

ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 1: INTRODUCTION

Able Marine Energy Park, Killingholme, North Lincolnshire

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CONTENTS

1.1.0 BACKGROUND.....	1
Development Consent Order	1
Previous Amendments to DCO and Deemed Marine Licence.....	2
Requirements & Purpose of this Document	3
1.2.0 LOCATION AND DESCRIPTION OF SITE.....	3
The AMEP Site	4
The Compensation Site	15
1.3.0 THE CONSULTATION	20
The Environmental Review.....	20
Technical Competence	22
1.4.0 REPRESENTATIONS.....	23
Consultation & Representations	23

DOCUMENT REFERENCES

TABLES

Table 1-1: Update of Planning Permissions for the AMEP Site – End of 2011.....	6
Table 1-2: Local Planning Permissions Granted for the AMEP Site – Post DCO.....	7
Table 1-3: Planning Permissions in Surrounding Area Accompanied by an ES Granted since DCO (2014) ..	13

FIGURES

Figure 1-1: Aerial Photograph of AMEP Site January 2012 (Pre-DCO in Force).....	4
Figure 1-2: Aerial Photograph of AMEP Site April 2019 (Post-DCO in Force)	5
Figure 1-3: Aerial Photograph of the AMEP Surface Water Pumping Station	10
Figure 1-4: Mitigation Area B, Completed 2014.....	11
Figure 1-5: OtSMRS Area Plan	17
Figure 1-7: Decadal Change in Estuary Bathymetry 2008-2018.....	18

APPENDICES

Appendix ER1-1: AMEP Development Consent Order	
Appendix ER1-2: AMEP DCO Amendment 2021 (Amendment Order)	
Appendix ER1-3: AMEP DCO Amendment 2022 (Material Change 2 Amendment Order)	

Appendix ER1-4: Variation 3 of the Deemed Marine License

Appendix ER1-5: AMEP Planning Consents 2012 Onwards (Drawing no. AME-002-00102 Rev B)

1.1.0 Background

- 1.1.1 This Environmental Review (ER) has been prepared by SLR Consulting Limited (SLR) on behalf of Able Humber Ports Limited (Able, 'the Applicant') regarding a proposed extension to the time limits by which the authorised development should be completed.
- 1.1.2 The following sections seek to provide a brief overview of the extant DCO, any subsequent amendments and/or variations of note and the purpose of this ER document itself.

Development Consent Order

- 1.1.3 The DCO for the Able Marine Energy Park (AMEP) was made on 13th January 2014, laid before Parliament on 10th February 2014 and subsequently came into force on 29th October 2014 (Statutory Instrument 2014 No. 2935). It was amended by a non-material change on 13 May 2021 and a material change on 16 July 2022 (see further below). A copy of the DCO is provided within Technical Appendix ER1-1.
- 1.1.4 The DCO permits, *inter alia*, the development of a new quay and associated development at Killingholme in North Lincolnshire, on the south bank of the Humber Estuary. Briefly, the development on the south bank comprises a quay, reclaimed estuarine habitat and the provision of onshore facilities for the manufacture, assembly and storage of components relating to the offshore renewable energy sector. The DCO further permits other associated development including environmental habitat, namely the Cherry Cobb Sands compensation site, on the north bank of the Humber in the East Riding of Yorkshire authoritative area.
- 1.1.5 The authorised development is described in Schedule 1 of the DCO 'Authorised Development', whilst Part 2, Article 7 of the DCO limits the time period during which works can be carried out.
- 1.1.6 The DCO submission was accompanied by an Environmental Statement (ES). During the examination of the proposals, additional environmental information was submitted by the Applicant and was incorporated into the original ES for the Project. The documents forming the project ES are listed at Schedule 11, paragraph 1 of the AMEP DCO, and this complete set of documents is referred to in this ER as 'the original ES'.

Article 7 – Period for Completion of Work

- 1.1.7 Article 7 of the DCO states the following:

'Period for completion of work

7. If the authorised development is not completed within 10 years from the coming into force of this Order or such extended time as the Secretary of State may on the application of the undertaker allow, then on the expiration of that period or such extended time (as the case may be) the rights granted by this Order to the undertaker for making and maintaining the works cease except as to so much of them as is then substantially commenced', (underline added).

- 1.1.8 Since the DCO came into force, the Undertaker has been developing various discrete elements of the project for delivery, with the wider consented scheme being formally commenced in June 2021 through the construction of a surface water pumping station which forms part of the associated development. Further information regarding the various discrete elements of the wider project which have been commenced is provided within Section 1.2 below.

1.1.9 Nevertheless, market conditions have not yet enabled the commencement of the quay which is the primary element to which the Nationally Significant Infrastructure Project (NSIP) relates. Given that the time limit in Article 7 prohibits new works from starting after 28 October 2024, the undertaker now wishes to apply to the Secretary of State to extend the timeframe for substantially commencing the works by a further seven years, until **29th October 2031**.

Notification of Intention

1.1.10 The Applicant notified the Department of Transport of their intention to submit an application to extend the time limit set out in Article 7 in January 2023, and was asked to carry out non-statutory pre-application engagement with all the consultees that were consulted for the original DCO, subject to any changes in their identities.

Previous Amendments to DCO and Deemed Marine Licence

1.1.11 An application for a non-material amendment to the DCO was submitted to the Secretary of State in August 2018 ('the 2018 application'). This submission sought to move an area proposed for ecological mitigation (Area A) to a new site outside the order limits next to two other areas being utilised for ecological mitigation (Halton Marshes Wet Grassland Scheme), thereby allowing all three areas to operate as a single unit. The application was accompanied by a brief review of the original ES to demonstrate that no materially different environmental impacts arose pursuant to the proposal. This submission was determined by the Secretary of State in early 2021, with The Able Marine Energy Park Development Consent (Amendment) Order 2021 (the 2021 Amendment Order) being made on 13th May 2021 and coming into force on 14th May 2021. A copy of the Amendment Order is provided within Technical Appendix ER1-2.

1.1.12 On 27th July 2020, the Secretary of State for Transport approved extending the 5-year time limit for the commencement of the approved tidal works under the provisions of Article 23 of the DCO. That application was not accompanied by any new environmental information.

1.1.13 In June 2021 an application for a material amendment to the DCO was submitted to the Planning Inspectorate under Schedule 6 of the Planning Act 2008 and Part 2 of the Infrastructure Planning (Changes to, Revocation of, Development Consent Orders) Regulations 2011 ('the 2021 application'). The material change comprised:

- Changes to the proposed quay layout to reclaim a specialist berth at the southern end of the quay, and to set back the quay line at the northern end of the quay to create a barge berth;
- The addition of options to the form of construction of the quay whereby the piled relieving slab to the rear of the quay could be raised or omitted entirely (subject to detailed design), and the quay wall piles could be restrained with more conventional steel anchor piles and tie bars in lieu of flap anchors;
- A change to the approved diversion of footpath FP50 in North Lincolnshire to avoid crossing over the existing rail track at the end of the Killingholme Branch Line;
- Provision of a third cross dam within the reclamation area to enable greater flexibility for staged completion, and early handover of sections of the quay;
- A change to the consented deposit location for 1.1M tonnes of clay to be dredged from the berthing pocket, to permit its disposal at HU081 and HU082; and

- An amendment to the sequencing of the quay works to enable those works to commence at the southern end of the quay and progress northwards.

1.1.14 Material Change 2 was considered to represent ‘EIA development’ as it met the definition of Schedule 2 development as set out in The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (‘the EIA Regulations’); namely, the proposals represent a change to a Schedule 1 development, where that development is already authorised (by virtue of the AMEP DCO), and the changes had the potential to give rise to significant effects of a new or different nature to those reported in the original ES. Accordingly, the application was accompanied by an Updated Environmental Assessment (UES) which covered those environmental issues that had the potential to be impacted by the change. Certain environmental issues were screened out of requiring a new assessment. Within this ER, this is referred to as Material Change 2, whilst the supporting EIA related documents are referred to as either the Material Change 2 UES and/or MC2 UES.

1.1.15 This application was determined by the Secretary of State in July 2022, with The Able Marine Energy Park Development Consent (Amendment) Order 2022 (the 2022 Amendment Order) being made on 16th July 2022 and coming into force on 6th August 2022. A copy of the 2022 Amendment Order is provided within Appendix ER1-3.

1.1.16 The Deemed Marine Licence at Schedule 8 of the DCO has been varied three times by the Marine Management Organisation. Variation No. 1 was issued on 23rd June 2017, Variation 2 was issued on 16th September 2020 and Variation 3 was issued on 1 August 2023. A copy of the latest variation is provided within Technical Appendix ER1-4.

1.1.17 The environmental assessments and information contained within the above have been duly considered in the preparation of this ER.

Requirements & Purpose of this Document

1.1.18 This ER has been prepared by SLR Consulting Limited (SLR) on behalf of Able to support the proposed extended time limits in the DCO by which the authorised development should be completed. As agreed with the Secretary of State for Transport, this submission does not constitute a non-material change, but rather a standalone process as set out in Article 7 of the DCO (see above).

1.1.19 On this basis, it is therefore not necessary to prepare a more formal ES Addendum and/or EIA Compliance based report to support the submission. Therefore, the purpose of this document is to provide an Environmental Review (ER) of the current suite of environmental assessments for the wider AMEP scheme and thereby enable the Secretary of State to determine whether there are any new or altered likely significant environmental effects which should be given due regard as a result of extending the period for completion of the works.

1.1.20 A broad summary of all previous environmental information submitted in relation to the Project is outlined above.

1.2.0 Location and Description of Site

1.2.1 The DCO incorporates three distinct areas, the terrestrial ‘AMEP Site’, the ‘Compensation Site’ (also referred to as ‘Cherry Cobb Sands’), as well as a quay within the Humber Estuary which is referenced as the ‘Marine Site’. A description of these areas is provided below and no amendment to the consented development is proposed in this application.

The AMEP Site

1.2.2 As detailed within Chapter 1, paragraphs 1.2.2 to 1.2.4 of the original ES:

“The proposed AMEP site is located east of North Killingholme, within North Lincolnshire, on the south bank of the River Humber. The site is approximately 1km downstream of the Humber Sea Terminal (HST) and immediately upstream of the South Killingholme Oil Jetty.

The site, excluding the area of ecological mitigation, covers approximately 268 ha, of which approximately 122.4 ha is covered by existing consent for port related storage, 100.3 hectares is existing arable land that will be developed for industrial use and 45 ha is reclaimed land from the estuary to provide a new quay. A further 47.8 ha of existing arable land will be converted to managed grassland to mitigate for the effects of the development on ecological receptors including birds that use the adjacent Humber Estuary SPA.

A large proportion of the site’s terrestrial area currently comprises hard-standing for the storage of imported cars, particularly in the north-east/east of the site and in the west of the site. A railway line passes through the site, and a redundant sewage works can be found to the south-west of the site. Former clay pits to the north of the site, which are now flooded, are classified as a Site of Special Scientific Interest (SSSI) and are also part of the Natura 2000 network of sites. A raised embankment along the eastern boundary supports a flood defence wall, which protects the site from tidal flooding.”

Development of AMEP since the Application

1.2.3 In the years since the DCO came into force (October 2014), the Applicant Undertaker has developed the site, both in accordance with planning permissions extant at the time of the application and in accordance with further planning consents obtained under the Town and Country Planning Act 1990 (TCPA). In some cases, works have been undertaken to progress development in accordance with the DCO and in other cases it was to enable use of the site for purposes other than those permitted by the DCO, namely, car storage.

1.2.4 Chapter 3, Table 3.2 and Figure 3.1 of the original ES provided details of the extant planning consents within the AMEP site. Table 1-1 below replicates that information with the addition of a column to provide an update, as of April 2023, of the status of the referenced planning permissions. Planning permissions for the AMEP site obtained since the DCO application, and their current status, are summarised in Table 1-2 below.

1.2.5 For clarity, a drawing showing AMEP planning consents since 2012, including applications identified within Tables 1-1 and 1-2, is provided within Appendix ER1-5 (drawing no. AME-002-00102 Rev B).

1.2.6 Aerial pictures showing the development of the site at the time of the application and more recently are reproduced in Figures 1-1 and 1-2 below (the red line shows the original Order Limits on the AMEP site).

Figure 1-1: Aerial Photograph of AMEP Site January 2012 (Pre-DCO in Force)



Figure 1-2: Aerial Photograph of AMEP Site April 2019 (Post-DCO in Force)



Table 1-1: Update of Planning Permissions for the AMEP Site – End of 2011

Planning Ref.	Location	Details	Status (as detailed within original ES)	Commentary as of April 2021
PA/2005/0562	Area D, AHPF, Rosper Road, North Killingholme, DN40 3JP	Planning permission to construct a port related storage facility including erection of various buildings, construction of car parking, erection of lighting towers and 2.4 m high electrified security fencing.	Granted 14/11/2006	This was substantially implemented and the site operational, at the time of the DCO application, so was already considered in the baseline of the ES. This parcel of land has not changed since the DCO application.
PA/2007/0101	Area C, AHPF, Rosper Road, North Killingholme, DN40 3JP	Planning permission to tarmac the 22.11 ha site for port-related external storage, to include the construction of 2 workshop buildings, a modular office building, a modular security building, construction of a wash pad wash bay and associated staff and visitor car parking and install a 3 m high security fencing, lighting towers and a sewage treatment plant.	Granted 16/01/2008	This was substantially implemented and the site was operational at the time of the DCO. This parcel of land has not materially changed since the DCO application.
PA/2008/1401	Area B Able Humber Port Facilities, Rosper Road, North Killingholme, DN40 3JP	Planning permission to remove condition 1 on PA/2004/1528 (use to be discontinued on or before 31 December 2008) and condition 9 on PA/2002/1828 (site to have a permeable surface at all times) in connection with use of land for vehicle distribution and storage.	Granted 18/12/2008	This was fully implemented at the time of the DCO so was already considered in the baseline of the original ES. This parcel of land has not changed since the DCO application.
PA/2008/1428	Area G, AHPF, Rosper Road, North Killingholme, DN40 3JP	Remove Condition 1 (no access to and egress from Haven Road) and Condition 2 (the use shall be discontinued before 31/12/2008) on planning permission PA/2004/1601.	Granted 19/12/2008	This was fully implemented at the time of the DCO so was already considered in the baseline of the original ES. This parcel of land has not changed since the DCO application.
PA/2008/0571	Area D1 & D2, AHPF, Rosper Road, North Killingholme, DN40 3JP	Remove Condition 1 of planning permission 2004/1528 to make permanent the existing temporary consented use of vehicle storage and distribution, erect a single storey cabin, workshop and office building, raise ground levels to 3.1-4.0 m OD and surface with tarmac, install 3 m high electrified fencing with bird deflectors and erect 4 No. 30 m high lighting masts on land off Rosper Road.	Granted 22/12/2008	This planning permission was partly implemented at the time of the DCO application and lighting and hard paving was constructed in 2019. This parcel of land can be used for its consented purpose under the DCO without further development.
PA/2008/1375	Area E, AHPF, Rosper	Planning permission to vary Condition 3 on application	Granted	This was partially implemented at the time of

Planning Ref.	Location	Details	Status (as detailed within original ES)	Commentary as of April 2021
	Road, North Killingholme, DN40 3JP	PA/2006/0039 dated 01/08/2007 (relating to low level shrubbery and hedging) to replace the words 'Within ten months of the permission...' to 'Prior to the commencement of operation...'	22/12/2008	the DCO application and was fully implemented in 2017/18, resulting in completion of ground raising and hard surfacing of the area. This parcel of land can be used for external storage under the DCO without further development.
PA/2010/1263	Land Off, Rosper Road, North Killingholme, DN40 3JP	Planning permission to construct a test foundation (12 x 12 m) and a tower (5 m diameter) with a total height of 67 m (approximately).	Granted 06/12/2010	This permission has lapsed and was never implemented.
DECC 01.08.10.04/439C	West of the MOD Tank Farm	Construction and operation of a biomass fuelled generating station at South Killingholme, near Immingham	Granted 10/08/2011	This permission has lapsed and was never implemented.

Table 1-2: Local Planning Permissions Granted for the AMEP Site – Post DCO

Planning Ref.	Description of Development	Status	Commentary as of April 2021
PA/2013/0519	Planning permission for consent for enabling works associated with the construction of AMEP, a Nationally Significant Infrastructure Project which will include and extend beyond this application site. The proposal is to remove topsoil from three fields currently in agricultural use (amounting to approximately 35,000 cubic metres of material) and to import, deposit and compact approximately 140,000 cubic metres of clean stone fill material, raising levels from approximately 2.4 m AOD to a minimum of 3.1 m AOD, and creating a level, durable surface for use as a site compound for the contractors constructing the AMEP quay. Works will include the installation of piped crossings across existing ditches and new sub-surface drainage that will discharge into existing surface water ditches that outfall into the Humber Estuary	Approved 21/07/2014	This planning permission was for substantial preliminary works to facilitate the construction of AMEP. These works were subject to a planning application due to delays in the determination process of the AMEP DCO and was necessary in order to allow the works to progress in a timely manner. These works are now complete and were identical to those approved in the DCO.
PA/2014/0512	Planning permission to undertake enabling works in support of	Approved	As for PA/2013/0519, this permission merely replicated some of the

Planning Ref.	Description of Development	Status	Commentary as of April 2021
	the AMEP project which will comprise site clearance, ground raising works, felling of a copse, creation of a footpath, removal offsite of the topsoil layer, importation spreading and compacting of approximately 275,000m3 of fill material, new drainage ditches and the construction of a new twin cell drainage culvert	18/02/2015	construction activities permitted by the DCO. The permission has been implemented.
PA/2016/1654	Planning permission to erect a new two-storey PDI (pre-delivery inspection) vehicle facility, with associated separate ancillary facilities including a fuel station, security cabin, driver welfare, propane tanks, staff car parking facilities and additionally culverted ditch crossing works	Approved 06/01/2017	This development has been fully constructed and is operational. The buildings that have been constructed may be mothballed or re-purposed and incorporated into the AMEP development or demolished. The remainder of the area is suitable for use as external storage which is consistent with the DCO.
PA/2017/27	Temporary car storage until January 2018	Approved 08/05/2017	This permission had an end date of 8 January 2018 (varied to 8 January 2020 by planning permission PA/2017/1780). Therefore, the development approved by this planning permission has no impact on the development approved by the DCO nor does it have any consequential impacts to construction activities. The permission has now expired.
PA/2017/1780	Application to vary condition 1 of PA/2017/27 dated 08/05/2017 to extend the restoration period for a further 2 years until 8th January 2020	Approved 11/05/2018	Refer to comments above for PA/2017/27.
PA/2017/265	Planning permission for foul water pumping station, autoscan building, driver welfare. Relocation of fuel station.	Approved 31/05/2017	<p>This permission has been fully implemented.</p> <p>The autoscan building is an automated building designed to scan cars prior to delivery. It therefore is not occupied by any staff. The driver welfare facility is a portacabin. The foul water pumping station is also approved via the DCO and has been constructed to accept the flows from the development approved by the DCO.</p> <p>The buildings that have been constructed may be mothballed, re-purposed and incorporated into the AMEP development, or demolished.</p>
PA/2018/1416	Planning permission to construct new railway siding parallel to existing railway including loading and unloading ramps	Approved 05/12/2018	These works are consistent with Work No. 3 of the DCO, 'a passing loop on the North Killingholme Branch Line'.

Planning Ref.	Description of Development	Status	Commentary as of April 2021
			<p>This planning permission does not alter the characteristics of the receiving environment in this location nor does it have any consequential impacts to construction activities.</p> <p>The permission has been implemented but not completed.</p>
PA/2018/114	Planning permission to change the use of land for car storage and distribution for a temporary period, the construction and operation of an electricity substation and the construction of new access along Station Road, including a new junction with Rosper Road	Approved 04/01/2019	<p>The construction activities permitted by this consent being a new electricity substation and a new access on Station Road (modified by PA/2019/497, see below) merely replicate works that are permitted by the DCO. Both have been implemented.</p> <p>Condition 3 of this planning permission permits car storage until 4 January 2021.</p>
PA/2019/497	Planning permission for change of use to car storage and distribution for a temporary period, provision of an access road, security cabin, drainage ditches and new foul drainage system	Approved 10/09/2019	<p>The construction activities permitted by this consent merely replicated works that were permitted by the DCO.</p> <p>Condition 3 of this planning permission permits car storage until 10 September 2021. This planning permission therefore does not alter or prejudice the delivery of AMEP as approved by the DCO nor does it have any consequential impacts to construction activities.</p>

1.2.7 On the basis of the above information, whilst planning permissions have been granted on the application site since the DCO was submitted, and further development of the site has been undertaken, it is evident that:

- None of the planning permissions prejudice the delivery of the AMEP scheme; and
- None of the planning permissions have any consequential impact on the phasing of construction activities.

1.2.8 In June 2021, following the discharge of all relevant pre-commencement conditions set out in the DCO, the undertaker commenced the development of AMEP by starting construction of a surface water pumping station which forms part of the associated development. By March 2023 the works were substantially complete refer to Figure 1-3.

Figure 1-3: Aerial Photograph of the AMEP Surface Water Pumping Station



1.2.9 This ER will report on whether the assessment of effects reported in the original ES, or the updated effects reported in the Material Change 2 UES, remain valid and are a reliable basis for decision making. If any change in the assessment is identified then the adequacy of the existing mitigation, which is incorporated by Requirements in Schedule 11 of the DCO, is reviewed.

Development of Mitigation Area B

1.2.10 At the time of the original application a colony of Great Crested Newts (GCN's) was present at the site. In 2014, the Applicant obtained a Licence from Natural England to relocate the population. In 2015, the population was relocated to ponds created within the Mitigation Area B site in accordance with the mitigation proposed in the original ES at paragraphs 11.7.14 *et seq*, abstract below:

“Six new ponds will be created to replace three ponds lost to AMEP in accordance with the guidance set out in the Great Crested Newt Mitigation Guidelines (English Nature, 2001). The new ponds will be located in Area B (approximately 1 km from the existing ponds).”

- 1.2.11 An aerial photograph of the GCN relocation site is reproduced in Figure 1-4. Subsequent monitoring has shown that population numbers remain healthy.

Figure 1-4: Mitigation Area B, Completed 2014



Development of the Area Surrounding AMEP

- 1.2.12 With regard to planning consents in the surrounding AMEP area, EX44.1¹ and EX44.2² of the original ES detailed planning applications that had been consented but not implemented or were only partly implemented at the time of the application. The original ES considered these projects cumulatively with the impacts of AMEP.
- 1.2.13 In the intervening years since the DCO application, further major developments have been consented in the area surrounding the AMEP site, as illustrated in Figure 1-5. The relevant EIA developments are further described in Table 1-3 below. In brief, the new developments do not, or will not, introduce receptors that were not already existing at the time of the DCO application. For example, residential development has been consented next to existing residential development and new industry has been consented within an industrial setting.

¹https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001612-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%202%20of%202.zip

²https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

Figure 1-5: Major Developments Consented in the vicinity of DCO since October 2014



1.2.14 The principal physical changes in the area immediately surrounding the AMEP site that have actually occurred since the DCO application are:

- Improvements to the A160-A180 trunk road by Highways England in accordance with the A160/A180 (Port of Immingham Improvement) DCO 2015;
- The demolition of the Centrica power station in 2017;
- The development of Hornsea One Onshore Substation (in accordance with the Hornsea One Offshore Wind Farm DCO 2014);
- The construction of a roundabout at the junction of Chase Hill Road and Eastfield Road pursuant to PA/2016/1254 to provide access to the consented Able Logistics Park; and
- The development of biomass storage silos at the Port of Immingham and associated rail transport infrastructure.

Table 1-3: Planning Permissions in Surrounding Area Accompanied by an ES Granted since DCO (2014)

Name	Planning Ref.	Description	Status as of April 2021
A160/180 (Port of Immingham Improvement)	DCO	Upgrade the existing single carriageway section of the A160 to dual carriageway with associated junction improvements along the length of the route, at South Killingholme to the west of the Port of Immingham.	Project now completed. AMEP was considered as a cumulative development within the ES prepared in support of the A160/180 DCO and as part of the development design for the upgrading works. As such, the potential for cumulative impacts of AMEP with this development have already been assessed and either mitigated or found to be acceptable.
North Killingholme Power Project	DCO	Thermal generating station that would operate either as a Combined Cycle Gas Turbine (CCGT) plant or as an Integrated Gasification Combined Cycle (IGCC) plant, with a total electrical output of up to 470MWe at North Killingholme, Lincolnshire	Approved on 11 September 2014. AMEP considered as a cumulative development within the ES prepared in support of the North Killingholme Power Project DCO. As such, cumulative impacts of AMEP with this development have already been assessed and found to be acceptable. An application for a non-material change to extend the time limits for commencing development by a period of 5 years was submitted on 13 August 2020, and the cumulative assessment was refreshed as part of that submission. The application was granted on 16 September 2021.
Queens Road Estate, Immingham	DM/1027/13/OUT (North East Lincolnshire Council)	Proposed Outline development of site E1/3 in the NELC local plan for general industry (B2) storage and distribution (B8) and minor office development, research and development, light industry (B1) with associated access & landscaping.	Approved on 10 April 2014. AMEP considered as a cumulative development in Transport Technical Note date 21 February 2014 submitted in support of application ref. DM/1027/13/OUT. Therefore, cumulative impacts of AMEP with this development have already been assessed and found to be acceptable.
Kia	DM/0147/16/FUL (North East Lincolnshire Council)	Reconfiguration and extension of existing commercial buildings, clearance of existing site office and gatehouse and erection of new buildings, change of use of agricultural land to external vehicle storage (approximately 16.34 hectares) and associated resurfacing, creation of a new access onto North Moss Lane, new boundary treatments, engineering	Approved on 9 June 2016. Traffic flows from AMEP considered as committed development in the ES which accompanied planning application ref. DM/0147/16/FUL. Therefore, cumulative impacts of AMEP with this development have already been assessed and found to be acceptable.

Name	Planning Ref.	Description	Status as of April 2021
		works and other associated works. Engineering works and use of land for external car parking, internal site access works, boundary works, and other associated works. Decided - Approved Conditions and Signing of S106	
Stallingborough Interchange	DM/0105/18/FUL	Hybrid application seeking outline consent with access, landscaping and scale to be considered for the development of a 62ha Business Park comprising up to 120,176 sq.m for B1 (Business), B2 (General Industrial) and B8 (Storage and Distribution), associated infrastructure and internal highways. Full application for the creation of a new roundabout, new access roads, associated highway works, substations, pumping stations, drainage and landscaping. (Amended FRA and Drainage Strategy July 2018).	Approved on 12 October 2018. AMEP considered as a cumulative development within the ES which accompanied planning application ref. DM/0105/18/FUL. Therefore, cumulative impacts of AMEP with this development have already been assessed and found to be acceptable.
Immingham Rail Freight	DM/0628/18/FUL (North East Lincolnshire Council)	Partially demolish existing building and erect 20MWE waste to energy power generation facility, 65m stack and associated plant, machinery, parking and external works	Approved on 20 December 2018. AMEP considered as a committed development in Chapter 6 of the ES submitted with planning application ref. DM/0628/18/FUL. Therefore, cumulative impacts of AMEP with this development have already been assessed and found to be acceptable.
South Humber Bank Energy Centre	DM/1070/18/FUL	Construction of an air cooled energy from waste facility of up to 49.9MWe gross capacity including emissions stack(s), associated infrastructure including parking areas, hard and soft landscaping, the creation of a new access to South Marsh Road, weighbridge facility, and drainage infrastructure, on land at South Humber Bank Power Station	Approved on 12 April 2019. AMEP, or any of the local authority level permissions associated therein, was not considered within the ES submitted with planning application ref. DM/1070/18/FUL. As such, it is considered that the potential for in-combination or cumulative effects with this development have been effectively 'screened out'.
South Humber Bank Energy Centre	DCO	An energy from waste power station with a gross electrical output of up to 95 MW	A DCO submission was made to the Secretary of State and subsequently accepted for Examination in May 2020. The DCO Examination was completed on 10 May 2021 and the application was approved on 10 November 2021.

The Compensation Site

1.2.15 Paragraph 1.2.5 of the original ES described the Compensation Site as follows:

“The Compensation Site is located on the north bank of the Humber Estuary, within East Riding of Yorkshire, opposite the AMEP site and some 4 km to the south-west of Keyingham. The site is divided into an area to be developed into intertidal habitat, and an area to be developed as wet roosting and feeding habitat. The proposed intertidal site, known as Cherry Cobb Sands, is roughly triangular in shape and currently comprises arable fields defined at their boundaries by drainage ditches, hedges and a flood defence embankment.”

1.2.16 The Compensation Site continues in use as agricultural land and lies within an extensive rural setting which, because of its remoteness and low-lying nature, is not allocated for any other form of economic development (refer to Figure 1-6). As such, the site and its surroundings are materially unchanged since 2010.

Figure 1-6: Cherry Cobb Sands Compensation Site and Wet Grassland



1.2.17 The Compensation Site has been fully designed since the DCO was made and the following subsequent applications have been approved pursuant to the Requirements set out in Schedule 11 of the DCO for this particular stage of the AMEP development:

- Schedule 11 Req 3 – Stages of the Development (20th April 2017);
- Schedule 11 Req 5 – Plans approval (2nd December 2020);
- Schedule 11 Req 7 – Landscaping Scheme (9th May 2016);
- Schedule 11 Req 10, 25, 29 and 30 – Highways (5th November 2020);
- Schedule 11 Req 11 –PROW Implementation Plan (4th April 2018);
- Schedule 11 Req 16 – Contaminated Land (23rd December 2015);

- Schedule 11 Req 17 – Archaeology (17th July 2015);
- Schedule 11 Req 19 (1) – CEMPP (15th January 2016);
- Schedule 11 Req 22, 26, 27, and 28 – Code of Construction Practice/Noise/Emissions (9th June 2021)
- Schedule 11 Req 24 – External Lighting (6th May 2016);
- Schedule 11 Req 31- Protected Species, re-survey 2020;
- Schedule 11 Req 32 – Radar impact assessment (11th July 2016);
- Schedule 11 Req 36 – Cooling Water Intakes and Outfalls (10th July 2019);
- Schedule 11 Req 38 – Sedimentation (10th July 2019);
- Schedule 11 Req 39 - A scheme for sedimentation monitoring of Stone Creek (16th November 2016);
- Schedule 11 Req 40 – Contaminated Land (23rd December 2015);
- Schedule 11 Req 41 – Contaminated Land (23rd December 2015);
- Schedule 11 Req 43 (4), an assessment of the impacts on Stone Creek etc. (18th October 2016); and
- Schedule 11 Req 44 , approval of the detailed design of hydraulic structures and channel (18th October 2016)

1.2.18 A list of planning consents within and near to the Compensation Site was included in Chapter 27 of the original ES and listed in Table 27.1. Since the DCO application the Applicant has obtained planning permission for the creation of wet grassland and a wet roost adjacent to the compensation site. This development is however consistent with the DCO as described in EX28.3 Part 4³ of the original ES. A review of the East Riding of Yorkshire Council (ERoYC) website shows that other planning consents in the years since the DCO application are limited to development in keeping with the agricultural setting, namely agricultural buildings and minor domestic alterations.

Outstrays to Skeffling Managed Realignment Scheme

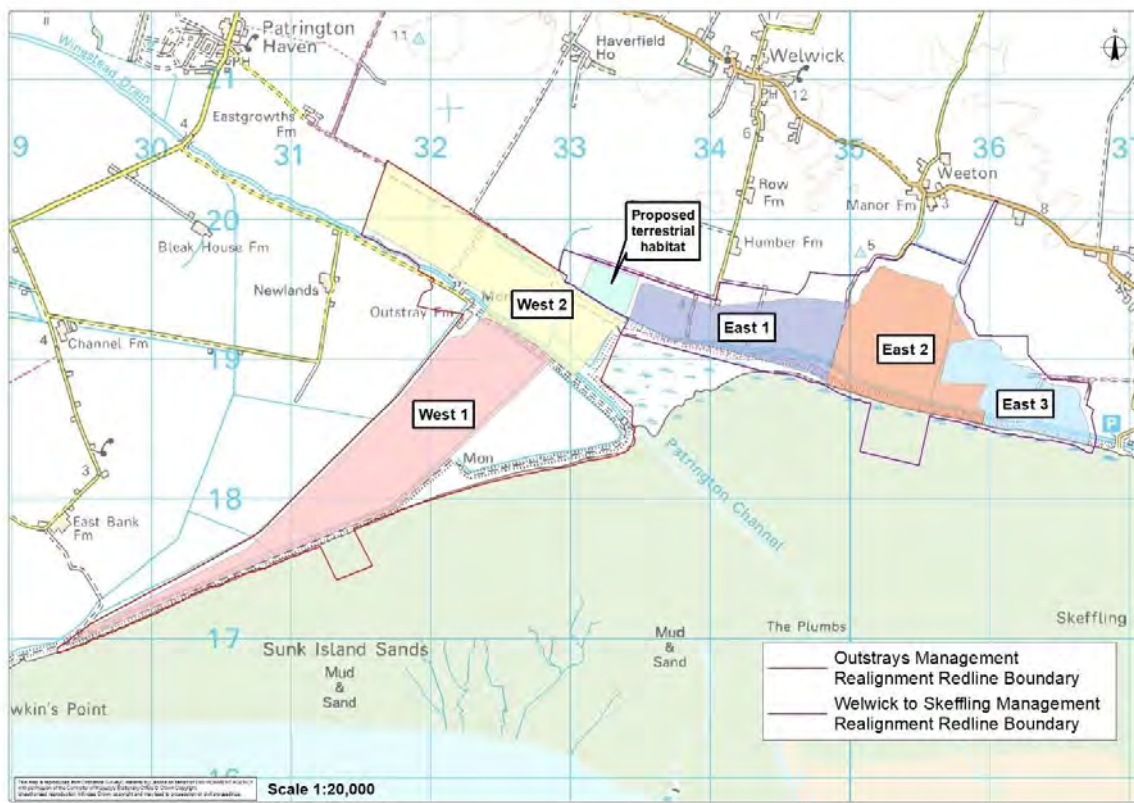
1.2.19 The scheme was granted planning consent in August 2019 (application ref. 19/00786/STPLFE and 19/00783/STPLFE), whilst construction commenced in 2021 and is estimated to be completed in 2024.

1.2.20 In summary, the OtSMRS scheme seeks to create 400 hectares of new mudflats and saltmarsh on the north bank of the Humber Estuary, near Skeffling. The ‘managed realignment’ relates to the alteration of the location of the flood defences, namely moving the bank further inland to establish a new line of defence, breaching the old embankment and allowing sea water to enter to create the

³https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

intertidal habitat. A plan depicting the area associated with the OtSMRS is shown within Figure 1-7 below.

Figure 1-5: OtSMRS Area Plan⁴



The Marine Site

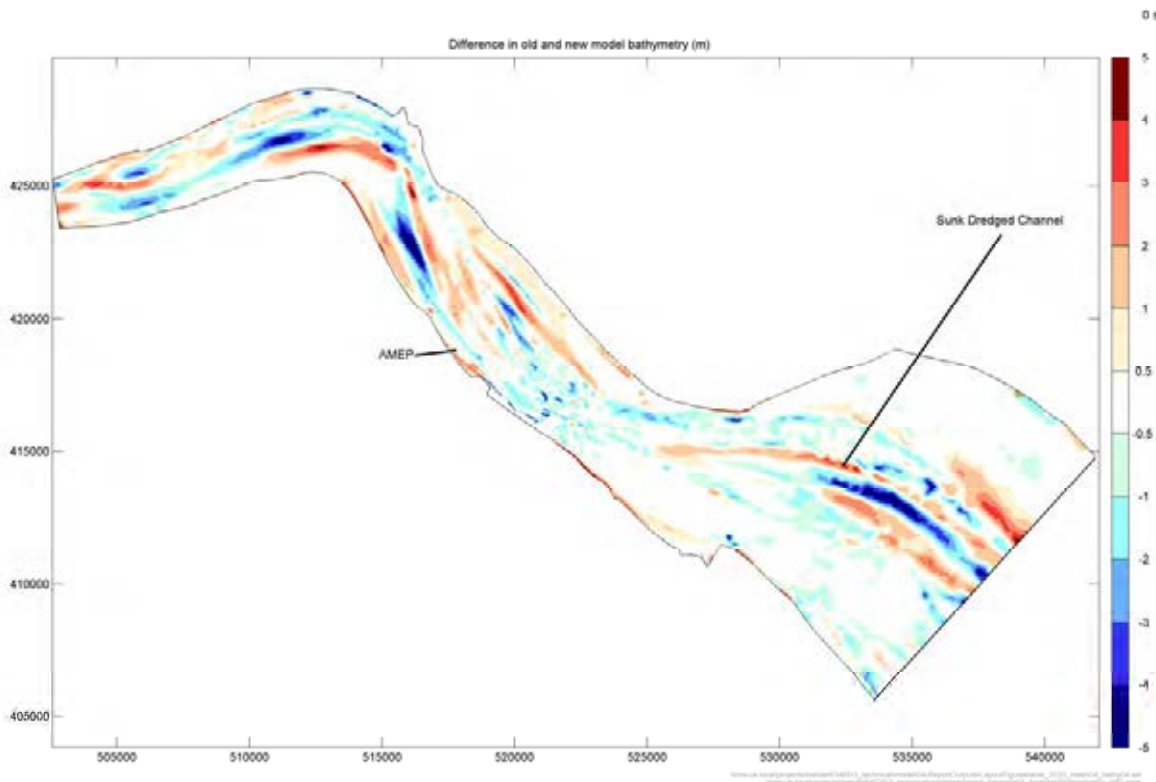
- 1.2.21 The Humber Estuary is one of the largest estuaries in the UK comprising extensive wetland and coastal habitats. It is covered by four relevant nature conservation designations: Special Area of Conservation (SAC); Special Protection Area (SPA); Site of Special Scientific Interest (SSSI) and it is also a Ramsar site.
- 1.2.22 The qualifying interests of the Humber Estuary SAC are set out in the site Citation dated 10 December 2009, the qualifying interests of the Humber Estuary SPA are set out in the site Citation dated 31 August 2007 whilst the criteria that are relevant to the designation of the Humber Estuary Ramsar Site are set out in the Site Information Sheet dated 31 August 2007. Finally, the Humber Estuary SSSI citation is dated 3rd February 2004. None of these designations has therefore changed since the DCO application.
- 1.2.23 The estuary is nevertheless a dynamic landscape. For example, the Killingholme Marshes foreshore, which is to be reclaimed as part of the AMEP development, was known to be accreting at the time of the application (original ES, EX8.9⁵) and has in fact accreted further since the application with the conversion of a fringe of mudflat to saltmarsh along the flood defences; this is further reported in

⁴ <https://consult.environment-agency.gov.uk/yorkshire/outstrays-to-skeffling-managed-realignment-scheme/>

⁵ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001613-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%201%20of%202.zip

Chapter 10 of the Material Change 2 UES and considered within Chapter 10 of this ER. Recent bathymetry also shows a significant change in bed levels throughout the whole estuary since the application was submitted, refer to Figure 1-7 below.

Figure 1-67: Decadal Change in Estuary Bathymetry 2008-2018



1.2.24 Relevantly also, the dynamic nature of the estuary was specifically mentioned by the Examining Authority in the 'Panel's Findings and Recommendations to the Secretary of State'⁶, (21 February 2013, 'the Panel's Report'). In brief, this recorded:

1. That the Humber estuary is highly dynamic, both as a result of the natural characteristics of an estuary with a high tidal range and the added consequences of rising sea levels associated with climate change.
2. That the habitats affected by the proposal are found extensively throughout the estuary and that they are subject to continuous change through natural and man-induced processes of erosion, including dredging, and deposition.
3. That the combined effect of rising sea level and fixed flood defences results in the estuary as a whole being subject to "coastal squeeze" with pressure particularly on salt marsh habitat.
4. That as a response to coastal squeeze the Environment Agency has promoted a policy of selective managed retreat of flood defences to re-establish estuarine habitat on land reclaimed for agriculture in historical times.

⁶ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-002249-The%20Able%20Marine%20Energy%20Park%20Order%20201X%20Panel's%20Findings%20and%20Recommendations%20with%20Appendices.zip>

5. *That this policy has been implemented in association with schemes of habitat compensation carried out as part of harbour works on the Humber, including ABP's works at Welwick, Chowderness and Alkborough associated with the Immingham Outer Harbour and at Green Port Hull.*
6. *That the character of the foreshore at both the main application site and Cherry Cobb Sands has changed in living memory, that the changes are measurable and can be expected to continue to evolve.*
7. *That conditions favourable to the formation of extensive areas of very gently sloping inter-tidal mudflat at the North Killingholme Marshes have been reinforced by the creation of the Immingham Outer Harbour but that the general pattern is that accreting shorelines will develop into salt marsh as has happened observably at Cherry Cobb Sands and in some locations on the Killingholme shore adjacent to the floodwall" (Examiner's Report, paragraph 10.79).*

1.2.25 Two major marine developments that were planned at the time of the DCO application have been implemented, namely: Green Port Hull at the Port of Hull and Grimsby Ro-Ro Terminal at the Port of Grimsby. Two other marine developments have lapsed, namely: Sunk Dredged Channel deepening within the estuary approaches, and Hull Riverside Bulk Terminal at the Port of Hull.

1.2.26 A new DCO application has been submitted by ABP Port of Immingham for the development of a new RoRo facility known as the Immingham Easter Ro-Ro Terminal⁷. The Examination of this application is currently in progress. A second DCO application for the Port of Immingham is pending, this is for the Immingham Green Energy Terminal⁸.

⁷ [Immingham Eastern Ro-Ro Terminal | National Infrastructure Planning \(planninginspectorate.gov.uk\)](#)

⁸ [Immingham Green Energy Terminal | National Infrastructure Planning \(planninginspectorate.gov.uk\)](#)

1.3.0 The Consultation

The Environmental Review

1.3.1 This ER has been prepared in support of the application to extend the period for completion of the works by an additional seven years. It reports the ongoing reliability of the technical assessments undertaken to inform the original ES and subsequent Material Change 2 UES. The ER comprises of the Main Report and its associated Technical Appendices. No Non-technical summary has been prepared.

1.3.2 Within the ER, we have sought to mirror the chapter numbering of the original ES and subsequent Material Change 2 UES. However, on this basis, some Chapter numbers are not required for this ER and have been excluded ('non-used'). As such, the structure of the Report is as follows:

- Chapters 1 to 6 are predominantly descriptive in nature, setting out the background to the site, the ER Process, applicable planning policy, description of changes to development, scoping and consultation undertaken and a description of committed developments:

- **Chapter 1** – Introduction (this Chapter) SLR Consulting Limited
- **Chapter 2** – Environmental Review Process SLR Consulting Limited
- **Chapter 3** – Planning Policy and Context SLR Consulting Limited
- **Chapter 4** – Description of Changes to Development SLR Consulting Limited
- **Chapter 5** – Scoping & Consultation SLR Consulting Limited
- **Chapter 6** – Description of Committed Developments SLR Consulting Limited

- Chapters 7 to 24 form the findings of the ER with regard to the Main Site, comprising of the AMEP site and associated Marine Site. Each technical discipline has utilised the previous findings of the Material Change 2 UES in considering whether the proposed extension would alter the findings contained therein. Given the nature of this ER, the content of Chapters 7 to 24 are relatively brief in nature and, as such, are provided within a single document entitled 'Chapter 7 – 24: Consideration of the Main Site'. Within this document the Chapters are broken down as follows:

- *Section 7.1.0: Introduction* SLR Consulting Limited
- *Section 7.2.0: Chapter 7* – Geology, Hydrogeology and Ground Conditions SLR Consulting Limited
- *Section 8.1.0: Chapter 8* – Hydrodynamic and Sedimentary Regime SLR Consulting Limited
- *Section 9.1.0: Chapter 9* – Water and Sediment Quality SLR Consulting Limited
- *Section 10.1.0: Chapter 10* – Aquatic Ecology Cutts & Hemingway Ltd
- *Section 11.1.0: Chapter 11* – Terrestrial Ecology Cutts & Hemingway Ltd

- *Section 12.1.0: Chapter 12* – Commercial Fisheries Cutts & Hemingway Ltd
- *Section 13.1.0: Chapter 13* – Drainage and Flood Risk SLR Consulting Limited
- *Section 14.1.0: Chapter 14* – Navigation Marico Marine
- *Section 15.1.0: Chapter 15* – Traffic and Transport SLR Consulting Limited
- *Section 16.1.0: Chapter 16* – Noise and Vibration SLR Consulting Limited
- *Section 17.1.0: Chapter 17* – Air Quality SLR Consulting Limited
- *Section 18.1.0: Chapter 18* – Historic Environment AC Archaeology
- *Section 19.1.0: Chapter 19* – Light SLR Consulting Limited
- *Section 20.1.0: Chapter 20* – Landscape and Visual SLR Consulting Limited
- *Section 21.1.0: Chapter 21* – Socio-Economics SLR Consulting Limited
- *Section 22.1.0: Chapter 22* – Aviation SLR Consulting Limited
- *Section 23.1.0: Chapter 23* – Waste SLR Consulting Limited
- *Section 24.1.0: Chapter 24* – Health SLR Consulting Limited
- Chapters 25-30 within the original ES related to the location, environmental assessment process, planning policy, description of development, need and alternative sites associated with the Compensation Site (Cherry Cobb Sands). Similarly, Chapters 25-29 within the UES were utilised for the consideration of findings contained therein (i.e. cumulative, conclusion etc.). As such these Chapter numbers (25 – 30) have not been utilised in the preparation of this ER.
- Chapters 31-43 of the Report form the findings of the ER with regard to the Compensation Site (Cherry Cobb Sands). Each technical discipline has utilised the previous findings of the original ES in considering whether the proposed extension would alter the findings contained therein:
 - **Chapter 31** – Geology, Hydrology and Ground Conditions SLR Consulting Limited
 - **Chapter 32** – Hydrodynamic and Sedimentary Regime SLR Consulting Limited
 - **Chapter 33** – Water and Sediment Quality SLR Consulting Limited
 - **Chapter 34** – Aquatic Ecology Cutts & Hemingway Ltd
 - **Chapter 35** – Terrestrial Ecology Cutts & Hemingway Ltd
 - **Chapter 36** – Drainage and Flood Risk SLR Consulting Limited
 - **Chapter 37** – Traffic and Transport SLR Consulting Limited
 - **Chapter 38** – Noise SLR Consulting Limited
 - **Chapter 39** – Air Quality SLR Consulting Limited

- **Chapter 40** – Historic Environment AC Archaeology
- **Chapter 41** – Landscape and Visual Impact SLR Consulting Limited
- **Chapter 42** – Socio-Economic SLR Consulting Limited
- **Chapter 43** – Waste SLR Consulting Limited
- Chapters 44 and 45 of the Report provide a brief summary of the findings within, and the associated conclusion formed by undertaking, the ER of the proposed extension to the time limits by which the authorised development should be completed:
 - **Chapter 44** – Summary of Findings
 - **Chapter 45** – Conclusion
- **Chapter 46** simply provides a list of acronyms and abbreviations utilised in the preparation of the ER.

