this should be secured in the DCO/dML or named plan		No change at deadline 2.		Whilst cable route specific geotechnical data was not available at the time the draft **Export Cable Burial Risk Assessment** [APP-293] was completed (October 2020), geotechnical investigations (cone penetrometer testing and vibrocores) were undertaken by Equinor in Q4 2021, including within the export cable corridor as it passes through the MCZ. These were undertaken largely to help inform the ongoing consenting and assessment processes with respect to the MCZ, including the development of the **CSIMP** [APP-291] and **ICBS** [APP-292]. As set out at paragraph 22 of the **CSIMP**, interpretation of the geotechnical survey results was ongoing at the point of submission of the DCO application. As such, details of the finalised export cable corridor and any necessary micro-siting within the CSCB MCZ will be provided in the final CSIMP, informed by the relevant pre-construction surveys, including the 2021 geotechnical investigations.

Annex 1



Legend

N

- Order Limits
- Approximate extents of areas of suitable reptile habitat bordering Hickling Lane
- INDICATIVE locations of HDD compounds (Hickling Lane itself would be HDD'ed beneath)

WILD FRONTIER ECOLOGY

Hickling Lane, nr Onshore Substation Site

Reptile Map regarding NE's RR063

Response to query over reptile 'translocation'

Drawn by: WR
April 2023