1.3.3 The Technical Appendices to the above chapters will be provided and will include a range of selected technical reports, supplementary information and supporting drawings where appropriate. These Technical Appendices should be read in conjunction with the Report.

Technical Competence

- 1.3.4 Regulation 14(4) of the EIA Regulations requires that an EIA is ‘... *prepared by competent experts*’. Whilst this ER does not form an EIA (or ES associated therein), it is duly confirmed that the technical team identified above (Section 1.3.4) are all accredited professionals within their fields of expertise, with the relevant experience and competency to carry out the ER.
- 1.3.5 Finally, SLR Consulting Limited is an IEMA accredited organisation and is a member of the EIA Quality Mark.

1.4.0 Representations

Consultation & Representations

- 1.4.1 A draft of this ER was utilised to undertake consultation in advance of this final version being submitted to the Secretary of State for consideration. Further information regarding the list of the specific stakeholders consulted in undertaking the non-statutory pre-application engagement is provided within Chapter 5: Scoping and Consultation of this ER.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 2: ENVIRONMENTAL REVIEW PROCESS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



BASIS OF REPORT

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CONTENTS

2.1.0 INTRODUCTION	1
2.2.0 BASIS OF THE ENVIRONMENTAL REVIEW	2
Current Regulations.....	2
Previous Material Change 2 UES	3
Approach to Environmental Review.....	4
2.3.0 METHODOLOGY	7
Defining the Baseline Scenario.....	8
Sensitivity of Receptors	9
Magnitude of Change	9
Significance of Effect	9
Mitigation & Residual Effects	9
2.4.0 SCOPE OF THE ASSESSMENT	11
Consideration of Alternatives.....	14
Cumulative and In-Combination Effects.....	14
Other Environmental Issues	15

DOCUMENT REFERENCES

TABLES

Table 2-1: Example Significance Matrix.....	9
Table 2-2: Technical Scope of Article 7 Environmental Review	11

2.1.0 Introduction

- 2.1.1 The purpose of this chapter is to describe the methodology that has been applied in the undertaking of the Environmental Review (ER). In so doing, it describes the approach that has been used in considering the previous assessments undertaken to identify, evaluate, and mitigate environmental effects.

2.2.0 Basis of the Environmental Review

- 2.2.1 As detailed within the Introduction (Chapter 1) to this ER, the proposed application does not constitute a material or non-material change, but rather a standalone process as set out in Article 7 of the DCO. As such, this ER has been prepared in support of the application to extend the period for completion of the works by an additional seven years. It reports the ongoing reliability of the technical assessments undertaken to inform the original Environmental Statement (ES) and subsequent Material Change 2 Updated ES (UES).
- 2.2.2 On this basis, this ER reviews the findings of the original ES and subsequent Material Change 2 UES which were prepared under the Infrastructure Planning (Environmental Impact Assessment) Regulations applicable at the time of their preparation.
- 2.2.3 Whilst not applicable to this ER, the current Regulations relating to Environmental Impact Assessment are outlined for reference below.

Current Regulations

- 2.2.1 The process of Environmental Impact Assessments (EIA) for projects falling under the Planning Act 2008 is governed by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The EIA Regulations implement EC Directive 2011/92/EU (European Parliament, 2011), as amended, into UK legislation. The Regulations remain part of English Law following the UK's exit from the EU on the 31st of January 2020.
- 2.2.2 The primary objective of an EIA is inscribed under Article 2 of the above Directive, which states that:
"Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size of location are made subject to a requirement for development consent and an assessment with regard to their effects."
- 2.2.3 Article 8 of the Directive also states that:
"The results of consultations and information gathered pursuant to [the EIA procedure] must be taken into consideration in the development consent procedure."
- 2.2.4 The EIA of the consented AMEP development is reported in an Environmental Statement (ES); namely within either the 'original ES' or the subsequent Material Change 2 UES.
- 2.2.5 The purpose of this ER is to inform the Secretary of State of any significant environmental issues arising from the proposed extension of time to the approved development as contained within the AMEP DCO (Statutory Instrument 2014 No. 2935) and subsequent amendments. Copies of the extant DCO, Amendment Order 2021 and Amendment Order 2022 are provided within Technical Appendices ER1-1, ER1-2 and ER1-3 respectively.
- 2.2.6 Brief consideration, where necessary, has also been given to the National Policy Statement for Ports¹ (NPSP, 2012), which also provides a framework within which a determining/examining authority will

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3931/national-policy-statement-ports.pdf

make their recommendation. With regard to the EIA process, section 4.7 identifies that:

“All proposals for projects that are subject to the European Environmental Impact Assessment Directive must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically covers ‘trading ports...which can take vessels over 1,350 tonnes’ within Annex I 8(b) and ‘construction of...harbours and port installations, including fishing harbours (projects not included in Annex I)’ within Annex II 10(e). The Directive also specifically refers to effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Directive requires a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short-, medium and long-term, permanent and temporary, positive and negative effects of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects. When considering a proposal, the decisionmaker should ensure that likely significant effects at all stages of the project have been adequately assessed and should request further information where necessary.”

- 2.2.7 The NPSP also provides guidance on the assessment principles and generic impacts of Port developments for consideration by the determining/examining authority. These elements of the NPSP have been duly considered in the preparation of this ER.

Previous Material Change 2 UES

- 2.2.8 The previous Material Change 2 UES gave consideration to the environmental topics contained within the original ES and whether the proposed Material Change was likely to result in changes to the scope of the assessment or potential for likely/ prolonged significant effects.
- 2.2.9 In the previous Material Change 2 UES, topics that were considered unlikely to experience likely significant effects (beyond those identified within the original ES) underwent a compliance review. These compliance reviews were contained within a Preliminary Environmental Information Report (PEIR) which was utilised to inform the pre-submission consultation on the proposed material amendment (Material Change 2) application.
- 2.2.10 The findings of these compliance reviews are briefly confirmed within the various ‘scoped out’ topics as contained within the Material Change 2 UES but did not consist of an update to the environmental assessment as contained within the original ES. These compliance reviews confirmed that the proposed material amendment (Material Change 2) did not raise further likely significant effects for these environmental topics.
- 2.2.11 The Material Change 2 UES included further information regarding the Scoping of the Material Change 2 UES, consultation and the previous PEIR (as carried out for the original ES) within Chapter 5: Scoping and Consultation². It is noted that the PEIR is not of relevance to this ER and, as such, further assessment or reference to this information is not required.
- 2.2.12 For the ‘scoped in’ topics, the environmental effects of the proposed extension of time have been assessed for each relevant environmental topic (e.g., water quality, commercial fisheries, socio-economics etc.) by comparing the findings of the original EIA (as contained within the original ES submitted in support of the DCO) and the Material Change 2 UES, with the findings of updated technical assessments undertaken for topics potentially affected by the proposed seven year

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000127-TR030006-APP-6-5.pdf>

extension of time. These findings are presented within this ER.

Approach to Environmental Review

- 2.2.13 As opposed to the assessments carried out in the previous Material Change 2 UES, this ER will not account for a detailed EIA assessment, but it will give consideration to the environmental topics contained within the original ES (and subsequent Material Change 2 UES) and whether the proposed extension of time (Article 7) will be likely to result in changes to the scope of the assessment or the potential for different significant effects. It will, in effect, provide a validity check for the existing assessment in place.

Scope of Environmental Review

- 2.2.14 This ER has been prepared, generally in accordance with Regulation 14(2) of the EIA Regulations which state that:

“An environmental statement is a statement which includes at least –

- (a) A description of the proposed development comprising information on the site, design, size and other relevant features of the development;*
- (b) a description of the likely significant effects of the proposed development on the environment;*
- (c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*
- (d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;*
- (e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and*
- (f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.”*

- 2.2.15 Regulation 14(3) continues by stating that:

“The environmental statement referred to in paragraph (1) must –

- (a) where a scoping opinion has been adopted, be based on the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion);*
- (b) include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment; and*
- (c) be prepared, taking into account the results of any relevant UK environmental assessment, which is reasonably available to the applicant with a view to avoiding duplication of assessment.”*

Approach to Assessment

2.2.16 Given the nature of the proposal and the AMEP site, the ER will consist of two elements. These elements are outlined by the following:

- A compliance review of the Material Change 2 UES for the Main Site, which will be covered in Chapters 7-24: Consideration of Material Change 2 UES for Main Site. This will form a singular Chapter, with sections outlining the assessment of the proposed extension of time upon the findings of technical work, as carried out for the previous Material Change 2 UES. These sections are broken down below:
 - Section 7.1.0: Introduction
 - Section 7.2.0: Chapter 7 – Geology, Hydrogeology and Ground Conditions
 - Section 8.1.0: Chapter 8 – Hydrodynamic and Sedimentary Regime
 - Section 9.1.0: Chapter 9 – Water and Sediment Quality
 - Section 10.1.0: Chapter 10 – Aquatic Ecology
 - Section 11.1.0: Chapter 11 – Terrestrial Ecology
 - Section 12.1.0: Chapter 12 – Commercial and Recreational Fisheries
 - Section 13.1.0: Chapter 13 – Drainage and Flood Risk
 - Section 14.1.0: Chapter 14 – Commercial and Recreational Navigation
 - Section 15.1.0: Chapter 15 – Traffic and Transport
 - Section 16.1.0: Chapter 16 – Noise and Vibration
 - Section 17.1.0: Chapter 17 – Air Quality
 - Section 18.1.0: Chapter 18 – Historic Environment
 - Section 19.1.0: Chapter 19 – Light
 - Section 20.1.0: Chapter 20 – Landscape and Visual
 - Section 21.1.0: Chapter 21 – Socio-Economics
 - Section 22.1.0: Chapter 22 – Aviation
 - Section 23.1.0: Chapter 23 – Waste
 - Section 24.1.0: Chapter 24 - Health
- A detailed review of the original ES for the Compensation Site (also referred to as ‘Cherry Cobb Sands’) is provided within Chapters 31 to 43. The Chapters are broken down below as follows:

- Chapter 31 – Geology and Ground Regime;
- Chapter 32 – Hydrodynamics and Sedimentary Regime;
- Chapter 33 – Water and Sediment Quality;
- Chapter 34 – Aquatic Ecology;
- Chapter 35 – Terrestrial Ecology and Birds;
- Chapter 36 – Drainage and Flood;
- Chapter 37 – Traffic and Transport;
- Chapter 38 – Noise;
- Chapter 39 – Air Quality;
- Chapter 40 – Historic Environment;
- Chapter 42 – Landscape and Visual;
- Chapter 42 – Socio Economics; and
- Chapter 43 – Waste

2.2.17 Chapters 25-30 within the original ES related to the location, environmental assessment process, planning policy, description of development, need and alternative sites associated with the Compensation Site (Cherry Cobb Sands). Similarly, Chapters 25-29 within the UES were utilised for the consideration of findings contained therein (i.e. cumulative, conclusion etc.). As such these Chapter numbers (25 – 30) have not been utilised in the preparation of this ER.

2.2.18 This approach to assessment is explained further within the Methodology (Section 2.3.0) and Scope of Assessment (Section 2.4.0) sections below.

2.3.0 Methodology

- 2.3.1 This section of the Environmental Review Process Chapter details the general approach to the methodology, detailing the approach to defining the sensitivity of receptors, magnitude of change and the significance of environmental effects. Notwithstanding this, it should be noted that further topic specific methodology is provided within each of the topic chapters contained within this ER.
- 2.3.2 As this review will consider the validity of the information from the previous EIA(s), it will follow a similar structure. Therefore, whilst the structure will comply with the original ES and previous Material Change 2 UES where appropriate, there will be no further EIA assessment required separately.
- 2.3.3 The EIA Regulations require an ES to report on those environmental effects arising from a project that are considered likely to be significant. Whilst there is no statutory definition of what constitutes a significant effect, this is based on professional judgement through the undertaking of technical assessments in accordance with best practice guidance.
- 2.3.4 The primary purpose of reporting an assessment of any effect of a project is to aid the determining authority so that it is properly informed when making its decision.
- 2.3.5 For the purposes of this ER, a significant effect has been defined, as an effect that, either in isolation or in combination with others, should – in the opinion of the team carrying out the EIA – be taken into account in the decision-making process.
- 2.3.6 The definition of a significant effect requires a specific framework for each environmental topic considered in the assessment in order to predict the significance of the effects that may arise. The criteria used to judge significance is explained as part of the assessment methodology for each individual environmental topic chapter.
- 2.3.7 In identifying significant effects, the EIA takes into account their nature and duration as follows:
- **Site-specific effects:** Effects that result from a geographically localised impact and which are significant primarily at a neighbourhood or district level.
 - **Wider effects:** Effects that are individually significant at a regional level, but which may not be significant locally.
 - **Positive effects:** Effects that have a beneficial influence on receptors and resources.
 - **Negative effects:** Effects that have an adverse influence on receptors or resources.
 - **Temporary effects:** Effects that persist for a limited period only, due for example to particular construction activities (e.g., noise and vibration from construction plant). Where possible, the likely duration of effects is identified.
 - **Permanent effects:** Effects resulting from an irreversible change to the baseline environment (e.g., land take) or which persist for the foreseeable future (e.g., noise and vibration from operation).
 - **Direct effects:** Effects that arise from the impact of activities that form an integral part of the Project (e.g., new infrastructure).

- **Indirect effects:** Effects that arise from the impact of activities not explicitly forming part of the Project.
- **Secondary effects:** Effects that arise as a result of an initial effect of the scheme (e.g., reduced amenity of a community facility as a result of construction noise and vibration).
- **Cumulative effects:** Those effects which arise over time due to the effect of the Project and the effect of other developments.
- **In-combination effects:** Those effects which occur where a number of separate effects from the Project, such as noise and air quality, affect a single receptor, for example people.

2.3.8 In general terms, there are three stages required to enable the significance of impacts to be identified, as follows:

- Identification of the baseline conditions and the sensitivity and importance of receptors.
- Identification of the magnitude of change (impacts) upon each receptor.
- Identification of the impact significance, which is the product of a combination of the above two variables.

Defining the Baseline Scenario

2.3.9 Given the purpose of this ER is to consider an extension of time to an extant DCO, it is necessary for multiple baseline scenarios to be detailed to allow consideration of the changes in the assessment of effects between the original ES (in regards to the Compensation Site specifically, as defined in Chapter 31 to 42), the Material Change 2 UES (in regards to the Main Site, as defined in Chapters 7-24: Consideration of Material Change 2 UES for Main Site) and the content of this ER. Whilst the baseline scenarios are defined in more detail within the topic chapters, these can potentially include:

- DCO Baseline as detailed within the original ES and/or the Material Change 2 UES (i.e. prior to any development taking place);
- DCO Future Baseline as detailed within the original ES and/or the Material Change 2 UES (i.e. that established as the future scenario when the AMEP development would commence on site, if different);
- Current Baseline as at the time of this Article 7 ER (i.e. taking into consideration alterations to the site and in the local area since the DCO came into force in 2014); and
- Future Baseline for the Article 7 ER (i.e. a future scenario which considers any change in the local area that will occur in advance of the DCO being implemented on site). Note however, that the Future Baseline for the ER will only be applied where appropriate.
- 'Changes in Baseline' between the DCO and Current position will be clearly defined within each technical chapter.

2.3.10 It should be noted that the use of the above baseline scenarios varies between environmental topic chapters subject to the assessment being undertaken. For example, in many cases it is not

appropriate to establish a future baseline scenario where the assessment is finite in its temporal scope (i.e. the effects considered would be permanent in nature and not altered by a future baseline scenario). As such, the baseline scenarios utilised are established within each of the individual environmental topic chapters where appropriate.

Sensitivity of Receptors

2.3.11 Where appropriate, the topic chapters of this ER have identified the receptors of relevance to their assessment. The sensitivity of a receptor is determined by their ‘value’ and a consideration of their adaptability, tolerance and recoverability to change. On this basis, the sensitivity of the receptors are typically defined as **High, Medium, Low** and **Negligible/Neutral**.

Magnitude of Change

2.3.12 Magnitude of change is typically defined by four factors when considering an effect to a receptor; extent, duration, frequency and severity. Again, the magnitude of change are typically defined as **High, Medium, Low** and **Negligible/Neutral**.

Significance of Effect

2.3.13 The significance of effect is determined by combining the predicted magnitude of change with the sensitivity of a receptor. Notwithstanding, it should be recognised that there is a degree of subjectivity to the assessment process given that it is based on professional judgement regarding the effect-receptor interaction based on the evidence used to inform the EIA.

2.3.14 An example significance matrix is provided in Table 2-1 below. However, as stated above, each chapter will define a specific framework within their methodology in accordance with the applicable relevant standards, criteria, guidance, and statutory requirements.

Table 2-1: Example Significance Matrix

	Sensitivity of Receptor				
		High	Medium	Low	Negligible
Magnitude of Change	High	Substantial / Major	Substantial / Major	Moderate	Neutral / Negligible
	Medium	Substantial / Major	Moderate	Minor	Neutral / Negligible
	Low	Moderate	Minor	Minor	Neutral / Negligible
	Negligible	Neutral / Negligible	Neutral / Negligible	Neutral / Negligible	Neutral / Negligible

Mitigation & Residual Effects

2.3.15 Schedule 4 of the 2017 EIA Regulations (as amended) requires that where significant effects are identified, ‘a description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment’ should be included in the ES.

2.3.16 The proposed extension of time aims to achieve the highest environmental standards, whilst

measures to avoid and/or reduce and, if necessary, mitigate environmental impacts have been built into the scheme parameters. The mitigation measures identified within the original ES would remain as proposed unless alternate or additional mitigation measures have been identified within this ER in response to the proposed Article 7 extension of time.

2.4.0 Scope of the Assessment

2.4.1 The range of environmental topics addressed in this ER is referred to as the technical scope. The technical scope of this ER has been formulated through an understanding of the content of the original ES and the subsequent Material Change 2 UES (including the formal Scoping exercise undertaken with the Planning Inspectorate [PINS] for the Material Change 2 UES).

Technical Scope

2.4.2 Potential environmental topics in relation to the proposed extension of time have been evaluated, with reference to the previously undertaken Scoping exercise for the Material Change 2 UES. Further information regarding this previous Scoping exercise is provided within Chapter 5: Scoping and Consultation.

2.4.3 On this basis, this ER has included the following technical scope:

Table 2-2: Technical Scope of Article 7 Environmental Review

Topic / Technical	Original ES Chapter #	Compliance Review Updated Technical Chapter	Updated Technical Chapter
Main Site			
Geology, Hydrogeology and Ground Conditions	7	✓	
Hydrodynamic and Sedimentary Regime	8	✓	
Water and Sediment Quality	9	✓	
Aquatic Ecology	10	✓	
Terrestrial Ecology and Birds	11	✓	
Commercial Fisheries	12	✓	
Drainage and Flood Risk	13	✓	
Navigation	14	✓	
Traffic and Transport	15	✓	
Noise and Vibration	16	✓	
Air Quality	17	✓	
Marine Archaeology	18	✓	
Light	19	✓	
Landscape and Visual	20	✓	
Socio-Economic	21	✓	
Aviation	22	✓	
Waste	23	✓	
Health	24	✓	

Compensation Site (Cherry Cobb Sands)			
Geology, Hydrogeology and Ground Conditions	31		✓
Hydrodynamic and Sedimentary Regime	32		✓
Water and Sediment Quality	33		✓
Aquatic Ecology	34		✓
Terrestrial Ecology and Birds	35		✓
Drainage and Flood	36		✓
Traffic and Transport	37		✓
Noise	38		✓
Air Quality	39		✓
Historic Environment	40		✓
Landscape and Visual	41		✓
Socio-Economics	42		✓
Waste	43		✓

- In addition to the above, a brief summary of the findings and the associated conclusion formed by undertaking the ER are contained within the following chapters:
 - Chapter 44 – Summary of Findings
 - Chapter 45 – Conclusion

Spatial Scope

2.4.4 The spatial, or geographical, scope of the assessment takes into account the following factors:

- The ongoing physical extent of the proposed works, as defined by the scheme design taking into consideration the proposed extension of time;
- The nature of the baseline environment and the manner in which the impacts are likely to be propagated and elongated; and
- The pattern of governmental administrative boundaries, which provide the planning and policy context.

2.4.5 In most cases the impact is likely to affect interests for a limited area around the site. However, for some issues (such as socio-economics) the impact may affect regional level interests, or even be an impact of national or international significance as assessed in the original ES and Material Change 2 UES. This ER aims to confirm that the proposed extension of time will not likely impact these findings.

2.4.6 Where appropriate, study areas are defined within the environmental topic chapters.

Temporal Scope

2.4.7 The temporal scope of the assessment refers to the time periods in which the effects are expected to be experienced. This is different and will be established separately for each topic individually, and where it is deemed appropriate, through discussion with the relevant statutory consultees.

2.4.8 Generally, the following terms are used regarding temporary effects:

- **Short-Term** – the impact is temporary and lasts for up to 12 months;
- **Medium-Term** – the impact occurs for up to 5 years; and
- **Long-term** – the impact remains for a substantial time, perhaps permanently

Construction Phase

2.4.9 Construction phase impacts may potentially arise at any stage of the construction works. As such, the assessments consider the potential for construction phase effects, including consideration of the time of day during which such effects are likely to arise (i.e. if works are likely to be undertaken during the daytime or night-time periods).

Operational Phase

2.4.10 For the operational phase, the temporal scope is determined by the predicted date of works commencing operation. Notwithstanding, it should be appreciated that the Quay will become operational in part prior to the full development being completed.

2.4.11 In order to facilitate early handover of an operational section of quay, the works were proposed (in the Material Change 2 UES) to commence at the southern end of the quay and progress northwards. On this basis, the construction sequence shown on the DCO approved 'Indicative Sequence Plan View' drawings AMEP_P1D_D_101 to 103 was superseded by the alternative sequence shown on the 'Indicative Sequence Plan View' drawings AME-036-10009³, AME-036-1110⁴ and 10011⁵ included in the Material Change 2 UES application.

2.4.12 In the years since the DCO came into force (October 2014), the Applicant has developed the site, both in accordance with planning permissions extant at the time of the application and in accordance with further planning consents obtained under the Town and Country Planning Act 1990 (TCPA). In some cases, works have been undertaken to progress development in accordance with the DCO and in other cases it was to enable use of the site for purposes other than those permitted by the DCO, namely, car storage.

2.4.13 Further information on the development of the Site at present has been included in Chapter 1 of this ER.

³ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000207-AME-036-10009-C-IndicativeSequencePlanView\(1of3\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000207-AME-036-10009-C-IndicativeSequencePlanView(1of3).pdf)

⁴ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000207-AME-036-10009-C-IndicativeSequencePlanView\(1of3\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000207-AME-036-10009-C-IndicativeSequencePlanView(1of3).pdf)

⁵ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000203-AME-036-10011-C-IndicativeSequencePlanView\(3of3\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000203-AME-036-10011-C-IndicativeSequencePlanView(3of3).pdf)

Decommissioning Phase

- 2.4.14 As described in Chapter 4 of the original ES, AMEP is designed to have a long-term future, adjusting to market demands over time. However, the potential for decommissioning certain elements has been given detailed consideration in the design and use of materials in the AMEP scheme, in order to ensure that materials can be re-used safely and efficiently. Decommissioning does not, however, form part of the assessments contained within this ER (nor within the original ES).

Consideration of Alternatives

- 2.4.15 The EIA Regulations require, amongst other things, that the main alternatives to any scheme that have been reasonably considered by the applicant. Whilst the principal consideration of alternatives is contained within the original ES and Material Change 2 UES, no update to the consideration of alternatives is provided within this ER as the development is subject to an extant consent and the current proposals only seek to extend the time periods within which the authorised development should be completed.

Cumulative and In-Combination Effects

- 2.4.16 This section sets out how the cumulative and in-combination effects detailed in each of the topic chapters have been identified and assessed from the original ES and previous Material Change 2 UES to ensure validity in this ER.
- 2.4.17 Other schemes in the vicinity of the site, which have been granted permission (outline or full) but not completed, or for which an application for consent has been submitted but yet to be determined, are considered alongside the current proposals in the assessment of cumulative impacts in the ER. The assessment of cumulative impacts is an integral part of the EIA process and ensures that all aspects of potential impacts from the proposals have been addressed to ensure minimum impact on communities and the natural environment.
- 2.4.18 The Material Change 2 UES has considered the cumulative effects associated with the proposed development. As detailed within EIA guidance, cumulative effects can be considered as:
- The combined effect of individual effects arising as a result of the Proposed Development: i.e. a single receptor experiencing multiple **'in-combination'** effects as a result of noise, air quality, transport and daylight and sunlight; and
 - The effects of the proposed development in combination with other development schemes in the locality: i.e. effects which on an individual basis are insignificant but in combination with other development scheme would lead to a significant **'cumulative'** effect. Relevantly however, where an impact has been assessed and fully mitigated there can be no cumulative effect of the mitigated impact with any other project.
- 2.4.19 The assessment of Cumulative and In-Combination Effects identified within either the original ES or Material Change 2 UES have been taken into consideration, whilst a summary of the Cumulative and In-Combination Effects associated with the proposed extension of time is provided within Chapter 44 of this ER.

Cumulative Effects

- 2.4.20 Cumulative Effects were identified throughout the EIA process through the consideration of the

impacts of the development in tandem with the various committed developments identified. A schedule of committed developments identified through the consultation can be found in Chapter 6: Description of Committed Developments.

- 2.4.21 This list has been developed in order to develop a clear picture of what projects are in the planning stages or have been consented.
- 2.4.22 It also considers other projects which already exist in the area and those which are currently being developed or are in the planning process. The cumulative impact of overlapping, temporally or spatially, of this Project and other projects has been assessed in each of the relevant topic chapters of this ER.

In-Combination Effects

- 2.4.23 Receptors which suffer from negative impacts as a result of the combination of more than one impact were identified by developing a matrix. It was based on the individual topic assessments and professional judgement as to whether the identified receptors suffer from in-combination impacts, and whether these impacts are considered not significant or significant.

Other Environmental Issues

- 2.4.24 As outlined above, an ES should provide 'any additional information specified in Schedule 4' of the EIA Regulations. With regard to 'Other Environmental Issues' Schedule 4(4) states that a description should be provided of the factors specified in Regulation 4(2) likely to be significantly affected by the development with regard to: *"population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape"*.
- 2.4.25 These factors are inherently considered within the various Chapters of this ER. Furthermore, consideration of these 'Other Environmental Issues' are contained within Chapter 44 of this Environmental Review in order to ensure compliance with the EIA Regulations previously adhered to for the Material Change 2 UES.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 3: CHANGES TO PLANNING POLICY AND LEGISLATION

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
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CONTENTS

3.1.0 INTRODUCTION	1
3.2.0 LEGISLATIVE FRAMEWORK	2
Overview	2
Environmental Impact Assessment	2
Habitats Regulations Assessment	2
Environmental Permitting Regulations 2016	3
Groundwater (England and Wales) Regulations 2009	3
The Hazardous Waste (England and Wales) (Amendment) Regulations 2016	3
The Waste (Circular Economy) (Amendment) Regulations 2020.....	3
Resources and Waste Strategy for England, 2018 ('Our Waste, our Resources: A Strategy for England').....	3
UK Fisheries Act 2020	3
Water Environment (Water Framework Directive) (England and Wales) Regulations 2017	4
Other Consents and Approvals.....	4
Legislation Relevant to the Humber Estuary.....	4
3.3.0 PLANNING POLICY & GUIDANCE	6
National Planning Policy.....	6
Local Planning Policy	7
East Inshore and East Offshore Marine Plans	8
3.4.0 PLANNING HISTORY	10
Summary	12

DOCUMENT REFERENCES

TABLES

Table 3-1: Planning Policy contained within the ER	6
Table 3-2: Local Planning Applications to The Site Since the DCO Application.....	10

3.1.0 Introduction

- 3.1.1** This chapter of the Environmental Review (ER) presents an overview of the changes in legislation, planning policy and guidance of relevance to the site since the original Environmental Statement prepared for the DCO application in 2012 (the original ES) and the material amendment supported by the Material Change 2 Updated Environmental Statement (Material Change 2 UES).
- 3.1.2** As detailed within the original ES, the terrestrial areas of the site lie within the administrative boundaries of two local authorities, North Lincolnshire Council (NLC) and East Riding of Yorkshire Council (ERYC), and within close proximity to the boundary of North East Lincolnshire Council (NELC). Changes to local planning policy will be considered for all three areas.
- 3.1.3** The policies within the East Riding of Yorkshire Local Development Framework (LDF) only apply to the Compensation Site (also referred to as 'Cherry Cobb Sands') and are therefore only of relevance to Chapters 31 to 43 of this ER.

3.2.0 Legislative Framework

Overview

- 3.2.1 The Localism Act 2011 abolished the Infrastructure Planning Commission (IPC) and transferred the decision-making powers of the IPC to the Secretary of State. The Planning Inspectorate has been delegated the responsibility of accepting, examining and making recommendations on applications for Nationally Significant Infrastructure Projects (NSIP) and the Secretary of State takes the final decision on whether to grant or refuse an application.

Environmental Impact Assessment

- 3.2.2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 came into force on 16th May 2017 and superseded the EIA Regulations utilised to undertake the original ES. The 2017 Regulations were used under the Material Change 2 UES and applies, consequently where appropriate, to this ER.
- 3.2.3 The assessments contained within this ER have duly considered the requirements of the more recently adopted Regulations, as noted above, and duly assess the requirements in relation to the evaluation of the Material Change 2 UES laid out therein.
- 3.2.4 These Regulations include the introduction of a number of new 'topics' for consideration within EIA's, including Infrastructure, Waste, Population and Human Health, Climate and Carbon Balance, and Risks of Major Accidents and/or Disasters.

Habitats Regulations Assessment

- 3.2.5 The Conservation of Habitats and Species Regulations (2010) was updated in 2017, and then again in 2019 to make them operable from 1 January 2021, with functions transferred to ministers from the European Commission. The Conservation of Habitats and Species Regulations 2017 Regulations are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives). The changes are made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- 3.2.6 Given that the site is within close proximity to the Humber Estuary SAC, Humber Estuary SPA and the Humber Estuary Ramsar Site, there is the obligation to undertake a further assessment process under the under the Conservation of Habitats and Species Regulations 2017(as amended) (the 2017 Regulations), which transpose into national law the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives).
- 3.2.7 One of the changes introduced by the 2019 Regulations is that Special Areas of Conservation (SAC) and Special Protection Areas (SPA) in the UK no longer form part of the EU's Natura 2000 ecological network. Under the 2019 Regulations, a 'national site network' on land and at sea has been created which includes existing SACs and SPAs and new SACs and SPAs designated under the 2019 Regulations. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

Environmental Permitting Regulations 2016

- 3.2.8 The Environmental Permitting Regulations 2016 consolidate and replace the Environmental Permitting Regulations 2010. The Environmental Permitting Regulations 2016 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (7.2.0 Geology, Hydrogeology and Ground Conditions), and Chapter 31: Geology, Hydrogeology and Ground Conditions, in relation to the compensation site only (and reflective of the consideration of the original ES only).

Groundwater (England and Wales) Regulations 2009

- 3.2.9 The Groundwater (England and Wales) Regulations 2009 were revoked by the Environmental Permitting Regulations 2010, which have since been superseded by the Environmental Permitting Regulations 2016. The Groundwater (England and Wales) Regulations 2009 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (7.2.0 Geology, Hydrogeology and Ground Conditions), and Chapter 31: Geology, Hydrogeology and Ground Conditions, in relation to the compensation site only (and reflective of the consideration of the original ES only).

The Hazardous Waste (England and Wales) (Amendment) Regulations 2016

- 3.2.10 The Hazardous Waste (England and Wales) (Amendment) Regulations 2016 came into force on 1st April 2016, and they amend the Hazardous Waste (England and Wales) Regulations 2005. The 2016 Regulations revoke Part 5 of the 2005 Regulations which removes the requirement for hazardous waste producers to register with the Environment Agency. The Hazardous Waste (England and Wales) (Amendment) Regulations 2016 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (23.1.0 Waste).

The Waste (Circular Economy) (Amendment) Regulations 2020

- 3.2.11 The Waste (Circular Economy) (Amendment) Regulations amend a number of pieces of primary and secondary legislation on waste to meet EU legislation and its requirements. The Waste (Circular Economy) (Amendment) Regulations 2020 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (23.1.0 Waste).

Resources and Waste Strategy for England, 2018 ('Our Waste, our Resources: A Strategy for England')

- 3.2.12 The strategy sets out to preserve resources by minimising waste, promoting resources efficiency and moving towards a circular economy. Chapter 7-24: Consideration of Material Change 2 UES for Main Site (23.1.0 Waste).

UK Fisheries Act 2020

- 3.2.13 The UK Fisheries Act 2020 replaces provisions under EU law and will provide the legislative framework for future fisheries management in the UK. The UK Fisheries Act 2020 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (10.1.0

Aquatic Ecology), and Chapter 34: Aquatic Ecology, in relation to the compensation site only (and reflective of the consideration of the original ES only).

Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

- 3.2.14 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 consolidate, revoke and replace the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI 2003 No. 3242). They continue to transpose Directive 2000/60/EC, for England and Wales, establishing a framework for Community action in the field of water policy (the Water Framework Directive).
- 3.2.15 They also transpose aspects of Directive 2006/118/EEC on the protection of groundwater against pollution and deterioration (the Groundwater Directive) and of Directive 2008/105/EC on environmental quality standards in the field of water policy (the Environmental Quality Standards Directive).
- 3.2.16 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 have been duly considered within Chapter 7-24: Consideration of Material Change 2 UES for Main Site (8.1.0 Hydrodynamic and Sedimentary Regime, 9.1.0 Water and Sediment Quality, 10.1.0 Aquatic Ecology, 12.1.0 Commercial and Recreational Fisheries and 13.1.0 Drainage and Flood Risk), and Chapter 32: Hydrodynamic and Sedimentary Regime, Chapter 33: Water and Sediment Quality, Chapter 34: Aquatic Ecology and Chapter 36: Flood and Drainage.

Other Consents and Approvals

- 3.2.17 Requirements for other consents and approvals, where appropriate, are duly considered within the individual technical chapters submitted in support of this ER.

Legislation Relevant to the Humber Estuary

- 3.2.18 ABP is the harbour authority for the Humber Estuary, and its functions have been delegated to the Humber Estuary Services (HES) which is governed by a series of local acts of parliament. There has been no change to the legislation relevant to the Humber Estuary that was outlined in the original ES and is listed below:
- Humber Conservancy Act 1852;
 - Humber Conservancy Act 1868;
 - Humber Conservancy Act 1871;
 - Humber Conservancy Act 1899;
 - Humber Conservancy Act 1905;
 - Humber Conservancy Act 1907;
 - Humber Conservancy Act 1951;

- Humber Harbour Reorganisation Scheme 1966;
- Humber Navigation Byelaws 1990; and
- General Directions for Navigation in the Humber 1974 (Standing Notice to Mariners No. S.H.1)

3.2.19 The legislation listed above is cross referenced within Chapter 14: Commercial and Recreational Navigation of the original ES and Material Change 2 UES.

3.3.0 Planning Policy & Guidance

3.3.1 This section duly outlines the changes in Planning Policy which is of relevance to the DCO. It does not seek to repeat the policies verbatim but should be used as a guide to the changes of relevance to the DCO. Further information regarding specific policies is contained within the individual technical chapters of this ER which are cross referenced in Table 3-1 below.

Table 3-1: Planning Policy contained within the ER

Planning Policy	Main Site Chapter(s)	Compensation Site Chapter(s)
North Lincolnshire Core Strategy 2011	Chapter 15 – Traffic and Transport Chapter 21 – Socio-Economic Chapter 24 – Health	Chapter 41 – Landscape and Visual
North East Lincolnshire Local Plan 2013 to 2032	Chapter 20 – Landscape and Visual	Chapter 41 – Landscape and Visual
East Riding of Yorkshire Local Plan (adopted April 2016)	Chapter 16 – Noise and Vibration Chapter 19 – Light Chapter 20 – Landscape and Visual	Chapter 34 – Aquatic Ecology Chapter 35 – Terrestrial Ecology and Birds Chapter 37 – Traffic and Transport Chapter 38 – Noise Chapter 41 – Landscape and Visual Chapter 42 – Socio-Economic
East Inshore Marine Plan	Chapter 8 – Hydrodynamics and Sedimentary Regime Chapter 10 – Aquatic Ecology Chapter 12 – Commercial and Recreational Fisheries Chapter 18 – Marine Archaeology	Chapter 32 – Hydrodynamics and Sedimentary Regime Chapter 34 – Aquatic Ecology Chapter 40 – Historic Environment

National Planning Policy

National Policy Statement for Ports

3.3.2 The National Policy Statement for Ports (NPSP) was designated in January 2012.

3.3.3 Following the enactment of the Localism Act 2011, the National Planning Policy Framework (NPPF) which was published in March 2012, and has since been updated twice, replaced Planning Policy Statements (PPSs). The NPPF sets out the government’s planning policies for England and how these are expected to be applied.

National Planning Policy Framework

3.3.4 The National Planning Policy Framework (NPPF) was updated in July 2021, following the previous 2019 version which was in place at the time of the Material Change 2 UES.

3.3.5 The proposals will therefore duly consider and adhere to the updated version of the NPPF, where policies are relevant.

Local Planning Policy

3.3.6 The Localism Act 2011 decentralised local planning policy thus abolishing regional strategies. Therefore, the Yorkshire and Humber Plan (Regional Spatial Strategy) to 2026 was revoked.

3.3.7 The site is within close proximity of the South Humber Bank area that is allocated for employment, port and estuary related uses in both the North East Lincolnshire Core Strategy and the North Lincolnshire Local Plan.

North Lincolnshire Council (NLC)

3.3.8 A number of the saved policies from the North Lincolnshire Local Plan (2003) have been replaced by the Local Development Framework (LDF) for North Lincolnshire Council. The LDF comprises:

- North Lincolnshire Core Strategy 2011;
- North Lincolnshire Housing and Employment Land Allocations DPD;
- Lincolnshire Lakes Area Action Plan; and
- A number of supplementary planning documents (SPDs)

3.3.9 Notwithstanding, there are a range of saved policies from the Local Plan (2003) which remain extant and should be given due consideration in the decision making process.

3.3.10 The site is within close proximity to the South Humber Bank area which is identified under Policy CS1 (Spatial Strategy for North Lincolnshire) of the North Lincolnshire Core Strategy. This area is to be supported through the safeguarding of around 900 hectares of land in and around the port complex for estuary related development as well as to support the continued growth of the chemical and renewable energy industries.

North East Lincolnshire Council (NELC)

3.3.11 The LDF for North East Lincolnshire Council has now been developed and it comprises:

- North East Lincolnshire Local Plan 2013 to 2032 (adopted 2018)

3.3.12 The site is within close proximity to the South Humber Bank area which is in *Policy 9 (Habitat Mitigation – South Humber Bank)* of the North East Lincolnshire Local Plan. The policy aims to protect the integrity of the Humber Estuary Natura 2000 site. The South Humber Bank area is also identified in *Policy 7 (Employment Allocations)* as an employment area allocated for B1 (Business), B2 (General Industrial) and B8 (Storage and Distribution) use classes.

East Riding of Yorkshire Council

3.3.13 As stated above, the policies within the East Riding of Yorkshire LDF only apply to the Compensation Site, also referred to as ‘Cherry Cobb Sands’.

- 3.3.14** The East Riding of Yorkshire LDF comprises of:
- East Riding Local Plan (adopted April 2016);
 - The Strategy Document (2016);
 - The Allocations Document (2016); and
 - A number of additional supplementary planning documents (SPDs), neighbourhood development plans, minerals and waste plans and a policies map.

3.3.15 The East Riding of Yorkshire Local Plan Update was submitted for examination on 31st March 2023. The Local Plan Update will set out policies for the next 15 years upon implementation. However, as this remains unadopted at the time of this ER, the current East Riding of Yorkshire Local Plan (2016), and the policies and site allocations contained therein, remains the extant policy document for this authority area. A schedule of proposed amended policies is provided in Appendix A of the Draft Strategy Document Update¹. This document, in conjunction with the Draft Allocations Document² and Draft Policies Map Update³ forms the current Draft Local Plan Update.

East Inshore and East Offshore Marine Plans

- 3.3.16** Following the Marine and Coastal Access Act 2009, the UK government introduced a marine planning system which established the Secretary of State as the marine planning authority for the English Inshore and English Offshore marine planning regions. The Secretary of State delegated these functions to the Marine Management Organisation in April 2010.
- 3.3.17** The Marine Plans together with the Marine Policy Statement constitute the planning system for England's seas.
- 3.3.18** AMEP lies within the area covered by the East Inshore Marine Plan.

Marine Policy Statement

3.3.19 The Marine Policy Statement (MPS) was published on the 18th of March 2011 and provides a framework for the preparation of regional marine plans and taking decisions affecting the marine environment.

Guidance to the UK Marine Policy Statement from January 2021

3.3.20 The Guidance to the UK Marine Policy Statement from January 2021 explains how the references to EU Law within the MPS should be interpreted from 1st January 2021 following the UK's withdrawal from the European Union on the 31st of January 2020.

Compliance Table

3.3.21 During consultation on the PEIR as part of the Material Change 2 UES, the Marine Management Organisation (MMO) requested that a policy compliance review of the East Inshore and East

¹ [LP01 Local Plan Strategy Document Update.pdf \(eastriding.org.uk\)](#)

² [LP02 Draft Allocations Document Update.pdf \(eastriding.org.uk\)](#)

³ [East Riding Local Plan: Draft Policies Map Update \(May 2021\) \(arcgis.com\)](#)

Offshore Marine Plans be undertaken. An excel table / tool was provided by the MMO for the undertaking of this exercise.

3.3.22 This policy compliance review exercise was presented within Appendix UES3-1⁴ and clearly showed that the proposed material amendment (Material Change 2) was compliant with the overall thrust of the policies contained within the East Inshore and East Offshore Marine Plans.

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000142-TR030006-APP-6A-3-1.pdf>

3.4.0 Planning History

- 3.4.1 There are a number of local planning permissions that have been granted on the site since the DCO application. They are listed in Table 3-2 below.
- 3.4.2 The table includes planning history accessed from the North Lincolnshire Council website⁵ (in relation to the Main Site) and the East Riding of Yorkshire Council website⁶ (in relation to the Compensation Site).

Table 3-2: Local Planning Applications to The Site Since the DCO Application

Planning Application Reference	Description of Development	Decision	Decision Date
North Lincolnshire Council			
PA/2013/0519	Planning permission for consent for enabling works associated with the construction of AMEP, a Nationally Significant Infrastructure Project which will include and extend beyond this application site. The proposal is to remove topsoil from three fields currently in agricultural use (amounting to approximately 35,000 cubic metres of material) and to import, deposit and compact approximately 140,000 cubic metres of clean stone fill material, raising levels from approximately 2.4 m AOD to a minimum of 3.1 m AOD, and creating a level, durable surface for use as a site compound for the contractors constructing the AMEP quay. Works will include the installation of piped crossings across existing ditches and new sub-surface drainage that will discharge into existing surface water ditches that outfall into the Humber Estuary	Approved	21/07/2014
PA/2014/0512	Planning permission to undertake enabling works in support of the AMEP project which will comprise site clearance, ground raising works, felling of a copse, creation of a footpath, removal offsite of the topsoil layer, importation spreading and compacting of approximately 275,000m ³ of fill material, new drainage ditches and the construction of a new twin cell drainage culvert.	Approved	18/02/2015
PA/2016/1654	Planning permission to erect a new two-	Approved	06/01/2017

⁵ <https://www.northlincs.gov.uk/planning-and-environment/planning-permission-applications-and-appeals/>

⁶ <https://www.eastriding.gov.uk/planning-permission-and-building-control/applications-for-planning-and-building-control/view-and-comment-on-planning-applications/public-access-disclaimer/>

Planning Application Reference	Description of Development	Decision	Decision Date
	storey PDI (pre-delivery inspection) vehicle facility, with associated separate ancillary facilities including a fuel station, security cabin, driver welfare, propane tanks, staff car parking facilities and additionally culverted ditch crossing works.		
PA/2017/27	Temporary Car Storage until January 2018.	Approved	08/05/2017
PA/2017/1780	Application to vary condition 1 of PA/2017/27 dated 08/05/2017 to extend the restoration period for a further 2 years until 8th January 2020.	Approved	11/05/2018
PA/2017/265	Planning permission for foul water pumping station, autoscan building, driver welfare. Relocation of fuel station.	Approved	31/05/2017
PA/2018/1416	Planning permission to construct new railway siding parallel to existing railway including loading and unloading ramps.	Approved	05/12/2018
PA/2018/114	Planning permission to change the use of land for car storage and distribution for a temporary period, the construction and operation of an electricity substation and the construction of new access along Station Road, including a new junction with Rosper Road.	Approved	04/01/2019
PA/2019/497	Planning permission for change of use to car storage and distribution for a temporary period, provision of an access road, security cabin, drainage ditches and new foul drainage system.	Approved	10/09/2019
PA/2021/1525	Planning permission to erect a monopole manufacturing facility at Land at Able Marine Energy Park, south of Station Road, South Humber Bank, South Killingholme	Approved	08/08/2022
PA/2023/502	Full planning application for enabling works on land east of Rosper Road, Killingholme, the proposed development comprises: regrading of land with general fill and raising site levels with imported fill; installation of ground drainage as required; installation of boundary fencing; widening of Marsh Lane and construction of new footpath; upgrades at junction of Marsh Lane with Rosper Road; demolition of buildings; construction of new 33kV substation; new drainage ditch and new	Pending	Expected August 2023

Planning Application Reference	Description of Development	Decision	Decision Date
	ditch crossings; bridge crossings of existing over ground pipelines; diversion to existing Exolum underground pipeline and construction of new rail sidings		
East Riding of Yorkshire Council			
Various	Discharge of DCO Requirements re. AMEP Cherry Cobb Sands Compensation Site	Approved	Various

Summary

- 3.4.3** The extant policies outlined are relevant to the proposed extension of time and have been assessed with the same regard as the original ES and Material Change 2 UES. There are no further policy changes or considerations expected as part of this ER.
- 3.4.4** The Article 7 application is therefore considered policy compliant and has appropriately considered all required regulations and statements as detailed in this Chapter, with further consideration given to specific policy in relevant chapters in this ER.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 4: DESCRIPTION OF CHANGES TO DEVELOPMENT & ALTERNATIVES

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
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CONTENTS

4.1.0 INTRODUCTION	1
Purpose of the AMEP DCO	1
Development Consent Order Context.....	2
Material Change 1	3
Non-Material Amendment.....	3
Material Change 2	3
4.2.0 SCOPING AND CONSULTATION RESPONSES	5
4.3.0 CHANGES TO THE AUTHORISED DEVELOPMENT	6
Proposed Extension of Time.....	6
Physical Alterations	6
Changes to the Construction Methodology	6
Operational Details.....	6
Variation to DCO.....	6
4.4.0 CONSIDERATION OF ALTERNATIVES	7

4.1.0 Introduction

4.1.1 This Chapter of the ER provides an overview of the remit and purpose of the AMEP DCO, a description of the extension of time as proposed under Article 7, and details of the concurrent assessments which will form part of this submission.

4.1.2 Furthermore, this Chapter of the ER also provides a consideration of the alternatives to the proposed development, again noting that this is principally related to the extension of time proposed to complete the development rather than the design and implementation of the AMEP scheme itself given that this already benefits from an extant DCO. As such, a review of the previous Material Change 2 UES and EIA assessment is deemed sufficient and appropriate.

Purpose of the AMEP DCO

4.1.3 The proposed development of AMEP is directly related to the global aim to decarbonise world energy production. The need to decarbonise world energy production, and its overriding benefit to the global environment, is detailed in Chapter 5 of the Environmental Statement (ES) prepared for the DCO application in 2012 (the original ES)¹.

4.1.4 No change is being sought to the development which is to provide a new and substantial manufacturing and installation base for the offshore marine energy sector. Currently, this market is dominated by offshore wind energy with this sector expected to contribute significantly to a new secure, low carbon and balanced energy mix for the UK ('The Ten Point Plan for a Green Industrial Revolution', HM Government, November 2020²).

4.1.5 As well as having quays to receive and export raw materials and products, the development will also provide facilities that are necessary to assemble the offshore generators, including offshore wind turbines (OWT's), in preparation for loading onto installation vessels for direct transport from their place of manufacture to the offshore development site.

4.1.6 Under the DCO (as contained within the original ES), the harbour was to comprise of a quay of 1,279m frontage, of which 1,200m was to be solid quay and 79m was to be a specialist berth formed by the reclamation of intertidal and subtidal land within the Humber Estuary.

- The associated development that was consented through the DCO for the above proposals included:
 - Dredging and land reclamation;
 - The provision of onshore facilities for the manufacture, assembly and storage of wind turbines and related items;
 - Works to Rosper Road, the A160 and the A180; and
 - Surface water disposal arrangements.

¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000310-05%20-%20Need%20for%20Development.pdf>

²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

4.1.7 Following the approval of Material Change 2, the following changes were proposed (and subsequently approved) to the above:

- Changes to the proposed quay layout to reclaim a specialist berth at the southern end of the quay, and to set back the quay line at the northern end of the quay to create a barge berth;
- The addition of options to the form of construction of the quay whereby the piled relieving slab to the rear of the quay could be raised or omitted entirely (subject to detailed design), and the quay wall piles could be restrained with more conventional steel anchor piles and tie bars in lieu of flap anchors;
- A change to the approved diversion of footpath FP50 in North Lincolnshire to avoid crossing over the existing rail track at the end of the Killingholme Branch Line;
- Provision of a third cross dam within the reclamation area to enable greater flexibility for staged completion, and early handover of sections of the quay;
- A change to the consented deposit location for 1.1M tonnes of clay to be dredged from the berthing pocket, to permit its disposal at HU081 and HU082; and
- An amendment to the sequencing of the quay works to enable those works to commence at the southern end of the quay and progress northwards.

4.1.8 The consented development under the DCO is described in Chapter 4 of the original ES³, with the consented development for Material Change 2 described in Chapter 4 of the UES⁴. This Chapter only describes the work undertaken thus far since 2014, and details on the proposed extension of time. The change is of a limited nature and principally relates to an extension of time only, with no further material considerations. Both the Main Site and Compensation Site (also referred to as 'Cherry Cobb Sands') will be assessed against the proposals.

Development Consent Order Context

4.1.9 In December 2011 Able Humber Ports Limited ('the Applicant' and 'the undertaker') submitted an application ('the 2011 application') for development consent for the Able Marine Energy Park ('the Project'). On 18 December 2013, the Secretary of State for Transport granted development consent by way of a Development Consent Order ('DCO') (SI 2014/2935).

4.1.10 The DCO for the Able Marine Energy Park (AMEP) was made on 13th January 2014, laid before Parliament on 10th February 2014 and subsequently came into force on 29th October 2014 (Statutory Instrument 2014 No. 2935). A copy of the DCO is provided within Technical Appendix ER1-1.

4.1.11 The DCO permits, *inter alia*, the development of a new quay and associated development at Killingholme in North Lincolnshire, on the south bank of the Humber Estuary. Briefly, the development on the south bank comprises a quay, reclaimed estuarine habitat and the provision of onshore facilities for the manufacture, assembly and storage of components relating to the offshore

³<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000309-04%20-%20Description%20of%20Development.pdf>

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000126-TR030006-APP-6-4.pdf>

renewable energy sector. The DCO further permits other associated development including environmental habitat on the north bank of the Humber in the East Riding of Yorkshire authoritative area.

- 4.1.12 Since the DCO came into force the Undertaker has been developing the Project for delivery and commenced the Project in June 2021 by starting construction of a surface water pumping station which forms part of the associated development. Nevertheless, market conditions have not yet enabled the commencement of the quay which is the element that comprises the nationally significant infrastructure project (NSIP). Given that the time limit in Article 7 prohibits new works from starting after 28 October 2024, the undertaker now wishes to apply to the Secretary of State to extend the timeframe for completing the works by a further seven years.

Material Change 1

- 4.1.13 The Applicant had previously discussed with the Planning Inspectorate the possibility of an application to extend the time limit for compulsory acquisition of a single parcel of land (Material Change 1). Although Able has engaged with the Planning Inspectorate in relation to the potential application, no formal submission has yet been made in relation to Material Change 1.

Non-Material Amendment

- 4.1.14 An application for a non-material amendment to the DCO was submitted to the Secretary of State in August 2018 ('the 2018 application'). This submission sought to move an area proposed for ecological mitigation (Area A) to a new site outside the order limits next to two other areas being utilised for ecological mitigation (Halton Marshes Wet Grassland Scheme), thereby allowing all three areas to operate as a single unit. The application was accompanied by a brief review of the original ES to demonstrate that no materially different environmental impacts arose pursuant to the proposal. This submission was determined by the Secretary of State in early 2021, with The Able Marine Energy Park Development Consent (Amendment) Order 2021 (the 2021 Amendment Order) being made on 13th May 2021 and coming into force on 14th May 2021. A copy of the Amendment Order is provided within Technical Appendix ER1-2.

Material Change 2

- 4.1.15 In June 2021 an application for a material amendment to the DCO (Material Change 2) was submitted to the Planning Inspectorate under Schedule 6 of the Planning Act 2008 and Part 2 of the Infrastructure Planning (Changes to, Revocation of, Development Consent Orders) Regulations 2011 ('the 2021 application'). The material change comprised:

- Changes to the proposed quay layout to reclaim the specialist berth at the southern end of the quay, and to set back the quay line at the northern end of the quay to create a barge berth;
- The addition of options to the form of construction of the quay whereby the piled relieving slab to the rear of the quay could be raised or omitted entirely (subject to detailed design), and the quay wall piles could be restrained with more conventional steel anchor piles and tie bars in lieu of flap anchors;
- A change to the approved diversion of footpath FP50 in North Lincolnshire to avoid crossing over the existing rail track at the end of the Killingholme Branch Line;

- Provision of a third cross dam within the reclamation area to enable greater flexibility for staged completion, and early handover of sections of the quay;
- A change to the consented deposit location for 1.1M tonnes of clay to be dredged from the berthing pocket, to permit its disposal at HU081 and HU082 (see Figure 1-1 below); and
- An amendment to the sequencing of the quay works (as illustrated on the consented DCO drawings AMEP_P1D_D_101 to 103; Indicative Sequence Plan View[s]) to enable those works to commence at the southern end of the quay and progress northwards.

4.1.16 It should be noted that the changes to the proposed quay layout resulted in a reduction in footprint area reclaimed from the estuary. The DCO quay alignment has a footprint of 45 hectares, whilst the proposed quay alignment within the material amendment equated to a footprint of 43.6 hectares; a reduction of approximately 1.4 hectares.

4.1.17 In addition to the above, no alterations were proposed to the operation or decommissioning of the site. Nor were any alterations proposed to the Compensation Site (Cherry Cobb Sands) on the northern banks of the Humber. As such, these elements remain as considered and assessed within the original ES.

4.1.18 This application was determined by the Secretary of State in July 2022, with The Able Marine Energy Park Development Consent (Amendment) Order 2022 (the 2022 Amendment Order) being made on 13th July 2021 and coming into force on 14th July 2022. A copy of the Amendment Order is provided within Appendix ER1-3.

4.2.0 Scoping and Consultation Responses

Notification of Intention

4.2.1 The Applicant notified the Department of Transport of their intention to submit an application to extend the time limit set out in Article 7 in January 2023. A draft version of this ER was subsequently utilised to carry out non-statutory pre-application engagement with specific stakeholders, namely all those who were consulted on the original application (subject to any changes in identity).

4.2.2 A total of 108 stakeholders were consulted as part of this non-statutory pre-application engagement, whilst a total of 14 responses were received. A list of those consulted, along with any feedback received, is duly summarised in Chapter 5: Scoping and Consultation. Where appropriate, any individual topic related comments are also cross referenced within the respective topic chapters in this ER.

4.3.0 Changes to the Authorised Development

Proposed Extension of Time

- 4.3.1 Since the DCO came into force the Undertaker has been developing the Project for delivery and commenced the Project in June 2021 by starting construction of a surface water pumping station which forms part of the associated development. Nevertheless, market conditions have not yet enabled the commencement of the quay which is the element that comprises the nationally significant infrastructure project (NSIP). Given that the time limit in Article 7 prohibits new works from starting after 28 October 2024 without the approval of the Secretary of State. Accordingly, the undertaker now wishes to apply to the Secretary of State to extend the timeframe for completing the works by a further seven years.

Physical Alterations

- 4.3.2 There are no physical alterations proposed to the wider AMEP development, including either the layout and function of the Main Site south of the Humber nor the Compensation Site north of the Humber. Furthermore, there will be no changes to other ancillary works such as dredging operations or deposit sites, which will follow the details outlined in the original ES and Material Change 2 UES.

Changes to the Construction Methodology

- 4.3.3 There will be no changes to construction methodology, which will follow the details outlined in the original ES and Material Change 2 UES.

Operational Details

- 4.3.4 There will be no changes to operational details as previously defined within the original ES and Material Change 2 UES.

Variation to DCO

- 4.3.5 As this ER purely relates to an extension in the timescales to complete the development, as contained within Article 7 of the DCO (as made), there are no alterations to the drawings or associated information for the implementation of the development (as issued).

- 4.3.6 This submission will satisfy the requirement of Article 7 of the DCO to seek the Secretary of State's consent to extend the timescales for the completion of the development. The original wording is set out below:

"7. If the authorised development is not completed within 10 years from the coming into force of this Order or such extended time as the Secretary of State may on the application of the undertaker allow, then on the expiration of that period or such extended time (as the case may be) the rights granted by this Order to the undertaker for making and maintaining the works cease except as to so much of them as is then substantially commenced."

- 4.3.7 The alteration would include the extension of 7 years (from approval), however the remaining information would remain the same as outlined.

4.4.0 Consideration of Alternatives

- 4.4.1 As detailed within Chapter 2: Environmental Review Process, the 2017 EIA Regulations (as amended) require, amongst other things, that the EIA provides a description of the main alternatives to any scheme that have been reasonably considered by the Applicant.
- 4.4.2 The principal consideration of alternatives is contained within the original ES, as well as the Material Change 2. It is not considered necessary for the proposed Article 7 application, given there are no physical amendments proposed and given the nature of the review. As such, given that the development is subject to an extant consent and the current proposals only seek to extend the time periods within which the authorised development should be completed, the previous consideration of alternatives do not need to be considered further.
- 4.4.3 Nevertheless, given that the DCO scheme has been implemented (in part), the only true alternative would be the applicant not seeking an extension to the timescales associated therein. This would represent an undesirable outcome whereby the development may not be completed (in full), leaving the site part developed and the current elements of the development in situ but without fulfilling their intended purpose.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 5: SCOPING AND CONSULTATION

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



BASIS OF REPORT

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CONTENTS

5.1.0 INTRODUCTION	1
5.2.0 SCOPING AND CONSULTATION	2
EIA Scoping	2
Consultation	2

DOCUMENT REFERENCES

APPENDICES

Appendix ER5-1: Letter to Secretary of State for Transport – BDB Pitmans 19th May 2023

Appendix ER5-2: Secretary of State for Transport Response Email – dated 25th May 2023

Appendix ER5-3: Informal consultation letter regarding Article 7 extension – BDB Pitmans 2nd August 2023

Appendix ER5-4: Stakeholder Consultation Responses Received

Appendix ER5-5: Comments on Stakeholder Responses

5.1.0 Introduction

- 5.1.1 This Chapter of the Environmental Review (ER) outlines any Scoping and Consultation being undertaken to inform the content of the assessments previously undertaken, and the relevance to the proposed extension of time contained herein.
- 5.1.2 Given the limited scope of the proposals and the relevance to this assessment, no formal Scoping or Consultation has been undertaken for the ER. However, a draft version of this ER was utilised to carry out non-statutory pre-application engagement with specific stakeholders, namely all those who were directly consulted on the original application (subject to any changes in identity).
- 5.1.3 In addition, a formal EIA Scoping exercise was undertaken for the previous Material Change 2 UES and has been duly considered within the individual technical chapters within this ER. This previous Scoping exercise was, however, limited to the consideration of the effects of Material Change 2 upon the 'main site' south of the Humber (Chapters 7 - 24 of the original ES). No consideration was given to the content of the assessments which related to the compensation site, also referred to as 'Cherry Cobb Sands' (Chapters 31 - 42 of the original ES), as no amendments were proposed to the compensation site.
- 5.1.4 The information provided below is only intended to be a brief precis of the non-statutory pre-application engagement undertaken.

5.2.0 Scoping and Consultation

EIA Scoping

- 5.2.1 Given the nature of the application, no formal Scoping exercise was required or undertaken for the ER.

Consultation

- 5.2.2 Informal consultation was undertaken with the Secretary of State for Transport regarding the list of consultees / interested parties for issuing of a non-statutory consultation. A copy of the letter to the Secretary of State for Transport, prepared by BDB Pitmans and dated 19th May 2023, is provided within Appendix ER5-1, whilst the subsequent response from the Secretary of State, dated 25th May 2023, is provided within Appendix ER5-2.

Notification of Intention

- 5.2.3 The Applicant notified the Department of Transport of their intention to submit an application to extend the time limit set out in Article 7 in January 2023. A Draft for Consultation ER was prepared to undertake non-statutory pre-application engagement with the full list of consultees that were consulted about the original application (subject to changes of identity).
- 5.2.4 A copy of the letter to the consultees regarding Article 7 submission, as prepared by BDB Pitmans and dated 2nd August 2023, is provided within Appendix ER5-3.

Feedback

- 5.2.5 A total of 108 stakeholders were consulted as part of this non-statutory pre-application engagement. Table 5-1 below provides a comprehensive list of all stakeholders engaged as part of the non-statutory pre-application engagement.

Table 5-1: Stakeholders Engaged During Non-Statutory Pre-Application Engagement

Alliance & Leicester plc (Now Santander)	Humber Emergency Planning Service	Paull Parish Council
Anglian Water	Humber NHS Foundation Trust	Preston Parish Council
Associated British Ports	Humberside Fire & Rescue Service	Preston, Thorngumbald and Keyingham Level IDBs
Associated Petroleum Terminals (Immingham) Limited	Humberside Police	Quadrant Pipelines Ltd (GTC Operates)
Bank of Scotland plc	Immingham CHP (ICHP) (now VPI Immingham LLP)	R A, M & R P Wilkins
Bassetlaw District Council	Immingham Town Council	Reeve Bros (Farmers) Limited
Benton Bros (Transport) Limited	Independent Pipelines Ltd (GTC Operates)	RJ Robinson & Partners
British Waterways North East (Now Canal & River Trust)	Independent Power Networks Ltd (GTC Operates)	Rotherham, Doncaster and South Humber Mental Health NHS Foundation Trust
Broads Authority	Joint Nature Conservation Committee	Royal Mail Legal Services (Property Law) (BNP Paribas)
Brocklesby Parish	Graham Milner	Ryedale District Council
C.Ro Ports Killingholme Limited (Now	Keelby Parish Council	S J Kirkwood

CLDN PORTS KILLINGHOLME LIMITED)		
Centrica Energy	Keyingham Parish Council	Scarborough Borough Council
City of York Council	Lincolnshire County Council	Scottish & Southern Energy PLC
Civil Aviation Authority	Marine Management Control Team	Secretary of State for Defence
Commission for Architecture & the Built Env. (Now Design Council)	Maritime & Coastguard Agency	Secretary of State for Transport
Conoco Phillips (Now Phillips 66)	National Grid Electricity Transmission plc	South Killingholme Parish Council
Doncaster Metropolitan Borough Council	National Grid Gas PLC	Southern Gas Networks PLC
DRAX Power Station	NATS En Route PLC	Sunk Island Parish Council
Eon UK Plc	Natural England	The Coal Authority
East Halton Parish Council	NELDB Internal Drainage Board	The Crown Estat
East Riding of Yorkshire Council	Network Rail	The Electricity Network Company Ltd (GTC Operates)
English Heritage (Yorkshire Region)	NHS East Riding of Yorkshire	The Gas Transportation Company Ltd (GTC Operates)
Environment Agency	NHS Hull	Thorngumbald Parish Council
ES Pipelines Ltd	NHS North Lincolnshire	TOTAL Lindsey Oil Refinery (Now Prax)
Forestry Commission England Sherwood and Lincs. Forest District	NHS Yorkshire and the Humber	Trinity House
Fulcrum Pipelines Limited	North East Lincolnshire Council	UK Power Networks (IDNO) Limited
Greystar (Now Penspen)	North Killingholme Parish Council	Ulceby Parish Council
GTC Pipelines Ltd	North Lincolnshire Council	Wales and West Utilities Ltd
Habrough Parish Council	North Yorkshire County Council	Water Services Regulation Authority
Health & Safety Executive	Northern Gas Networks Ltd	Welwick Parish Council
Health Protection Agency - Yorkshire & Humber	Northern Lincolnshire & Goole Hospitals NHS Trust	West Lindsey District Council
Hedon Town Council	Northern Power Grid	Western Power Distribution (East Midlands) plc
Highways Agency	Nottinghamshire County Council	Winifred Mary Taylor
Homes & Communities Agency (Now Homes England and Regulator of Social Housing)	Office of Gas & Electricity Markets	Yorkshire Ambulance Service NHS Trust
Hull City Council	Office of Rail Regulation	Yorkshire Electricity Group plc
Patrington Parish Council	Ottringham Parish Council	Yorkshire Water Plc. (Now Kelda Group plc)

5.2.6 A total of 13 responses were received from the following stakeholders:

- **The Environment Agency;**
- **Associated British Ports;**
- Canal and River Trust (no comment);
- West Lindsey District Council (no comment);
- **Uniper UK Limited;**
- Maritime and Coastguard Agency (no comment);

- North Lincolnshire Council (no comment);
- Phillips 66 (no comment);
- The Coal Authority (no comment);
- Trinity House (no comment);
- Civil Aviation Authority (no comment);
- **Hull City Council**; and
- **Associated Petroleum Terminals (Immingham) Ltd.**

5.2.7 All responses received as part of this non-statutory pre-application engagement is provided within Appendix ER5-4.

5.2.8 As can be noted, a total of 8 'no comment' responses were received, whilst the remaining 5 responses (highlighted in bold) raised comments regarding the age of the EIA and HRA, as well as queries regarding whether certain existing protective provisions still apply.

5.2.9 Where appropriate, these comments have been duly considered within the various Chapters of this ER. AHPL's comments to these responses is provided within Appendix ER5-5.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 6: DESCRIPTION OF COMMITTED DEVELOPMENTS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
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BASIS OF REPORT

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CONTENTS

6.1.0 INTRODUCTION	1
6.2.0 COMMITTED DEVELOPMENTS	2
6.3.0 DESCRIPTION OF COMMITTED DEVELOPMENTS	5
Able Logistics Park.....	5
North Killingholme Generating Station	5
Hornsea Offshore Wind Farm (Zone 4) Project 2.....	5
Yorkshire Energy Park.....	5
Immingham Eastern Ro-Ro Terminal	5
6.4.0 PROJECTS EXCLUDED FROM CONSIDERATION	7

DOCUMENT REFERENCES

TABLES

Table 6-1: Committed Developments as of July 2023.....	2
Table 6-2: Projects Excluded from Consideration	7

APPENDICES

Appendix ER6-1: Committed Developments Location Plan	
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6.1.0 Introduction

- 6.1.1 This Environmental Review (ER) includes an assessment of any direct and indirect cumulative effects arising from the development when considered alongside any other developments in the area surrounding the site. The objective is to identify any combined effects from the development of other projects; and if, whilst individually the effects may be insignificant, could, when considered together, cause a further significant or indirect impact requiring mitigation.
- 6.1.2 The consideration of the potential for cumulative effects is provided within the individual topic chapters, whilst a more detailed assessment of cumulative and in-combination effects is contained within Chapter 44 of this ER.
- 6.1.3 As the Article 7 submission is limited to an extension to the time limits by which the authorised development should be completed (with no physical changes to the approved scheme), the likelihood of cumulative impacts which have not been previously assessed is very limited. Details of the schemes excluded from this cumulative assessment are detailed in Table 6-2 below.
- 6.1.4 In relation to other developments, best practice dictates that cumulative assessments of this nature should have regard to those schemes which are 'reasonably foreseeable' (i.e. usually those under construction or with planning permission). The assessment is only capable of being carried out based on the information available at the time of assessment.
- 6.1.5 This Chapter provides a factual account of the surrounding developments in the local area that have been considered from a cumulative perspective.

6.2.0 Committed Developments

- 6.2.1 Supplementary Report EX 44.1 ‘Cumulative and In-Combination Effects’¹ was submitted as part of the original Environmental Statement (the original ES) prepared in support of the DCO. EX44.2 ‘Addendum to EX44.1’², was also subsequently issued and also forms part of the original ES; this updated the cumulative and in combination assessment in relation to aquatic ecology.
- 6.2.2 EX44.1 and EX44.2 detailed the plans and projects which, in-combination with the proposed development, could have given rise to likely significant effects. EX44.1 was prepared in June 2012 and EX44.2 was issued in October 2012, whilst the DCO came into force on 29 October 2014. As a result, many of the plans and projects detailed in the Supplementary Reports have either lapsed or are now operational.
- 6.2.3 The consideration of committed developments within the original ES was updated, in part (for the main site), within the Material Change 2 UES. Again, Chapter 6 of the Material Change 2 UES identified any more recent projects which were ‘committed’ since the time of the DCO coming into force in October 2014 and whether these had potential to give rise to likely significant effects.
- 6.2.4 Therefore, this Chapter focusses on the projects which are approved but not yet built or are otherwise reasonably foreseeable as at the time of this ER being prepared in 2023. The list of such projects is set out in Table 6-1 below and their location is detailed in Appendix ER6-1.
- 6.2.5 With the exception of the Immingham Eastern Ro-Ro Terminal development, the list of sites identified below remains unchanged from that contained within the previous Material Change 2 UES.

Table 6-1: Committed Developments as of July 2023

Application Allocation Ref.	Site Address	Summary / Description of Development	Distance to AMEP DCO
Able Logistics Park – PA/2015/1264 – North Lincolnshire Council	Land off Skitter Road, East Halton	Erect buildings and use land for purposes within Use Classes A3, C1, B1, B2 and B8 for port-related storage and associated service facilities together with amenity landscaping and habitat creation, including flood defences, new railway siding, estate roads, sewage and drainage facilities, floodlighting, waste processing facility, hydrogen pipeline spur and two 20 metre telecommunication masts.	~1.5km
North Killingholme Generating Station (DCO Application)	South bank of the Humber Estuary near North Killingholme, North	The development is a Thermal generating station that would operate either as a Combined Cycle Gas	~500m

¹https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001612-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%202%20of%202.zip

²https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

Application Allocation Ref. /	Site Address	Summary / Description of Development	Distance to AMEP DCO
	Lincolnshire.	Turbine (CCGT) plant or as an Integrated Gasification Combined Cycle (IGCC) plant, with a total electrical output of up to 470MWe in North Killingholme, Lincolnshire.	
Hornsea Offshore Wind Farm (Zone 4) Project 2 (DCO Application)	The windfarm itself is 89km east of East Riding of Yorkshire coast. However, cables arrive onshore approximately 30km from AMEP DCO and eventually arrive at a National Grid substation approximately 400m from the AMEP DCO site.	Up to 360 wind turbine generators and associated infrastructure, such as electrical export cables and substations, up to the point of connection with the National Grid network via the Killingholme Substation, an existing 400 kilovolt (kV) substation located in the Humber region.	The windfarm itself is 89km east of East Riding of Yorkshire coast. However, cables arrive onshore approximately 30km from AMEP DCO and eventually arrive at a National Grid substation approximately 400m from the AMEP DCO site.
Yorkshire Energy Park (17/01673/STOUTE – East Riding of Yorkshire Council)	Land North West Of Kingstown Hotel Hull Road Hedon East Riding Of Yorkshire	Outline planning application for a mixed use comprising a business park (B1a, B1b, B1c, B2, B8) and an education, training and research campus (incorporating outdoor building materials testing facility) and associated residential accommodation (B1a, B1b, D1 and Sui Generis); on-site energy infrastructure (providing energy to on-site users) (Sui Generis), offsite energy infrastructure (generating energy to export into the grid) (Sui Generis), with generation from on-site energy infrastructure and off-site energy infrastructure totalling less than 50MW), and a primary substation (Sui Generis); data centre (600 racks) and associated disaster recovery suite (B1a and Sui Generis); relocated sports facilities (D2); landscaping and open space.	~7.8km
Immingham Eastern Ro-Ro Terminal (DCO Application - PINS reference TR030007)	Port of Immingham, Southern Bank of the Humber Estuary.	The proposed development will comprise the construction of three new Ro-Ro berths within the Humber Estuary and associated landside works in the existing Port of Immingham. This comprises: (i) The alteration to existing harbour facilities, namely the Port of Immingham, by the construction of new ro-ro marine infrastructure comprising an approach jetty, floating pontoons and two finger piers which will provide three new ro-ro berths; (ii) A capital dredge of the new berth	~3.1km

Application Allocation Ref.	Site Address	Summary / Description of Development	Distance to AMEP DCO
		<p>pocket area;</p> <p>(iii) As 'associated development', the provision within ABP's statutory port estate of Ro-Ro cargo storage areas;</p> <p>(iv) Facilities for the UK Border Force; and</p> <p>(v) Supporting and associated infrastructure and services, including improvements to the Port's East Gate entrance.</p>	

6.3.0 Description of Committed Developments

Able Logistics Park

- 6.3.1 Erect buildings and use land for purposes within Use Classes A3, C1, B1, B2 and B8 for port-related storage and associated service facilities together with amenity landscaping and habitat creation, including flood defences, new railway siding, estate roads, sewage and drainage facilities, floodlighting, waste processing facility, hydrogen pipeline spur and two 20 metre telecommunication masts. Planning permission was originally granted by North Lincolnshire Council in July 2013 (application ref. PA/2009/0600), whilst a variation to this was consented in February 2016 (application ref. PA/2015/1264). The various conditions attached to PA/2015/1264 have been discharged and the permission was formally implemented by the creation of a wetland mitigation site and the construction of the site access. The earlier permission has lapsed.

North Killingholme Generating Station

- 6.3.2 The development is an electricity generating station that would operate either as a Combined Cycle Gas Turbine (CCGT) plant or as an Integrated Gasification Combined Cycle (IGCC) plant, with a total electrical output of up to 470MWe in North Killingholme, Lincolnshire. It was granted a Development Consent Order in October 2014 which was originally due to lapse in October 2021. The developer subsequently submitted a non-material change to extend the implementation period until October 2026; with the Amendment Order coming into force on 17th September 2021.

Hornsea Offshore Wind Farm (Zone 4) Project 2

- 6.3.3 This project involves the construction of up to 360 wind turbine generators and associated infrastructure such as electrical export cables and substations, up to the point of connection with the National Grid Network via the Killingholme Substation, an existing 400 kilovolt (kV) substation located in the Humber Region. The Project was granted a Development Consent Order in September 2016 and this includes for routing an onshore cable from Horseshoe Point to North Killingholme 900m from the AMEP boundary. The Converter station has already been constructed.

Yorkshire Energy Park

- 6.3.4 Outline planning application for development of the site for mixed use comprising a business park (B1a, B1b, B1c, B2, B8) and an education, training and research campus (incorporating outdoor building materials testing facility) and associated residential accommodation (B1a, B1b, D1 and Sui Generis); on-site energy infrastructure (providing energy to on-site users) (Sui Generis), offsite energy infrastructure (generating energy to export into the grid) (Sui Generis), with generation from on-site energy infrastructure and off-site energy infrastructure totalling less than 50MW), and a primary substation (Sui Generis); data centre (600 racks) and associated disaster recovery suite (B1a and Sui Generis); relocated sports facilities (D2); landscaping and open space.

Immingham Eastern Ro-Ro Terminal

- 6.3.5 An application for the Immingham Eastern Ro-Ro Terminal was originally submitted to the Planning Inspectorate by Associated British Ports (ABP) in January 2023 and subsequently withdrawn on 1st February 2023. A revised submission was made in February 2023 and accepted for examination in March 2023. The application is now at Rule 6 Stage with a Preliminary Meeting being held on 25th

July 2023. Further dates for the examination process will be published following the completion of this Preliminary Meeting.

6.3.6 The application seeks consent for the construction of three new Ro-Ro berths within the Humber Estuary and associated landside works in the existing Port of Immingham. With regard to the marine works, these comprise:

- An approach jetty from the shore linked to two floating pontoons appropriately secured in position;
- Two separate finger piers to provide three berths thereby enabling the vessels to berth alongside with their stern ramps resting upon two floating pontoons;
- A capital dredge of the new berth pocket;
- Disposal of dredged material at sea if no beneficial alternative can be identified; and
- Possible impact protection measures if required.

6.3.7 With regard to the land based works, these comprise:

- Demolition and redevelopment of a number of existing commercial buildings within the site;
- Improvement of the existing cargo storage areas, including resurfacing and provision of new pavements and associated infrastructure;
- A terminal building and a small welfare building to provide appropriate facilities for terminal operational and administration staff, lorry drivers and passengers;
- A small workshop with fuel station;
- Facilities for UK Border Force;
- An internal bridge within the site to cross over Robinson Road and the ABP managed transit sidings;
- Related utilities and operational infrastructure;
- Creation of a second entrance lane at the Port's East Gate; and
- Environmental enhancement.

6.4.0 Projects Excluded from Consideration

6.4.1 As detailed in Paragraph 6.1.2 above, this chapter focusses on the potential for cumulative impacts associated with the Article 7 submission. This is because any other cumulative impacts associated with the wider DCO have already been assessed; have been found to be acceptable; and can be undertaken without the need for any further development consent. Nevertheless, in order to demonstrate due consideration for potential in-combination effects, other projects and their reason for exclusion are described below and their location is detailed in Appendix ER6-1.

Table 6-2: Projects Excluded from Consideration

Application / Allocation Ref.	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
Paull Road, Paull Local Development Order (12/04951/LDOC - East Riding of Yorkshire Council)	Land West Of Paull Road Paull East Riding Of Yorkshire	Local Development Order granting outline planning permission for the erection of buildings and/or the use of land for Class B2 (General Industrial) Uses of the Town and Country Planning (Use Classes) Order 1987 (and its subsequent amendments), specifically uses associated with port related renewable and low carbon industries on 80 hectares of agricultural land between Saltend and Paull (Local Development Order is accompanied by an Environmental Impact Assessment)	This planning permission has now expired.
Hornsea Offshore Wind Farm (Zone 4) Project One (DCO Application)	Approximately 40km offshore from Humberside.	The DCO for Project One authorises the construction and operation of up to 332 wind turbines, up to two offshore accommodation platforms, up to five offshore HVAC collector substations, up to two offshore HVDC converter stations, an offshore HVAC reactive compensation substation, subsea inter-array electrical circuits, a marine connection to the shore approximately 150 km in length, a foreshore connection and from the proposed landfall point at Horseshoe Point, onshore cables which will connect the offshore wind farms to the onshore electrical transmission station and the connection from there to	Construction completed. Therefore, this development forms part of the current baseline.

Application Allocation Ref. /	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
		National Grid's existing substation at North Killingholme, a distance of approximately 40 km.	
Port of Hull Local Development Order (17/00173/LDO – Hull City Council)	Port of Hull, Hedon Road.	LDO granting outline planning permission for the erection of buildings and/or the use of land for Class B2 use, specifically uses associated with renewable and low carbon industries, on land at Alexandra Dock and Queen Elizabeth Dock. Permission covers access and uses falling both: 1. within B2 (General Industrial uses) of the Town and Country Planning (Use Classes) Order 1987 (and its subsequent amendments), (excluding incineration purposes, heat treatment of waste, energy generation, chemical treatment or landfill or hazardous waste), and including office, research and development, light industry, and storage uses ancillary to the main industrial use (see Definitions below); and 2. being uses associated with renewable and low carbon industries.	No cumulative impacts predicted due to distance between developments and absence of marine based works in this development.
Green Port Hull Development of land at Alexandra Dock for manufacture etc of Wind Turbine Component (11/01176/S73 & 11/01177/OUT – Hull City Council)	Port of Hull, Hedon Road.	Development of land at Alexandra Dock, including the demolition of existing buildings (excluding the listed hydraulic engine house and tower and adjacent unlisted chimney), for use as a facility for the manufacture, assembly, storage, handling and testing of wind turbine components for the offshore power industry	These permissions were supplemented and, in part, superseded by various later applications, including: <ul style="list-style-type: none"> • 12/00005/FULL • 12/00121/LDO • 14/00777/FULL • 14/00778/FULL • 17/00173/LDO • 20/00334/S73 • 20/00574/S73 • 21/01581/RES The development has been implemented and the latter applications considered AMEP in combination.
Hedon Haven Local	Land South West Of	Hybrid planning application for	No likely cumulative effects

Application Allocation Ref. /	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
Development Order (18/04071/STPLFE – East Riding of Yorkshire Council)	Hedon Bypass Hedon East Riding Of Yorkshire HU12 8AA	the development of land at Hedon Haven comprising: 1. An application for full planning permission for the construction of a new estate road between Hull Road (A1033) and Paull Road, together with associated infrastructure and works; and 2.	predicted. AMEP was excluded from the cumulative assessment which accompanied this planning application.
Grimsby Gas Engines - replacement of power generators (DM/0104/16/FUL – North East Lincolnshire Council)	Grimsby Gas Engines Moody Lane Grimsby North East Lincolnshire DN31 2SY	Replacement of existing obsolete power generation equipment with new, containerised, gas-engine generators, to act as a reserve generation site. The site will comprise up to 14 containerised generators, with a combined electrical export capacity of 20MW - the same as the existing plant. The new plant will utilise the existing electrical grid connection infrastructure and gas supply.	Due to the relatively small nature of the proposed development, no cumulative effects are predicted.
River Humber Replacement Gas Pipeline Project (DCO Application)	Approximately 2 miles north east of Goxhill, North Lincolnshire, terminating approximately 1 mile south east of Paull, East Riding of Yorkshire	The replacement of a 42 natural gas transmission pipeline, housed within a tunnel beneath the Humber Estuary	This development is now complete.
Welwick to Skeffling Managed Realignment Scheme (19/00786/SPTLFE – East Riding of Yorkshire Council)	Land West And South West Of Long Lane Skeffling East Riding Of Yorkshire HU12 0UX	Managed realignment at Welwick to Skeffling comprising new earth embankments habitat creation and mitigation area with associated works including new car park, viewing platforms or bird hides, fencing, footpath and footbridge improvement, gravity fall drain and ramp over new flood embankment to enable machinery access	No cumulative impact predicted. AMEP excluded from cumulative assessment which accompanied this planning application.
Outstrays Managed Realignment Scheme (19/00783/SPTLFE – East Riding of Yorkshire Council)	Land South West Of Welwick Bank Bridge Humber Side Lane Welwick East Riding Of Yorkshire HU12 0QT	Outstrays Managed Realignment Scheme comprising new earth embankments, habitat creation and mitigation area with associated works including piling, new viewing platforms or bird hides, reinstatement of bird hide at Haverfield Quarry,	No cumulative impact predicted. AMEP excluded from cumulative assessment which accompanied this planning application.

Application Allocation Ref. /	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
		creation of new passive access from Outstrays Farm to western end of West 1, creation of public access route around the edge of West 2, improvement of other footpaths and bridges, access ramps, provision of fencing, french drain and vegetation clearance including woodland at western end of West 1	
Humber Hull Frontages (18/01058/FULL – Hull City Council)	Land Adjacent To Humber Estuary, Including St Andrews Quay, St Andrews Dock, William Wright Dock, Albert Dock, Island Wharf, Humber Dock Basin, Victoria Pier, Victoria Dock Village And West	Hybrid Application (part outline, part full) for the construction of a Flood Defence scheme including associated structures, access, landscaping and construction works.	Work due to be complete in March 2021. Therefore, any impact of this scheme would be included in the baseline.
Winteringham Ings to South Ferriby Flood Alleviation Scheme (PA/2018/2324 – North Lincolnshire Council)	Land in the vicinity of Ferriby Sluice, Sluice Road, South Ferriby (also within Winteringham and Winterton Parishes)	Planning permission for the construction of a Flood Alleviation Scheme between the CEMEX Plant and South Ferriby (approximate length of 3km); permanent works comprise new embankments, raising and increasing the footprint of an existing flood embankment, raising and replacing existing flood defence walls, new flood defence walls and installation of fixings for demountable flood defences; temporary works include soil stockpiling, site compounds, access points from the A1077 and footpath diversions	No cumulative impact predicted. AMEP excluded from cumulative assessment which accompanied this planning application.
South Humber Bank Energy Centre (DM/1070/18/FUL – North East Lincolnshire Council)	Land Rear Of Power Station Hobson Way Stallingborough North East Lincolnshire	Construction of an energy from waste facility of up to 49.9MWe gross capacity including emissions stack(s), associated infrastructure including parking areas, hard and soft landscaping, the creation of a new access to South Marsh Road, weighbridge facility, and drainage infrastructure	No cumulative impact predicted. AMEP excluded from cumulative assessment which accompanied this planning application and DCO submission.

Application Allocation Ref. /	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
South Humber Bank Energy Centre (DCO Application)		The construction and operation of an energy from waste plant of up to 95 megawatts gross capacity and associated development including an electrical connection, landscaping and access.	
Queens Road Estate, Immingham – DM/1027/13/OUT – North East Lincolnshire Council.	Queens Road Estate, Immingham	Proposed Outline development of site E1/3 in the NELC local plan for general industry (B2) storage and distribution (B8) and minor office development, research and development, light industry (B1) with associated access & landscaping.	The ES which accompanied this planning application considered that the only likely cumulative impact with AMEP was associated with vehicular movements. Such impacts were found to be acceptable. As the Article 7 submission does not alter vehicular movements, it is not proposed to undertake a cumulative assessment with this application.
Centrica Outfall	Area bounded by co-ordinates (53°39.670'N, 00°13.696'W), (53°39.713'N, 00°13.570'W), (53°39.666'N, 00°13.523'W) and (53°39.623'N, 00°13.647'W)	Power plant intakes/thermal re-circulation. (Operation Phase)	Please see Appendix ER9-1 which confirms that the Centrica Killingholme Power Station permit, ref SP3133LY, was subject to the closure and decommissioning requirement outline below. A site closure plan was submitted to the Environment Agency and the Permit surrendered on 18 September 2017. As there is no longer any valid permit for the operation of this intake/outfall there is no need to undertake any plume modelling
The Immingham Open Cycle Gas Turbine Order 2020 (DCO) – S.I. 2020 No. 847.	Land west of Rosper Road, South Killingholme, Immingham, DN40 3DZ.	The construction and operation of a new Open Cycle Gas Turbine ('OCGT') Power Station of up to 299 megawatts ('MW') gross output and associated development including gas and electrical connections.	AMEP was considered as a cumulative development in the ES for this DCO application. The consideration of cumulative impacts was limited to construction traffic as both developments could be under construction at the same time. The ES concluded that there will be no significant cumulative effects predicted for traffic (Paragraph 17.6.32). As the development subject to this Article 7 submission does not alter construction vehicle movements, there is no potential for additional cumulative effects

Application Allocation Ref. /	Site Address	Summary / Description of Development	Reason for exclusion from in-combination assessment
			in combination with this development.
PA/2018/918 – Planning permission to construct a new gas-fired power station with a gross electrical output of up to 49.9 megawatts	VPI Immingham Energy Park A, Rosper Road, Immingham, North Lincolnshire, DN40 4DZ	Construction of a new gas-fired power station with a gross electrical output of up to 49.9 megawatts	AMEP was not considered as a cumulative development within the ES for this planning application. Therefore, no consideration of cumulative effects with this planning application is proposed as part of this Article 7 submission.
20/02483/STPLFE (East Riding) - Construction of flood defence works to stabilise existing earth embankment a more substantial rock armour protection.	North bank of the Humber adjacent to Hawkins Point	Construction of flood defence works to stabilise existing earth embankment a more substantial rock armour protection.	This application site is approximately 11km from AMEP (measured in a straight line). Following a precautionary principle, the Ecological Impact Assessment which accompanied this planning application set a maximum zone of influence of 5km. Furthermore, the HRA Report which accompanied the planning application did consider in-combination impacts between the proposed scheme and AMEP. The HRA predicted no in-combination effects with the proposed development and that proposed at AMEP during both the construction and operational stages. As a result, cumulative impacts with the proposed development are not proposed to be assessed in this Environmental Statement.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTERS 7-24: CONSIDERATION OF MATERIAL CHANGE 2 UES FOR MAIN SITE

Able Marine Energy Park, Killingholme, North Lincolnshire

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CONTENTS

7.1.0 INTRODUCTION.....	7-1
Development Consent Order	7-1
The Original ES and Material Change 2 UES.....	7-1
Purpose and Structure of Chapter	7-2
7.2.0 CHAPTER 7 - GEOLOGY, HYDROGEOLOGY AND GROUND CONDITIONS.....	7-4
Introduction.....	7-4
Content of Original ES	7-4
Content of Material Change 2 UES.....	7-4
Consideration of Proposed Extension of Time.....	7-5
Conclusions.....	7-5
8.1.0 CHAPTER 8 - HYDRODYNAMIC AND SEDIMENTARY REGIME	8-1
Content of Original ES	8-1
Content of Material Change 2 UES.....	8-2
Consideration of Proposed Extension of Time.....	8-2
Conclusions.....	8-3
9.1.0 CHAPTER 9 - WATER AND SEDIMENT QUALITY	9-1
Content of Original ES	9-1
Content of Material Change 2 UES.....	9-2
Consideration of Proposed Extension of Time.....	9-2
Conclusions.....	9-2
10.1.0 CHAPTER 10 - AQUATIC ECOLOGY.....	10-1
Content of Original ES	10-1
Content of Material Change 2 UES.....	10-2
Consideration of Proposed Extension of Time.....	10-2
Conclusions.....	10-3
11.1.0 CHAPTER 11 - TERRESTRIAL ECOLOGY	11-1
Content of Original ES	11-1
Content of Material Change 2 UES.....	11-2
Consideration of Proposed Extension of Time.....	11-2
Conclusions.....	11-6

12.1.0	CHAPTER 12 - COMMERCIAL AND RECREATIONAL FISHERIES	12-1
	Content of Original ES	12-1
	Content of Material Change 2 UES	12-1
	Consideration of Proposed Extension of Time	12-1
	Conclusions	12-3
13.1.0	CHAPTER 13 - DRAINAGE AND FLOOD RISK	13-1
	Content of Original ES	13-1
	Content of Material Change 2 UES	13-1
	Consideration of Proposed Extension of Time	13-2
	Conclusions	13-3
14.1.0	CHAPTER 14 – COMMERCIAL AND RECREATIONAL NAVIGATION	14-1
	Content of Original ES	14-1
	Content of Material Change 2 UES	14-2
	Consideration of Proposed Extension of Time	14-3
	Conclusions	14-4
15.1.0	CHAPTER 15 – TRAFFIC AND TRANSPORT	15-1
	Content of Original ES	15-1
	Content of Material Change 2 UES	15-2
	Consideration of Proposed Extension of Time	15-2
	Conclusions	15-2
16.1.0	CHAPTER 16 – NOISE AND VIBRATION	16-1
	Content of Original ES	16-1
	Content of Material Change 2 UES	16-1
	Consideration of Proposed Extension of Time	16-1
	Conclusions	16-3
17.1.0	CHAPTER 17 - AIR QUALITY	17-1
	Content of Original ES	17-1
	Content of Material Change 2 UES	17-1
	Consideration of Proposed Extension of Time	17-2
	Conclusions	17-2
18.1.0	CHAPTER 18 - HISTORIC ENVIRONMENT	18-1
	Content of Original ES	18-1
	Content of Material Change 2 UES	18-2

Consideration of Proposed Extension of Time	18-2
Conclusions.....	18-6
19.1.0 CHAPTER 19 - LIGHT	19-1
Content of Original ES	19-1
Content of Material Change 2 UES.....	19-1
Consideration of Proposed Extension of Time	19-1
Conclusions.....	19-1
20.1.0 CHAPTER 20 - LANDSCAPE AND VISUAL	20-1
Content of Original ES	20-1
Content of Material Change 2 UES.....	20-2
Consideration of Proposed Extension of Time	20-2
Conclusions.....	20-3
21.1.0 CHAPTER 21 - SOCIO-ECONOMICS.....	21-1
Content of Original ES	21-1
Content of Material Change 2 UES.....	21-1
Consideration of Proposed Extension of Time	21-2
Conclusions.....	21-2
22.1.0 CHAPTER 22 - AVIATION	22-1
Content of Original ES	22-1
Content of Material Change 2 UES.....	22-2
Consideration of Proposed Extension of Time	22-3
Conclusion	22-3
23.1.0 CHAPTER 23 – WASTE (TERRESTRIAL).....	23-1
Content of Original ES	23-1
Content of Material Change 2 UES.....	23-1
Consideration of Proposed Extension of Time	23-1
Conclusions.....	23-1
24.1.0 CHAPTER 24 – HEALTH.....	24-1
Content of Original ES	24-1
Content of Material Change 2 UES.....	24-1
Consideration of Proposed Extension of Time	24-2
Conclusions.....	24-3

DOCUMENT REFERENCES

FIGURES

Figure 20-1: Viewpoints Location Plan (Figure 20.3 of original ES)20-2

APPENDICES

Appendix ER11-1: Autumn / Winter Bird Survey 2022-23 Report

7.1.0 Introduction

Development Consent Order

7.1.1 In December 2011 Able Humber Ports Limited ('the Applicant' and 'the undertaker') submitted an application ('the 2011 application') for development consent for the Able Marine Energy Park ('the Project'). On 18 December 2013, the Secretary of State for Transport granted development consent by way of a Development Consent Order ('DCO') (SI 2014/2935).

7.1.2 The DCO for the Able Marine Energy Park (AMEP) was made on 13th January 2014, laid before Parliament on 10th February 2014 and subsequently came into force on 29th October 2014 (Statutory Instrument 2014 No. 2935). A copy of the DCO is provided within Technical Appendix ER1-1.

The Original ES and Material Change 2 UES

7.1.3 The 2011 application was accompanied by an Environmental Statement (ES). During the examination of the proposals, additional environmental information was submitted by the Applicant and was incorporated into the ES for the Project. The documents forming the project ES are listed at Schedule 11, paragraph 1 of the AMEP DCO¹, and this complete set of documents is referred to in this Environmental Review as 'the original ES'.

7.1.4 In June 2021 an application for a material amendment to the DCO ('Material Change 2') was submitted to the Planning Inspectorate under Schedule 6 of the Planning Act 2008 and Part 2 of the Infrastructure Planning (Changes to, Revocation of, Development Consent Orders) Regulations 2011 ('the 2021 application'). The material change comprised:

- Changes to the proposed quay layout to reclaim a specialist berth at the southern end of the quay, and to set back the quay line at the northern end of the quay to create a barge berth;
- The addition of options to the form of construction of the quay whereby the piled relieving slab to the rear of the quay could be raised or omitted entirely (subject to detailed design), and the quay wall piles could be restrained with more conventional steel anchor piles and tie bars in lieu of flap anchors;
- A change to the approved diversion of footpath FP50 in North Lincolnshire to avoid crossing over the existing rail track at the end of the Killingholme Branch Line;
- Provision of a third cross dam within the reclamation area to enable greater flexibility for staged completion, and early handover of sections of the quay;
- A change to the consented deposit location for 1.1M tonnes of clay to be dredged from the berthing pocket, to permit its disposal at HU081 and HU082; and
- An amendment to the sequencing of the quay works to enable those works to commence at the southern end of the quay and progress northwards.

¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-002174-The%20Able%20Marine%20Energy%20Park%20Development%20Consent%20Order%202014.pdf>

7.1.5 Material Change 2 was considered to represent ‘EIA development’ as it met the definition of Schedule 2 development as set out in The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (‘the EIA Regulations’); namely, the proposals represent a change to a Schedule 1 development, where that development is already authorised (by virtue of the AMEP DCO), and the changes had the potential to give rise to significant effects of a new or different nature to those reported in the original ES. Accordingly, the application was accompanied by an Updated Environmental Assessment (UES) which covered those environmental issues that had the potential to be impacted by the change. Certain environmental issues were screened out of requiring a new assessment. Within this ER, this is referred to as Material Change 2, whilst the supporting EIA related documents are referred to as either the Material Change 2 UES and/or MC2 UES.

7.1.6 This application was determined by the Secretary of State in July 2022, with The Able Marine Energy Park Development Consent (Amendment) Order 2022 (the 2022 Amendment Order) being made on 13th July 2021 and coming into force on 14th July 2022. A copy of the Amendment Order is provided within Appendix ER1-3.

Purpose and Structure of Chapter

7.1.7 This Chapter of the Environmental Review (ER) provides a technical review of the information contained within the Material Change 2 UES in considering the proposed extended time limits in the DCO by which the authorised development should be completed. As agreed with the Secretary of State for Transport, this submission does not constitute a change to the DCO, but rather a standalone process as set out in Article 7 of the DCO. To support the application, the content herein considers the information contained within the Material Change 2 UES (and indirectly the original ES).

7.1.8 As such, the following technical chapters from the Material Change 2 UES have been condensed into this chapter of the Article 7 ER:

- Chapter 7: Geology, Hydrogeology and Ground Conditions;
- Chapter 8: Hydrodynamic and Sedimentary Regime;
- Chapter 9: Water and Sediment Quality;
- Chapter 10: Aquatic Ecology;
- Chapter 11: Terrestrial Ecology;
- Chapter 12: Commercial Fisheries;
- Chapter 13: Drainage and Flood Risk;
- Chapter 14: Commercial and Recreational Navigation;
- Chapter 15: Traffic and Transport;
- Chapter 16: Noise and Vibration;
- Chapter 17: Air Quality;

- Chapter 18: Historic Environment;
- Chapter 19: Light;
- Chapter 20: Landscape and Visual;
- Chapter 21: Socio-Economics;
- Chapter 22: Aviation;
- Chapter 23: Waste; and
- Chapter 24: Health.

7.1.9 The purpose of this Chapter will be to assess previous work carried out in the Material Change 2 UES (and indirectly the original ES), to verify that the proposed seven year extension will not alter the findings contained therein.

7.1.10 Where relevant, Appendices included in the original ES and Material Change 2 UES have been cross referenced but are not included in this ER. However, a further Autumn / Winter Bird Survey 2022-23 Report has become available since writing the previous Material Change 2 UES and is provided within Appendix ER11-1; the findings of this report are duly cross referenced within Chapter 11 below.

7.1.11 Where appropriate, a basic check for any changes in Sensitive Receptors or changes to current or future baselines, with consideration given to relevant environs and possible effects and, if required, further suggested mitigation has been undertaken. In addition, where appropriate, a statement on any assumptions that may have altered (i.e. Climate Change allowances) has been made in each section where appropriate.

7.1.12 As explained within Chapter 1 of this ER, the following sections relate to the consideration of the proposed extension of time upon the Main Site area only. The Compensation Site, also referred to as 'Cherry Cobb Sands', is dealt with separately within Chapters 31-43.

7.2.0 Chapter 7 - Geology, Hydrogeology and Ground Conditions

Introduction

7.2.1 This section will consider the Material Change 2 UES Chapter 7: Hydrology, Geology and Ground Conditions in the context of an application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

7.2.2 Chapter 7 of the original Environmental Statement (ES)² prepared in support of the DCO ('the original ES') discussed the geology, ground conditions, potential for contaminated land and hydrogeology impacts at the AMEP site and details the approach to assessing the impacts of AMEP. The chapter also considered risks to groundwater as a result of the works and the subsequent operation of the site.

7.2.3 The chapter also addressed the specific environmental impacts related to dredging through a review the site investigation information available within the Humber Estuary and the soil types likely to be dredged. The proposed dredge methodology was described, and potential disposal sites were identified.

Content of Material Change 2 UES

7.2.4 Material Change 2 UES results in no changes to the approved terrestrial works which would affect the geology, hydrogeology (groundwater), ground conditions or gas assessments presented in the original ES. The original ES did include an assessment of sediments in the marine environment and whilst the area to be dredged is slightly altered by the proposed changes, it is within the footprint of the originally proposed quay layout and therefore within the area that has previously been characterised by sampling and analysis. Sampling of marine sediment has also been undertaken twice since the DCO came into force, once in 2017 and again in 2020.

7.2.5 The relevant chapter of the UES, carried out to address the impacts of Material Change 2, includes the following:

- a summary of any changes to legislation, Guidance and Planning Policy relevant to the geology, hydrogeology and ground conditions;
- a review of the methodology used in the assessment and confirmation that no substantial revision / changes are required;
- a review of baseline conditions;
- a review of the assessment of effects;
- a review of mitigation measures proposed in the original ES chapter and presentation of

²<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000316-07%20-%20Geology%20Hydrogeology%20and%20Ground%20Conditions.pdf>

additional mitigation measures, if required; and

- a summary of any other environmental effects which have been introduced into EIA requirements through the EIA Regulations 2017.

7.2.6 Additional sediment sampling and testing has identified trace element and TCH levels in excess of the AL1 level; however, all levels either remain below their respective AL2 level, or consistent with background concentrations typical for the River Humber. Based on this no additional mitigation was considered necessary.

Consideration of Proposed Extension of Time

7.2.7 The proposed application seeks a further 7 years to complete development activity on the site, with some overrun possible for works substantially commenced by that time. This chapter considers the significance of this as relevant to the Geology, Hydrogeology and Ground Conditions regime. There are no physical changes to the proposed scheme and the physical form of the development is already approved; therefore, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to the Geology, Hydrogeology and Ground Conditions regime; and
- any impacts associated with a longer construction period.

7.2.8 The geology, hydrogeology and ground conditions at the site are not considered to be subject to significant change in the following 7 years. This was reflected in the previous assessment, which highlighted the only observed change was in measured trace element and TCH levels in sediment samples. These are considered to be a function of the dynamic nature of sediment deposition and scour within the Humber Estuary. There are no known significant changes in the Geology, Hydrogeology and Ground Conditions regime since the completion of the Material Change 2 UES.

7.2.9 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for the Geology, Hydrogeology and Ground Conditions regime to be adversely impacted by the proposed change have been identified.

Conclusions

7.2.10 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Geology, Hydrogeology and Ground Conditions regime will remain 'not significant'.

7.2.11 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Geology, Hydrogeology and Ground Conditions.

8.1.0 Chapter 8 - Hydrodynamic and Sedimentary Regime

8.1.1 This section will consider the Material Change 2 UES Chapter 8: Hydrodynamic and Sedimentary Regime in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

8.1.2 The assessment of impacts upon the Hydrodynamic and Sedimentary Regime associated with the consented scheme was initially reported in Chapter 8 of the Environmental Statement (ES)³ and in four supporting appendices that formed part of the DCO application. The supporting appendices were:

- 8.1 - AMEP Estuary Modelling Studies Report (JBA);
- 8.2 - Review of Geomorphological Dynamics of the Humber Estuary (JBA);
- 8.3 - Assessment of the Effects of a Proposed Development on the South Bank of the Humber Estuary on Fine Sediments (HR Wallingford); and
- 8.4 - Able Marine Energy Park Dredging Plume Dispersion Arisings from Capital Works (HR Wallingford).

8.1.3 The following supplementary environmental information was issued during the examination of the project and Chapter 8 was re-issued as EX8.16: Chapter 8 Signposting Document⁴.

- EX 8.5 - Validation of 3D Flow and Sediment Models used for Assessment of Impacts of AMEP on Fine Sediment Transport;
- EX 8.6 - Maintenance Dredge Variability;
- EX 8.7A - Modelling of Final Quay Design (Supplement to Annex 8.1 of the ES);
- EX 8.8 - Update to Longer Term Morphology Predictions in the Region of the Centrica and E.ON intakes and outfalls;
- EX 8.9 - Historical Review of Morphological Change North of HIT (2001–2010);
- EX 8.10 - Long-term Morphological Change at Embayment South of Quay;
- EX 8.14 - Hydraulic & Sediment Regime – Piled Structures;
- EX 8.15 - Effect of Moored Vessels on Flows; and

3 AMEP, Environmental Statement Chapter 8 Hydrodynamic and Sedimentary Regime
<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000312-08%20-%20Hydrodynamic%20and%20Sedimentary%20Regime.pdf>

4 AMEP, Chapter 8 Signposting Document,
https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

- EX 8.16 Chapter 8 Signposting Document

8.1.4 This extensive documentation was agreed with key regulators and informed a series of agreed schedules that set out provisions to control dredging activities, to protect navigation and to require monitoring to identify any adverse impacts with appropriate management response. These were specified to ensure that any impacts to the Hydrodynamic and Sedimentary Regime remain 'not significant'.

Content of Material Change 2 UES

8.1.5 The material amendment comprised an alteration to the reclamation shape and a consequential change to the berth pocket. The Humber Estuary local channel and flats bathymetry had also evolved naturally since the previous assessment. As such Chapter 8 of the Material Change 2 UES⁵ included consideration of the following:

- An updated assessment of the sediment plume dispersion from the construction dredging activities at the amended AMEP (see Technical Appendix UES8-1⁶).
- Assessment of erosion rates for the amended volumes proposed to be placed at the HU081 and HU082 disposal sites (see Technical Appendix UES8-2⁷).
- Updated modelling of the impacts of disposal of material at the HU081 and HU082 disposal sites on tides and waves and assessment of effect at Hawkins Point.
- Updated hydrodynamic modelling based upon the revised bathymetry and the proposed AMEP Amended Quay.
- Sediment modelling to inform on changes to mud and potential sand transport for the proposed AMEP Amended Quay; and
- A qualitative description of changes to wave impacts as a result of the AMEP Amended Quay.

8.1.6 Following this work, it was concluded that the projected changes in water levels, bed shear stresses and waves were similar for the AMEP Amended Quay layout and the original DCO scheme. Small differences in the peak flow patterns on the ebb tide were identified and these necessitated minor changes to dredging requirements at the AMEP and surrounding facilities.

8.1.7 Subject to a very similar framework of control measures it was concluded that any impacts to the Hydrodynamic and Sedimentary Regime would remain 'not significant'.

Consideration of Proposed Extension of Time

8.1.8 The proposed application seeks a further 7 years to complete development activity on the site. This

⁵<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000130-TR030006-APP-6-8.pdf>

⁶<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000151-TR030006-APP-6A-8-1.pdf>

⁷<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000152-TR030006-APP-6A-8-2.pdf>

chapter considers the significance of this as relevant to the Hydrodynamic and Sedimentary Regime. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to the Hydrodynamic and Sedimentary Regime; and
- any impacts associated with a longer construction period.

8.1.9 It is known and accepted that the Humber Estuary and associated foreshore areas past and adjacent to the site are a dynamic environment that changes and varies over time. This was reflected in the previous assessment and the agreed framework of controls. Notwithstanding this there are no known significant changes in the Hydrodynamic and Sedimentary Regime since the completion of the Material Change 2 UES.

8.1.10 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for the Hydrodynamic and Sedimentary Regime to be adversely impacted by the proposed change have been identified.

Conclusions

8.1.11 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to the Hydrodynamic and Sedimentary Regime will remain 'not significant'.

8.1.12 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to the Hydrodynamic and Sedimentary Regime.

9.1.0 Chapter 9 - Water and Sediment Quality

9.1.1 This section will consider the Material Change 2 UES Chapter 9: Water and Sediment Quality in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

9.1.2 Chapter 9: Water and Sediment Quality, of the original ES⁸ undertaken for the DCO application sets out the baseline status of the Humber Estuary detailing:

- its status under the Water Framework Directive;
- relevant ecological designations, the condition of these and, where appropriate reasons for failing to achieve good status;
- physico-chemical characteristics including details of temperature, dissolved oxygen and suspended sediment concentration and the variability of these parameters within the estuarine environment; and
- sediment quality.

9.1.3 The picture presented is one of a dynamic and energetic environment with valuable ecological characteristics. This environment has historically been significantly impacted by industrial activity but is now slowly recovering.

9.1.4 The assessment of Water and Sediment Quality prepared for the original ES highlighted a range of potential effects, most significantly in relation to impacts of water quality associated with the dredging in the estuary. Consideration was also given to pollution derived from both the construction and operation of the AMEP facility.

9.1.5 Detailed assessments were undertaken and measures for managing and mitigating these impacts to ensure they remain 'not significant' were agreed. This includes commitments to;

- Undertake maintenance dredging at discrete intervals to prevent sedimentation at the E.ON and Centrica intakes,
- provide and agree a code of construction practice with the Local Planning Authority,
- provide and agree detailed method statements with the Marine Management Organisation for all works before the level of MHWS, and
- undertake monitoring within the estuary during the active phases with specific trigger levels that would require working methods to be adapted.

8 AMEP, Environmental Statement Chapter 9 Sediment and Water Quality, <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/TR030001/TR030001-000313-09%20-%20Water%20and%20Sediment%20Quality.pdf>

Content of Material Change 2 UES

9.1.6 Chapter 9 of the Material Change 2 UES considered the impact of the proposed material amendment as relevant to Water and Sediment Quality given changes to planning policy and the context of the area.

9.1.7 Consideration was given to:

- changes in legislation, policy and guidance relating to Water and Sediment Quality since the DCO application and original ES;
- physical changes in the baseline context at the site as relevant to Water and Sediment Quality;
- any changes in the WFD status of the Humber Estuary adjacent to the site; and
- the material amendment to the proposed scheme.

9.1.8 Following this it was concluded that the changes in baseline understanding and the changes to the scheme will not result in any new or significant increased effects on Water and Sediment Quality over and above those outlined in the original ES.

Consideration of Proposed Extension of Time

9.1.9 The proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to Water and Sediment Quality. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to *Water and Sediment Quality*; and
- any impacts associated with a longer construction period.

9.1.10 It is known and accepted the Humber Estuary and associated foreshore areas past and adjacent to the site are dynamic environment that change and vary over time. Notwithstanding this there are no known significant changes in the baseline Sediment and Water Quality regime since the completion of the Material Change 2 UES.

9.1.11 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for sediment and water quality to be adversely impacted by the proposed change have been identified.

Conclusions

9.1.12 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Sediment and Water Quality will remain 'not significant'. Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Water and Sediment Quality.

10.1.0 Chapter 10 - Aquatic Ecology

10.1.1 This section will consider the Material Change 2 UES Chapter 10: Aquatic Ecology in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

10.1.2 An assessment of the impacts of the development on Aquatic Ecology was included in the Environmental Statement (ES) that formed part of the DCO application in 2012 ('the original ES')⁹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- ES Chapter:
 - Able Marine Energy Park Environmental Statement. Chapter 10, Aquatic Ecology. 2012
- Appendices:
 - 10.1 Benthic and Fish Surveys Report¹⁰
 - 10.2 Impact Assessment of AMEP on Humber Lamprey¹¹
 - 10.3 MEP Impact of Underwater Piling Noise on Migratory Fish¹²
 - 34.1 Saltmarsh Survey Cherry Cobb Sands¹³
- Examination Documents:
 - EX10.4 Impact of Dredging and Dredged Material Disposal on 1) Subtidal and Intertidal Features and 2) Aquatic Ecology
 - EX10.5 Supporting Information on Harbour Porpoises in the Humber Estuary
 - EX10.6 Impact of Berthing Pocket Construction
 - EX10.7 Soft Start and Seals¹⁴
 - EX34.2 An Assessment of Temporal Variation of Benthic Invertebrate Communities in

⁹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000314-10%20-%20Aquatic%20Ecology.pdf>

¹⁰<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000381-10.1%20-%20Benthic%20and%20Fish%20Surveys%20Report.pdf>

¹¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000382-10.2%20-%20Impact%20Assessment%20of%20AMEP%20on%20Humber%20Lamprey.pdf>

¹²<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000383-10.3%20-%20MEP%20Impact%20of%20Underwater%20Piling%20Noise%20on%20Migratory%20Fish.pdf>

¹³<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000433-34.1%20-%20Saltmarsh%20Survey%20Cherry%20Cobb%20Sands.pdf>

¹⁴https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001613-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%201%20of%202.zip

the Humber Estuary¹⁵

Content of Material Change 2 UES

- 10.1.3 Aspects of relevant Legislation, Scoping Opinion, Consultation, and Assessment Methodology carried out in the Material Change 2 currently remain valid. This is explored in further detail, with relation to the Environmental Review, in the sections below.

Consideration of Proposed Extension of Time

- 10.1.4 The dynamic nature of the Humber Estuary is noted, and as such, ongoing change would be expected as part of the natural functioning of the system. Such natural changes occur across a range of temporal and spatial scales, and whilst some of these changes are cyclical (i.e. around tidal and seasonal patterns), others can be of a longer-term and can be further modified by climate-related pressures. Statements relating to such changes remain appropriate in relation to this Environmental Review.

Current Baseline

Saltmarsh

- 10.1.5 There is an anticipated ongoing trajectory of growth of saltmarsh on the foreshore adjacent to AMEP. Data age remains relevant, whilst current status findings remain valid and are consistent with those of the Environment Agency (2022)¹⁶.

Benthic Invertebrates

- 10.1.6 Some dynamics in communities relating to habitat (sediment) changes would be expected, reflective of the communities characteristic for the area of the estuary. Data age remains relevant (3 to <10 years old). It should be noted that whilst both the subtidal and intertidal communities are characteristic of the general middle estuary, they will vary naturally, and can be subject to substantial natural change (i.e. as a result of significant events such as tidal surges).

- 10.1.7 There is also a trajectory of change around the AMEP area as a result of changing intertidal profile and a concomitant increase in saltmarsh cover. As such, whilst the data currently remains valid, over time and/or following larger scale events such as a tidal surge, they may undergo a more substantial change which might require some resurveying of the area to validate community detail. However, the current status findings are considered to remain valid.

Fish Assemblage

- 10.1.8 The resident fish assemblage of the Humber is largely affected by environmental variables, in particular water quality components, with external factors such as fishing effort and quality in spawning headwaters affecting the status of migratory fish.
- 10.1.9 Fish assemblage data are collected by the Environment Agency and the 2013 review remains the key work on general assemblages in the system. Additional surveys carried out for the Material

¹⁵ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001612-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%202%20of%202.zip

¹⁶ <https://www.gov.uk/government/publications/humber-river-basin-management-plan-updated-2022-habitats-regulation-assessment>

Change 2 UES are of a similar age or newer, and their findings remain valid in the absence of substantial changes to the system in this part of the of the estuary.

Marine Mammals

- 10.1.10 For most marine mammals (i.e Seal pup, Harbour Porpoise, or other cetaceans in the Humber system) sightings are *ad hoc*, with no dedicated surveys. However, there are more robust data for Seal pup production at Donna Nook located at the mouth of the Humber. Grey Seal pup production for the 2022/23 season was recorded 2209 individuals, this compared to the 2020/21 total of 2,186 Grey Seal pups data used in the Material Change 2 UES. This indicates a largely stable population at the colony. On this basis the current findings are considered to remain valid under this Environmental Review.

Assessment of Effects

Construction Phase Effects

- 10.1.11 There are no new changes to the development plans since the previous Material Change 2 UES. Legislation and Guidance remain essentially as employed previously, and there are no changes to the operational phase effects identified. A review of the ecology of the area has shown no substantive changes to baseline conditions, outwith natural variation and estuarine system dynamics.
- 10.1.12 On this basis, the findings of the Material Change 2 UES relating to direct and indirect impacts to the ecological receptors (as outlined above) remain valid.

Additional Cumulative Effects

- 10.1.13 No significant changes to the cumulative assessment findings of the Material Change 2 UES are considered likely.
- 10.1.14 However, since the consideration of the previous Material Change 2 application, there is the potential for the Immingham Eastern Ro-Ro Terminal development proposed by Associated British Ports (ABP) to have some spatially limited impacts to the ecology of the intertidal and subtidal habitats and associated species, downstream of the AMEP site. The scheme will involve some dredging of the subtidal/intertidal within the Immingham Dock area to provide berthing, with construction of linkspan and jetty secured by piles to the bed to access the new terminal.
- 10.1.15 As such, there will be the release of sediment and potentially heavy metals into the water column from dredging, underwater noise and vibration from the piling, and a loss of subtidal and intertidal habitat, including associated functions, for instance foraging and roosting areas for waterbirds including Black-tailed Godwit which is a species of particular focus for the AMEP site.
- 10.1.16 Whilst the development will be subject to a series of controls to minimise its environmental impacts, depending on application outcomes, the conclusions of the Material Change 2 UES remain valid.

Conclusions

- 10.1.17 Based on the above, the Material Change 2 UES summary of baseline changes are considered to

remain valid.

10.1.18 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regards to the following, as covered in Chapter 10 of the Material Change 2 UES:

- The requirement of additional mitigation;
- A change to residual effects;
- A change to other environmental issues;
- A change to the summary of effects.

10.1.19 It is also noted that aspects of relevant Legislation, Scoping Opinion, Consultation, Assessment Methodology and Effects Not Requiring Further Assessment currently remain valid.

10.1.20 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Aquatic Ecology.

11.1.0 Chapter 11 - Terrestrial Ecology

11.1.1 This section will consider the Material Change 2 UES Chapter 11: Terrestrial Ecology in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

7.2.12 In addition, a further Autumn / Winter Bird Survey 2022-23 Report has become available since writing the previous Material Change 2 UES and is provided within Appendix ER11-1; the findings of this report are duly cross referenced below.

Content of Original ES

11.1.2 An assessment of the impacts of the development on Terrestrial Ecology was included in Chapter 11 of the Environmental Statement (ES) that formed part of the DCO application in 2012 ('the original ES')¹⁷. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 11: Terrestrial Ecology and Birds¹⁸ (AMEP site);
- Environmental Statement Chapter 35¹⁹: Terrestrial Ecology and Birds (Compensation site);
- Appendices to ES Chapter 11 (links are provided at relevant sections of this Chapter):
 - 11.1. Extended Phase 1 and Scoping Report
 - 11.2. South Killingholme Phase 1 Ecology
 - 11.2.1. South Killingholme Southern Extension Area
 - 11.3. South Killingholme Protected Species
 - 11.4. Spring Passage and Breeding Birds Survey
 - 11.5. Breeding Birds Survey
 - 11.6. Coastal Bird Survey
 - 11.7. Winter Farmland Birds
 - 11.8. AMEP Protected Species
 - 11.9. AMEP Bird Survey Results April 2010-April 2011

¹⁷<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000314-10%20-%20Aquatic%20Ecology.pdf>

¹⁸<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000315-11%20-%20Ecology%20and%20Nature%20Conservation.pdf>

¹⁹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000340-35%20-%20Ecology%20and%20Nature%20Conservation.pdf>

- 11.10. Breeding Birds Report 2011
- 11.11. Noise Contour Maps
- 11.12. Hedgerow and Ditch Losses
- EX11.19. AMEP Bat Surveys: Supplementary Note
- EX11.20. Draft Great Crested Newts Licence Application - acknowledgement of receipt
- EX11.22. The impact of SPMT and Cranes on the Operational Buffer
- EX11.23. Immediate Habitat Losses within the Designated Site
- EX11.24. Medium and Long Term Losses within the Designated Site
- EX11.2.6 Pumping Station
- EX11.27. Killingholme Phase 2 Survey
- EX11.28. Great Crested Newt Survey (2006)
- EX11.29. Water Vole Survey (2006)
- EX11.30. Location of Replacement Ponds for Great Crested Newts
- EX11.31. M456 Invertebrate Survey
- APPENDIX WR22.1. Great Crested Newts

Content of Material Change 2 UES

- 11.1.3 Aspects of relevant Legislation, Scoping Opinion, Consultation, and Assessment Methodology Assessment carried out in the Material Change 2 currently remain valid. This is explored in further detail, with relation to the Environmental Review, in the sections below.

Consideration of Proposed Extension of Time

- 11.1.4 The dynamic nature of the Humber Estuary is noted, and as such, ongoing change would be expected as part of the natural functioning of the system. This will affect the aquatic-related components of the baseline review (i.e. coastal waterbirds). Terrestrial habitats and species would be less affected, although potentially the utilisation of terrestrial land providing functional links for coastal waterbirds could be affected.
- 11.1.5 The overview of the ecology of the area and baseline utilisation remains valid (i.e. the context for birds and protected species).

Current Baseline

Ornithology

- 11.1.6 The data used to update the baseline for intertidal bird usage are taken from a variety of sources

including WeBS core counts from 2014/15-2019/20, WeBS low tide data from 2011-2012, and a series of bespoke surveys from 2017-2023. These datasets are considered still to be valid (e.g. the 2011-2012 WeBS low tide data are the most recent available, and with recent surveys undertaken at the AMEP site over the autumn, winter and spring of 2022/2023 as part of the AMEP Enabling Works (Percival et al, 2023). This report is provided within Appendix ER11-1 and see below for further details.

- 11.1.7 The recent 2022/23 bird survey was conducted across an extensive area in the vicinity of the AMEP development site including the intertidal frontage, North Killingholme Pits and Rosper Road Pools (Percival et al, 2023).
- 11.1.8 The recent Percival et al (2023) daylight survey programme identified a broadly similar bird assemblage to that described in the original ES, and the subsequent Material Change 2 UES. In the vicinity of the AMEP works the assemblage remained dominated by Teal (*Anas crecca*) (peak 1668), Mallard (*Anas platyrhynchos*) (peak 262), Avocet (*Recurvirostra avosetta*) (peak 263), Lapwing (*Vanellus vanellus*) (peak 1,348) and Black-tailed Godwit (*Limosa limosa*) (peak 3,665), this latter species remaining of considerable importance within the wider area around the AMEP development, with this peak representing 65% of the latest Humber Estuary 5 year mean maxima. Further details on the findings of the programme are provided in Percival et al, 2023).
- 11.1.9 Waterbird assemblage data from the daylight surveys undertaken by Percival et al (2023) around the wider AMEP area remain consistent with previous data sets, both from the original ES and the UES MC2.
- 11.1.10 Perhaps more importantly however, are the data collected from the nocturnal ornithological survey conducted around the AMEP site between October 2022 to March 2023 using night vision equipment. This form of survey has previously not been undertaken around the AMEP site and environs, and therefore these data provide a new suite of information on waterbird usage during darkness.
- 11.1.11 These nocturnal usage data, including the abundance and distribution of key species, are described in Percival et al, 2023, but in summary indicate a broadly similar waterbird assemblage to that present during daylight surveys, albeit with some species absent, and most present in lower numbers during the night, this possibly an artefact of vision and access restrictions, but also potentially suggesting nocturnal usage being established outwith the AMEP area.
- 11.1.12 Wildfowl present at night included Whooper Swan (*Cygnus cygnus*) (peak 48), a peak of 121 Pink-footed Goose (*Anser brachyrhynchus*), Teal (peak 382) and Mallard (peak 114), and waders including a peak of 232 Lapwing, Dunlin (peak 346), and Black-tailed Godwit with a peak of 2,990.
- 11.1.13 These findings on nocturnal usage indicate a waterbird assemblage and distribution broadly consistent with that seen from previous daylight surveys and used in the original ES and UES MC2 documents.
- 11.1.14 On this basis, the data age used in the revised waterbird population baseline update in the UES MC2 remains appropriate, and understanding has in fact been supplemented by new information from Percival et al (2023) on nocturnal utilisation which is summarised here but provided in greater detail as an Appendix to the UES MC2. Current status findings remain valid, even when taking into account the new nocturnal dataset, although as noted in the UES MC2, the trajectory of the populations of some species in the AMEP area may mean over time new data are required to validate levels of use against the wider estuary (regional and SPA/Ramsar importance), and other criteria including WeBS

Alert status and Birds of Conservation Concern (BOCC) status.

- 11.1.15 In particular, given the importance placed on the species as part of the original ES, and with the potential variation in preferred habitat extent and associated functional provisions, the status of Black-tailed Godwit in and around the AMEP site may require future update over the longer-term. However currently the data utilised in the UES MC2 are considered both sufficiently up to date and from a range of sources and thus the updated baseline continues to remain valid. As such, these new data make no material difference to the mitigation or compensation proposals for the AMEP development.

Terrestrial Ecology

PROTECTED SITES AND KEY HABITATS

- 11.1.16 The UES MC2 undertook a desk review of current (2021) protected nature conservation sites in a 20km radius search area from the AMEP site. An extended Phase 1 survey was also undertaken at locations around the AMEP site. The desk study and field surveys provide a suitable update from the original ES to the Material Change 2 UES. Findings would be expected to be broadly up to date two years on, although data age will become more of an issue over time e.g. over the next couple of years. However, comparison information provided in the Material Change 2 UES for Phase 1 habitats in the AMEP area (between the original ES and the Material Change 2 UES, is of value in providing an indication of habitat area trajectory at least (i.e. with an indication for each habitat of the area change between documents).
- 11.1.17 The revised baseline findings are considered to currently remain valid.

PROTECTED SPECIES

- 11.1.18 The Material Change 2 UES provided an update of the status of protected species based on a desk study data search together with observations made during the extended Phase 1 survey of the area.
- 11.1.19 This review covered the groups: Bats, Water Vole, Badger, Great Crested Newt and Otter, as well as Breeding Birds. However, no new specific surveys were carried out for the Material Change 2 UES, although with notes made on suitable habitats and any ad hoc presence absence signs.
- 11.1.20 This approach is considered appropriate given the scope of the Material Change 2, although with some of the data included in the original ES now considered to be at their end of suitable life for some of the terrestrial aspects of the development as described in the original ES.

Changes in Baseline

Bird Populations

- 11.1.21 The approach using recent data and context is appropriate and remains valid.

Terrestrial Habitats

- 11.1.22 The approach using recent data (an extended Phase 1 survey conducted in 2021) is appropriate and remains valid.

Protected Terrestrial Species

- 11.1.23 General context and inclusion of dedicated remedial provisions by Able are valuable in gaining an

indication of current status (i.e. habitat creation for water voles, mitigation for great crested newt, reduction in habitat quality for bats). It is concluded that for the specifics of the Environmental Review modifications, this level of assessment revision is appropriate.

- 11.1.24 However, in the context of the wider AMEP development and the status of terrestrial protected species, it is considered that for some species the data are approaching the end of suitable life in terms of an accurate description of their status at the site as described in the original ES (i.e the data are now over 10 years old).
- 11.1.25 Whilst overview surveys (i.e. extended Phase 1 surveys) can assist in extending the life of survey data of associated species through validation of core conditions, and WeBS core count data can similarly extend the life of waterbird data, there is guidance on ecological data age (CIEEM, 2019) with a data age cut off of three years. This can potentially be offset when conditions are such that there is no likelihood of the occurrence or recurrence of a species following early surveys.
- 11.1.26 Depending on the situation across the wider AMEP site, and ongoing background management and surveys being conducted, it may be necessary to review the protected species information and establish targeted additional validation data.
- 11.1.27 On this basis, the findings of the Material Change 2 UES are currently considered to remain valid. However, baseline data collected for the original ES, relating to terrestrial components of the wider development, are at their end of life.

Assessment of Effects

Additional Construction Phase Effects

- 11.1.28 There are no new (since the Material Change 2 UES) changes to the development plans. Legislation and Guidance remain essentially as employed for the Material Change 2 UES. The desk review, additional data collection (waterbirds) and extended Phase 1 survey of the ecology of the area found only minor changes to baseline conditions, outwith natural variation and estuarine system dynamics.

HABITAT

- 11.1.29 These included a small reduction in the loss of sub-tidal and intertidal mudflat habitat, and a small increase in the loss of saltmarsh habitats as a result of both natural change and the quay changes.

WATERBIRDS

- 11.1.30 Some variation in numbers but none of a scale that would change any of the conclusions reached in the original ES assessment. The new (2022-2023) nocturnal usage data are broadly consistent to daylight usage and thus do not alter the original ES conclusions.

TERRESTRIAL HABITATS

- 11.1.31 Minor changes in the extent of the terrestrial habitats at the site and within the potential impact zone of the development, none of these were of a scale that would change any of the conclusions reached in the original ES assessment.

PROTECTED SPECIES

- 11.1.32 Successful great crested newt translocation associated with the main site has already taken place

and is complete.

SUMMARY

- 11.1.33 For some of the components above, the Material Change 2 UES also provides context (i.e. natural changes, loss of habitat as a result of consented development). On this basis, the findings of the Material Change 2 UES relating to direct and indirect impacts to the ecological receptors (as outlined above) remain valid.

Additional Operational Phase

- 11.1.34 There are no new changes to the development plans from the previous Material Change 2 UES, and no changes to the operational phase effects have been identified. Given the above, on this basis, the findings remain valid.

Additional Cumulative Effects

- 11.1.35 No significant changes to the cumulative assessment findings of the Material Change 2 UES are considered likely in relation to terrestrial ecology and nature conservation components.

- 11.1.36 However, since the consideration of the Material Change 2 UES, there is the potential for the proposed Immingham Eastern Ro-Ro Terminal development to have some spatially limited impacts to the consideration of Terrestrial Ecology and Nature Conservation with regard to the intertidal and subtidal habitats and associated species. The scheme will involve some dredging of the subtidal/intertidal within the Immingham Dock area to provide berthing.

- 11.1.37 There is the potential for a limited loss of subtidal and intertidal habitat, including associated functions, i.e. foraging and roosting areas for waterbirds including Black-tailed Godwit, which is a species of particular focus for the AMEP site and addressed within Chapter 11 of the Material Change 2 UES.

- 11.1.38 Whilst the development will be subject to a series of controls to minimise its environmental impacts, depending on application outcomes. For instance, if consented, the EIA and associated assessment contained therein will have already considered the potential for cumulative effects associated with the AMEP development. It should, therefore, be incumbent upon the Immingham Eastern Ro-Ro Terminal DCO (if approved) to impose any necessary mitigation for potential cumulative effects associated therein.

Consideration of Conclusions

- 11.1.39 Whilst the development will be subject to a series of controls to minimise its environmental impacts, depending on application outcomes, the conclusions of the Material Change 2 UES remain valid.

Conclusions

- 11.1.40 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regards to the following, as covered in Chapter 11 of the Material Change 2 application:

- The requirement of additional mitigation;
- A change to residual effects;

- A change to other environmental issues;
- A change to the summary of effects.

11.1.41 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Terrestrial Ecology.

12.1.0 Chapter 12 - Commercial and Recreational Fisheries

- 12.1.1 This section will consider the Material Change 2 UES 12: Commercial and Recreational Fisheries in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

- 12.1.2 An assessment of the impacts of the development on commercial fishing was included in Chapter 12 of the Environmental Statement (ES) that formed part of the DCO application in 2011 (the original ES).²⁰ A Fisheries Assessment was provided within Appendix 12.1 to the original ES. No additional documents were submitted during the examination.

Relevant Findings of the 2012 Examination

- 12.1.3 Commercial fisheries were not a significant issue in the original ES application with Paragraph 12.3.12 of the original ES noting that:

'Overall, current fishing effort is much diminished from historical levels or has shifted to more profitable fisheries in the North Sea. The number of vessels conducting commercial fishing is small and the few vessels still fishing commercially take up alternative fisheries in different areas and seasons to maximize catch rates and profits. Therefore, the potential for direct impacts of the reclamation on commercial fisheries as a whole is considered to be relatively low', (paragraph 12.3.12).

- 12.1.4 The Examining Authority's recommendation report to the Secretary of State following the DCO examination held in 2012 contained no mention of commercial fisheries. However, aspects of commercial fisheries were identified to be addressed in the Planning Inspectorate's Scoping Opinion (Appendix UES5-2) in relation to the proposed material amendment²¹ as considered within this Updated ES (UES).

Content of Material Change 2 UES

- 12.1.5 Aspects of relevant Legislation, Scoping Opinion, Consultation, and Assessment Methodology Assessment carried out in the Material Change 2 currently remain valid. This is explored in further detail, with relation to the Environmental Review, in the sections below.

Consideration of Proposed Extension of Time

Current Baseline

Fish Fauna

- 12.1.6 The resident fish assemblage of the Humber is largely affected by environmental variables in particular water quality components, with external factors such as fishing effort and quality in

²⁰<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000317-12%20-%20Commercial%20Fisheries.pdf>

²¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000036-TR030006%20%E2%80%93%20Scoping%20Opinion.pdf>

spawning headwaters affecting the status of migratory fish.

- 12.1.7 Fish assemblage data are collected by the Environment Agency and the 2013 review of their data remains the key work on general assemblages in the system. Additional surveys carried out for the AMEP are of a similar age or newer, and their findings remain valid in the absence of substantial changes to the system in this part of the of the estuary. Therefore, current status findings are considered to remain valid for this Article 7 ER.

Commercial & Recreational Fishing Activity

- 12.1.8 Commercial fishing data (i.e. landings for Hull and Grimsby, operational vessels and the like) were provided in the Material Change 2 UES document, covering up to 2020. An online search (April 2022) has not identified any more up to date landing information than that detailed in this previous document.
- 12.1.9 An on-line check of fishing vessels over 10m operating out of Hull and Grimsby was carried out (April 2023) and indicated 18 vessels over 10m operating out of Grimsby and Hull, with a registered tonnage of 13,739 tonnes. Of these 18 vessels, 5 are currently Category C, and 13 are Category A, with 2 of these also Deep Sea registered and 1 as Category A (Pelagic) (MMO Accessed April 2023).
- 12.1.10 This is a slight reduction in tonnage and vessel numbers from those used for the Material Change 2 UES, but follows a trajectory of reduction noted in the previous submission.
- 12.1.11 Recreational fishing is still undertaken along the shore of the estuary (i.e. during the winter of 2022/23 (author pers. obs.)) and it would be expected that this activity remains consistent over time, albeit partially dependent on the abundance of quarry species in the estuary. On this basis, the current status findings are considered to remain valid.

Changes in Baseline

- 12.1.12 Based on the above, the Material Change 2 UES summary of baseline changes are considered to remain valid.

Assessment of Effects

Construction Phase Effects

- 12.1.13 There are no new changes to the development plans since the previous Material Change 2 UES submission. Legislation and Guidance remain essentially as employed previously. A review of the ecology of the area (see Section 10) has shown no substantive changes to baseline conditions, outwith natural variation and estuarine system dynamics, and as such no likely alteration to the fish fauna of the area would be expected above natural dynamics
- 12.1.14 On this basis, the findings of the Material Change 2 UES relating to direct and indirect impacts to the fish fauna and associated extractive activities in the vicinity of the AMEP site remain valid.

Additional Operational Phase

- 12.1.15 No changes to the operational phase effects were identified in the Material Change 2 UES, and given the above, on this basis, the findings remain valid.

Additional Cumulative Effects

- 12.1.16 No significant changes to the cumulative assessment findings of the Material Change 2 UES are considered likely.
- 12.1.17 However, since the consideration of the Material Change 2 UES, there is the potential for the proposed Immingham Eastern Ro-Ro Terminal development by Associated British Ports (ABP) to have some spatially limited impacts to the water column as well as intertidal and subtidal habitats and associated species, down-stream of the AMEP site.
- 12.1.18 The scheme will involve some dredging of the subtidal/intertidal within the Immingham Dock area to provide berthing, with construction of linkspan and jetty secured by piles to the bed to access the new terminal.
- 12.1.19 As such, there will be the release of sediment and potentially heavy metals into the water column from dredging, underwater noise and vibration from the piling, and a loss of subtidal and intertidal habitat, including associated functions, for instance fish foraging, with potential movement through the area and even mortality through underwater noise and vibration.
- 12.1.20 Any such impacts would be likely to be of a relatively local scale, and importantly would require development specific various consents and controls associated with any consent.
- 12.1.21 Whilst the development will be subject to a series of controls to minimise its environmental impacts, depending on application outcomes, the conclusions of the Material Change 2 UES remain valid.

Conclusions

- 12.1.22 Whilst the development will be subject to a series of controls to minimise its environmental impacts, depending on application outcomes, the conclusions of the Material Change 2 UES remain valid.
- 12.1.23 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regards to the following conclusions, as covered in Chapter 12 of the Material Change 2 application:
- The requirement of additional mitigation;
 - A change to residual effects;
 - A change to other environmental issues;
 - A change to the summary of effects.
- 12.1.24 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Commercial and Recreational Fisheries.

13.1.0 Chapter 13 - Drainage and Flood Risk

13.1.1 This section will consider the Material Change 2 UES Chapter 13: Drainage and Flood Risk in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

13.1.2 As part of the DCO application a Flood Risk Assessment (FRA) was undertaken for the AMEP scheme and presented within Chapter 13 of the original ES. The FRA assessed how the proposed development will affect the site and its surroundings as well as the integrity of the Humber Estuary's flood defences.

13.1.3 Within the Flood Risk and Drainage ES chapter of the original ES²², the impact of the proposed development on the hydrological environment at the site was evaluated to determine the likelihood of the AMEP causing impacts to the surface water environment as follows:

- Within the Flood Risk and Drainage ES chapter of the original ES, the impact of the proposed development on the hydrological environment at the site was evaluated to determine the likelihood of the AMEP causing impacts to the surface water environment as follows:
- impacts on land drainage and flooding;
- impacts associated with the pollution of surface watercourses during the construction phase; and
- impacts associated with the pollution of surface watercourses during the operation phase.

13.1.4 A Flood Risk and Drainage Strategy was also provided within Appendix 13.1 of the original ES²³.

13.1.5 The Flood Risk and Drainage ES chapter of the original ES concluded that all potential residual effects relating to Flood Risk and Drainage were no greater than Minor Adverse. It also concluded that these Minor Adverse impacts would be further controlled through the implementation of additional mitigation (see Section 13.8 therein). While not expressly stated in the original ES, it is therefore clear that the residual effects of the DCO scheme in relation to Flood Risk and Drainage would be 'not significant'.

Content of Material Change 2 UES

13.1.6 Chapter 13 of the Material Change 2 UES considered the impact of the proposed material amendment as relevant to Flood Risk and Drainage given changes to planning policy and the context

²² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000318-13%20-%20Drainage%20and%20Flood%20Risk.pdf>

²³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000400-13.1%20-%20Flood%20Risk%20Assessment%20and%20Drainage%20Strategy.pdf>

of the area.

13.1.7 Consideration was given to:

- changes in legislation, policy and guidance relating to Flood Risk and Drainage since the DCO application and original ES;
- physical changes in the baseline context at the site as relevant to Flood Risk and Drainage and the proposed material amendment;
- changes in the understanding of risk for both the current day situation and future scenarios; and
- the material amendment to the proposed scheme.

13.1.8 The UES chapter demonstrated that proposed Material Change 2 will not result in an unacceptable flood risk to the proposed scheme or increased levels of impact. Therefore, the residual effect of the scheme in relation to Flood Risk and Drainage remained 'not significant'.

Consideration of Proposed Extension of Time

13.1.9 The proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to Flood Risk and Drainage. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to Flood Risk and Drainage;
- changes in the understanding of the risk (i.e. updated modelling) for both the current day situation and future scenarios with this limited to the major concern associated with flooding from the Humber; and
- any impacts associated with a longer construction period.

13.1.10 There have been no significant physical changes to the local hydrological features and systems at and around the AMEP site since the Material Change 2 UES. The only exception to this are changes that are part of the scheme (such as the construction of the new surface water pumping station) which are integral to the scheme and were considered in the previous assessments.

13.1.11 Chapter 13 of the Material Change 2 UES assessed the risk of tidal flood risk, wave action and over topping of the defence with reference to extreme sea levels provided by the Environment Agency and estimated as part of the Humber 2100+ project (Appendix UES13-1). This analysis has not been superseded and therefore remains the best available source of data.

13.1.12 Future flood risk to the project, associated with sea level rises linked to climate change, were assessed through to 2121 using projected uplifts based on UKCP18 and detailed in Environment Agency guidance. While this guidance has been updated since 2021 no changes have been made to the estimated annual sea level uplifts. As such the analysis of future flood risk previously undertaken remains valid and covers significantly beyond the proposed extended construction period.

13.1.13 Due to the effect of climate change, the most significant flood risks at the site all relate to periods

towards the end of the projected development lifetime. In the short-term flooding is of less concern and extending the period of construction for a maximum period of 7 years will not materially alter the flood risk posed to construction activities or flood risk impacts arising from the scheme.

Conclusions

- 13.1.14 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Flood Risk and Drainage will remain 'not significant'.
- 13.1.15 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Drainage and Flood Risk.

14.1.0 Chapter 14 – Commercial and Recreational Navigation

14.1.1 This section will consider the Material Change 2 UES Chapter 14: Commercial and Recreation Navigation, in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

14.1.2 The full details of the proposed extension of time are described in Chapter 4 of this ER. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Content of Original ES

14.1.3 The initial considerations regarding the original development and Commercial and Recreational Navigation are set out in Chapter 14 of the original ES²⁴. The original ES Chapter for Commercial and Recreational Navigation provided an assessment of changes in navigational risk as a result of the construction and operation AMEP. A Navigation Risk Assessment²⁵ was undertaken to assess these risks and identify additional mitigations to reduce navigational risk to “As Low As Reasonably Practicable” (ALARP)²⁶.

14.1.4 Within Chapter 14 of the original ES, navigational impacts due to AMEP as well as other proposed developments in the area were assessed, with appropriate mitigation measures devised dependent on the significance of these impacts. A final assessment of the residual impacts after mitigation was then undertaken.

14.1.5 The main methodology of the Navigation Risk Assessment within the original ES was to:

- Undertake an analysis of Automatic Identification System (AIS) data for the Humber Estuary area to identify the baseline of vessel routes;
- Predictions of vessel types and numbers of vessel movements expected to access the new facilities were used in order to assess future traffic growth;
- These data sets were used to assess the impact of additional vessel movements on existing river/estuary users, particularly on facilities adjacent to the proposed development;
- In order to manage and identify all potential navigation hazards for the project, a risk assessment workshop was conducted;
- Hazards were identified and assessed; and
- A simulation workshop took place in order to assess the feasibility of berthing and departure from the AMEP.

14.1.6 Within the original ES Chapter for Commercial and Recreational Navigation, consideration was given

²⁴ [Ch 14 November 2011_20111124 \(planninginspectorate.gov.uk\)](https://planninginspectorate.gov.uk)

²⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000402-14.2%20-%20Navigation%20Risk%20Assessment.pdf>

²⁶ [BMT Report Template \(planninginspectorate.gov.uk\)](https://planninginspectorate.gov.uk)

to the following:

- Legislation, Policy and Guidance; and
- Assessment Methodology and Criteria. The assessment methodology being in accordance with the principles of reducing risks to ALARP. International Maritime Organisation (IMO) guidelines recognise the existence of ALARP, but do not set any bounds as to how this should be applied and/or demonstrated in the marine industry. This approach is also incorporated into the Port Marine Safety Code²⁷ and UK shipping policy.

14.1.7 Overall, the Original ES Identified 45 hazards in the following categories:

- vessel traffic associated with the construction of AMEP (18 hazards);
- vessel traffic associated with the operation of AMEP (18 hazards); and
- abnormal loads transported in association with construction and/or operation of AMEP (9 hazards).

14.1.8 No risks were identified as “Significant Risk” or “High Risk”, and therefore all risks were considered acceptable, although additional mitigations were identified to reduce residual risk still further.

Content of Material Change 2 UES

14.1.9 Chapter 14 of the Material Change 2 UES considered whether the proposed material amendment had the potential to change the outcome as previously assessed within the original ES Chapter. The Material Change 2 UES concluded that the material amendment should have a minimal effect on the existing risk profile which could be managed and contained assuming compliance with embedded mitigation and regulations governing: movements, pilotage, towage, VTS and procedures.

14.1.10 In order to support this assessment a full navigation risk assessment was repeated²⁸ for the project area, taking the revised design into account, and using updated inputs including:

- AIS and traffic data provided by ABP;
- Incident data;
- Stakeholder consultation; and
- Updated local legislation and guidelines.

14.1.11 The new navigation risk assessment was undertaken based on the Formal Safety Assessment methodology as adopted by IMO. It also follows the guidance set out within the Port Marine Safety Code. Marico Marine used a form of risk assessment that has been specifically adapted for navigational use. It is unique to Marico and is fundamentally based on concepts of “Most Likely”

²⁷ [Port Marine Safety Code \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

²⁸ [AMEP NRA 2021 \(planninginspectorate.gov.uk\)](https://planninginspectorate.gov.uk)

and “Worst Credible”.

14.1.12 A general decrease in risk was noted across all hazard categories when compared to the assessment undertaken in 2011 in support of the original DCO application. Factors influencing this decrease in risk profile included:

- An overall decline in Humber vessel transits past the Project (>50% reduction in passing transits from AIS);
- Improvement of the Humber-wide SMS and implementation of embedded mitigations over time;
- The embedding of many originally proposed additional mitigation measures into the project design;
- The review and associated reduction in construction phase vessel movements associated with dredging activities identified within scoping;
- The simplification of the quay design via the removal of the specialist berth; and
- The reduction of cumulative projects considered within the 2011 NRA that have either been completed or were not taken forward.

14.1.13 All residual effects for the amended project were assessed as **Moderate** or **Low** and therefore ‘not significant’. This is considered acceptable in terms of the EIA regulations.

Consideration of Proposed Extension of Time

14.1.14 The proposed application seeks a further 7 years to complete development activity on the site. This section considers the significance of this as relevant to Commercial and Recreation Navigation. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to any Commercial and Recreation Navigation impacts which may arise due to the extension of time.

14.1.15 The following may be impacted by the time extension, and are discussed in the following paragraphs:

- The traffic profile on the Humber Estuary may change;
- Existing risk reduction mitigations may become more or less effective by the time the project commences; and
- Other projects in the vicinity may be promoted during the time extension, leading to additional in combination effects.

14.1.16 It is impossible to predict traffic numbers up to 7 years in advance for any port. ABP publishes vessel movement statistics annually in their Port Marine safety Code Annual Review, the most recently available being for the year ending 2021. This shows a significant fall in shipping volumes on the Humber in 2020 compared with previous years, but this is almost entirely attributable to the effects of Covid 19, and a recovery in numbers is already evident in the 2021 statistics. It is considered that traffic levels within the next 7 years are likely to be comparable (or very slightly less) than assessed

in the Material Change 2 UES, and therefore it is likely that there will be an insignificant change to the overall assessed navigation risks.

- 14.1.17 It is possible that existing risk mitigations may change in the extension of time period. It is considered very unlikely that the most significant mitigations (VTS, Pilotage, rules and regulations) will be removed or become ineffective during this period, and indeed it is more likely that these mitigations and others, may become more effective. Overall, it is considered likely that there will be no significant change on the risk profile assessed in the Material Change 2 UES for this reason.
- 14.1.18 Finally, additional projects may be developed on the Humber during the extension of time (For example development of additional berths at nearby Immingham). Such developments would have no overall impact on the AMEP project, but may lead to a slight overall increase in traffic on the estuary. However, it the same conclusion is reached as in paragraph 14.1.16 above. Any changes in vessel numbers would likely be insignificant to the overall assessed navigation risks.

Conclusions

- 14.1.19 Having reviewed Chapter 14 of the Material Change 2 UES, it can be confirmed that no changes have been proposed with regards to Commercial and Recreation Navigation beyond an extension of time. While external factors have been identified which may change during the extension of time, it is considered likely that any such factors will not be sufficiently significant to change the overall, conclusion reached in Chapter 14 of the Material Change 2 UES, and therefore no further consideration of Commercial and Recreation Navigation is required in relation to the extension of time.
- 14.1.20 Therefore, Marico Marine confirm that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Commercial and Recreation Navigation.

15.1.0 Chapter 15 – Traffic and Transport

15.1.1 This section will consider the Material Change 2 UES Chapter 15: Traffic and Transport in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

15.1.2 The full details of the proposed extension of time are described in Chapter 4 of this report. In relation to this Article 7 ER, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Content of Original ES

15.1.3 The initial considerations regarding the original development and Traffic and Transport are set out in Chapter 15 of the original ES²⁹. The original ES Chapter for Traffic and Transport provided an assessment of the direct impacts resulting from road traffic generated by AMEP. A Transport Assessment (TA) was also prepared³⁰, which provided a more detailed assessment of the traffic impacts of the proposed development. A Framework Travel Plan was also prepared for the site³¹.

15.1.4 Within Chapter 15 of the original ES, traffic impacts due to AMEP as well as other proposed developments in the area were assessed, with appropriate mitigation measures devised dependent on the significance of these impacts. A final assessment of the residual impacts after mitigation was then undertaken.

15.1.5 The main methodology of the Traffic and Transport assessment within the original ES was to:

- Identify the routes that traffic generated by all phases of the development will take when arriving at and departing from the site;
- Estimate likely traffic volumes; and
- Provide an assessment of the resultant environmental impacts for the construction and operational phases of the proposed development.

15.1.6 The Traffic and Transport assessment within the original ES also assessed the impact of the development on rail traffic and on pedestrians and cyclists.

15.1.7 Within the original ES Chapter for Traffic and Transport, consideration was given to the following:

- Legislation, Policy and Guidance; and
- Assessment Methodology and Criteria. The assessment methodology being in accordance with the principles of *PPG 13*, the *Guidelines for EART*, IEMA (2003) and the DfT *Guidance on Transport Assessment* (2007).

²⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000320-15%20-%20Traffic%20and%20Transport.pdf>

³⁰ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000404-15.1%20-%20Transport%20Assessment.pdf>

³¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000405-15.2%20-%20Framework%20Travel%20Plan.pdf>

Content of Material Change 2 UES

- 15.1.8 The Material Change 2 UES considered whether the proposed material amendment had the potential to change the outcome as previously assessed within the original ES Chapter. The Material Change 2 UES concluded that the material amendment does not have the potential to alter the assessment as set out within the original ES and additional technical assessment relating to construction and operational Traffic and Transport was not required.
- 15.1.9 Notwithstanding this, within Chapter 15 of the Material Change 2 UES Traffic and Transport considerations were provided. This included a brief overview of the findings contained within the Preliminary Environmental Information Report (PEIR) previously prepared to undertake consultation on the proposed Material Change 2 application in advance of a formal application submission.
- 15.1.10 With the exception of the minor diversion of the Public Right of Way (Footpath 50), which was assessed within Chapter 21: Socio-Economics³² of the Material Change 2 UES, it was concluded the proposed material amendment would not materially affect the level of traffic generated during the construction or operation phases of the development. Any changes to the construction traffic would be minimal in scale, and thus the original ES was considered to be suitable to assess the effects of Traffic and Transportation.
- 15.1.11 Consideration was given to the Traffic and Transport mitigation measures identified within the original ES, which remained in place for the proposed material amendment. Consultation with Highways England (now National Highways) during the consultation on Scoping and with North Lincolnshire Council confirmed that all the major highway works necessary to mitigate the original development were complete and they were satisfied the proposed material amendment would not impact on the highways networks.
- 15.1.12 On that basis, there were no significant changes since the original ES and thus Traffic and Transport was scoped out of the Material Change 2 UES.

Consideration of Proposed Extension of Time

- 15.1.13 The proposed application seeks a further 7 years to complete development activity on the site. This section considers the significance of this as relevant to Traffic and Transport. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to any Traffic and Transport impacts associated with a longer construction period.
- 15.1.14 Having reviewed Chapter 15 of the Material Change 2 UES and on the basis that Traffic and Transport was previously scoped out of the UES, no further consideration of proposed extension of time is considered necessary.

Conclusions

- 15.1.15 Having reviewed Chapter 15 of the Material Change 2 UES, it can be confirmed that no changes have been made with regards to Traffic and Transport and as such no further consideration to Traffic and

³² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000326-21%20-%20Socio-Economic.pdf>

Transport is required in relation to the extension of time.

- 15.1.16 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Traffic and Transport.

16.1.0 Chapter 16 – Noise and Vibration

16.1.1 This section will consider the Material Change 2 UES Chapter 16: Noise and Vibration in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

16.1.2 The full details of the proposed extension of time are described in Chapter 4 this report. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Content of Original ES

16.1.3 The original ES Chapter for noise and vibration provided an assessment of noise and vibration impacts predicted from the construction and operation of the site upon the nearby noise sensitive receptors. Consideration was given to the following:

- Legislation, Policy and Guidance;
- An assessment based on the methods contained within BS 5228:2009 to predict the likely resultant noise from construction activities associated with the development. The assessment included characters of construction noise including:
 - Existing ambient noise levels;
 - Distance to noise sensitive receptors;
 - Duration of the construction works; and
 - Hour of work.
- An assessment of road traffic noise associated with the increased vehicular movements on and around the site.

Content of Material Change 2 UES

16.1.4 The Material Change 2 UES considered whether the proposed material amendment had the potential to change the outcome assessed within the original ES. The Material Change 2 UES indicated that the material amendment does not have the potential to alter the assessment as set out within the original ES and additional technical assessment was not required. Consideration was given to the following:

- Changes in legislation, policy and guidance relating to noise and vibration;
- Changes in baseline conditions;
- Changes in assessment of effects; and
- Changes in proposed mitigation

Consideration of Proposed Extension of Time

Changes in Guidance

- 16.1.5 Having reviewed the guidance contained within Chapter 16: Noise and Vibration³³ (dated June 2021) for the Material Change 2 UES, it has been determined that there have been minor changes to the following legislation, guidance and Planning Policy.
- 16.1.6 With regard to the National Planning Policy Framework 2021, the NPPF (published subsequent to the original ES) states, *“planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
- *“Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development, and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
 - *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason”*
- 16.1.7 As stated above, the NPPF makes reference to mitigating and reducing to a minimum potential adverse impact resulting from noise produced by, or impacting on a new development, but not does not set absolute criteria; therefore, the most relevant National and International standards are referred to in this assessment, which provide definitive guidance on noise impact.
- 16.1.8 The North Lincolnshire Council (NLC) Local Plan, ‘Policy DS1 – General Requirements’ requires that *“A high standard of design is expected in all developments in both built-up areas and the countryside and proposals for poorly designed development will be refused”*. With regard to noise, Policy DS1 requires *“No unacceptable loss of amenity to neighbouring land uses should result in terms of noise...”*.
- 16.1.9 The North Lincolnshire Local Plan was replaced by the Local Development Framework which includes the Supplementary Planning Document (SPD) ‘Planning for Health and Wellbeing’ with the following policy relating to noise:
- 16.1.10 Policy 3 ‘Well Designed Places’ requires that: *“When considering the detail of development, proposals should: ... Seek to reduce noise and air pollution through ensuring planning applications include a Noise Impact Assessment... in areas of concern”*.
- 16.1.11 No further amendments have been made to the Local Development Framework following the final version of Chapter 16: Noise and Vibration.

Changes to the Nearest Noise Sensitive Receptors

- 16.1.12 As demonstrated in UES Chapter 16: Noise and Vibration there has been no change in the noise

³³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000108-TR030006-APP-6-16.pdf>

sensitive receptors around the site.

Changes to the Area Relating to Noise

16.1.13 As demonstrated in UES Chapter 16: Noise and Vibration there has been no change in the area relating to noise.

Conclusions

16.1.14 Having reviewed Chapter 16 of the Material Change UES³⁴, it can be confirmed that no changes have been made, other than update to policy, and as such no further consideration is required in relation to the extension of time. The update to the policy does not affect the overall assessment and outcome of the assessment and as such, no further consideration needs to be given to this change.

16.1.15 In summary:

- There has been some change in the guidance, this does not affect the overall assessment and outcome of the assessment.
- There have been no changes to the nearest noise sensitive receptors in the area.
- There have been no changes to the area relating to noise.

16.1.16 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Noise and Vibration.

³⁴ Able Marine Energy Park Material Change 2 | National Infrastructure Planning (planninginspectorate.gov.uk)

17.1.0 Chapter 17 - Air Quality

17.1.1 This section will consider the Material Change 2 UES 17: Air Quality in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

17.1.2 The full details of the proposed extension of time are described in Chapter 4 of the Environmental Review to the original ES and Material Change 2 UES. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Content of Original ES

17.1.3 The original Air Quality Chapter to the ES (Chapter 17) provided an assessment of potential air quality impacts at identified sensitive human and ecological receptors. The original Air Quality Chapter to the ES considered the following:

- Impacts on air quality arising during the construction phase, identified as:
 - Road traffic emissions;
 - Shipping emissions; and
 - Construction dust, and potential impacts and human and ecological receptors.
- Impacts on air quality arising during the operational phase, identified as:
 - Road traffic emissions;
 - Shipping emissions; and
 - Emissions from paint spraying of products, as both gaseous pollutants and odour, and associated impacts at human and ecological receptors.

17.1.4 The conclusions to the original Air Quality Chapter to the ES determined that all impacts would result in a 'not significant' effect.

Content of Material Change 2 UES

17.1.5 The Material Change 2 UES considered whether the proposed material amendment had the potential to change the outcome of the Air Quality Chapter to the original ES. This included changes associated with the increase in the duration of the dredging programme associated with the construction, and the associated potential change to dredging vessel movements and associated emissions.

17.1.6 As part of the Material Change 2 UES, consideration was given to the following:

- Changes in legislation, policy and guidance relative to Air Quality;
- Changes in baseline conditions in the interim since the original ES;
- Changes in assessment of effects associated with the Material Change 2 UES, including those

associated with the increase in the duration of the dredging programme associated with the construction as identified above; and

- Changes in proposed mitigation.

17.1.7 The conclusion to the Material Change 2 UES identified associated impacts on Air Quality remained to result in a 'not significant' effect, and did not result in any new / different effects or effects of a greater magnitude than were previously assessed. No additional or alternative mitigation, over and above that required as part of the DCO, was identified.

Consideration of Proposed Extension of Time

17.1.8 The proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to Air Quality. There are no physical changes to the proposed scheme and the physical form of the development is already approved; therefore, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to air quality; and
- any impacts associated with a longer construction period.

17.1.9 Baseline air quality, in terms of background concentrations, is forecast nationally to reduce year-on-year as a result of improvements to technology and the vehicle fleet-mix, for example³⁵. Local forecast datasets relative to the Site corresponding to North Lincolnshire Council (NLC) additionally mirror this forecast reduction. The classification of receptor sensitivity completed as part of an air quality impact assessment, including that previously considered within the original ES and Material Change 2 UES, is identified on the basis of existing baseline concentrations: the higher the existing baseline concentration, the greater the sensitivity of a given receptor is to concentration change, and vice-versa. Furthermore, receptors of greater sensitivity determine a potential greater significance associated with a predicted magnitude of change. Therefore, should baseline air quality improve over the prolonged and additional 7-year completion timescale for the duration of the development activity on-site, then the associated receptor sensitivity to change would correspondingly reduce and improve. Notwithstanding, however, the Material Change 2 UES previously identified air quality effects would remain to be 'not significant' irrespective of this potential beneficial change associated with further forecast improvements in air quality.

17.1.10 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. The original ES and Material Change 2 UES previously assessed impacts on air quality, including those relative to annual mean concentration averaging periods. On this basis following this review no further realistic mechanism for air quality to be adversely impacted by the proposed change have been identified.

Conclusions

7.2.13 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to air quality will remain 'not significant'.

17.1.11 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous

³⁵ <https://uk-air.defra.gov.uk/data/laqm-background-home>.

Material Change 2 UES with regards to Air Quality.

18.1.0 Chapter 18 - Historic Environment

18.1.1 This section will consider the Material Change 2 UES Chapter 18: Historic Environment in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

18.1.2 The full details of the proposed extension of time are described in Chapter 4 of the Environmental Review to the original ES and Material Change 2 UES. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Content of Original ES

18.1.3 The 2011 application was accompanied by an Environmental Statement (ES). During the examination of the proposals, additional environmental information was submitted by the Applicant and was incorporated into the ES for the Project. The documents forming the project ES are listed at Schedule 11, paragraph 1 of the AMEP DCO, and this complete set of documents is referred to in this Article 7 ER as 'the Original ES'.

18.1.4 The impacts of the development on the Historic Environment associated with the AMEP Main Site were considered in Chapter 18 of the Original ES that formed part of the DCO application in 2012. A full list of the documents and assessments submitted in support of the Original ES are as follows:

- Environmental Statement Chapter 18: Historic Environment (Main Site);
- Appendices to Chapter 18 (links are provided at relevant sections of this Chapter):
 - Appendix 18.1: Marine Historic Environment Desk-based Assessment
 - Appendix 18.2: Terrestrial Historic Environment Desk-based Assessment
 - Appendix 18.3: Terrestrial Geophysical Survey report
 - Appendix 18.4: Setting Assessment of designated Heritage Assets

18.1.5 A marine archaeological Written Scheme of Investigation (WSI) was produced in 2012 in order to set out the mitigation agreed to limit the development's impacts on the marine Historic Environment on both the south and north sides of the Humber Estuary (Appendix UES18-1 of the Material Change 2 UES). This WSI was based on a review of geoarchaeological data (Wessex Archaeology 2011 & 2012b; Technical Appendices UES18-3 and UES18-4 of the Material Change 2 UES) and geophysical survey data captured by Emu Limited in 2010 (Emu 2010).

18.1.6 A considerable volume of reports was produced for the DCO application in 2012 and a signposting document detailing the Applicant's Environmental Information produced for the DCO application is available³⁶.

18.1.7 No change to the Written Scheme of Investigation is proposed as part of the extension of time

³⁶ [Signposting Document for the Applicant's Environmental Information \(TR030001-001645-120924\)](#)

application in respect of marine or terrestrial interests.

Content of Material Change 2 UES

18.1.8 The Material Change 2 UES considered whether the proposed material amendment had the potential to change the findings of the Original ES in respect of the Historic Environment of the Main Site in the vicinity of the proposed development.

18.1.9 This chapter includes consideration of:

- Additional baseline historic environment data that may have been acquired since the collation of data presented in the 2012 DCO application; and
- Any proposed material changes in the development proposals.

18.1.10 Two documents were presented in respect of the Historic Environment for the Material Change 2 application:

- During the Material Change 2 UES examination the potential effects on the marine historic environment were addressed in the provision of a revised Marine WSI.³⁷
- Assessment of effects of additional crane heights with reference to effects on the setting of designated heritage assets. This was submitted in response to Examiner's Question 9.0.5

18.1.11 The submissions were considered in the Examiner's Report³⁸ which concluded that satisfactory responses had been received on this matter and noted that the revised WSI had been agreed with NLC. The Report also notes that the SOCG's conclusions that there would be no additional construction or operational effects on the marine historical environment resulting from the proposed material change. The Examining Body regards it as extremely unlikely that the Material Amendment would have an impact on marine archaeology.

Consideration of Proposed Extension of Time

18.1.12 Proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to the Historic Environment. This Chapter reports on any change in the findings of the Original ES and subsequent Material Change 2 UES in respect of the Historic Environment of the Main Site in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

18.1.13 As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is limited to:

- physical changes in the baseline context at the site as relevant to the Historic Environment; and

³⁷[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000435-\(TR030006.D4.13\)%20Written%20Scheme%20of%20Investigation%20with%20Figures.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000435-(TR030006.D4.13)%20Written%20Scheme%20of%20Investigation%20with%20Figures.pdf)

³⁸<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000533-TR030006%20-%20Final%20Recommendation%20Report.pdf>

- any impacts associated with a longer construction period.

Changes in Legislation, Guidance and Planning Policy

National Planning Policy Framework

18.1.14 The National Planning Policy Framework (NPPF) was introduced in 2012 and updated in July 2021, replacing the former Planning Policy Statement 5 (PPS5). The Framework sets out the government's planning policies for England and how they are expected to be applied. Chapter 16 is entitled 'Conserving and enhancing the historic environment'. The principal paragraphs that relate to this chapter are:

- Paragraph 189: *"Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations."*
- Paragraph 194: *"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation."*
- Paragraph 195: *"Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal."*
- Paragraph 197: *"In determining applications, local planning authorities should take account of:*
 - a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
 - b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
 - c) the desirability of new development making a positive contribution to local character and distinctiveness."*
- Paragraph 199: *"When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether*

any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.”

- Paragraph 200: “Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:
 - a) *grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*
 - b) *assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*
- Paragraph 202: “Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.”
- Paragraph 203: “The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.”
- Paragraph 204: “Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.”
- Paragraph 205: “Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.”
- Paragraph 206: “Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.”

Planning Practice Guidance

- 18.1.15 Following the publication of the NPPF, the Planning Practice Guidance was published in November 2016 and last updated in June 2021. The guidance provides clarification of the application and implementation of policies set out in the NPPF and is considered to be a material consideration in planning policy and an adjunct to the Town and Country Planning Act 1990.

Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015).

- 18.1.16 This document updates previous guidance contained in the English Heritage’s Conservation Principles – Policies and guidance for the sustainable management of the historic environment

(English Heritage 2008). It states that significance of a heritage asset can derive from historical or archaeological interests and outlines a methodology for the identification of significance.

Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second edition, December 2017).

- 18.1.17 This document updates previous guidance on the assessment of the how setting may contribute to the significance of a heritage asset and an outline methodology for the assessment of setting, how it may be affected by development and how that may affect a heritage asset's significance.

Commercial Renewable Energy Development and the Historic Environment (Historic England Advice note 15 2021)

- 18.1.18 This document sets out the government's commitment to reducing carbon emissions and guidance on the effects that a variety of renewable energy projects may have on the historic environment. It considers the means by which significance of heritage assets can be affected, by means of direct physical impacts, and indirectly on the setting of heritage assets. Consideration is also given to the reversibility of adverse effects and to decommissioning.

Marine Policy Statement (HM Government 2011)

- 18.1.19 The policy statement was first issued in 2011 and updated in September 2020. The document sets out policy for the management of the marine historic environment and is supplemented by a guidance document that provides appropriate amendments following the UK departure from the EU.

North Lincolnshire Planning Policy

- 18.1.20 There have been no subsequent amendments to NLC planning policy in respect of the Historic Environment

Changes in Methodology

Assessment Methodology

- 18.1.21 Chapter 18 of the Original ES for the DCO set out the Assessment Methodology and Criteria used in the assessment of the effects on the historic environment. The methodology used at the time is still considered consistent with the updated policy and guidance outlined above and reference should be made Chapter 18 of the Original ES for further details.

Study Area and Sensitive Receptors

- 18.1.22 There are no changes to the assessment methodology relating to the historic environment, including those relating to the associated study area and sensitive receptors located within or in close proximity to the site.

Terrestrial Historic Environment

- 18.1.23 In accordance with the requirements of the DCO (Schedule 11; 17) and the approved WSI, various project design works were agreed with the NLC archaeological officer and a programme of further site evaluation and mitigation was undertaken. All site excavation works were completed in April 2015; the paleo-environmental sampling was completed in June 2023. The preparation of an

archaeological assessment report was submitted to, and approved by, the NLC archaeological officer in 2019. Final reporting and archiving of results are underway and is expected to be completed by the end of 2023.

- 18.1.24 In accordance with the DCO condition (Schedule 11; 18) a management plan for the Listed Lighthouse was submitted and approved by NLC on 25th March 2021.

Marine Archaeology

- 18.1.25 Marine Archaeology was considered further within Chapter 18 of the Material Change 2 UES with regard to the proposed alterations to the quay arrangement.
- 18.1.26 The risks to the marine Historic Environment can be adequately mitigated through the mitigation measures set out in the revised WSI submitted by Wessex Archaeology dated 7 September 2021.
- 18.1.27 The Examining Body regards it as extremely unlikely that the Material Amendment would have an impact on marine archaeology.

Assessment of Effects

- 18.1.28 The implementation of subsequent planning consent for 'Enabling Works' (PA/2023/502) in former ecological mitigation areas may have an adverse impact on sub-surface terrestrial archaeological deposits previously identified, but which were considered exempt from construction effects and not included in the implementation of the original WSI.
- 18.1.29 No additional effects on historic environment interests have been identified additional to those described in Chapter 18 of the Original ES for the DCO and subsequently updated by Chapter 18 of the Material Change 2 UES.
- 18.1.30 There are no likely additional construction or operational phase effects identified associated with the proposed extension of time.

Mitigation and Residual Effects

- 18.1.31 No alternate or additional mitigation is required beyond that set out in the revised marine WSI submitted by Wessex Archaeology dated 7 September 2021.
- 18.1.32 It is concluded that there are no changes to the Residual Effects previously identified within the original ES for the DCO.

Conclusions

- 18.1.33 Chapter 18 of the Original ES for the DCO set out the requirement for mitigation to address impacts associated with construction and operation of the Main Site. This has been undertaken, in accordance Schedule 11 (Conditions 17 and 18) of the DCO, but final elements remain undischarged.
- 18.1.34 Therefore, it is confirmed that a 7-year extension does not alter the findings within the previous Material Change 2 UES with regards to the Historic Environment.

19.1.0 Chapter 19 - Light

19.1.1 This section will consider the Material Change 2 UES 19: Light in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

19.1.2 The original Light Chapter to the ES (Chapter 19) provided an assessment of potential lighting impacts at identified amenity (human) and ecological receptors. The original Light Chapter to the ES considered the following:

- Baseline light monitoring;
- Assessment of potential lighting effects associated with the construction phase; and
- Assessment of potential lighting effects associated with the operational phase.

19.1.3 The conclusions to the original Light Chapter to the ES determined that the impacts at one receptor (receptor15: Hazeldene) was 'moderate adverse' and 'significant'. A series of planting and lighting design measures were proposed as part of the DCO. All other effects were concluded to be 'not significant' at remaining identified amenity (human) and ecological receptors.

Content of Material Change 2 UES

19.1.4 Chapter 19 of the Material Change 2 UES scoped out light based on the formal Scoping Opinion adopted by the Planning Inspectorate (PINS) on behalf of the Secretary of State in March 2021 (PINS Case Reference TR030006). This confirmed that light be 'scoped out' of this UES.

Consideration of Proposed Extension of Time

19.1.5 The application seeks a further 7 years to complete development activity on the site. This chapter considered the significance of this as relevant to Light. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to Light; and
- any impacts associated with a longer construction period.

19.1.6 There are no known significant changes in the baseline situation since the completion of the Material Change 2 UES.

19.1.7 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for Light to be adversely impacted by the proposed change have been identified.

Conclusions

19.1.8 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Light.

20.1.0 Chapter 20 - Landscape and Visual

20.1.1 This section will consider the Material Change 2 UES Chapter 20: Landscape and Visual in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

20.1.2 The Landscape and Visual chapter of the original ES considers effects of the proposals on:

- landscape character and resources, including effects on the aesthetic values of the landscape caused by changes in the elements, characteristics, character and qualities of the landscape; and
- visual amenity, including effects upon potential viewers and viewing groups caused by changes in the appearance of the landscape as a result of the AMEP.

20.1.3 The Landscape and Visual chapter concluded that:

- the long term impacts on landscape character would be not-significant in EIA terms for all landscape receptors assessed; and
- that the long term impacts on visual amenity would be not-significant in EIA terms for all visual receptors with the exception of:
 - viewpoint 1 (Public Footpath on South Humber Bank);
 - viewpoint 2 (North Killingholme Haven Pits);
 - viewpoint 3 (Coastal Footpath North Humber Bank);
 - viewpoint 8 (Resident [sic] at Marsh Lane);
 - viewpoint 9 (Homestead Lake Public Park and Play Area, Immingham); and
 - viewpoint 13 (Residents of East Halton).

20.1.4 Figure 20-1 below provides an extract of the Viewpoints Location Plan which supported the original ES (Figure 20.3 of the original ES).

20.1.5 The Examiner's Report submitted to the Secretary of state, following completion of the examination observed the following:

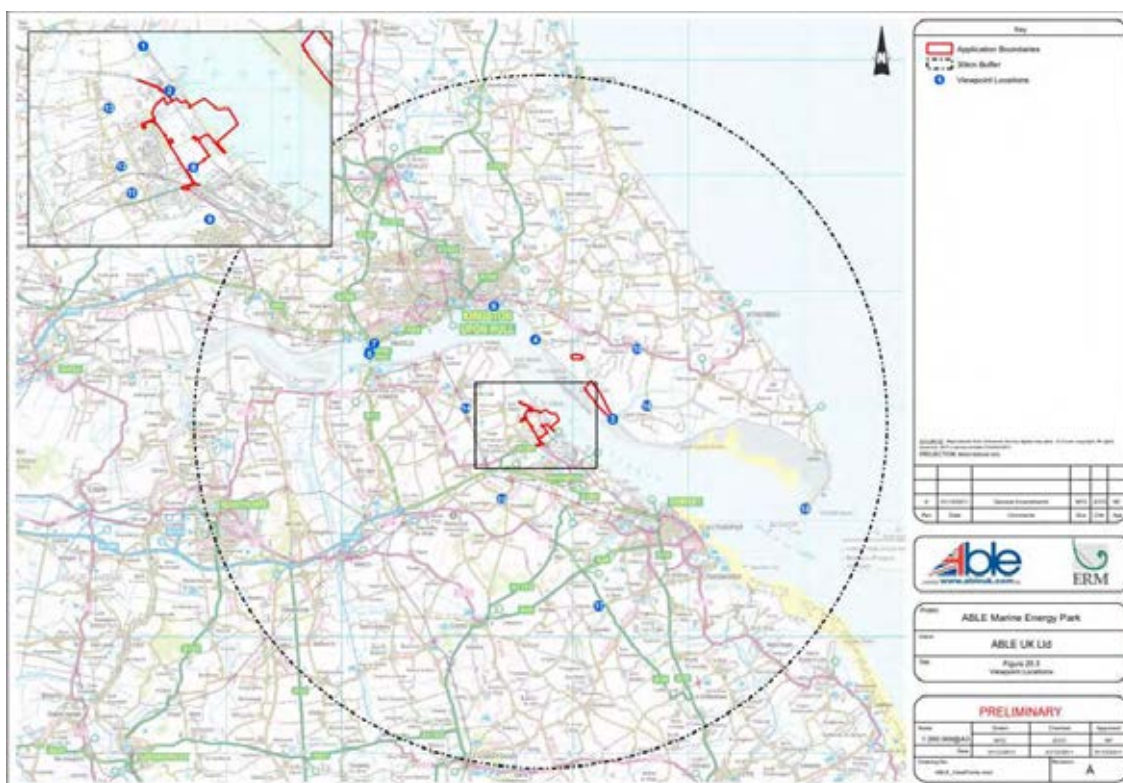
"8.70 Landscape and visual impacts ... have not been a major issue in the examination. The main development site is in an industrial landscape, with a background (from the river) primarily of a very large oil refinery.

8.71 The impacts are addressed in Chapter 20 of the Environmental Statement [APP075] and in the Landscape Masterplan [APP111].

8.72 These matters are to be managed through Requirements 5, 6 and 7 of the draft DCO.

8.73 The Panel believes that this issue has been addressed adequately.”

Figure 20-1: Viewpoints Location Plan (Figure 20.3 of original ES)



Content of Material Change 2 UES

- 20.1.6 Chapter 20 of the Material Change 2 (MC2) UES scoped out landscape and visual matters based on the formal Scoping Opinion adopted by the Planning Inspectorate (PINS) on behalf of the Secretary of State in March 2021 (PINS Case Reference TR030006). This confirmed that Landscape and Visual be ‘scoped out’ of the MC2 UES.

Consideration of Proposed Extension of Time

- 20.1.7 The proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to Landscape Character and Visual Amenity. As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:
- physical changes in the baseline context at the site as relevant to landscape character and visual amenity; and
 - any impacts associated with a longer construction period.
- 20.1.8 There are no known significant changes in the baseline situation since the completion of the Material Change 2 UES.
- 20.1.9 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic

mechanism for landscape and visual matters to be adversely impacted by the proposed change have been identified.

Conclusions

- 20.1.10 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Landscape and Visual.

21.1.0 Chapter 21 - Socio-Economics

21.1.1 This section will consider the Material Change 2 UES Chapter 21: Socio-Economics in the context of an application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

21.1.2 The Original ES included a chapter reporting on the socio-economic impact of the Project on the local area and the wider Hull and Humber sub-region (Chapter 21³⁹). It set out:

- the current state of the economy with high levels of deprivation and acute need for new investment in economic activity;
- the number of additional jobs that will be directly created by the Project, after taking into account displaced activity;
- the nature of the jobs created and the skills or occupational requirements;
- the skills of the local workforce and their suitability for the new employment opportunities;
- the number of jobs created in the local area by the additional spending created by the direct employment; and
- the nature of any negative impacts, such as stress on local housing and amenities, and possibility of mitigating these.

21.1.3 In undertaking the assessment, the chapter considered relevant policy, legislation and guidance, the baseline socio-economic environment, and the likely significant effects of the proposed development on sensitive receptors comprising the economy (site-specific, wider local, wider regional, and wider national employment and GVA); housing; recreation and amenity; and social infrastructure: education and health care. The assessment included consideration of cumulative effects taking account of other developments in the area.

21.1.4 The conclusions of the assessment were that economic impacts can be expected to be highly positive, especially with regard to employment and skills, including both direct employment and the supply chain. There were considered to be potential impacts for adverse effects or less than optimal positive effects resulting from a sudden influx of workers and lack of awareness by local businesses but these would be mitigated by communication of employment opportunities and training. Following mitigation, no significant adverse effects were identified and the overall conclusion was that AMEP would have a significant positive impact on local, regional, and national economy. This conclusion was not affected by consideration of cumulative effects with other large scale projects in the local area.

Content of Material Change 2 UES

21.1.5 The proposed changes to the scheme that was the subject of Material Change 2 comprised changes to the design of the Quay and Reclamation dredging, changes to the construction methodology, and

³⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000326-21%20-%20Socio-Economic.pdf>

changes to the proposed diversion routes for a Public Right of Way (PRoW), Footpath 50, in order to avoid creating a new rail crossing on an active line. Footpath 50 forms part of the proposed route of the England Coast Path in this area.

- 21.1.6 The Scoping Opinion agreed with the Scoping Report that socio-economic effects could be scoped out of the Material Change 2 UES. Notwithstanding, whilst originally proposed to be 'scoped out' of the UES, the decision was made to assess socio-economic effects associated with the diversion of a Footpath 50.
- 21.1.7 Chapter 21 of the Material Change 2 UES assessed the potential effects of the changes to the proposed diversion routes for the PRoW and England Coast Path. It was confirmed in the Scoping Report and Scoping Opinion that no other proposed changes were considered likely to result in any material change to socio-economic effects.
- 21.1.8 The approach taken to the updated assessment of socio-economic effects was similar to the Original ES in that regard as to relevant policy, legislation and guidance, the baseline socio-economic environment, and the likely significant effects of the proposed development on sensitive receptors. The main difference was the reduced scope of the effects that were confirmed following scoping.
- 21.1.9 In considering the relevant baseline conditions, the Material Change 2 UES took account of the fact that Footpath 50 was expected to form part of the Mablethorpe to Humber Bridge section of the England Coast Path. The proposed changes include a change to the proposed route of the England Coast Path, a recreational asset of national importance. This was important because, since the Original ES was prepared, progress on opening the England Coast Path has resulted in a substantial change to the socio-economic baseline in this regard.
- 21.1.10 The assessment contained within the Material Change 2 UES took into account the change to baseline within the defined study area, as well as the proposed amendment to the scheme, and concluded that the proposed diversion to Footpath 50 and hence the England Coast Path would result in a negligible to minor effect, which is not significant. Furthermore, as no adverse significant effects were identified and suitable mitigation was already contained within the made DCO, there is no change to the residual effects previously identified in the original ES.

Consideration of Proposed Extension of Time

- 21.1.11 The proposed application seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this as relevant to Socio Economics. There are no known significant changes in the baseline situation since the completion of the Material Change 2 UES.
- 21.1.12 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for Socio Economics to be adversely impacted by the proposed change have been identified.

Conclusions

- 21.1.13 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Socio Economic.

22.1.0 Chapter 22 - Aviation

22.1.1 This section will consider the Material Change 2 UES Chapter 22: Aviation in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

22.1.2 The Aviation ES Chapter focussed on the potential impact of “tall” structures on aviation, during both the construction and operational phases of the AMEP, particularly with regard to the OLS (Obstacle Limiting Surface) of nearby Humberside Airport (IATA: HUY, ICAO: EGNJ).

22.1.3 The DCO assessment of aviation safeguarding concluded the following:

- The AMEP site lies entirely within and only within the so-called “Outer Horizontal Surface” (OHS) of the Humberside Airport OLS (Obstacle Limiting Surface). As per CAP 168 and CAP 738 (pre-DCO and most recent versions), new objects should not extend above the OHS.
- The height of the OHS is 172.57m above ordnance datum (AOD). The maximum elevation of the AMEP site is 6.3 m AOD.
- In the DCO assessment, the maximum height objects on AMEP were completed turbines approximately 165 m in height. It was also assumed that the cranes used to erect such turbines would be of no greater height than the turbines themselves.
- Accordingly, the DCO assessment concluded that no AMEP objects would penetrate Humberside Airport’s OHS.
- In the context of en-route objects, any such objects which extend to a height of 150 m or more above ground elevation are generally regarded as obstacles and should be lit as per the relevant CAA regulations. They can be excluded from such requirements following an aviation hazard risk assessment and concurrence by relevant stakeholders, in this case, Humberside Airport.

22.1.4 Key mitigation recommendations made in the Aviation ES Chapter were as follows:

- The main impacts are potential for increased bird strike hazard and increased hazard to aviation due to tall structures.
- It is judged unlikely there will be an increased bird strike hazard since birds are likely to be displaced further away from the runway extended centreline. Therefore, mitigation measures for bird strike hazard are unlikely to be required.
- The hazard to aviation presented by tall structures will be mitigated by provision of aviation obstacle warning lighting. For structures on the AMEP site less than 45 m above ground level, aviation obstacle warning lighting is not specifically required.
- For structures on the AMEP site between 45-150 m above ground level, deemed to present a hazard to aviation, medium intensity red steady obstacle warning lighting should be provided.

- The DCO noted that there is a pylon of height just under 80 m above mean sea level located close to Humberside Airport's main runway extended centreline which is not lit. On this basis, it was judged unlikely that structures <80 m AMSL would be deemed hazards to aviation. Accordingly, it was concluded that AMEP structures up to 55 m above ground level would not require aviation warning lights.
- For structures 150 m or more above ground level, medium intensity (2000 candelas) steady red obstacle lights should be provided, positioned as close as possible to the top of the obstacle and at intermediate levels spaced so far as practicable equally between the top lights and ground level with an interval of not more than 52 m.

Content of Material Change 2 UES

22.1.5 Chapter 22 of the Material Change 2 UES scoped out aviation matters based on the formal Scoping Opinion adopted by the Planning Inspectorate (PINS) on behalf of the Secretary of State in March 2021 – refer clause ID4.16.1 Table 7.

22.1.6 The key material change to the amended proposal was identified as being the potential for quay-side cranes at the AMEP site to reach a maximum potential height above ground of 200 m. In the DCO application, the previously assumed maximum crane height was 165 m.

22.1.7 The following was concluded:

- Construction phase impacts associated with aviation safeguarding in relation to the marking and/or lighting of obstacles will be unchanged from those considered in the DCO application, with the exception of the construction of the newly proposed quay-side cranes, which have the potential to rise to 200 m in height.
- Similarly, operational phase impacts associated with aviation safeguarding in relation to the marking and/or lighting of obstacles will be unchanged from those considered in the DCO application, with the exception of the operation of the newly proposed quay-side cranes, which have the potential to rise to 200 m in height.
- There will be no additional cumulative effects associated with the proposed amendments to the AMEP proposal.

22.1.8 In light of the above, additional mitigation recommendations were made concerning the updated 200 m high quay-side cranes:

- The cranes should be provided with Medium-Intensity Steady-Red Lights (minimum luminous intensity of 2,000 Candelas).
- The lighting configuration should make the cranes visible at night-time from a full range of angles. Night-time is defined as half-hour after sunset and half-hour before sunrise.
- Examples of crane lighting were provided in Material Change 2 UES Figure X-2. Xenon-based lamps are typically used (thanks to their brightness), although LED lighting is increasingly being adopted because of its associated reduced power consumption and longer operating life.
- For a crane of height 200 m, four levels of lighting are recommended: medium intensity

(Type B) at the top, low or medium intensity (Type B) at the first intermediate level, medium intensity (Type B) at the second intermediate level and low or medium (Type B) intensity again at the lowest intermediate level.

- Consultation should be undertaken with relevant stakeholders (namely CAA and Humberside Airport) as to whether the newly proposed cranes should also be supplied with daytime (white) lighting (medium intensity Type A, high intensity Types A/B).
- This should follow the submission of the new CAP 1096 Annex A “Notification Form” to CAA to initiate a formal hazard assessment and stakeholder consultation.

Consideration of Proposed Extension of Time

- 22.1.9 The proposed application seeks a further 7 years to complete development activity on the site.
- 22.1.10 In relation to Aviation Safeguarding, and as there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:
- Potential changes that may occur to Humberside Airport and its OLS (Obstacle Limiting Surfaces) during the extended period of development activity. Such changes could occur in response to a new runway, change in alignment of existing runways, runway extension, etc.
- 22.1.11 There are no known relevant changes in the “baseline” situation with Humberside Airport since the completion of the Material Change 2 UES.
- Enquiries made with Humberside Airport indicate that there are currently no plans for airport modifications to runway operations (runway extensions, new runways, etc) that would alter the previously assessed OLS of the airport. This is illustrated in the latest ILS Chart for the airport (9 April 2021) compared to the previously registered version (17 January 2018), confirming no change to approach glide paths etc.
- 22.1.12 The proposed extension of time will not change the nature of the works proposed, specifically the quay-side cranes to be used on the Project, simply the timing of their use. Given the “no change” status of Humberside Airport’s OLS, there will be no change to the aviation safeguarding risks and associated mitigation induced by the application.

Conclusion

- 22.1.13 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Aviation.

23.1.0 Chapter 23 – Waste (Terrestrial)

23.1.1 This section will consider the Material Change 2 UES Chapter 23: Waste in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

23.1.2 The initial considerations of the original development with regards to Waste are set out in Chapter 23 of the original ES⁴⁰.

Content of Material Change 2 UES

23.1.3 Qualitative consideration of the proposed material amendment concluded that on balance it could reduce the quantum of construction waste arising from the project, and that no changes to operational wastes were anticipated.

23.1.4 The changes to the construction waste arisings were likely to be minimal and therefore the original ES was considered to suitably assess the effects of terrestrial waste, with the mitigation measures within the original ES remaining in place. As such the topic was scoped out of the Material Change 2 UES.

Consideration of Proposed Extension of Time

23.1.5 The proposed extension of time seeks a further 7 years to complete development activity on the site. This chapter considers the significance of this extension as relevant to Waste (Terrestrial). As there are no physical changes to the proposed scheme and the physical form of the development is already approved, consideration is restricted to:

- physical changes in the baseline context at the site as relevant to waste (terrestrial); and
- any impacts associated with a longer construction period.

23.1.6 There are no known significant changes in the baseline situation since the completion of the Material Change 2 UES.

23.1.7 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their scheduled timing. On this basis and following this review, it is concluded that waste (terrestrial) will not be adversely impacted by the proposed change.

Conclusions

23.1.8 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Waste.

⁴⁰ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000328-23%20-%20Waste.pdf>

24.1.0 Chapter 24 – Health

24.1.1 This section considers the Material Change 2 UES Chapter 24: Health in the context of the proposed application to extend the time limit for completion of the development by a further 7 years.

Content of Original ES

24.1.2 The Original ES included a chapter reporting on the impact of the Project on Health. The assessment considered the following potential effects on a number of ‘determinants of health’, in particular:

- employment;
- income;
- access to services;
- transport;
- housing;
- education;
- crime and fear of crime;
- social capital; and
- the physical environment.

24.1.3 The findings of the Original ES identified that there would no residual adverse effects following mitigation, other than potential residual adverse health effects arising from operational traffic which could give rise to increased risk of injury from road traffic accidents. It was however noted that the traffic impact assessment in Chapter 15: Traffic and Transport considered effects due to operational traffic impacts, including effects on human health.

24.1.4 The Original ES also found that there would be beneficial health effects arising from the local employment and procurement of goods and services.

Content of Material Change 2 UES

24.1.5 The approach taken with regard to assessment of health effects for Material Change 2 was to consider at Scoping and PEIR stage whether there were any relevant changes to policy, legislation and guidance, the baseline socio-economic environment, and the likely significant effects of the proposed development on sensitive receptors.

24.1.6 The PEIR review of potential effects considered potential effects on health as a result of impacts relating to the following topics, during both construction and operation:

- Socio-economics;
- Landscape and visual;

- Traffic and transport;
- Noise; and
- Air quality.

24.1.7 Consideration was also given as to whether there were any relevant changes to baseline conditions with regard to the socio-economic characteristics of the human population of the study area, including ethnicity, social and demographic structure, and relative deprivation.

24.1.8 The PEIR concluded that the proposed Material Change 2 did not affect the findings of the Original ES which concluded that there would be no significant adverse health effects arising from the proposed development other than an increased risk of injury from road traffic accidents, which would be mitigated (reduced) through proposed measures that are now embedded in the DCO. There would also be no change to the findings of the original ES with regard to beneficial effects due to the impact on health and wellbeing from employment creation.

24.1.9 As a result of this conclusion Health effects were scoped out of the updated ES.

Consideration of Proposed Extension of Time

24.1.10 The proposed extension of time for completion of works introduces no change to the proposed scheme, so there is no change to the scope of work.

24.1.11 Consideration has been given as to whether there have been any changes to the background information relative to Health, including changes to the baseline data and any relevant legislation, policy and guidance. These matters were the subject of review in 2021 for the purposes of scoping and assessing Material Change 2 at PEIR stage. It was determined at this time that there were no relevant changes and that Health effects could be scoped out of the Material Change 2 UES.

24.1.12 Given the short period of time that has elapsed since 2021 it is not considered that the characteristics of the area that would impact on Health including deprivation, employment, earnings and wealth creation (GVA) will have altered significantly.

24.1.13 With regard to legislation, policy and guidance, there is no specific guidance for undertaking assessment of Health effects and consequently such assessments are undertaken on the basis of best practice using professional experience. In the period since 2021 there has been no material change to established best practice.

24.1.14 With regard to relevant national policy, the National Policy Statement for Ports is currently under review, but the Department of Transport website confirms that the current version published in 2012 will remain in full effect during the period of the review. The National Planning Policy Framework for England was last updated in July 2021 but made no relevant changes to the previous version which was taken into account by the Material Change 2 UES.

24.1.15 As regards local policy, the North Lincolnshire Local Plan is still in draft although it has progressed to submission and examination stage. There are no material changes to the draft plan since 2021 that affect the findings of the Material Change 2 UES.

24.1.16 The proposed delay to completion of the project would result in delay to realisation of the potential socio-economic and associated Health benefits of the AMEP scheme by up to seven years. As works

would be continuing throughout this period and there would be no change to long term Health benefits as a result of the delayed completion of works, the proposed extension of time is not considered to materially alter the findings in the reports and findings previously submitted.

Conclusions

- 24.1.17 It is confirmed that there are no changes to background information in respect of Health, the applicable scope of work, assessment of the potential impacts and effects of the development proposals that would affect the findings of the Material Change 2 UES.
- 24.1.18 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Health.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 31: GEOLOGY, HYDROGEOLOGY AND GROUND CONDITIONS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
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CONTENTS

31.1.0 INTRODUCTION	1
Development Consent order	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	2
31.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Additional Consultation.....	5
Assessment Methodology	5
Effects Not Requiring Further Assessment.....	5
31.3.0 BASELINE CONDITIONS.....	6
DCO Baseline	6
Changes in Baseline	7
31.4.0 ASSESSMENT OF EFFECTS	8
31.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	9
31.6.0 RESIDUAL EFFECTS	10
Consideration of DCO	10
31.7.0 OTHER ENVIRONMENTAL ISSUES.....	11
Other Environmental Issues of Relevance	11
31.8.0 SUMMARY OF EFFECTS	12
31.9.0 CONCLUSIONS	13

31.1.0 Introduction

Development Consent order

31.1.1 An assessment of the impacts of the development on Geology, Hydrogeology and Ground Conditions at the Compensation Site was included in Chapter 31 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 31: Geology, Hydrogeology and Ground Conditions (Compensation Site);
- Appendices to ES Chapter 31 (links are provided at relevant sections of this ER Chapter):
 - Appendix 31.1: Summary Desk Study and Site Investigation Design Report²;
 - Appendix 31.2: Factual Report on Geoenvironmental Investigation Cherry Cobb Sands³;
 - Appendix 31.3: Able Marine Energy Park Site Investigation Interpretative Report⁴;
 - Appendix 31.4: Cherry Cobb Sands Compensation Site Contaminated Land Risk Assessment⁵;
- Examination Documents:
 - EX 31.5 – Cherry Cobb Sands Phase 2 Site Investigation (DRAFT); and
 - EX 31.5A – Factual Report on Geo-Environmental Ground Investigation, Cherry Cobb Sands (FINAL)

Consideration of the Extension of Time

31.1.2 The full details of the proposed extension of time are described in Chapter 4 of this ER. In relation to the proposed extension of time, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

31.1.3 This Chapter will review the potential impacts regarding Geology, Hydrogeology and Ground Conditions and whether any mitigation measures need to be reviewed and/or revised.

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000336-31%20-%20Geology%20Hydrogeology%20and%20Ground%20Conditions.pdf>

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000423-31.1%20-%20Summary%20Desk%20Study%20and%20SI%20Design%20Rpt.pdf>

³ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000424-31.2%20-%20Cherry%20Cobb%20SI%20\(Factual\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000424-31.2%20-%20Cherry%20Cobb%20SI%20(Factual).pdf)

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000425-31.3%20-%20SI%20Interpretive%20Report.pdf>

⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000426-31.4%20-%20Cherry%20Cobb%20Sands%20Contaminated%20Land%20Risk%20Assessment.pdf>

Purpose and Structure of Chapter

- 31.1.4 This Chapter reports on any change in the findings of the original ES in respect of potential Geology, Hydrogeology and Ground Conditions impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.
- 31.1.5 This chapter includes consideration of:
- Changes in legislation, policy and guidance relating to air quality;
 - Changes in baseline conditions;
 - Changes in assessment of effects; and
 - Changes in proposed mitigation.
- 31.1.6 It is noted that only Geology, Hydrogeology and Ground Conditions legislation, policy and guidance of relevance to Chapter 31 of the original ES which relates to the Cherry Cobb Sands / the Compensation Site has been considered and referenced within this ER.

31.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

31.2.1 Changes to Legislation, Guidance and Planning Policy relevant to the geology, hydrogeology and ground conditions on the site and the proposed development are as follows:

Environmental Permitting Regulations 2016

31.2.2 The Environmental Permitting Regulations 2016, consolidate and replace the Environmental Permitting Regulations 2010, which had been updated 15 times prior to the 2016 Regulations being published.

The Control of Pollution (Oil Storage) Regulations 2001

31.2.3 The Control of Pollution (Oil Storage) Regulations 2001 were withdrawn on 18 September 2015 and have been replaced by oil storage guidance provided by the Environment Agency and Department for Environment and Rural Affairs.

National Planning Policy Framework

31.2.4 The revised National Planning Policy Framework (NPPF) was updated on 19 February 2019 and sets out the government's planning policies for England and how these are expected to be applied. The principal paragraphs that relate to this Chapter are:

- Paragraph 174:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”

- Paragraph 183:

“Planning policies and decisions should ensure that:

a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and

c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.”

- Paragraph 184

“Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.”

- Paragraph 185:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and

c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”

- Paragraph 188:

“The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.”

Planning Practice Guidance (2016)

- 31.2.5 Following the publishing of the NPPF Planning Policy Statements PPS9 and PPS23 were revoked and replaced with the Planning Practice Guidance (2016). This provides guidance on the protection of biodiversity and geological conservation, along with policy relating to pollution control, air quality, water quality and land contamination.

Additional Consultation

- 31.2.6 At this point in time, no additional consultation relating to the Geology, Hydrogeology and Ground Conditions has been undertaken as part of this proposed extension of time application.

Assessment Methodology

- 31.2.7 Chapter 31 of the original ES for the DCO set out the assessment methodology and criteria used in the assessment of geology, hydrogeology and ground conditions impacts. No changes to the assessment methodology are proposed and as such reference should be made to Chapter 31 of the original ES for further detail on this.

Study Area

- 31.2.8 No changes to the study area relating to geology, hydrogeology and ground conditions, as set out in Chapter 31 of the original ES for the DCO, are proposed. The study area remains appropriate.

Sensitivity Criteria

- 31.2.9 No changes to the sensitivity criteria relating to geology, hydrogeology and ground conditions, as set out in Chapter 31 of the original ES for the DCO, are proposed. The methodology for considering the sensitivity criteria remains appropriate.

Magnitude of Change (Impact)

- 31.2.10 No changes to the magnitude of change (impact) relating to geology, hydrogeology and ground conditions, as set out in Chapter 31 of the original ES for the DCO, are proposed. The methodology for considering magnitude of change (impact) remains appropriate.

Significance of Effect

- 31.2.11 No changes to the significance of effect relating to geology, hydrogeology and ground conditions, as set out in Chapter 31 of the original ES for the DCO, are proposed. The methodology for considering significance of effect remains appropriate.

Mitigation Hierarchy

- 31.2.12 No changes to the mitigation hierarchy relating to geology, hydrogeology and ground conditions, as set out in Chapter 31 of the original ES for the DCO, are proposed. The mitigation hierarchy remains appropriate.

Effects Not Requiring Further Assessment

- 31.2.13 No substantial change to the construction or operation phases of the development, as a result of changes to contamination sources, receptors (workers, visitors and ecology) and pathways compared to the baseline will occur associated with the proposed extension of time for construction works. Therefore, these effects do not require further assessment.

31.3.0 Baseline Conditions

DCO Baseline

- 31.3.1 A detailed topographic survey of the Cherry Cobb Sands site undertaken in October 2010 showed that the land is relatively flat and low lying with a typical ground elevation of around 2.5 mAOD.
- 31.3.2 Baseline details include information on the site history, geology and hydrogeology designations and information from site investigations, including sediment surveys and terrestrial and estuarine site investigations. Additional sediment sampling has been carried out since the submission of the original ES for the DCO. This is described in more detail below.
- 31.3.3 The site at Cherry Cobb Sands is predominantly agricultural land and there is no evidence of any recent industrial activity. Just outside the boundary of this site lies a historic landfill site (named “Land West of Cherry Cobb Sands Road”).

Geology

- 31.3.4 An assessment of the geology of the site and the ground conditions of Cherry Cobb Sands are reported in the Summary Desk Study and Site Investigation Design Report (Annex 31.1 of the original ES). Cherry Cobb Sands is underlain by marine and estuarine alluvium over glacial till over Cretaceous chalk. The geological map for the area shows that the site is located on land that has been reclaimed from the Humber Estuary by natural and anthropogenic processes since the eighteenth century.
- 31.3.5 The marine and estuarine alluvium at Cherry Cobb Sands is likely to be around 20 to 25 m thick. In this part of the Humber Estuary these deposits are generally granular and comprise fine grained sands, silts and gravels with shell fragments.
- 31.3.6 The granular soils are overlain by a 1 m to 5 m thick stratum comprising laminated silty clays and sands with organic layers. These cohesive strata were probably deposited in the last 400 years as a result of land reclamation, estuarine tidal deposition and saltmarsh development.

Hydrogeology

- 31.3.7 The marine and estuarine alluvial deposits at Cherry Cobb Sands are recorded as a non-aquifer and “unproductive strata”. The foreshore and saltmarsh areas on the seaward side of the existing flood defences at Cherry Cobb Sands and to the east of Stone Creek are recorded as being minor aquifers comprising soils with a high leaching potential.
- 31.3.8 Whilst the marine and estuarine alluvial deposits are not expected to be an aquifer with potential as a groundwater resource, they are likely to be water bearing. The groundwater level is thought to be near to the ground surface across much of the site and is likely to be in hydraulic continuity with the adjacent Humber Estuary.

Contaminated Land

- 31.3.9 The land within Cherry Cobb Sands is Grade 2 agricultural land. The initial Site Investigation that was carried out to inform the original ES found that the majority of the soils at the site do not contain visual or olfactory evidence of contamination and do not contain contaminants in elevated

concentrations. There could however be contaminants present in the soils which may be related to the current agricultural use of the land at the site, and these could include pesticides, fertilisers and other agricultural chemicals. Such contaminants, if present, are likely to be relatively uniformly distributed across the site and will probably be confined to the topsoil.

- 31.3.10 Former creeks within Cherry Cobb Sands may have been in-filled with industrial and commercial waste. These former creeks appear on old aerial photographs but are not recorded as historic landfill sites by the Environment Agency. Ground investigation has been carried out on the site to identify these features, assess their current condition and develop a remediation strategy for the site. This remediation strategy has been submitted to, and approved by, the Environment Agency.

Changes in Baseline

- 31.3.11 No substantial change to the baseline defined in the original ES prepared for the DCO has occurred since approval. The geology and hydrogeology and long term conditions, not subject to changes over the relatively short time period that has elapsed since the DCO. The site remains in use as agricultural land and no other potentially contaminative activities have occurred on or near the site since 2012.

31.4.0 Assessment of Effects

- 31.4.1 Excavation and movement of approximately 300,000m³ of soils will have construction phase effects of the Geology, Hydrogeology and Ground Conditions at Cherry Cobb Sands. Where polluted soils have been identified within the site, there is potential for these soil movements to mobilise pollutants or contaminants within the soil.
- 31.4.2 Additional site investigation and Contaminated Land Risk Assessment were proposed in the original ES for the DCO and included as a requirement in Schedule 11 of the DCO. As stated in Chapter 1, submissions to address these requirements (req 16, 40 and 41) were issued in December 2015 and these requirements have been discharged.
- 31.4.3 No additional effects on Geology, Hydrogeology and Ground Conditions associated with the development at Cherry Cobb Sands will arise from allow an additional 7 years for construction of the project.

31.5.0 Requirement for Additional Mitigation

- 31.5.1 No additional mitigation measures, beyond those outlined within the original ES for the DCO and addressed in response to Schedule 11 of the DCO, are currently proposed based on this updated assessment.

31.6.0 Residual Effects

- 31.6.1 The original ES for the DCO describes the potential for previously unrecorded contamination being encountered during construction of the Compensation Site and outline mitigation measures to address this. Requirements 16,40 and 41 detailed additional works required to fully inform and develop a remediation strategy for the site. Submissions to address these requirements were issued in December 2015 and they have been discharged.
- 31.6.2 The changes proposed as part of the proposed extension of time do not result in any additional residual effects, beyond those identified in the original ES for the DCO.

Consideration of DCO

- 31.6.3 This assessment demonstrates there no changes to the Residual Effects previously identified as part of the DCO.

31.7.0 Other Environmental Issues

- 31.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 31.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 31.7.3 The risks associated with Infrastructure are not of relevance to this Chapter.

Waste

- 31.7.4 The risks associated with Waste are not of relevance to this Chapter.

Population and Human Health

- 31.7.5 The risks associated with population and human health are not of relevance to this Chapter.

Climate and Carbon Balance

- 31.7.6 The risks associated with climate and carbon balance are not of relevance to this Chapter.

Risks of Major Accidents and/ or Disasters

- 31.7.7 The risk associated with major accidents and / or disasters is not of relevance to this Chapter.

Summary

- 31.7.8 There are no effects associated with the additional topics introduced into EIA requirements that relate to geology, hydrogeology and ground conditions. No further assessment is considered necessary.

31.8.0 Summary of Effects

- 31.8.1 Chapter 31 of the original ES set out the requirement for additional site investigation and Contaminated Land Risk Assessment to address impacts associated with construction of the Compensation Site at Cherry Cobb Sands. This has been undertaken, as required in Schedule 11 of the DCO and these requirements have been discharged.
- 31.8.2 No other additional effects will be generated as a result of the proposed extension of time.

31.9.0 Conclusions

- 31.9.1 A review of Chapter 31 of the original ES for the DCO has been carried out. No change to the baseline, effects and mitigation assessed in the original ES.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 32: HYDRODYNAMICS AND SEDIMENTARY REGIME

Able Marine Energy Park, Killingholme, North Lincolnshire

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CONTENTS

32.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	2
Purpose and Structure of Chapter	2
32.2.0 METHODOLOGY.....	3
Changes in Legislation, Guidance and Planning Policy.....	3
Additional Consultation.....	3
Assessment Methodology	3
Effects Not Requiring Further Assessment.....	4
32.3.0 BASELINE CONDITIONS.....	5
DCO Baseline (current and future).....	5
Changes in Baseline	5
32.4.0 ASSESSMENT OF EFFECTS	7
Construction Phase Effects.....	7
Summary of Effects	7
32.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	8
DCO Mitigation.....	8
Alternate or Additional Mitigation	8
32.6.0 RESIDUAL EFFECTS	9
Construction Phase	9
Operational Phase	9
Consideration of DCO	9
32.7.0 OTHER ENVIRONMENTAL ISSUES.....	10
Other Environmental Issues of Relevance	10
Summary	10
32.8.0 SUMMARY OF EFFECTS	11
32.9.0 CONCLUSIONS	12

DOCUMENT REFERENCES

FIGURES

Figure 32-1: LIDAR Data comparison.....6

32.1.0 Introduction

Development Consent Order Context

32.1.1 An assessment of the impacts of the development on Hydrodynamic and Sedimentary Regime at the Compensation Site was included in Chapter 32 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 32: Hydrodynamics and Sedimentary Regime (Compensation Site);
- Appendices to original ES Chapter 32 including:
 - Appendix 32.1: Evolution of the Existing Foreshore²;
 - Appendix 32.2: Hydraulic Model Set-up Report³;
 - Appendix 32.3: Breach Design Report⁴;
 - Appendix 32.4: Model Testing of 90ha Layout⁵;
 - Appendix 32.5: Sedimentation, Erosion and Saltmarsh Growth⁶;
 - Appendix 32.6: Assessment of 110ha Layout⁷

32.1.2 Supplementary environmental information was issued during the examination of the project and the information pertaining to Hydrodynamics and Sedimentary Regime at the compensation sites was set out in EX28.3 (Part 6): EIA Review⁸.

-
- 1 Environmental Statement Chapter 32: Hydrodynamics and Sedimentary Regime (Compensation Site), <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000337-32%20-%20Hydrodynamic%20and%20Sedimentary%20Regime.pdf>
 - 2 Appendix 32.1: Evolution of the Existing Foreshore, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000427-32.1%20Compensation%20site%20geomorphology.pdf>
 - 3 Appendix 32.2: Hydraulic Model Set-up Report, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000428-32.2%20Hydraulic%20model%20set%20up%20report.pdf>
 - 4 Appendix 32.3: Breach Design Report, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000429-32.3%20Compensation%20site%20breach%20design%20report.pdf>
 - 5 Appendix 32.4: Model Testing of 90ha Layout, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000430-32.4%20Compensation%20site%20model%20test%20report.pdf>
 - 6 Appendix 32.5: Sedimentation, Erosion and Saltmarsh Growth, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000431-32.5%20-%20Compensation%20site%20sedimentation%20and%20erosion.pdf>
 - 7 Appendix 32.6: Assessment of 110ha Layout <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000432-32.6%20-%20110ha%20Compensation%20site%20model%20test%20report.pdf>
 - 8 EX28.3 Part 6: Environmental Assessment of the proposed Compensation Scheme for the Able Marine Energy Park, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

32.1.3 There are no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

32.1.4 The full details of the proposed extension of time are described in Chapter 4 of this Environmental Review (ER) of the original ES and Material Change 2 UES. There are no physical alterations proposed and the only matter being considered is an extended time limit for construction of the development.

32.1.5 This Chapter forms part of the ER for the proposed extension of time for construction of the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 32: Hydrodynamics & Sedimentary Regime). This Chapter will review the potential impacts on hydrodynamics and sedimentary regime and, where appropriate, mitigation measures are reviewed and/or revised.

Purpose and Structure of Chapter

32.1.6 This Chapter reports on any change in the findings of the original ES in respect of Hydrodynamics & Sedimentary Regime upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

32.1.7 This chapter includes consideration of:

- changes in legislation, policy and guidance relating to Hydrodynamics and Sedimentary Regime since the DCO application and original ES;
- physical changes in the baseline context at the site as relevant to Hydrodynamics and Sedimentary Regime and the extension of time;
- any additional impact relating to Hydrodynamics and Sedimentary Regime associated with permitting a further 7 years to complete construction activities

32.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

- 32.2.1 There are no specific directives or legislation governing solely the area of Hydrodynamics and the Sedimentary Regime. Legislation, guidance and policy documents are generally directed towards either the ecological, chemical or human environment.
- 32.2.2 Changes to the hydrodynamic and sedimentary regime have the potential to impact on these other receptors, and these effects are addressed in other chapters.

Additional Consultation

- 32.2.1 No further consultation relating to the Hydrodynamic and Sedimentary Regime has been undertaken as part of this proposed extension of time application.

Assessment Methodology

- 32.2.2 Within the original ES, it was set out that the studies relating to Hydrodynamics and the Sedimentary Regime were focussed on the works at Cherry Cobb Sands and considered how flows within the local drainage creeks, and over Foul Holme Sand, will change as a result of the flooding and drainage of Cherry Cobb Sands on each tide.
- 32.2.3 A detailed model was developed to predict flows in and around Cherry Cobb Sands. This modelling was driven by the hydraulic modelling undertaken to assess flood risk for the project. This model includes the whole of the Cherry Cobb Sands site, and the adjacent foreshore of Foul Holme Sand including the whole length of the drainage creek that fronts Cherry Cobb Sands and receives the land drainage flows from Stone Creek.
- 32.2.4 This current assessment is comprised of a qualitative review of the previous modelling work, and any other data that has subsequently become available, to determine if that previous conclusions and mitigation remain valid.

Significance of Effect

- 32.2.5 As the changes relating to Hydrodynamics and the Sedimentary Regime are changes to processes rather than impacts on receptors the original assessment did not seek to assign significance levels. Instead, the assessment described and, where possible, quantified any predicted changes. The implications of the predicted changes to the hydrodynamic and sedimentary regime were then assessed in terms of the significance of the potential impacts on various environmental parameters (e.g. aquatic ecology, water quality, commercial fisheries, etc.) in the relevant chapters.
- 32.2.6 Similarly, most measures that may be required in order to mitigate a potential impact on a receptor arising from a predicted effect on the hydrodynamic and sedimentary regime of the estuary were described in the relevant Chapters.
- 32.2.7 A similar approach is applied in this assessment.

Effects Not Requiring Further Assessment

- 32.2.8** The construction of the majority of the Cherry Cobb Sands site will occur behind the existing flood embankments which will remain intact. As such the construction works will not have any impact on the hydrodynamics and sedimentary regime of the estuary or foreshore area.
- 32.2.9** No changes are proposed to the final approved compensation scheme and therefore impacts associated with the completed (operational) scheme are not considered further.

32.3.0 Baseline Conditions

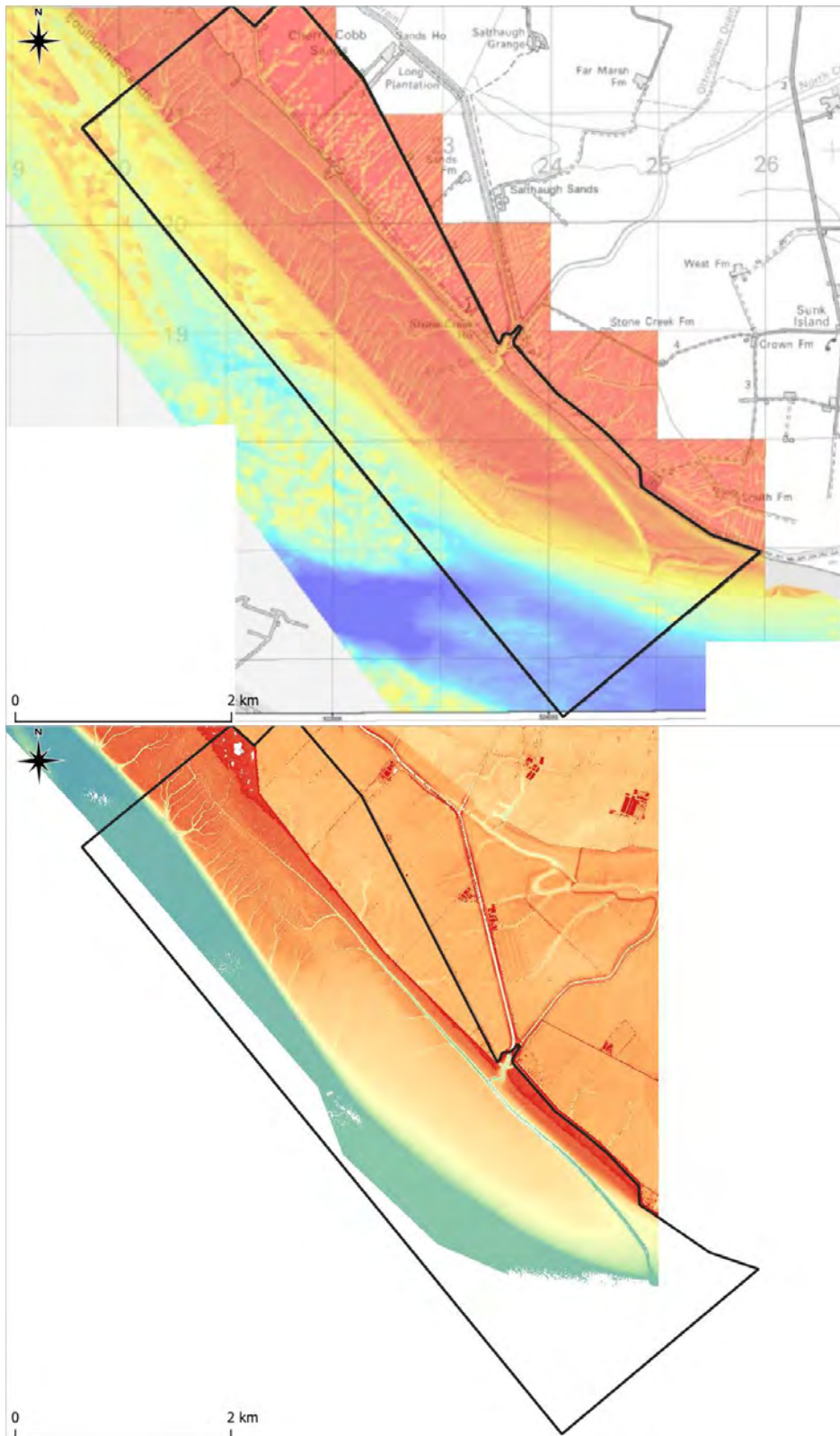
DCO Baseline (current and future)

- 32.3.1 The original ES documents describe the Compensation Site on the north bank of the Humber as a low-lying land that was formerly part of the tidal floodplain. Raised defences, in the form of embankments, are present along the estuary and these, along with sluices at Stone Creek, prevent regular inundation of the site by tidal water.
- 32.3.2 The foreshore area between the raised defences and the Humber Estuary consists of mudflats and saltmarshes with a creek, called Cherry Cobb Sand Creek running through this area parallel to the defences. Surveys found that foreshore between the existing flood embankment and Cherry Cobb Sands Creek was an area of upper and middle saltmarsh. On Foul Holme Sand (i.e. the area between the creek and the main channel of the estuary) some lower saltmarsh plants were also found.
- 32.3.3 The tidal flows in this part of the Humber contains high concentrations of suspended sediment. The sediment in suspension is however prevented from settling onto the estuary foreshore in areas of high tidal currents or at times when wind and waves are present. The sediment can however settle and lead to rapid accretion in areas where tidal currents are low and at times when wave activity is absent. Natural England, in their condition assessment of this frontage in March 2010, reported that *'Saltmarsh is undergoing a period of expansion and encroachment downshore'* (Natural England, 2010).
- 32.3.4 Review of historic mapping indicates that the Cherry Cobb Sands Creek may be a relic of the much larger tidal channel which has undergone accretion since the early 20th century with the outfall of the creek into the main channel of the estuary moving southwards along the foreshore.
- 32.3.5 Cherry Cobb Sands Creek is an important tributary of Stone Creek which receives land drainage flows from four major land drains. The shape of Stone Creek, as a small inlet in the existing flood embankment, makes it an area where siltation is likely to happen. Siltation within Stone Creek is however limited by the substantial land drainage flow that enter this creek.
- 32.3.6 As land drainage flows tend to vary through the year there is a seasonal cycle of accretion and erosion. There are also longer-term variations in silt levels in response to wet and dry years. As silt takes time to respond to changes in land drainage flow, flooding can occur along the creek and upstream drain in the event of a large storm after a long period of low flows. This is caused by water backing up in the drain because of the smaller than normal channel capacity through Stone Creek.

Changes in Baseline

- 32.3.7 While noting that the estuary is a dynamic environment, subject to minor changes in precise area of erosion, accretion and creek alignment, no significant changes have been observed across the foreshore area adjacent to the compensation site since the original ES.
- 32.3.8 This is illustrated in Figure 32-1 below which presents LiDAR data taken from the original ES and data captured by survey in 2021. While this comparison suggests a slight narrowing of the foreshore to the north of the compensation site and a slight widening to the south, the general picture and creek structure that can be observed has changed very little.

Figure 32-1: LIDAR Data comparison



LiDAR Data presented in original ES (2012)

National LiDAR Programme DSM, 2021 1m resolution, Defra Survey Data Download

32.4.0 Assessment of Effects

Construction Phase Effects

- 32.4.1 The Cherry Cobb Sands site will start to have an effect on the hydrodynamic and sedimentary regime in the final stage of construction when saltmarsh fronting the site is removed down to the level of the inlet structures (2.0 ± 0.2 mAOD). This will allow tidal waters to enter the Regulated Tidal Exchange (RTE) site.
- 32.4.2 The control structures within the RTE Site will each be formed by three box culverts (1.25 m wide x 1.5 m high) which will be supported on a piled concrete capping slab to limit settlement. The flow through these culverts will be controlled by 'gates' and flow can be prevented entirely if necessary.
- 32.4.3 The breach into the compensation area will be first operated on a suitable neap tide. As the tides start to increase in range again, the site will be flooded on the first tide after the breach is completed that the high-water level exceeds the level of the breach. On the first one or two tides, low areas within the site will fill with saline tidal waters.
- 32.4.4 Allowing a further seven years to complete this process will have no material impact on the Hydrodynamic and Sedimentary Regime.

Summary of Effects

- 32.4.5 It is concluded that the changes in baseline understanding and the additional seven years to complete construction will not result in any new or significant increased effects on Hydrodynamic and Sedimentary Regime.

32.5.0 Requirement for Additional Mitigation

DCO Mitigation

32.5.1 The mitigation detailed in the DCO is primarily the design of the compensation site. Impacts are clearly expected but these are a fundamental part of the scheme which will give rise to the ecological benefits.

32.5.2 In addition;

- In the longer term (approximately 10-15 years following water being allowed into the compensation site), there may become a need to reduce sediment levels in the fields overall, to maintain the intertidal function of the mudflats. This will involve dredging and discharge via a pipeline into the drainage creek under licence from the Marine Management Organisation (MMO) between April and June
- Siltation levels in Stone Creek will be monitored and compared to historic levels of siltation. Where siltation is demonstrably outside of its natural variability any accumulated sediments would be subject to dredging, and/or bed levelling as required. Disposal of dredged material would be subject to a licence from the Marine Management organisation (MMO).

32.5.3 Mitigation in relation to the Hydrodynamic and Sedimentary regime in the vicinity of the compensation site is secured through conditions in Schedule 11 of the DCO, namely those set out in paragraphs 39, 43 and 44.

Alternate or Additional Mitigation

32.5.4 It is concluded that no further mitigation is required, over and above that committed to as part of the DCO application. This will be sufficient to control adverse effects to Hydrodynamic and Sedimentary Regime relating to the proposed scheme.

32.6.0 Residual Effects

Construction Phase

- 32.6.1 Within the original ES, it was concluded that there would be no residual effects relating to the Hydrodynamic and Sedimentary Regime as the construction would be isolated from the foreshore by the existing flood defences.

Operational Phase

- 32.6.2 Within the original ES, it was concluded that the project will result in a minor negative impact on the hydrodynamic and sedimentary regime after mitigation. This conclusion was reached due to uncertainties in the long-term effect of some of the changes that are difficult to predict or model. As there is no change proposed to the final scheme this conclusion does not change.

Consideration of DCO

- 32.6.3 It is concluded that the additional 7 year to complete construction works will not result in changes to the residual effects previously identified within Chapter 32 of the original ES.

32.7.0 Other Environmental Issues

- 32.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 32.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 32.7.3 Risks associated with Infrastructure are not of relevance to this Chapter.

Waste

- 32.7.4 Risks associated with Waste are not of relevance to this Chapter.

Population and Human Health

- 32.7.5 Risks associated with Population and Human Health are not of relevance to this Chapter.

Climate and Carbon Balance

- 32.7.6 Risks associated with Climate and Carbon Balance are not of relevance to this Chapter. It is however noted that the changes to the Hydrodynamic and Sedimentary Regime associated with the scheme will restore mudflats and saltmarsh habitats and such habitats can be an important carbon sinks.

Risks of Major Accidents and/or Disasters

- 32.7.7 Risks associated with Major Accident and / or Disasters are not of relevance to this Chapter.

Summary

With regards to the EIA regulations 2017, in terms of Flood Risk and Drainage there are not considered to be any likely significant effects with regards to Other Environmental Issues.

32.8.0 Summary of Effects

- 32.8.1 Chapter 32 of the original ES sets out that once the regulated tidal exchange scheme is operational the scheme will give rise to a range of changes to Hydrodynamic and Sedimentary Regime both on the site and in the adjacent intertidal areas. It was concluded these changes, which are an essential part of the scheme to create / restore habitat, will result in a minor negative impact on the hydrodynamic and sedimentary regime. This conclusion was reached due to uncertainties in the long-term effect of some of the changes that are difficult to predict or model. As there is no change proposed to the final scheme this conclusion does not change.
- 32.8.2 During the construction phase the compensation site will be isolated from the estuary by the existing flood defences. As such it was previously concluded the construction works will have no effect on the Hydrodynamic and Sedimentary Regime. Allowing a further 7 years to complete the construction works will have no impact on this conclusion.
- 32.8.3 This chapter demonstrates that the proposed extension of time for constructing the compensation site for the AMEP development will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Flood Risk and Drainage will remain as a minor negative impact.

32.9.0 Conclusions

- 32.9.1** The compensation site is set adjacent to the Humber Estuary but is currently separated from the estuarine environment by raised flood defences. Between the site and the main channel of the estuary is a foreshore area of intertidal habitat including mudflats, saltmarshes and creeks.
- 32.9.2** The proposed compensation scheme involves creating a regulated tidal exchange to allow water to enter the Cherry Cobb Sands site. This will inherently involve changes to the Hydrodynamic and Sedimentary Regime as water is allowed to enter area that are currently defended and then erosion and deposition occurs in response to these changes. These changes will however only occur following completion of construction once water is allowed to enter the site.
- 32.9.3** Due to uncertainties in the long-term effect of some the changes it was previously concluded that the scheme will result in a minor negative impact to the Hydrodynamic and Sedimentary Regime. A commitment exists to ongoing monitoring and management of sediment both within the site and Stone Creek.
- 32.9.4** The proposed extension of time for constructing the AMEP development will make no difference to the potential effects identified within the original ES and no additional mitigation will be required.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 33: WATER AND SEDIMENT QUALITY

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

33.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
33.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Additional Consultation.....	3
Assessment Methodology	3
Effects Not Requiring Further Assessment.....	4
33.3.0 CHANGES IN BASELINE CONDITIONS	5
DCO Baseline (current and future).....	5
Changes in Baseline	5
33.4.0 ASSESSMENT OF EFFECTS	6
Constructional Phase Effects	6
Additional Cumulative Effects	6
Consideration of DCO	6
33.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	7
DCO Mitigation.....	7
Alternate or Additional Mitigation	7
33.6.0 RESIDUAL EFFECTS	8
Consideration of DCO	8
33.7.0 OTHER ENVIRONMENTAL ISSUES	9
Other Environmental Issues of Relevance	9
Summary	9
33.8.0 SUMMARY OF EFFECTS	10
33.9.0 CONCLUSIONS	11

33.1.0 Introduction

Development Consent Order Context

33.1.1 An assessment of the impacts of the development on Water and Sediment Quality at the Compensation Site was included in Chapter 33 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 33: Water and Sediment Quality (Compensation Site);

33.1.1 Supplementary environmental information was issued during the examination of the project and the information pertaining to Water and Sediment Quality at the compensation site was set out in EX28.3 (Part 6): EIA Review² with other relevant detail also included in EX28.3 (Part 10): Draft Legal Agreement³.

33.1.2 There are no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

33.1.3 The full details of the proposed extension of time is described in Chapter 4 of this ER of the original ES and Material Change 2 UES. In relation to this submission proposing an extension of time, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.

33.1.4 This Chapter forms part of the Environmental Review for the proposed extension of time for construction of the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 33: Water and Sediment Quality). This Chapter will review the potential impacts on water and sediment quality and, where appropriate consider if mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

33.1.5 This Chapter reports on any change in the findings of the original ES in respect of Water and Sediment Quality at the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

33.1.6 In this chapter, consideration is given to:

- changes in legislation, policy and guidance relating to Water and Sediment Quality since the

1 Environmental Statement Chapter 33: Water and Sediment Quality (Compensation Site), <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000338-33%20-%20Water%20and%20Sediment%20Quality.pdf>

2 EX28.3 Part 6: Environmental Assessment of the proposed Compensation Scheme for the Able Marine Energy Park, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

3 EX28.3 Part 10: Draft legal Agreement, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

DCO application and original ES;

- physical changes in the baseline context at the site as relevant to Water and Sediment Quality and the extension of time;
- any additional impact relating to Water and Sediment Quality associated with taking a further 7 years to complete construction activities.

33.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

- 33.2.1 These regulations revoke and replace the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI 2003 No. 3242). They continue to transpose Directive 2000/60/EC, for England and Wales, establishing a framework for Community action in the field of water policy (the Water Framework Directive).
- 33.2.2 They also transpose aspects of Directive 2006/118/EEC on the protection of groundwater against pollution and deterioration (the Groundwater Directive) and of Directive 2008/105/EC on environmental quality standards in the field of water policy (the Environmental Quality Standards Directive).

Water Framework Directive assessment: estuarine and coastal waters⁴

- 33.2.3 In December 2016, the Environment Agency published guidance on how to assess the impact of an activity in estuarine (transitional) and coastal waters for the Water Framework Directive (WFD). The guidance is called Clearing the Waters for All.

National Planning Policy Framework⁵

- 33.2.4 The National Planning Policy Framework (NPPF) was published in 2012. In paragraph 170 this requires planning policy to prevent “*new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans*”.

Additional Consultation

- 33.2.1 At this time, no further consultation relating to the Hydrodynamic and Sedimentary Regime has been undertaken as part of this proposed extension of time application.

Assessment Methodology

Study Area

- 33.2.2 A study area for Water and Sediment Quality was not formally defined within the original ES.
- 33.2.3 The assessment considered surface water and groundwater within and adjacent to Cherry Cobb Sands and Old Little Humber Farm including the soke dyke behind the existing flood defence at Cherry Cobb Sands (noting that Old Little Humber Farm was not brought forward within the DCO as

4 Water Framework Directive assessment: estuarine and coastal waters, Environment Agency, Published December 2016 (updated November 2017), <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters>

5 National Planning Policy Framework, Ministry of Housing, Communities & Local Government, Published March 2012, Updated June 2019, <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

made). The Keyingham drain channel is part of the designated WFD surface water body known as “Sands/Keyingham/Roos Drain from Source to Humber”.

33.2.4 The assessment also considered the sediment quality of intertidal and subtidal areas adjacent to Cherry Cobb Sands.

33.2.5 The same study area will be applied for this update.

Significance of Effect

33.2.6 Significance criteria relating to water and sediment quality were defined in the Table 9.1 within Chapter 9 of the original ES. These same criteria will be applied for this update.

33.2.7 Criteria used for determining the risk to water quality are set out in Environmental Quality Standards (EQS) produced by the WFD UKTAG (2008) in line with the EU EQS Directive. EQS are identified for a range of water quality characteristics including temperature, dissolved oxygen and for a range of specific pollutants including trace metals.

33.2.8 Impacts will be assessed as significant if the impacts to water quality result in an exceedance of standards or guidance values, such as EQS for water quality or Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Action Levels for sediment quality. Any resultant non-compliance with WFD will also be considered as significant with regards to water quality. If impacts do not result in a non-compliance or exceedance of standards they will be considered to be non-significant.

Magnitude of Change (Impact)

33.2.9 Within the original ES the magnitude of change was incorporated into the definitions for the significance of effect. The same approach has been applied for the preparation of this ER.

Mitigation Hierarchy

33.2.10 While not defined within the original ES, a hierarchy has been employed for mitigation. Where possible this seeks to avoid adverse effects and only where this is not possible are remedial options for reducing, remedying or compensating for any identified effects considered.

Effects Not Requiring Further Assessment

33.2.11 The original ES confirmed that for the compensation works, impacts to the Hull and East Riding Chalk water body are not likely and only surface water and shallow groundwater require consideration. It also concluded that, as the previously proposed works at the Old Little Humber Farm were not brought forward within the DCO as made (removed during Examination). In line with those conclusions no consideration is therefore made in this report in relation to the deeper Chalk aquifer or impacts associated with Old Little Humber Farm.

33.2.12 No changes are proposed to the final approved compensation scheme and therefore impacts associated with the completed (operational) scheme are also not considered further.

33.3.0 Changes in Baseline Conditions

DCO Baseline (current and future)

- 33.3.1** A single WFD water feature is within proximity to the Compensation Site, namely the surface water body known as “Sands/Keyingham/Roos Drain from Source to Humber” which includes Keyingham Drain, located 100 m from the Cherry Cobb Sands site. At the time of the original ES this was considered to be an Artificial Waterbody with a moderate ecological potential. The biological quality of the catchment was described as ‘bad’ and a number of specific pollutants were noted to have ‘high’ concentrations including copper, zinc and phosphate.
- 33.3.2** With regards to sediment quality the assessment notes that the Humber Estuary has historically been subject to contamination from a number of industrial and urban sources meaning that sediments within the estuary typically contain trace metals, polychlorinated biphenyls (PCBs), hydrocarbons, and tributyltin (TBT). Despite the history of contamination in the Humber Estuary, sediment quality data from Paull Holme Strays suggest that sediments local to Cherry Cobb Sands will have contaminant concentrations below Cefas and Canadian guideline action levels (as used within the original ES).

Changes in Baseline

- 33.3.3** The most recent round of WFD reporting (Cycle 3 – 2019) classified the “Sands/Keyingham/Roos Drain from Source to Humber” as having a moderate ecological status. The biological quality elements are described as ‘bad’ and the chemical quality was also assessed to be a ‘fail’ due to elevated levels of mercury and its compounds as well as Polybrominated diphenyl ethers (PBDE) and Cypermethrin. This indicates that, aside from slight changes to the list of chemical parameters of concern, there has been little change in status since the original ES.
- 33.3.4** The Environment Agency has also published objectives for the catchment with dates for when it should meet good status for each aspect. While this paints a picture of gradual improvement it is noted that the timescale for improving water quality for some parameters is long (i.e. 2063 for Polybrominated diphenyl ethers) and that the costs of delivering improvements more rapidly would be disproportionately expensive and would involve significant changes in catchment land use.
- 33.3.5** Further sampling of the surface sediments was undertaken in 2017 and 2020 in accordance with Sampling Plans agreed with the MMO. The additional sediment quality data was provided within Appendix UES9-4 of the Material Change 2 UES and, aside from PCBs no exceedance of the Cefas Action Level 2 thresholds were recorded. However, this was limited to sample locations on the southern banks of the Humber and not in proximity to the Compensation Site on the northern banks.

33.4.0 Assessment of Effects

33.4.1 The assessment of Water and Sediment Quality prepared for the original ES highlighted the following potential effects:

- Construction Phase:
 - Disturbance of sediments (associated with the marine environment) and soils (associated with the terrestrial environment) leading to increased turbidity of estuarine waters and watercourses and mobilisation of contaminants present within the sediment and soils;
 - Potential leaks or spills of oil or fuel from construction vehicles leading to contamination of estuarine waters and watercourses;
 - Water quality impacts from realignment of existing soke dyke; and
 - Potential impacts on groundwater quality.
- Operation phase:
 - disturbance of sediments leading to increased turbidity of estuarine waters associated with localised erosion, and
 - saline seepage into the existing freshwater ditch following managed realignment.

33.4.2 Operational impacts have already been screened out of this review as they are not of relevance to the increase the timescale for completion of construction works. Similarly impacts to groundwater have been screened out.

33.4.3 The remainder of the potential impacts remain relevant; however, increasing the timescale for completion of construction works will have no effect on the potential severity of impact and the previously proposed and agreed control mechanisms will remain appropriate.

Constructional Phase Effects

33.4.4 There are no additional effects associated with Water and Sediment Quality that will arise as a result of increasing the timescale for construction works.

Additional Cumulative Effects

33.4.5 There are no additional cumulative effects associated with Water and Sediment Quality.

Consideration of DCO

33.4.6 It is concluded that the changes in baseline understanding and the increase in the timescale for completion of construction works will not result in any new or significant increased effects on Water and Sediment Quality over and above those outlined in the original ES.

33.5.0 Requirement for Additional Mitigation

DCO Mitigation

33.5.1 Specific mitigation measures set out in the original ES include:

- Oils and fuels must be stored in sealed containers in a safe bunded area of the site away from any water;
- Site staff must be briefed to highlight the need for very tight control of potentially polluting chemicals;
- Clean-up procedures must be in place and ensure that there is provision of soak-up materials and containment booms in the event of accidental spillages of oils and fuels; and
- When working in the intertidal area work must only be undertaken at low water and all machinery moved to a designated 'dry' area each tide.

33.5.2 With mitigation measures in place, the potential for adverse effects on Water and Sediment Quality will be minimised and the impact is considered to be negligible.

Alternate or Additional Mitigation

33.5.3 Following completion of this review it is concluded that no further mitigation is required to control the potential impacts on Water and Sediment Quality.

33.6.0 Residual Effects

- 33.6.1 The original ES concluded that the temporary increase in suspended sediment concentrations associated with construction activities cannot be mitigated and should be considered as a temporary minor negative significant effect.
- 33.6.2 Operation phase impacts on Water and Sediment Quality were assessed to be negligible.

Consideration of DCO

- 33.6.3 It is concluded that there are no changes to the residual effects previously identified as part of the DCO.

33.7.0 Other Environmental Issues

- 33.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 33.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 33.7.3 The risks associated with Infrastructure are not of relevance to this Chapter.

Waste

- 33.7.4 The risks associated with Waste are not of relevance to this Chapter.

Population and Human Health

- 33.7.5 Aside from the potential impact to bathing water, which was previously considered, the risks associated with population and human health are not of relevance to this Chapter.

Climate and Carbon Balance

- 33.7.6 The risks associated with climate and carbon balance are not of relevance to this Chapter.

Risks of Major Accidents and/ or Disasters

- 33.7.7 The risk associated with major accidents and / or disasters is not of relevance to this Chapter.

Summary

- 33.7.8 With regards to the EIA regulations 2017, in terms of Water and Sediment Quality there are not considered to be any likely significant effects with regards to Other Environmental Issues.

33.8.0 Summary of Effects

- 33.8.1 As detailed in the original ES residual effects relating to Water and Sediment Quality will be minimal provided that the proposed control measures and monitoring are fully implemented. This review indicates that this conclusion will not be changed by the proposed increase in the timescale for completion of construction works.

33.9.0 Conclusions

- 33.9.1** The compensation site is located on low lying land adjacent to the Humber Estuary and are drained by a series of channel that discharge toward the estuary. Based in the data available these systems, and the sediment along the foreshore, are broadly unchanged since the Original ES.
- 33.9.2** The potential for the scheme at the compensation site to impact upon water and sediment quality is low and will be controlled by adherence to good practice and controls during construction and the scheme design. This will ensure that the change to water and sediment quality would be no greater than a minor negative effect.
- 33.9.3** The proposed increase in the timescale for completion of construction works will involve no changes to the scale or nature of the physical works required and no change to the final form of the scheme. As a result, there is no need for additional mitigation and no change to the conclusions of the assessment.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 34: AQUATIC ECOLOGY

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
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CONTENTS

34.1.0 INTRODUCTION	1
Document Context	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	2
34.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Scoping Opinion	10
Additional Consultation.....	10
Assessment Methodology	11
Effects Not Requiring Further Assessment.....	13
34.3.0 CHANGES IN BASELINE CONDITIONS.....	14
DCO Baseline	14
Original ES/DCO Baseline around the Cherry Cobb Sands Site	15
DCO Future Baseline.....	17
Current Baseline	18
Changes in Baseline	29
34.4.0 ASSESSMENT OF EFFECTS	31
Additional Construction Phase Effects	31
Additional Operational Phase Effects.....	33
Additional Cumulative Effects	34
Consideration of DCO	34
34.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	35
DCO Mitigation	35
Alternate or Additional Mitigation	35
34.6.0 RESIDUAL EFFECTS	36
Consideration of DCO	36
34.7.0 OTHER ENVIRONMENTAL ISSUES.....	37
Other Environmental Issues of Relevance	37
Summary	37

34.8.0	SUMMARY OF EFFECTS	38
34.9.0	CONCLUSIONS	39

DOCUMENT REFERENCES

TABLES

Table 34-1: Intertidal Sediment Parameters, Cherry Cobb Sands, Spring 2013 (upper table) & 2016 (lower table). Allen & Proctor, 2014a; Allen, 2020.	22
Table 34-2: Ranked Average Abundance and Biomass for Cherry Cobb Sands (per m ²).Spring 2016. Allen, 2020.	23
Table 34-3: Subtidal Invertebrate Assemblage (Station 156925, 2016).	28

FIGURES

Figure 34-1: Saltmarsh Extent Change and Dominant Species / Communities Cherry Cobb Sands. Environment Agency, 2022 (Baseline year 2003).	19
Figure 34-2: Intertidal Invertebrate Sampling Locations, Cherry Cobb Sands, 2016. Allen, 2020.	21
Figure 34-3: Intertidal Invertebrate Mean Number of Taxa (left) and Mean Abundance (right), Cherry Cobb Sands, Spring 2016. Allen, 2020.	21
Figure 34-4: Key Invertebrate Species Abundance Cherry Cobb Sands, Spring 2016. Allen, 2020.	24
Figure 34-5: Intertidal Biotope Composition and Extent at Cherry Cobb Sands. Franco et al 2015.	26
Figure 34-6: Subtidal Sampling Locations for the Wider AMEP Development. Allen, 2020.	27
Figure 34-7: Subtidal Sampling Location (TraC Benthic Invertebrates 2016). Environment Agency (Accessed April 2023).	28

34.1.0 Introduction

Document Context

34.1.1 An assessment of the impacts of the development on Aquatic Ecology at the Cherry Cobb Sands Compensation Site (subsequently referred to as the CCS site and separate to the geographical wider Cherry Cobb Sands intertidal frontage) was included in Chapter 34 of the original ES that formed part of the DCO application in 2012. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Original Environmental Statement Chapter 34: Aquatic Ecology (Compensation Site)¹.
- Appendices to original ES Chapter 34 (links are provided at relevant sections of this Chapter):
 - Appendix 34.1: Saltmarsh Survey Cherry Cobb Sands²
- Examination documents of relevance:
 - EX 10.4 Impact of Dredging and Dredged Material Disposal on 1) Subtidal and Intertidal Features and 2) Aquatic Ecology
 - EX 10.5 Supporting Information on Harbour Porpoises in the Humber Estuary
 - EX 10.6 Impact of Berthing Pocket Construction
 - EX 10.7 Soft Start and Seals
 - EX 10.8 Disposal Site Characterisation and Impact Assessment
 - EX 10.9 Environmental Management and Monitoring Plan 1. Marine Works (Draft)
 - EX 28.3 Final Compensation Proposals, Part 1-10
 - EX 34.2 An Assessment of Temporal Variation of Benthic Invertebrate Communities in the Humber Estuary

Consideration of the Extension of Time

34.1.2 The full details of the proposed extension of time are described in Chapter 4 of this Environmental Review (ER) to the original ES and Material Change 2 UES. In relation to this submission seeking an extension of time to construct the works associated with the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.

34.1.3 This Chapter considers the environmental impacts of the proposed extension of time to the AMEP development, including a consideration of any changes to baseline conditions characterised in the

¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000314-10%20-%20Aquatic%20Ecology.pdf>

²<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000433-34.1%20-%20Saltmarsh%20Survey%20Cherry%20Cobb%20Sands.pdf>

original ES in relation to the Compensation Site (Chapter 34: Aquatic Ecology).

- 34.1.4 This Chapter will review the potential impacts on aquatic ecology of Cherry Cobb Sands and the CCS site and where appropriate consider whether any mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

- 34.1.5 This Chapter reports on any change in the findings of the original ES in respect of the Aquatic Ecology at Cherry Cobb Sands and in particular in the vicinity of the proposed CCS site development, pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

- 34.1.6 This chapter includes consideration of:

- New relevant baseline data only e.g. pertaining to the parameters as covered in the original ES (Chapter 34 Aquatic Ecology and Nature Conservation).
- The impacts to aquatic ecology and nature conservation which are specific to the Compensation Site. The aquatic ecology and nature conservation baseline of the wider Humber Estuary is covered in Chapter 10 of the Updated Environmental Statement for the Material Change 2 UES³.
- Within the Compensation Site (CCS site), the only part of the site that may affect the aquatic ecology and nature conservation is the proposed managed realignment at Cherry Cobb Sands. The Old Little Humber Farm site which was referred to in the original ES was withdrawn from the application during the Hearings. The redesign of the compensation site and EIA review was set out in EX28.3 Parts 1-10.
- As such, references to the Old Little Humber Farm site have been removed from this updated document.

³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000132-TR030006-APP-6-10.pdf>

34.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

Legislation

- 34.2.1 There have been no significant changes to extent or content of the conservation / protection designations to the Humber Estuary since the original ES and DCO application.
- 34.2.2 Directive 92/43/EEC (The Habitats Directive) provides a common framework throughout EU States for the conservation of wild plants, animals and habitats of community interest, and to maintain biodiversity. It established a network of Special Areas of Conservation (SAC) designated by Member States to conserve habitats and species (listed in Annexes I and II).
- 34.2.3 Directive 2009/147/EC (The Birds Directive) provides a comprehensive scheme of protection for all wild bird species across EU States and recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore considers the protection of habitats for endangered as well as migratory species (listed in Annex I), through the establishment of a coherent network of Special Protection Areas (SPAs) comprising all the most suitable territories for these species.
- 34.2.4 There have been no further Special Area of Conservation (SAC), Special Protection Area (SPA) and Wetland of International Importance (Ramsar) designations within the area of the Cherry Cobb Sands development.
- 34.2.5 The Habitats Directive and Birds Directive are implemented in England and Wales through the Conservation of Habitats and Species Regulations 2017 as amended, these are more commonly known as the Habitats Regulations.
- 34.2.6 Following the UK's withdrawal from the European Union (Brexit), Defra has published a new policy document (Defra, 2021) to explain the changes made to the Conservation of Habitats and Species Regulations 2017 (as amended) (the 2017 Regulations). The 2017 Regulations transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known together as the Nature Directives) into UK law.
- 34.2.7 The main change introduced by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations) was to make the 2017 Regulations operable from 1 January 2021. The change covers England and Wales including their inshore waters up to 12 nautical miles.
- 34.2.8 The main changes to the 2017 Regulations are:
- the creation of a national site network within the UK territory comprising the protected sites already designated under the Nature Directives, and any further sites designated under these Regulations
 - the establishment of management objectives for the national site network (the 'network objectives')
 - a duty for appropriate authorities to manage and where necessary adapt the national site

network as a whole to achieve the network objectives

- an amended process for the designation of Special Areas of Conservation (SACs)
- arrangements for reporting on the implementation of the Regulations, given that the UK no longer provides reports to the European Commission
- arrangements replacing the European Commission's functions with regard to the imperative reasons of overriding public interest (IROPI) test where a plan or project affects a priority habitat or species
- arrangements for amending the schedules to the Regulations and the annexes to the Nature Directives that apply to the UK

34.2.9 SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network and instead the 2019 Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

34.2.10 Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

34.2.11 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network. Many Ramsar sites overlap with SACs and SPAs, and may be designated for the same or different species and habitats.

34.2.12 All Ramsar sites remain protected in the same way as SACs and SPAs.

34.2.13 The Humber Estuary is designated as an SAC, SPA and Ramsar Site (see Chapter 10 of the Material Change 2 UES).

34.2.14 Since the original ES, The Greater Wash SPA has been designated (2018) for a number of non-breeding and breeding seabird species and covers an area of sea and coast along the east coast of England between the counties of Yorkshire (to the north) and Suffolk (to the south). Further offshore, the Southern North Sea SAC was designated in 2019 for Harbour Porpoise.

Policy and Guidance

The National Planning Policy Framework (NPPF)

34.2.15 The National Planning Policy Framework (NPPF) has replaced the individual Planning Policy Statements (PPS) and was first published in 2012 and updated in 2018, 2019 and 2021. The NPPF sets out the government's planning policies for England and how these are expected to be applied and includes components of relevance to this Chapter, namely meeting the challenge of climate

change, flooding and coastal change⁴ and conserving and enhancing the natural environment⁵.

34.2.16 2021 updates to the NPPF include provisions to:

- explicitly protect and enhance, and to improve biodiversity, where before the requirement was simply to contribute to these matters;
- presumption in favour of sustainable development;
- take into account all sources of flood risk and to use opportunities provided by improvements in green infrastructure, and to make as much use as possible of natural flood management techniques;
- refuse permission for major development applications within National Parks, the Broads and Areas of Outstanding Natural Beauty other than in exceptional circumstances

34.2.17 Chapter 15 of the NPPF requires that planning policies and decisions should contribute to, and enhance, the natural and local environment by:

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services, including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The UK Marine Policy Statement (MPS)

34.2.18 The Marine Policy Statement (2011) (MPS)⁶ is the framework for preparing marine plans and taking decisions affecting the marine environment. The MPS also sets out the general environmental,

⁴ NPPF, <https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>

⁵ NPPF, <https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment>

⁶ MPS, <https://www.gov.uk/government/publications/uk-marine-policy-statement>

social and economic considerations that need to be taken into account in marine planning and provides guidance on the pressures and impacts that decision makers need to consider when planning for and permitting development in the UK marine areas. Paragraphs 3.1.7 and 3.1.8 of the MPS are relevant to the aquatic ecology assessment of the Cherry Cobb Sands compensation site which, amongst other things, state that:

Marine plan authorities and decision makers should take account of how developments will impact on the aim to halt biodiversity loss and the legal obligations relating to all MPAs, their conservation objectives, and their management arrangements.

- 34.2.19 Marine plan authorities and decision-makers should take account of the regime for MPAs and comply with obligations imposed in respect of them. This includes the obligation to ensure that the exercise of certain functions contribute to, or at least do not hinder, the achievement of the objectives of a Marine Conservation Zone (MCZ), including obligations in relevant legislation relating to SSSIs and sites designated under the Birds and Habitats Directives.

Local MPAs

- 34.2.20 The Holderness Inshore MCZ⁷ was designated in 2016, and is an inshore site covering an area of approximately 309km². The site is located north of the Humber Estuary mouth and includes the Spurn Head geological features as well as intertidal and subtidal habitats, with restrictions in place to manage various potentially damaging activities.
- 34.2.21 The Holderness Offshore MPA⁸ was designated in 2019 and covers an area north of the Humber and further offshore than the Holderness Inshore Marine Conservation Zone.

The East Marine Plans (2014)

- 34.2.22 The East Inshore Marine Plan⁹ covers 6,000 km² of sea, from mean high water springs (MHWS) out to the 12 nautical mile limit from Flamborough Head in the north to Felixstowe in the south (East Inshore). The East Offshore Marine Plan⁹ covers 49,000 km² of area from the 12 nautical mile limit to the border with The Netherlands, Belgium and France.
- 34.2.23 There are a number of potentially relevant policies within these plans including:
- Policy ECO1 where cumulative impacts affecting the ecosystem of the East Marine Plans and adjacent areas (marine, terrestrial) should be addressed in decision-making process;
 - Policy BIO1 where appropriate weight should be attached to biodiversity taking account of the best available evidence on those habitats and species that are protected or of conservation concern in the East Marine Plans and adjacent areas (terrestrial and marine);
 - Policy MPA1 where any impacts on the overall MPA network must be taken into account in strategic level measures and assessments, with due regard given to any current agreed advice on an ecologically coherent network;
 - S-NIS-1 where proposed developments must include any appropriate measures to avoid or

⁷ Holderness Inshore MCZ, <https://www.gov.uk/government/publications/marine-conservation-zones-holderness-inshore>

⁸ Holderness Offshore MPA, <https://jncc.gov.uk/our-work/holderness-offshore-mpa/>

⁹ The East Marine Plans, <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>

minimise significant adverse impacts on the marine area that could arise through the introduction and transport of non-indigenous species;

- S-UWN-2 - where proposed developments that generate impulsive sound and/or ambient noise must demonstrate that they will, in order of preference: a) avoid, b) minimise, c) mitigate significant adverse impacts on highly mobile species, d) if it is not possible to mitigate significant adverse impacts.

East Riding of Yorkshire Council Local Plan

34.2.24 East Riding of Yorkshire Council (ERYC) is currently producing a new Local Plan, which once agreed (formally adopted), will replace the current Local Plan. Public consultation on the Draft Local Plan Update was undertaken in 2022 with Submission and Examination planned during 2023 and for Adoption in 2024.

34.2.25 The existing adopted local Plan 2012-2029¹⁰ (adopted 2016) remains current until the new plan is adopted. However, this document superseded the ERYC's Holderness District Wide Local Plan (1999), which was referenced in the original ES.

34.2.26 A draft Local Plan Strategy Update was published in 2021¹¹. This includes a series of Environmental Policies, including, of relevance to this development:

- *'ENV2: Promoting a high quality landscape*
 - *A. Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features. To achieve this, development should: 1. Protect the character and individual identity of settlements by maintaining their physical separation, including through the maintenance of the Key Open Areas identified in Policies A1-A6, where there is a risk of settlement coalescence. 2. Protect and enhance important open spaces within settlements which contribute to their character. 3. Ensure important hedgerows and trees are retained unless their removal can be justified in the wider public interest. Where important hedgerows and trees are lost replacements will usually be required. 4. Maintain or enhance the character and management of woodland where appropriate. 5. Retain, not detract from, and enhance wetland and water feature characteristics. 6. Protect and enhance views across valued landscape features, including flood meadows, chalk grassland, lowland heath, mudflats and salt marsh, sand dunes and chalk cliffs. 7. Protect and enhance the undeveloped coast.*
 - *B. Proposals should protect, enhance and be compatible with the existing landscape character as described in the East Riding Landscape Character Assessment, in particular, within the following Important Landscape Areas as shown on the Draft Policies Map Update: 1. The Yorkshire Wolds, with special attention to ensuring developments are of an appropriately high quality and will not adversely affect the historic and special character, appearance or conservation value. 2. The Heritage Coast designations at Flamborough and*

¹⁰ ERYC Local Plan (adopted 2016), <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/>

¹¹ ERYC Local Plan Update (2021 draft), <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/local-plan-update/draft-local-plan-update-consultation/>

Spurn Head. 3. The Lower Derwent Valley, which includes the River Derwent Corridor and Pocklington Canal. 4. The Thorne, Crowle and Goole Moors.

- *ENV4: Conserving and enhancing biodiversity and geodiversity:*
 - *A. Proposals that are likely to have a significant effect on an International Site will be considered in the context of the statutory protection which is afforded to the site.*
 - *B. Proposals that are likely to have an adverse effect on a National Site (alone or in combination) will not normally be permitted, except where the benefits of development in that location clearly outweigh both the impact on the site and any broader impacts on the wider network of National Sites.*
 - *C. Development resulting in loss or significant harm to a Local Site, or habitats or species supported by Local Sites, whether directly or indirectly, will only be supported if it can be demonstrated there is a need for the development in that location and the benefit of the development outweighs the loss or harm.*
 - *D. The mitigation hierarchy should be used to first avoid, then mitigate, and where necessary compensate for loss or harm to biodiversity. Where loss or harm to a National or Local designated site, cannot be prevented or adequately mitigated, as a last resort, compensation for the loss/harm must be agreed. Development will be refused if loss or significant harm cannot be prevented, adequately mitigated against or compensated for.*
 - *E. Proposals should further the aims of the Nature Recovery Strategy and Nature Recovery Network, Net Gain and other relevant strategic landscape scale biodiversity initiatives.*
 - *F. To optimise opportunities to enhance biodiversity, proposals should seek to achieve a net gain in biodiversity, in addition to the measures required in part D, and will be supported where they: 1. Conserve, restore, enhance or recreate biodiversity and geological interests including the Priority Habitats and Species and Local Sites. 2. Safeguard, enhance, create and connect habitat networks in order to: I. protect, strengthen and reduce fragmentation of habitats; II. create a coherent ecological network that is resilient to current and future pressures; III. conserve and increase populations of species; and IV. promote and enhance green infrastructure.*
- *ENV5: Strengthening blue/green infrastructure*
 - *A. Development proposals will: 1. Incorporate a comprehensive design that is underpinned by its consideration of existing and new blue/green infrastructure features, including those features required by policies ENV1, 2, 3, 4, 6 and C3; 2. Capitalise on opportunities to: I. Enhance and/or create links between blue/green infrastructure features. Links should be created both on-site and, where possible, with nearby blue/green infrastructure features; and II. Utilise potential multifunctional benefits of blue/green infrastructure features.*
 - *B. Development proposals within, or in close proximity to, a blue/green infrastructure corridor should enhance the functionality and connectivity of the corridor; and*
 - *C. Development Proposals that have the potential to increase recreational pressures on designated biodiversity assets should provide mitigation in the form of blue/green infrastructure provision.*

- *ENV6: Managing environmental hazards*
 - *A. Environmental hazards, such as flood risk, coastal change, nutrient deposition, aerial pollution, groundwater pollution and other forms of pollution, will be managed to ensure that development does not result in unacceptable consequences to its users, the wider community, and the environment.*

- *ENV6: Flood risk*
 - *B. The risk of flooding to development, from all sources both now and in the future, will be managed by applying a sequential test to ensure that development is steered towards areas of lowest risk, as far as possible. The sequential test will, in the first instance, be undertaken on the basis of the East Riding Strategic Flood Risk Assessments (SFRA) and the Environment Agency's Flood Map, within appropriate search areas. Where development cannot be steered away from Flood Zone 3, the sub-delineation of Zone 3, detailed within the relevant SFRA, will be used to apply the sequential test, with preference given to reasonably available sites that are in the lower risk/hazard zones. Where necessary, development must also satisfy the exception test.*
 - *C. If, following application of the sequential test, it has not been possible to successfully steer development to a site at low risk of flooding from all sources now and in the future, a sequential approach will be taken to site layout and design, aiming to steer the most vulnerable uses towards the lowest risk parts of the site and upper floors.*
 - *D. Flood risk will be proactively managed by: 1. Ensuring that new developments: I. limit surface water run-off to existing run-off rates on greenfield sites, and on previously developed land reduce existing run-off rates by a minimum of 30%, or to greenfield run-off rate; II. do not increase flood risk within or beyond the site; III. incorporate Sustainable Drainage Systems (SuDS) into major development proposals and proposals at risk of flooding, unless demonstrated to be inappropriate; IV. do not culvert or otherwise build over watercourses, unless supported by the Risk Management Authority; V. have a safe access/egress route from/to Flood Zone 1 or establish that it will be safe to seek refuge at a place of safety within a development; VI. incorporate high levels of flood resistant and resilient design if located in a flood risk area; VII. are adequately set-back from all watercourses including culverted stretches; and VIII. adhere to other relevant SFRA recommendations. 2. Supporting proposals for sustainable flood risk management, including the creation of new and/or improved flood defences, water storage areas and other schemes, provided they would not cause unacceptable adverse environmental, social, or economic impacts. 3. Supporting the removal of existing culverting and returning these sections to open watercourse. 4. Designating areas of Flood Zone 3b (Functional Floodplain) and safeguarding land for current and future flood risk management, on the Draft Policies Map Update.*

- *ENV 6 Coastal change*
 - *E. Development likely to be affected by coastal change will be proactively managed by designating a Coastal Change Management Area (CCMA) on the Draft Policies Map Update.*
 - *F. Within the CCMA proposals will be supported where it: 1. Can be demonstrated that an appropriate temporary development, such as those included in Guide to appropriate*

development within the CCMA, will contribute to the local economy and/or help to improve the East Riding's tourism offer; or 2. Would involve re-location or roll back of existing development to an alternative location, provided the existing development is in permanent use and is a permanent structure, or is an existing caravan or holiday home park. The alternative location should be a suitable coastal location; and 3. Is ensured that: I. the development is safe from the risks associated with coastal change for its intended lifespan; II. the development does not have an unacceptable impact on nature conservation, heritage and/or landscape designations; III. sites to be vacated as a result of relocation/roll back or expiry of a temporary permission, will be cleared and restored to a natural state, with net sustainability benefits and, where appropriate, public access to the coast; and IV. the development has an acceptable relationship with coastal settlements in relation to character, setting, residential amenity and local services.

- *G. Development proposals for sustainable coastal change management, including improvements to coastal defences or managed realignment, should have regard to the most up to date Shoreline Management Plan and the latest coastal monitoring information. Proposals will be supported where they would not have any unacceptable adverse environmental, social or economic impacts.*
- *ENV 6 Groundwater pollution*
 - *H. The risk of groundwater pollution will be managed by: 1. Avoiding development that will increase the risk of pollution in source protection zones (SPZ) and where this is not possible, ensuring that appropriate mitigation measures are employed; 2. Supporting developments which will decrease the risk of pollution in SPZs by cleaning up contaminated land and incorporating pollution-prevention measures; 3. Preventing inappropriate uses/activities in SPZ1 and SPZ2, unless adequate safeguards against possible contamination can be agreed; 4. Preventing non-mains drainage that would involve sewage, trade effluent or other contaminated discharges, as far as possible; and 5. Ensuring re-development of previously developed sites does not contaminate under-lying aquifers.'*

Scoping Opinion

- 34.2.27 In relation to this update to the original ES and the Article 7 submission seeking to extend timescales to construct works associated with the DCO, there are no physical alterations proposed to the 'as consented' scheme and the only matter being considered is an extended time limit for the construction of the development itself. There has been no update to the Scoping Opinion for the original provisions addressed in this document.

Additional Consultation

- 34.2.28 At this stage, no additional consultation relating to the compensation site requirements has been necessary. However, given that the time limit in Article 7 prohibits new works from starting after 28 October 2024, the Undertaker now wishes to apply to the Secretary of State to extend the timeframe to construct the works. The full details of the proposed extension of time is described in Chapter 4 of this report. In relation to this submission, there are no physical alterations proposed and the only matter being considered is an extended time limit to 'substantially commence' the development.

Assessment Methodology

- 34.2.29 The updated baseline description, impact assessment coverage and approach follows that undertaken in the original ES.
- 34.2.30 However, it should be noted that this document is not a new ES, given the points above. Instead it is designed, following the discussion with and instruction from the SoS, to provide updates to the relevant legislation, baseline conditions and substantive changes in impacts, mitigation and residual impacts arising from the development.
- 34.2.31 Where applicable any such significant changes to impact findings e.g. type, severity etc. are identified in the summary section at the end of the Chapter.

Study Area

- 34.2.32 It would appear that no specific study area was established for the Aquatic Ecology assessment of the Cherry Cobb Sands (CCS) compensation site within the original ES, or at least it is not described in the original ES Chapter. However, it would be presumed that in consultation, an effective area was agreed as suitable and as such, the study area for this update has been defined to match the areas of cover from the original ES and which characterise and address both the directly affected and influenced areas around the CCS site footprint.
- 34.2.33 It should be noted that The Old Little Humber Farm site which was referred to in the original ES was withdrawn from the application during the Hearings. The redesign of the compensation site and EIA review was set out in EX28.3 Parts 1-10.

Sensitivity Criteria

- 34.2.34 For the purposes of the assessment of the Cherry Cobb Sands site, there has been no change to the sensitive receptors identified in the original ES. The following are therefore considered to be sensitive aquatic/intertidal receptors that occur within the vicinity of the site:
- habitats:
 - intertidal mudflats and sandflats;
 - saltmarshes.
 - rare or nationally important benthic invertebrates associated with the estuary;
 - diadromous fish (e.g. river and sea lamprey, eel, smelt, Atlantic salmon, sea trout and shad); and
 - other fish fauna of conservation and/or commercial interest.

Magnitude of Change (Impact)

- 34.2.35 The approach has been used as defined for the assessment methodology applied in the original ES (AMEP site). The magnitude of impact is assessed by considering the following:
- the nature of the change (what is affected and how);

- the type of impact;
- its size, scale or intensity;
- its geographical extent and distribution;
- its timing, duration, frequency, reversibility; and
- where relevant, the probability of the impact occurring as a result of accidental or unplanned events.

34.2.36 Evaluation of the impact takes the magnitude of impact and explains what it means in terms of its importance to society and the environment.

34.2.37 Magnitude of Change (Impact) is established within paragraph 10.3.7 of the original ES, identifying that it encompasses the following:

- the nature of the change (what is affected and how);
- the type of impact;
- its size, scale or intensity;
- its geographical extent and distribution;
- its timing, duration, frequency, reversibility; and
- where relevant, the probability of the impact occurring as a result of accidental or unplanned events..

Significance of Effect

34.2.38 The significance criteria for the CCS site were determined in the same manner as for the AMEP site in the original ES, and have not been altered for this update. These are defined within Section 10.3 of the original ES.

34.2.39 As detailed within paragraph 10.3.12 of the original ES, the significance of potential ecological impacts was evaluated taking into account the following factors:

- the magnitude of both positive and negative effects, as determined by intensity, frequency and by the effect extent in space and time;
- the vulnerability of the habitat or species to the changes likely to arise from the development;
- the ability of the habitat, species or ecosystem to recover, considering both fragility and resilience;
- the viability of component ecological elements and the integrity of ecosystem function, processes and favourable condition;
- value within a defined geographic frame of reference (eg , national, regional or district);

- the biodiversity value of affected species, populations, communities, habitats and ecosystems, considering aspects such as rarity, distinct sub-populations of a species, habitat diversity and connectivity, species-rich assemblages, and species distribution and extent; and
- designated site and protected species status, and Priority Biodiversity Action Plan (BAP) or Habitat Action Plan (HAP) status

34.2.40 The Significance of Effects have been assessed was based on the criteria established in the original AMEP ES and follow IEEM guidance (IEEM, 2010). This has been updated where appropriate using additional CIEEM guidance e.g. CIEEM (2022¹²) e.g. an effect should be determined as being significant when it 'either supports or undermines biodiversity conservation objectives for important ecological features'.

34.2.41 The determination of significance follows that used in the original ES, based on whether the impact will affect the integrity or conservation status of the species, habitat, site or ecosystem within a given geographical frame of reference.

34.2.42 Given the location of the Cherry Cobb Sands site, within and adjacent to, the Humber Estuary European Marine Site, the assessment is carried out with particular consideration to the proposed works and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features.

Effects Not Requiring Further Assessment

34.2.43 For this report, the assessment of effects follows that undertaken in the original ES. No additional or removed pathways of impact are considered.

34.2.44 It should be noted that the topic area 'Coastal Waterbirds' e.g. birds utilising the aquatic (intertidal) components of Cherry Cobb Sands as well as the CCS site, were covered under Chapter 35 of the original ES (Terrestrial Ecology and Birds). This approach is therefore followed for this baseline update with little or no reference made to waterbirds utilising Cherry Cobb Sands in this Chapter.

¹² CIEEM (2022 update), <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf>

34.3.0 Changes in Baseline Conditions

DCO Baseline

Overview of the Humber Ecosystem

- 34.3.1 The Humber is an extensive macrotidal estuary on the east coast of England, characterised by a large tidal range and high levels of suspended sediment, with hydrodynamic processes creating a dynamic rapidly changing system with accretion and erosion of intertidal and sub-tidal habitats.
- 34.3.2 Importantly, the dynamic nature of the system, and its effects on associated habitats and biological communities are acknowledged within the Site Designations and associated Conservation Objectives, with management cognisant of these dynamisms.
- 34.3.3 This dynamism occurs both at a system and local scale, and potential changes in the habitats and associated communities within and around the AMEP development and was acknowledged in the Examining Authorities Report (2013) following completion of the examination of the DCO application in 2012. Specifically, the Examiner recorded:
- That the Humber estuary is highly dynamic, both as a result of the natural characteristics of an estuary with a high tidal range and the added consequences of rising sea levels associated with climate change.
 - That the habitats affected by the proposal are found extensively throughout the estuary and that they are subject to continuous change through natural and man-induced processes of erosion, including dredging, and deposition.
 - That the combined effect of rising sea level and fixed flood defences results in the estuary as a whole being subject to “coastal squeeze” with pressure particularly on salt marsh habitat.
 - That as a response to coastal squeeze the Environment Agency has promoted a policy of selective managed retreat of flood defences to re-establish estuarine habitat on land reclaimed for agriculture in historical times.
 - That this policy has been implemented in association with schemes of habitat compensation carried out as part of harbour works on the Humber, including ABP’s works at Welwick, Chowderness and Alkborough associated with the Immingham Outer Harbour and at Green Port Hull.
 - That the character of the foreshore at both the main application site and Cherry Cobb Sands has changed in living memory, that the changes are measurable and can be expected to continue to evolve.
 - That conditions favourable to the formation of extensive areas of very gently sloping inter-tidal mudflat at the North Killingholme Marshes have been reinforced by the creation of the Immingham Outer Harbour but that the general pattern is that accreting shorelines will develop into salt marsh as has happened observably at Cherry Cobb Sands and in some locations on the Killingholme shore adjacent to the floodwall’, (Examining Authorities Report, paragraph 10.79).
- 34.3.4 This dynamic estuarine system with changes in currents, tidal inundation, salinity etc. creates an

environment that can be a problem for many aquatic and marine animals. For instance, the invertebrate community that colonises such areas can be restricted to a relatively low number of species that are able to adapt to these environmental rigors.

- 34.3.5 However, the same physical conditions also allow for those species that can tolerate them, to be present in very large numbers in the deposited soft sediments, e.g. intertidal soft sediment mudflats. The physico-chemical conditions make estuaries highly productive and through a complex food web are able to support very large numbers of invertebrate organisms such as worms and molluscs, which are able to feed on lower trophic guilds and other available organic material as well as on each other.
- 34.3.6 Productivity from these communities has been estimated at over 500kg per ha per year on the Humber (e.g. IECS, 1994), and forms an important food resource for primary predators such as fish and birds. The importance of the Humber Estuary for birds and fish, and the habitats supporting these, is recognised in a series of International/European conservation designations.
- 34.3.7 The whole of the Humber Estuary is covered by a number of wildlife protection designations. The estuary is designated as a Special Protection Area (SPA) and Ramsar site for its waterbird community, and as a Special Area of Conservation (SAC) for habitats, several species of fish and the Grey Seal.

The Potential for Natural Change in Intertidal Communities around the Cherry Cobb Sands Site

- 34.3.8 The statements of the Examining Authorities Report (2013) relating to the dynamic nature of the estuarine system and its associated floral and faunal communities are important, with alterations in structure and extent occurring naturally over time. These variations underline the need to update this Chapter where appropriate, with changes to community details potentially simply a reflection of the dynamic system and ecosystem trajectory.

Original ES/DCO Baseline around the Cherry Cobb Sands Site

- 34.3.9 This section details the Baseline at the time of undertaking the original ES for the DCO. It has been broken down into a series of aquatic habitat typologies as outlined below.

Intertidal Saltmarsh.

- 34.3.10 Coastal saltmarsh was identified as a Biodiversity Action Plan (BAP) priority habitat, present at Cherry Cobb Sands, with survey of it undertaken in 2010. These data were compared to LiDAR information and it was concluded that the mid and upper saltmarsh zones were relatively stable, with the upper saltmarsh varying from a width of 5m-330m and the mid saltmarsh from 60m to 300m.
- 34.3.11 These zones were incised by a number of creeks and were dominated by sea couch grass *Elytrigia atherica* (*Elymus pycnanthus*) with other species of note including sea plantain *Plantago maritima*, red fescue *Festuca rubra* and *Orache atriplex* sp.
- 34.3.12 The lower saltmarsh zone was extensive, stretching up to 800m from the edge of the mid saltmarsh zone, and considered to be gradually accreting. The lower saltmarsh was dominated by 'pioneer' species including annual glasswort *Salicornia europaea* agg. and common cord grass *Spartina anglica*.

Intertidal Mudflats and Sandflats.

- 34.3.13 An extensive area of mudflat and sandflat stretching from the edge of the mid saltmarsh zone was recorded (Foul Holme Sands). In some places saltmarsh vegetation had also colonised as lower saltmarsh.

Intertidal Invertebrates

- 34.3.14 The most commonly occurring species in the intertidal samples of Cherry Cobb Sands were Enchytraeidae, *Tubificoides benedii*, Baltic Tellin (*Macoma balthica*) and roundworms Nematoda. *Hediste diversicolor* was also present but in a lower abundance.
- 34.3.15 Stone Creek had similar dominant species to those recorded at Cherry Cobb Sands but the overall abundance varied considerably with Enchytraeidae, *Macoma balthica* and Nematoda all more abundant at Cherry Cobb Sands and *Tubificoides benedii* of a considerably lower abundance at this location. Thorngumbald also had Enchytraeidae and Nematoda as dominant species but the abundance was approximately 30% of that recorded at Cherry Cobb Sands.
- 34.3.16 The invertebrate assemblage was judged to be characteristic of the middle Humber Estuary, and with a high degree of variability in abundance.

Subtidal Invertebrates

- 34.3.17 Data from the Environment Agency's surveys adjacent to Cherry Cobb Sands (Holme Ridge & Sunk Island Measured Mile) (2008 & 2009) were used to characterise the assemblage. The most abundant species recorded at Holme Ridge were *Nephtys* spp. and *Macoma balthica*. At Sunk Island Measured Mile there was also a relatively high abundance of *Nephtys* spp. as well as sand hopper *Bathyporeia elegans* and speckled sea louse *Eurydice pulchra*.
- 34.3.18 Species richness from both the intertidal and subtidal samples was considered to be typical of the middle Humber estuary.

Fish Fauna

- 34.3.19 This was not discussed in detail for the Cherry Cobb Sands (CCS) site, but was addressed more generically for the middle Humber and the specific AMEP development area in Chapter 10 of the original ES (See Chapter 10 of the Material Change 2 UES for updated information on this component¹³). Aspects of Commercial Fisheries are provided in the Material Change 2 UES document (Chapter 12¹⁴).

Coastal Waterbirds

- 34.3.20 Aspects of waterbird utilisation in the area of the CCS site were covered in the original ES Chapter 35. Where applicable these are updated in Chapter 35 of this report. Further waterbird information was updated for the wider estuary and in particular around the AMEP site in Chapter 11 of the

¹³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000132-TR030006-APP-6-10.pdf>

¹⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000104-TR030006-APP-6-12.pdf>

Material Change 2 UES document¹⁵).

DCO Future Baseline

- 34.3.21 No specific alterations to the future Aquatic Ecology baseline components were identified in the Aquatic Ecology Chapter of the original ES (Chapter 34). However, as noted above and in the Examining Authorities Report (2013), the estuarine ecosystem was identified as naturally dynamic and subject to natural change.
- 34.3.22 In fact it is likely that in addition to natural ecosystem dynamisms, climate change related factors are already acting on the Humber. Certainly there is variability in the timing of some species movements e.g. migration, as well as changes in assemblage composition, although the degree to which these changes are climate change related versus natural ecosystem dynamics is difficult to identify.
- 34.3.23 However, in the future marine and estuarine species are likely to become increasingly vulnerable to anthropogenic pressures due to the predicted effects of climate change and ocean acidification in combination with more local pressures, although these changes will continue to occur against the background of a naturally dynamic estuarine ecosystem.
- 34.3.24 The 2020 Marine Climate Change Impacts Partnership (MCCIP) report card (MCCIP, 2020¹⁶) highlighted the following changes to marine ecology receptors could potentially occur as a result of climate change:
- Sea-level rise could result in deeper waters and larger waves reaching saltmarsh and other intertidal habitats, causing erosion at the seaward edge;
 - Changes in patterns of rainfall or temperature changing vegetation composition of coastal saltmarsh communities;
 - Marine communities around the UK altering as ocean acidification increases;
 - Changing sea temperatures resulting in range shifts for both benthic species and mobile species (such as fish, marine mammals). This could result in a decline of some cold-water species around certain parts of the UK and an increase in the prevalence of non-native species;
 - Changing temperatures affecting spawning in some marine species as well as the timings of migrations;
 - Coastal waterbirds showing north-easterly shifts in the winter distributions in Europe; and
 - Changes in prey distribution and availability, resulting in range shifts in some regional populations of marine mammals, fish and seabirds.
- 34.3.25 The aim of this document is to address any such substantial changes e.g. to the current baseline, and correspondingly update the assessment of impacts, mitigation measures and residual impacts

¹⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000133-TR030006-APP-6-11.pdf>

¹⁶ MCCIP, 2020, https://www.mccip.org.uk/sites/default/files/2021-07/mccip-report-card-2020_webversion.pdf

etc. where appropriate.

Current Baseline

Intertidal Saltmarsh

- 34.3.26 No CCS specific saltmarsh surveys have been undertaken on behalf of the developer since the original ES. However, the Environment Agency undertook a comprehensive review of saltmarsh vegetation around the UK during 2016-2019 (Environment Agency, 2022¹⁷), this being an update to the saltmarsh national inventory made between 2006 to 2009 (Environment Agency, 2011¹⁸).
- 34.3.27 The 2022 report included an assessment of saltmarsh status on the Humber, with the following considered to be relevant for the CCS site e.g. relating to the Humber Lower Waterbody (WFD Code GB530402609201), which was completely remapped for the 2022 report.
- 34.3.28 The Humber Lower Waterbody was described in the Environment Agency, 2022 report as comprised mainly of 'low-mid' marsh (particularly around the Humber mouth) with large extents of 'upper' marsh zone and *Spartina*.
- 34.3.29 Importantly the report states that the Humber Lower Waterbody had seen a large increase in saltmarsh extent (46%), a net gain of 909.45ha, with increases having been noted both inside and outside managed realignment sites.
- 34.3.30 The Humber Lower Waterbody supports the greatest area of saltmarsh of the three Humber Waterbodies (52% of the saltmarsh area resource).
- 34.3.31 The Environment Agency (2022) analysis indicates that the Humber Lower Waterbody supports 597.76ha of 'mid-low' marsh community, 280.84ha of *Spartina* and 201.78ha of 'upper' saltmarsh community, with 181.84ha as 'unclassified' and 59.65ha as 'pioneer'.
- 34.3.32 This includes large areas of growth at Cherry Cobb Sands of *Spartina*, pioneer and unclassified communities. The change in extent and dominant species/communities at Cherry Cobb Sands is shown in Figure 34.1.
- 34.3.33 The status of saltmarsh around Cherry Cobb Sands (Figure 34-1) from the Environment Agency (2022) survey programme indicates a substantial increase in marsh extent on the intertidal, compared to the data referred to in the previous inventory (Environment Agency (2011)). This includes an increase in extent along the intertidal fronting the CCS site.
- 34.3.34 The increase in marsh includes large areas of *Spartina* in the upstream area, with smaller areas of 'mid-low' marsh. In the area of intertidal frontage fronting the main CCS site, there is a smaller increase in extent of marsh, with a narrow fringe of 'upper' and 'mid-low' marsh, fronted by *Spartina* in the upper shore only.
- 34.3.35 There are also large areas of 'unclassified' marsh, as well as patches of 'Pioneer' marsh present.
- 34.3.36 These findings are consistent with the increase in marsh extent observed by Cutts & Hemingway

¹⁷ EA, 2022, <https://www.gov.uk/government/publications/the-extent-and-zonation-of-saltmarsh-in-england-2016-2019>

¹⁸ EA, 2011, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291573/LIT_5799_a4e627.pdf

(2021), during a waterbird survey programme conducted at the CCS during 2020-2021.

Figure 34-1: Saltmarsh Extent Change and Dominant Species / Communities Cherry Cobb Sands. Environment Agency, 2022 (Baseline year 2003).



Intertidal Mudflats and Sandflats

34.3.37 As noted, the Humber Estuary is a dynamic system, with the extent and faunal composition of the intertidal and subtidal soft sediment features naturally variable in response to diurnal, seasonal and longer-term processes.

Intertidal Communities

34.3.38 Whilst the intertidal soft sediment invertebrate assemblage within the Humber system is effectively a longitudinal and latitudinal continuum based on gradually changing physico-chemical conditions, there are some broad differences in community structure between the main sections of the estuary.

34.3.39 In the outer estuary sandy mud communities dominated by polychaete and bivalves generally occur on the middle to upper shore of the north bank, with less diverse sandy communities dominated by polychaetes and amphipods present lower on the shore or along the full intertidal profile in the extreme outer estuary. With movement upstream into the middle estuary, the sandy mud communities dominated by polychaete and bivalves are present at all shore levels, with decreasing diversity and abundance generally observed on the lower shore and towards the inner parts of this sector. This would be expected with increased distance from the estuary mouth, as environmental rigours increase (e.g. variable salinity).

Subtidal Communities

34.3.40 The subtidal invertebrate communities are less well studied, but feature a more mixed soft sediment substratum, reflecting the environmental rigours of elevated flow velocities.

34.3.41 However, a number of species are present in the outer and middle estuary, including a range of polychaete, bivalve and crustacean species e.g. the polychaetes *Polydora ciliata*, *Nephtys hombergii*, *N. cirrosa*, *Capitella* sp. and *Arenicola marina*, bivalve *Macoma balthica* and crustaceans *Neomysis integer*, *Crangon crangon* and *Gammarus* spp.

34.3.42 The following text addresses the faunal components of these habitats in greater detail for the CCS site.

Intertidal Invertebrates

34.3.43 A series of CCS specific intertidal invertebrate community surveys have been undertaken on behalf of the developer since the original ES with surveys undertaken in the spring 2013 (Allen & Proctor, 2014a) and autumn 2013 (Allen & Proctor, 2014b), autumn 2015 (Allen, 2017) and spring 2016 (Allen, 2020).

34.3.44 The sampling points from the most recent intertidal invertebrate survey (2016) at Cherry Cobb Sands are shown in Figure 34-2. Samples were taken in transects from the low, mid and upper shore, with three transects on the intertidal fronting the CCS site breach. Additional transects were taken as controls, both upstream and downstream from the site.

34.3.45 Sediment parameters from the spring 2013 and spring 2016 surveys core samples (effectively the same sample locations between the two surveys) (Table 34-1) show a broad similarity between surveys, with small variations in the sediment parameters.

34.3.46 Given the considerable growth in marsh extent across much of the northern part of Cherry Cobb Sands in the last decade, analysis of the infaunal samples from the most recent (2016) survey are used here, with the survey recording total abundances and biomass scaled up to values per metre square ranging from 133 to 46,000 animals per m² and 0.0022g to 18.42g AFDW biomass per m² and were considered to generally correspond to other surveys in the middle Humber.

34.3.47 Lower faunal densities (and biomass) tended to be present in low shore areas which was considered to reflect the more dynamic sedimentary environment on the low shore. Diversity parameters were variable with mean Shannon's H' diversity varying from 0.31 to 2.6 and mean Pielou's evenness ranging from 0.54 to 1.00.

34.3.48 Overall, the sites at Cherry Cobb Sands generally exhibited somewhat low to moderate levels of diversity, but with a largely impoverished fauna on the low shore, reflecting environmental rigors. Mean number of taxa and mean invertebrate abundance values are shown in Figure 34-3 for the most recent (spring 2016) survey (Allen, 2020), with the low shore impoverishment evident.

34.3.49 It is however noted that such a reduction in the faunal assemblage in the lower shore of the Humber Estuary occurs widely.

Figure 34-2: Intertidal Invertebrate Sampling Locations, Cherry Cobb Sands, 2016. Allen, 2020.



Figure 34-3: Intertidal Invertebrate Mean Number of Taxa (left) and Mean Abundance (right), Cherry Cobb Sands, Spring 2016. Allen, 2020.

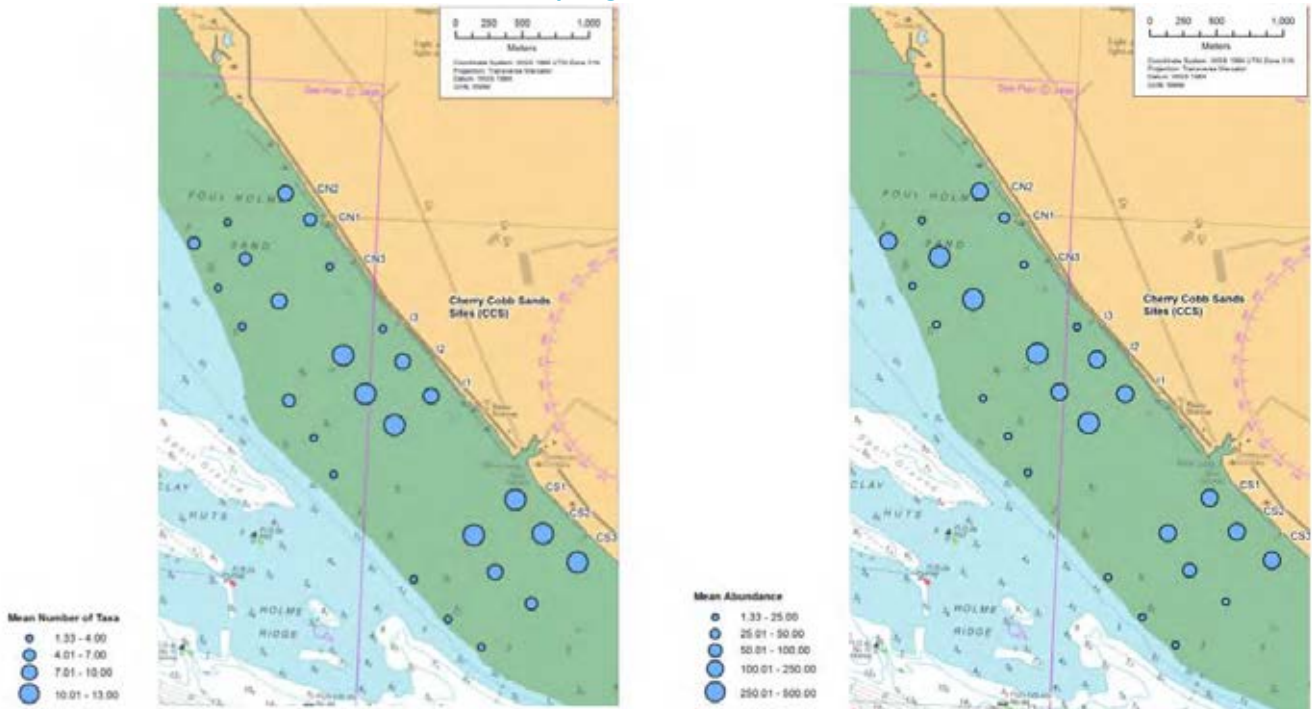
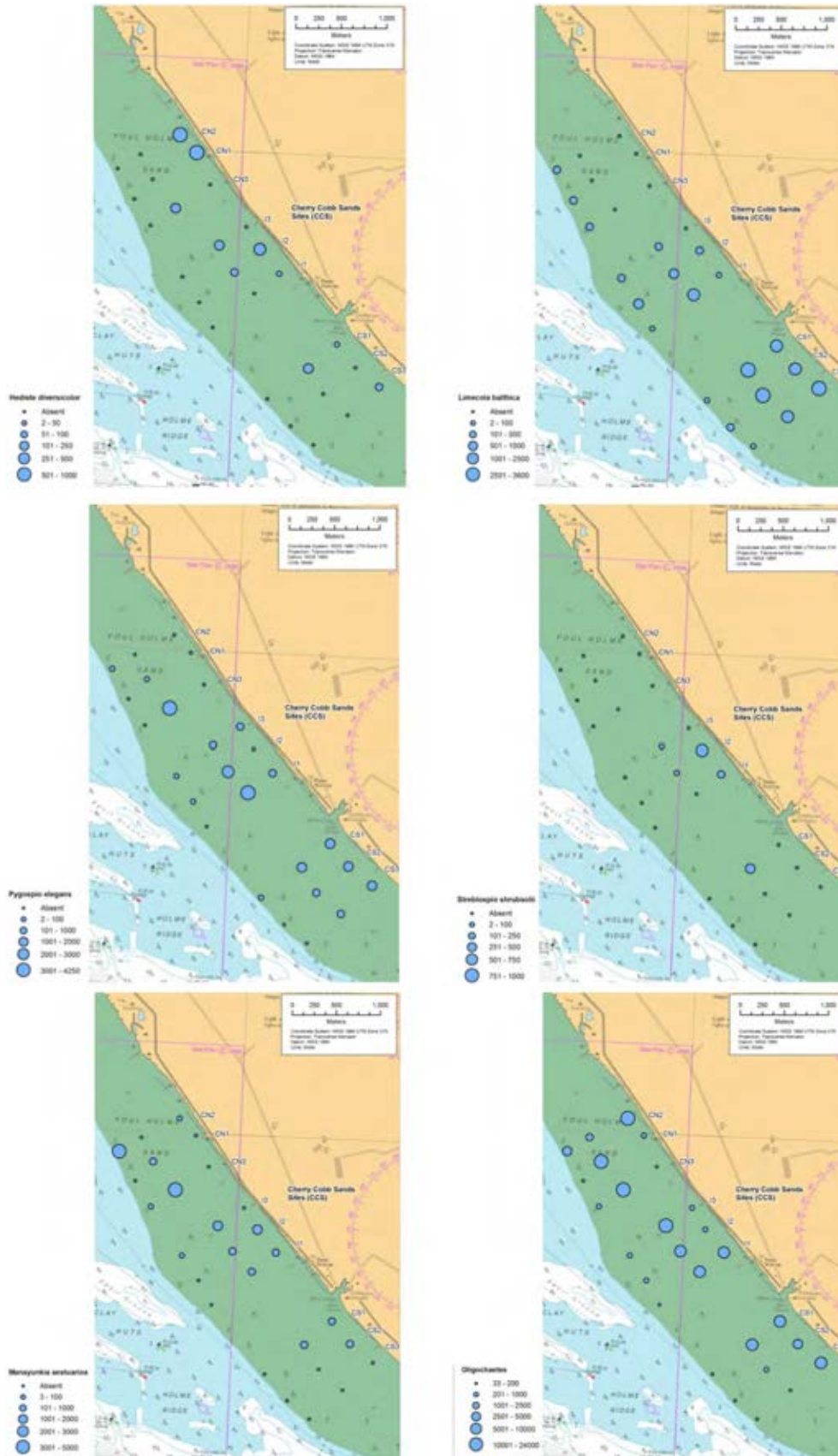


Table 34-2: Ranked Average Abundance and Biomass for Cherry Cobb Sands (per m²).Spring 2016. Allen, 2020.

Taxa	Mean Abundance per m ²	% of sites	% of Total	Taxa	Mean AFDW Biomass (g) per m ²	% of sites	% of Total
Nematoda spp.	2758.02	62.96	24.44	Limicola balthica	2.6835	61.73	44.33
Enchytraeidae spp.	2041.98	23.46	42.53	Scrobicularia plana	1.7598	20.99	73.40
Tubificoides benedii	1809.88	67.90	58.56	Hediste diversicolor	0.8331	28.40	87.16
Collembola spp.	837.04	13.58	65.98	Abra tenuis	0.1466	29.63	89.59
Limicola balthica	743.21	61.73	72.57	Tubificoides benedii	0.1342	67.90	91.80
Pygospio elegans	704.94	45.68	78.81	Peringia ulvae	0.1063	35.80	93.56
Manayunkia aestuarina	540.74	25.93	83.60	Nephtys hombergii	0.0792	16.05	94.87
Peringia ulvae	343.21	35.80	86.64	Arenicola sp.	0.0578	1.23	95.82
Baltidrilus costatus	338.27	6.17	89.64	Nereididae spp. (juvenile/damaged)	0.0575	30.86	96.77
Nereididae spp. (juvenile/damaged)	256.79	30.86	91.92	Diptera sp. larvae	0.0326	20.99	97.31
Abra tenuis	255.56	29.63	94.18	Pygospio elegans	0.0271	45.68	97.76
Hediste diversicolor	100.00	28.40	95.07	Eteone flava/longa agg.	0.0249	35.80	98.17
Paranais litoralis	87.65	2.47	95.84	Bivalvia sp. (juvenile/damaged)	0.0221	13.58	98.54
Eteone flava/longa agg.	77.78	35.80	96.53	Nematoda spp.	0.0176	62.96	98.83
Cyathura carinata	64.20	18.52	97.10	Nephtys cirrosa	0.0158	1.23	99.09
Platyhelminthes (Dalyellidae) sp.	50.62	20.99	97.55	Cyathura carinata	0.0123	18.52	99.29
Tellinidae sp. (juvenile/damaged)	50.62	3.70	98.00	Baltidrilus costatus	0.0120	6.17	99.49
Streblospio shrubsolii	44.44	9.88	98.39	Enchytraeidae spp.	0.0061	23.46	99.59
Nemertea spp.	37.04	2.47	98.72	Tellinidae sp. (juvenile/damaged)	0.0050	3.70	99.67
Scrobicularia plana	30.86	20.99	98.99	Collembola spp.	0.0046	13.58	99.75
Diptera sp. larvae	29.63	20.99	99.26	Manayunkia aestuarina	0.0031	25.93	99.80
Nephtys hombergii	19.75	16.05	99.43	Scoloplos armiger	0.0024	2.47	99.84
Bivalvia sp. (juvenile/damaged)	19.75	13.58	99.61	Streblospio shrubsolii	0.0024	9.88	99.88
Copepoda spp.	12.35	3.70	99.72	Retusa obtusa	0.0021	3.70	99.91
Acari spp.	11.11	6.17	99.81	Gastropoda spp.	0.0020	11.11	99.95
Gastropoda spp.	6.17	11.11	99.87	Paranais litoralis	0.0007	2.47	99.96
Retusa obtusa	4.94	3.70	99.91	Nephtys caeca	0.0006	1.23	99.97
Corophium volutator	2.47	2.47	99.93	Crangonidae sp.	0.0006	1.23	99.98
Scoloplos armiger	2.47	2.47	99.96	Platyhelminthes (Dalyellidae) sp.	0.0005	20.99	99.99
Mytilidae sp. juvenile	1.23	1.23	99.97	Nemertea spp.	0.0003	2.47	99.99
Nephtys caeca	1.23	1.23	99.98	Copepoda spp.	0.0002	3.70	100.00
Nephtys cirrosa	1.23	1.23	99.99	Acari spp.	0.0001	6.17	100.00
Sphaerodoridium minutum	1.23	1.23	100.00	Corophium volutator	0.0000	2.47	100.00
Arenicola sp.	P	1.23	100.00	Orbiniidae sp.	0.00002	1.23	100.00
Crangonidae sp.	P	1.23	100.00	Sphaerodoridium minutum	0.00002	1.23	100.00
Orbiniidae sp.	P	1.23	100.00	Spionidae sp.	0.00002	1.23	100.00
Spionidae sp.	P	1.23	100.00	Mytilidae sp. juvenile	0.00001	1.23	100.00

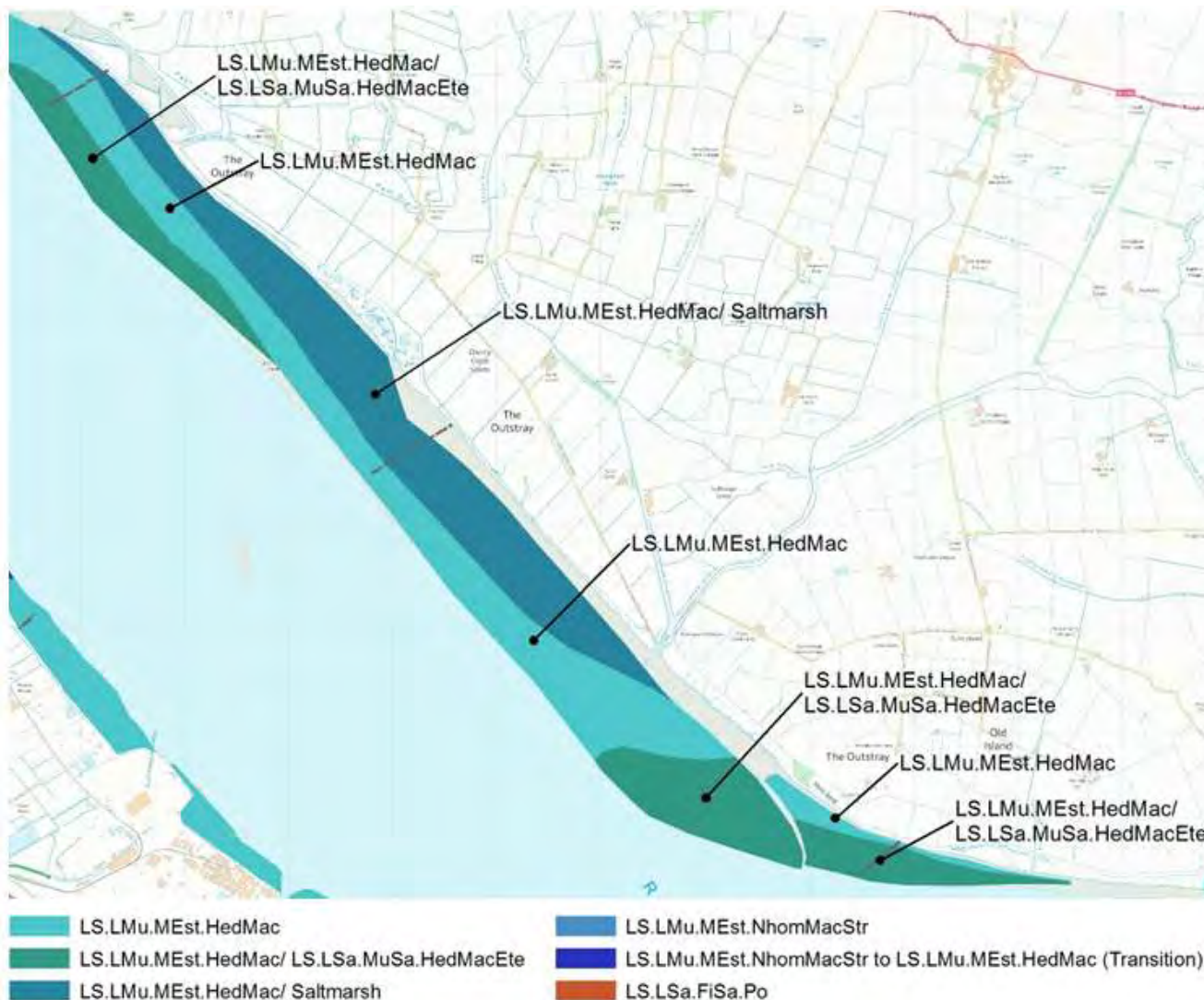
- 34.3.52 The spatial distribution of key taxa (*Hediste diversicolor*, *Macoma balthica*, *Streblospio shrubsolii*, *Pygospio elegans*, *Manayunkia aestuarina* and *oligochaetes*) in terms of mean numbers per m² at each site are provided in a series of figures (Figure 34-4).
- 34.3.53 These results highlight the influence of shore level on the distribution of infauna, with none of the key species present in substantial numbers from the low shore samples.
- 34.3.54 On the mid shore oligochaetes such as *Tubificoides benedii* or *Enchytraeidae* spp. and *Nematoda* spp. tended to dominate along with *Pygospio elegans*. *Limicola balthica* was also very abundant on the midshore in the southern control area and impact site (and was recorded in all samples) but was absent on the midshore in the northern control area.
- 34.3.55 The upper shore was also strongly dominated by *Nematoda* spp. and *Tubificoides benedii*. (particularly within the impact site and southern control site) whilst *Baltidrilus costatus*, *Nereididae* spp., *Enchytraeidae* spp. and *Hediste diversicolor* were more abundant in upper shore habitats in the northern control area.

Figure 34-4: Key Invertebrate Species Abundance Cherry Cobb Sands, Spring 2016. Allen, 2020.



- 34.3.56 Allen (2020) also attempted to describe the Cherry Cobb Sands area in terms of biotopes based on the spring 2016 data. Areas of upper shore sandy mud adjacent to marsh were usually characterised by oligochaetes (notably *Baltidrilus costatus*) along with variable densities of insect taxa, *Enchytraeidae* spp. and *Hediste diversicolor*. Allen noted that these appeared to be mid estuarine, upper shore variants of biotopes more commonly found in upper estuarine areas namely LS.LMu.Uest (Polychaete/oligochaete-dominated upper estuarine mud shores) or LS.LMu.UEst.Hed (*Hediste diversicolor* in littoral mud), together with occasional transitional variants of sub-biotopes such as LS.LMu.UEst.Hed.OI (*Hediste diversicolor* and oligochaetes in littoral mud) or even LS.LMu.UEst.Tben (*Tubificoides benedii* and other oligochaetes in littoral mud) depending on the level of dominance by oligochaetes or *Hediste diversicolor*.
- 34.3.57 Poorly defined or impoverished muddy sands or sands on the low shore at Cherry Cobb Sands were identified with variable (but generally low) numbers of *Limicola balthica*, *Tubificoides benedii* and *Nephtys hombergii* and described as LS.LSa.MuSa (Polychaete/bivalve-dominated muddy sand shores) although Allen (2020) notes that they could also be slightly muddy variants of LS.LSa (Littoral Sand) and presumably reflect more dynamic environmental conditions and more mobile sediments.
- 34.3.58 Certain areas of muddy sands on the mid shore at the southern end of CCS were classified as the biotope LS.LSa.MuSa.MacAre (*Macoma balthica* and *Arenicola marina* in littoral muddy sand). Variable populations of *Arenicola marina* were evident in this area from observations of surface casts (usually up to 5 to 10 per m²) during survey, although the taxa was not picked up during core sampling due to their patchy distribution.
- 34.3.59 The mid shore was the most diverse area with a variety of taxa including *Nematoda* spp., *Tubificoides benedii*, *Limecola balthica*, *Peringia ulvae*, *Pygospio elegans*, *Abra tenuis*, juvenile Nereididae spp., *Manayunkia aestuarina* and *Eteone flava/longa* agg. with varying abundances of *Hediste diversicolor*. The majority of these were identified as variants of LS.LMu.MEst.HedMac (*Hediste diversicolor* and *Macoma balthica* in littoral sandy mud) although when occurring with reduced numbers of *Limecola balthica* and *Hediste diversicolor* they were classified as LS.LMu.Mest.
- 34.3.60 In addition, an intertidal biotope mapping survey of the Humber was undertaken by Franco et al (2015) on behalf of Natural England.
- 34.3.61 The survey programme identified that the range and distribution of biotopes and benthic communities recorded was characteristic of north-west European estuaries, with the extensive outer estuary intertidal areas supporting a richer benthic invertebrate assemblage than the inner estuary with its greater environmental rigors.
- 34.3.62 For the most part, the survey identified the intertidal of the wider Cherry Cobb Sands to be similar to that described by Allen (2020) and dominated by muddy sediments with *Hediste diversicolor* and *Macoma balthica* often dominant (LSLMu.MEst.HedMac). Much of the upper shore between Paull and Stone Creek was covered by patches of the pioneer saltmarsh plant, *Spartina* sp. with the patches increasing in density further up the shore to form a continuous band of saltmarsh below the flood defence bank. The lower shore was interspersed with patches of muddy sand which supported *Eteone longa* in addition to *Hediste* and *Macoma* (LS.LSa.MuSa.HedMacEte).
- 34.3.63 The distribution of the biotopes in the intertidal around the Cherry Cobb Sands site (Franco et al, 2015) is shown in Figure 34-5.

Figure 34-5: Intertidal Biotope Composition and Extent at Cherry Cobb Sands. Franco et al 2015.



Subtidal Invertebrates

- 34.3.64 No CCS specific subtidal invertebrate community surveys have been undertaken on behalf of the developer since the original ES. However, subtidal surveys have been undertaken on behalf of the developer in the wider middle estuary, primarily around the AMEP development site, but into the mid estuarine channel (spring 2013 (Allen & Proctor, 2014a) and spring 2016 (Allen, 2020)).
- 34.3.65 Subtidal benthic sample locations are shown in Figure 34-6. The mid estuary sampling stations are c. 2km from the CCS development site. The data are not considered to be specifically relevant to the CCS site, given their distance from it, but provide a useful indication of the mid estuary invertebrate assemblage.
- 34.3.66 Further discussion of the subtidal assemblage from these developer-commissioned surveys is provided in Chapter 10 of the Material Change 2 UES.

Figure 34-6: Subtidal Sampling Locations for the Wider AMEP Development. Allen, 2020.



34.3.67 Examination of the Environment Agency’s on-line Ecology & Fish Data Explorer, indicates no recent subtidal benthic invertebrate sampling has been undertaken within close proximity (1km) of the CCS site since the original Application in 2011.

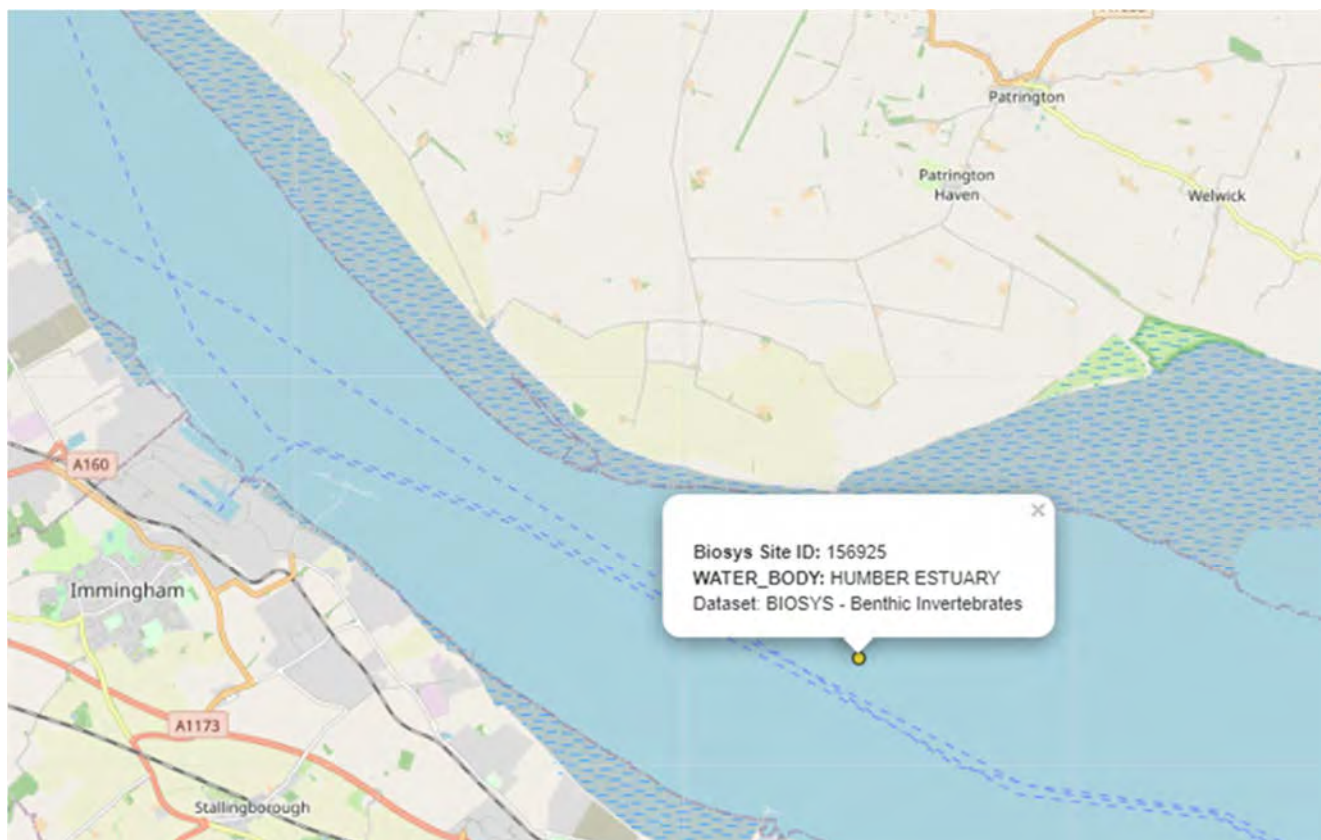
34.3.68 The nearest recent subtidal benthic sampling location is at Site ID 156925 (Figure 34-7) c. 7km from the CCS site. Data from this sampling location indicate an impoverished fauna, but largely characteristic of the subtidal channel of the lower Humber (Table 34-3).

Table 34-3: Subtidal Invertebrate Assemblage (Station 156925, 2016).

Species	Abundance
<i>Tubificoides benedii</i>	14
<i>Macoma balthica</i>	10
<i>Scoloplos armiger</i>	8
<i>Capitella</i>	2
<i>Eteone longa</i>	2
<i>Spio martinensis</i>	2
<i>Peringia ulvae</i>	2
Copepoda	1
Actinopterygii	1
<i>Aphelochaeta marioni</i>	1
<i>Capitella</i>	1
<i>Nephtys caeca</i>	1
<i>Spio martinensis</i>	1
Nemertea	1

34.3.69 The data show the assemblage to be dominated by the oligochaete *Tubificoides benedii*, the bivalve *Macoma balthica* and the polychaete *Scoloplos armiger*, all species commonly recorded from estuaries, and within the lower Humber.

Figure 34-7: Subtidal Sampling Location (TraC Benthic Invertebrates 2016). Environment Agency (Accessed April 2023).



Fish Fauna

- 34.3.70 The topic was covered for the scheme as a whole in Chapter 10. Updated information is available for the wider middle estuary including detail around the AMEP development in Chapter 10 of the Material Change 2 UES document.

Coastal Waterbirds

- 34.3.71 The topic was not covered in the Aquatic Ecology Chapter of the original CCS ES. Instead it was covered under Chapter 35 (Terrestrial Ecology and Birds). Where applicable, updated information specific to the CCS site is included in Chapter 35. Updated general information regarding waterbird utilisation on the south bank of the middle estuary is available for the AMEP development in Chapter 11 of the Material Change 2 UES document.

Changes in Baseline

Intertidal Saltmarsh

- 34.3.72 As part of waterbird surveys conducted at the CCS site over the autumn of 2020 to spring 2021, the extent and general condition of saltmarsh was noted (Cutts & Hemingway, 2021). Cutts & Hemingway (2021) reported an apparent reduction in the availability of open mudflat in the central section of Cherry Cobb Sands, as well as an apparent consolidation in cover in the upstream reach compared to the 2011 baseline report.
- 34.3.73 These observations are consistent with the more broadscale trends analysis undertaken by the Environment Agency (2022), which also identified a trend of saltmarsh increase in the outer and middle estuary.

Intertidal Mudflats and Sandflats

- 34.3.74 No detailed data are available for details of composition and extent change in mudflats and sandflats in the area of the CCS site. However, there is an expectation that community structure and distribution will vary over time, reflecting both internal e.g. tidal and seasonal cycles and external processes e.g. climate change related.

Intertidal Invertebrates

- 34.3.75 The data from a series of intertidal invertebrate surveys conducted on Cherry Cobb Sands since the original ES, with the most recent undertaken in spring 2016 (Allen, 2020) indicate an infaunal assemblage that is both characteristic of the middle Humber Estuary soft sediment conditions, but also demonstrating a clear variation across the shore profile, with an impoverished lower shore assemblage and more diverse and abundant mid to upper shore communities, albeit with saltmarsh affecting community structure in parts of the upper shore.
- 34.3.76 As described above, there has been an increase in saltmarsh coverage across much of the intertidal zone over the last 10 years. This will have led to a loss of open mudflat extent and influenced the distribution of several key species of invertebrate such as *Hediste diversicolor*. In turn, this will influence functional use by waterbirds. However, as noted, the fronting mudflat in general continues to support regionally important numbers of many species, despite the loss of much of the foraging capacity across the wider CCS frontage due to natural processes (saltmarsh increase).

- 34.3.77 On this basis, it is concluded that there is the probability of natural variation in community composition over time, reflecting changes in estuarine dynamics, but given the community adaptation and continued active utilisation of the area by characteristic species, no significant change of these parameters is expected above that of general estuarine system dynamics and a long-term climate change driven shift.

Subtidal Invertebrates

- 34.3.78 There are no recent data to identify change in community structure or extent. However, a natural variability in composition is likely, reflecting changing processes and associated environmental conditions. This is a natural component of estuarine ecosystem functioning.

Fish Fauna

- 34.3.79 The topic was not covered in the Aquatic Ecology Chapter of the original ES. Updated information is available for the wider AMEP development in the Material Change 2 UES document.

Coastal Waterbirds

- 34.3.80 The topic was not covered in the Aquatic Ecology Chapter of the original ES. However, additional data relating to the waterbird assemblage of the CCS intertidal frontage has been collected and compared to the baseline (2011). This is discussed in Chapter 35 (Terrestrial Ecology and Birds) following the approach from the original ES.

34.4.0 Assessment of Effects

- 34.4.1 The following is based on the proposed CCS works proceeding as originally identified and consented. The assessment follows a similar approach to that of the original ES, but where applicable updates the findings based on either new ecological data or a revised assessment framework.

Additional Construction Phase Effects

Intertidal Habitats

Saltmarsh

- 34.4.2 Construction of the breach requires excavation of saltmarsh habitat immediately in front of the defences that will be removed which will allow water to enter the site.
- 34.4.3 The area of saltmarsh habitat that will be excavated remains approximately 250m wide. The width of saltmarsh at the breach location has potentially increased since the original ES, and extends further down the intertidal profile to a lateral creek. The saltmarsh is c. 115m wide at this point (from creek to base of the flood bank, compared to the 70m figure used in the original ES).
- 34.4.4 In order to ensure the breach operates correctly, it would be expected that part of this new lower marsh may either have to be removed prior to the breaching, or will develop natural through channel erosion with the flow of water in and out of the site. Were all of this lower saltmarsh to be removed, then this would entail a loss of 2.875ha, compared to the quoted 2ha from the original ES as a result of the marsh expansion down-shore.
- 34.4.5 However, at the time of the original ES, this lower marsh area would have been open mudflat, and as such, subject to potential disturbance (for waterbird receptors). Effectively then, the area of intertidal has remained the same, but with a small shift in habitat type (and area) from the time of the original ES. Effectively there has been a natural reduction in open mudflat as it has been colonised by saltmarsh.
- 34.4.6 Following the assessment process of the original ES then the breach construction will now lead to a slightly greater loss of saltmarsh but a concomitant gain of mudflat, effectively leading to a return of the habitat areas to the extents present at the time of the original ES.
- 34.4.7 As noted in the original ES, saltmarsh is a BAP habitat and the area of saltmarsh forms part of the designated SAC, SPA and Ramsar site and therefore has high sensitivity.
- 34.4.8 However, the additional area that will be lost, compared to the area identified in the original ES is 0.875ha, which is very small in the context of the Humber Estuary saltmarsh resource (1744.47ha, Environment Agency, 2022). This habitat extent has increased in area over the last decade or so (2007-2016) with the Humber Lower and Middle waterbodies having seen large increases in extent of 46% and 64% respectively (Environment Agency, 2022).
- 34.4.9 Furthermore, any additional loss of marsh resulting from an increase in saltmarsh extent around the breach will have been offset by gains in the general Cherry Cobb area and the wider estuary.
- 34.4.10 As such, it is important to emphasise that there is no additional loss of intertidal, simply a very small natural shift in the type of habitat affected, and this should be viewed in the context of considerable

saltmarsh expansion in extent within the intertidal zone across the wider Cherry Cobb Sands frontage, with a concomitant natural loss of open mudflat effectively leading to a return of the habitat areas from the current situation, to the extents present at the time of the original ES.

- 34.4.11 Furthermore, as previously identified in the original ES, it would still be expected that the loss of a small area of fronting saltmarsh will be offset within the Cherry Cobb Sands site once new saltmarsh habitat forms within the site following the breach, with the development of fringing saltmarsh vegetation within the system entrance.
- 34.4.12 As such, the magnitude of effect of loss of saltmarsh is still deemed to be low which results in a **permanent moderate adverse significant effect**.
- 34.4.13 Damage of saltmarsh in the immediate area around the excavated channel will be minimal as the channel will be excavated moving backwards from the seaward edge to the landward edge. By restricting movement of construction plant to the area of saltmarsh which is to be removed, damage to the saltmarsh which will remain *in situ* will be avoided and the effect on this is still considered to be that concluded by the original ES of **negligible significance**.

Benthic Invertebrates

- 34.4.14 Excavation of saltmarsh in front of the breach will result in the permanent loss of benthic invertebrates associated with saltmarshes within the excavated footprint. The original baseline surveys did not indicate the presence of rare invertebrates and the species recorded were common to the estuarine environment and typical of the benthic community within the Humber Estuary.
- 34.4.15 Four sets of invertebrate data have been collected from Cherry Cobb Sands since the original ES, with the most recent (spring 2016) showing little variation in structure from the first of these surveys (spring 2013). Furthermore, key species remain as characteristic for the middle estuary, dominated by relatively few taxa, but often in high abundances.
- 34.4.16 Derived biotopes are also characteristic of the middle Humber and correlate with those described from the Natural England intertidal biotope mapping survey of the Humber, undertaken by Franco et al (2015) which found the Cherry Cobb Sands mid to upper shore intertidal to be dominated by muddy sediments with *Hediste diversicolor* and *Macoma balthica* often dominant (e.g. a biotope LSLMu.MEst.HedMac/Saltmarsh).
- 34.4.17 This biotope, and its uncolonised open mud version (LSLMu.MEst.HedMac) is commonly recorded in the Humber (Franco et al (2015), and is characteristic of middle estuary soft sediment conditions.
- 34.4.18 The original ES concluded that benthic invertebrates are considered to have low sensitivity as they are not directly included as part of the international or national designations and although bird species rely on them as a food resource the communities are able to recover relatively quickly. It is considered that this remains to be the case where the sediment structure is not compressed.
- 34.4.19 The extent of the benthic assemblage that will be lost is very small in relation to the wider Cherry Cobb Sands area. It is likely to contain an assemblage that is present in extensive areas across the middle estuary.
- 34.4.20 Furthermore, given the intertidal area to be lost is colonised by saltmarsh, the potential for the benthic assemblage as a foraging resource for waterbirds is extremely small. During the waterbird survey undertaken by Cutts & Hemingway (2021), the fringing saltmarsh was recorded as having a

very low waterbird utilisation, with only occasional birds recorded, there tending to be roosting/loafing and sheltering in periods of strong wind. Only the lateral creek channel was routinely used by foraging birds c. 125m from the flood bank crest.

- 34.4.21 The loss of benthic invertebrates is therefore assessed as still being of low magnitude and the resulting effect is a **permanent minor adverse effect which is significant**.

Fish Fauna

- 34.4.22 As plans have not altered for the CCS development from the original ES, following the initial breach there will be a localised temporary increase in suspended sediment concentration in the waters adjacent to the CCS site (see Chapter 33 of the original ES). However, the Humber Estuary has an existing high concentration of suspended sediment and therefore the magnitude of effect is assessed as being low.

- 34.4.23 The main text on fish fauna in relation to the development are reviewed in Chapters 10 and 12 of the Report.

- 34.4.24 Saltmarshes tend to be utilised by small juvenile species which can use the habitat as a nursery. The original ES identified juvenile fish as having a medium sensitivity as although they are likely to be sensitive to change; they are mobile and are able to move away from unfavourable conditions.

- 34.4.25 This would remain the case, particularly given that there are large areas of intertidal saltmarsh habitat on the north bank of the Humber, which have increased in extent local to the proposed breach. The impact upon fish fauna is therefore still assessed as being a **minor negative significant effect**.

Coastal Waterbirds

- 34.4.26 The impacts of the Cherry Cobbs Sands compensation site on coastal waterbirds were addressed within Chapter 35 (Terrestrial Ecology and Birds) of the original ES. An updated assessment is included within the updated Chapter 35 of this Article 7 ER.

Additional Operational Phase Effects

Intertidal Habitats

- 34.4.27 The development of the habitats within the CCS compensation site are described in the original ES. In summary following the initial breach and tidal inundation of the site, any remaining terrestrial habitats will be quickly lost. Based on evidence from other managed realignment sites on the Humber Estuary and elsewhere in the UK, new subtidal and intertidal habitat will become established relatively quickly following tidal inundation, with fine marine sediments being imported into the site which provide the ideal environment for flora and fauna. Subtidal and intertidal mudflat will remain in areas with higher tidal velocities, whilst in areas where velocities are low, accretion will occur and saltmarsh will begin to form as has been experienced at other managed realignment sites in the Humber.

- 34.4.28 There are no changes to the design of the CCS site as approved, nor the fundamental physical components of the area. As such, it is expected that operational effects will be as identified in the original ES Chapter, with an overall **permanent minor beneficial effect which is significant**.

Benthic Invertebrates

- 34.4.29 As above, there is no alteration to the CCS design. On this basis, the development of the site and its benthic assemblage is expected to be as described in the original ES. In summary, following inundation of the site, intertidal habitats will become established. Concurrently benthic invertebrates will colonise these habitats and this will provide additional opportunities for benthic invertebrate communities to colonise. With suitable source communities close by in the existing estuarine mudflats, this is likely to happen fairly quickly.
- 34.4.30 As there are no changes to the design of the CCS site, nor the fundamental physical components of the area, operational effects will be as identified in the original ES Chapter, with **permanent minor positive effect which is significant**.

Fish Fauna

- 34.4.31 The topic was not discussed in detail in the original ES. However, changes in sediment dynamics during the operational phase of Cherry Cobb Sands were not anticipated to affect fish feeding or breeding on the mudflat and saltmarsh habitats adjacent to the site. This impact was therefore assessed as being of negligible significance.
- 34.4.32 However, based on the CCS design, and likely evolution of the site, it would be expected that within the Cherry Cobb Sands area, there would be a net temporary **minor beneficial effect which is significant**.

Coastal Waterbirds

- 34.4.33 This topic area was not addressed in Chapter 34 of the original ES, instead it was covered under Chapter 35 (Terrestrial Ecology and Birds) of the original ES. This approach has been followed for the update and therefore consideration is provided within Chapter 35 of this Report.

Additional Cumulative Effects

- 34.4.34 These are the same as described in the previous Material Change 2 UES. There has not been any further consented schemes which would necessitate an update to the consideration of cumulative effects for Aquatic Ecology.

Consideration of DCO

- 34.4.35 As described above, baseline aquatic ecological conditions are not considered to have significantly changed from the original ES, and any changes are considered natural artefacts of a dynamic ecosystem.
- 34.4.36 Furthermore, there is no change to the CCS site design, construction and operational parameters, and therefore no significant or measurable new impacts to the existing aquatic ecological receptors.

34.5.0 Requirement for Additional Mitigation

34.5.1 The update and review of baseline data, where available and/or appropriate, have not identified any significant receptors or new impact pathways and as such, no additional mitigation or compensation is considered necessary.

DCO Mitigation

34.5.2 On the basis of the above, it is considered that the mitigation measures identified as part of the DCO remain suitable and fit for purpose without requirement for modification. These include (but are not limited to):

- Following the creation of the managed realignment at Cherry Cobb Sands the key nature conservation interests remaining within the vicinity of the site are likely to be waterbirds utilising the site. In order to assess the effective implementation of the site, monitoring of the site for bird species, invertebrates and other nature conservation features will be undertaken in accordance with a strategy and programme to be developed in consultation with the Regulators.
- Monitoring surveys for invertebrates, wetland bird species and habitats would be broadly similar to those undertaken for the Humber managed realignment sites of Chowder Ness and Welwick (ABPmer, 2010) although further tailoring of effort closer to the time will be required.
- An Environmental Management and Monitoring Plan has been developed in consultation with the regulators and approved for the compensation site. This is the Compensation Environmental Management and Monitoring Plan (CEMMP) and Able will implement the CEMMP¹⁹ for the CCS site.

Alternate or Additional Mitigation

34.5.3 There are no changes in the effects on the ecological components compared to those identified in the original ES. Therefore, no alternate or additional mitigation is required for impacts to the Aquatic Ecology compared to that previously identified.

¹⁹ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001705-121123_TR030001_Able%20Humber%20Ports%20Ltd%20\(Compensation%20EMMP\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001705-121123_TR030001_Able%20Humber%20Ports%20Ltd%20(Compensation%20EMMP).pdf)

34.6.0 Residual Effects

- 34.6.1 The review of revised baseline data where available and/or appropriate, has not identified any significant new impacts and as such, no additional mitigation is considered necessary.

Consideration of DCO

- 34.6.2 The residual effects on the Aquatic Ecology receptors from the CCS compensation site remain as identified in the original ES.

34.7.0 Other Environmental Issues

- 34.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 34.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 34.7.3 There are no new impacts related to the CCS site infrastructure with regard to the consideration of aquatic ecology beyond those considered within the original ES.

Waste

- 34.7.4 There are no new impacts upon waste with regard to the consideration of aquatic ecology beyond those considered within the original ES.

Population and Human Health

- 34.7.5 There are no new impacts upon population and human health with regard to the consideration of aquatic ecology beyond those considered within the original ES.

Climate and Carbon Balance

- 34.7.6 There are no new impacts upon climate and carbon balance with regard to the consideration of aquatic ecology beyond those considered within the original ES.

Risks of Major Accidents and/or Disasters

- 34.7.7 There are no new risks of major accidents and/or disasters with regard to the consideration of aquatic ecology beyond those considered within the original ES.

Summary

- 34.7.8 No other environmental issues of relevance to aquatic ecology have been identified.

34.8.0 Summary of Effects

- 34.8.1 There are no new *potential* pathways for environmental effects from the proposed CCS site.
- 34.8.2 The type and sensitivity of receptors remain as identified in the original ES.
- 34.8.3 Updated baseline information has shown some small changes to the composition of the receptors e.g. habitat and species, but these are within the scale of change to be expected from a dynamic estuarine environment.
- 34.8.4 Potential impact pathways are therefore centred around:
- Construction of the main CCS site on terrestrial land, with these potential impacts addressed in Chapter 35 of the Article 7 ER.
 - Construction of the breach with potential impacts to the fronting saltmarsh and intertidal, including breach channel; associated alteration to intertidal habitat extent and composition.
- 34.8.5 The actual likelihood of any *new* significant effects to occur to the aquatic ecology of the area from the baseline update have been discounted, with it being concluded that the effects as identified in the original ES remain valid.
- 34.8.6 Only very small scale localised alterations to the aquatic ecology of the area are expected. These alterations are not measurable against the background natural variability of the estuarine system.

34.9.0 Conclusions

- 34.9.1 The baseline conditions have been reviewed and updated since 2011 to reflect the current baseline. No significant changes have been identified compared to those described in the DCO (2014) and the Examining Authority's Report (2013). Any changes identified reflect natural ecosystem dynamics in estuarine systems, with such a dynamism being of intrinsic value in maintaining ecosystem health.
- 34.9.2 Based on the above assessment of potential changes to the aquatic ecology of the area against conditions identified in the original ES baseline, and given no modification to the design, construction or operational components of the CCS compensation site, no significant effects have been identified other than those assessed in the original ES from the DCO.
- 34.9.3 The assessment of mitigation measures provided in Chapter 34 Aquatic Ecology of the original ES are considered to remain valid, with no significant residual impacts to the aquatic ecology of the Humber Estuary expected following their discharge.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 35: TERRESTRIAL ECOLOGY AND BIRDS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

35.1.0 INTRODUCTION	3
Development Consent Order	3
Consideration of the Extension of Time	4
Purpose and Structure of Chapter	4
35.2.0 METHODOLOGY	6
Changes in Legislation, Guidance and Planning Policy.....	6
Scoping Opinion	13
Additional Consultation.....	14
Assessment Methodology	14
35.3.0 CHANGES IN BASELINE CONDITIONS.....	17
DCO Baseline	17
Original ES/DCO Baseline for Cherry Cobb Sands Site	18
DCO Future Baseline.....	26
Current Baseline	28
Birds	33
Changes in Baseline	39
35.4.0 ASSESSMENT OF EFFECTS	45
Additional Construction Phase Effects	45
Additional Operational Phase Effects.....	49
Additional Cumulative Effects	52
Consideration of DCO	53
35.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	54
DCO Mitigation and Compensation.....	54
Alternate or Additional Mitigation	55
35.6.0 RESIDUAL EFFECTS	57
Construction Phase	57
Operational Phase	57
35.7.0 OTHER ENVIRONMENTAL ISSUES.....	59
Other Environmental Issues of Relevance	59

35.8.0	SUMMARY OF EFFECTS	60
35.9.0	CONCLUSIONS	61

DOCUMENT REFERENCES

TABLES

Table 35-1: Summary Key Species Maxima (Original ES) for Paull to Stone Creek.	23
Table 35-2: Reptile Presence/Absence Survey Results. Arbtech 2020.....	30
Table 35-3: Waterbird Maxima & Mean Values (Autumn-Spring 2020-2021), Including Importance Thresholds (Cutts & Hemingway, 2021).	37
Table 35-4: Waterbird Species Abundance Maxima Comparison. Cherry Cobb Sands 2010/11 – 2020/21. Cutts & Hemingway 2021. Cells shaded green indicate a higher usage value from the 2020/21 programme compared to 2010/11. Cells shaded red denote a corresponding reduction in values from the programme.	42

FIGURES

Figure 35-1: Terrestrial habitats present within and around Cherry Cobb Sands (Phase 1 Habitat Survey (2010). Just Ecology).	19
Figure 35-2: Waterbodies Investigated for GCN	21
Figure 35-3: Wetland Bird Survey Zones as used for the Cherry Cobb Sands Site Survey (Original ES)	24
Figure 35-4: Aerial Image Comparison of the Cherry Cobb Sands Site 2007 and 2021. Image Source: Google Earth Pro.	28
Figure 35-5: Location of the Individual Refugia and Sites where Common Lizard were Recorded (Arbtech, 2020).	30
Figure 35-6: Badger Setts within the CCS Site (Left) & Bead Locations (Right)(Quants, 2021).....	33
Figure 35-7: Waterbird Survey Programme 2020-2021. Survey Area and Reporting Sectors. Cutts & Hemingway (2021).....	34
Figure 35-8: Curlew Field Utilisation September 2020-April 2021 High to Mid and Mid to Low Tides (Cutts & Hemingway, 2021)	38

35.1.0 Introduction

Development Consent Order

35.1.1 An assessment of the impacts of the development on Terrestrial Ecology and Birds at the Cherry Cobb Sands Compensation Site (subsequently referred to as the CCS site and separate to the geographical wider Cherry Cobb Sands intertidal frontage) was included in Chapter 35 of the original ES that formed part of the DCO application in 2012. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Original Environmental Statement Chapter 35: Terrestrial Ecology & Birds (Compensation Site)¹
- Appendices to original ES Chapter 35 (links are provided at relevant sections of this Chapter):
 - Annex 35.1: South Killingholme Phase 1 Ecology Report Cherry Cobb Sands²
 - Annex 35.2: South Killingholme Water Vole Survey Report Cherry Cobb Sands³
 - Annex 35.3: Able Marine Energy Park Protected Species⁴
 - Annex 35.4: Cherry Cobb Sands Compensation Site: Bird Survey Results - August 2010 to March 2011⁵
 - Annex 35.5: Breeding Bird Survey Results: Cherry Cobb Sands (fields)⁶
 - Annex 35.6: Spatial and Temporal Patterns in Black-Tailed Godwit use of the Humber Estuary, with Reference to Historic Planning and Development at Killingholme Pits⁷
 - Annex 35.7: Old Little Humber Farm Phase 1 Habitat Survey⁸
 - Annex 35.8: Land at Cherry Cobb Sands, Humberside Badger Bait Marking Survey⁹

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000340-35.20-%20Ecology%20and%20Nature%20Conservation.pdf>

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000434-35.1%20-%20Phase%201%20Report%20Cherry%20Cobbs%20Sands.pdf>

³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000435-35.2%20-%20Cherry%20Cobb%20Sands%20Water%20Vole%20Survey.pdf>

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000436-35.3%20-%20Protected%20Species%20Survey%20Report.pdf>

⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000437-35.4%20-%20CCS%20Bird%20Survey%20Results%20August%202010-March%202011.pdf>

⁶ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000438-35.5%20-%20Breeding%20Bird%20Survey%20-%20Fields.pdf>

⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000439-35.6%20-%20Humber%20Black-tailed%20Godwit%20Study.pdf>

⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000440-35.7%20-%20Old%20Little%20Humber%20Farm%20Phase%201%20Habitat%20Survey.pdf>

⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000441-35.8%20-%20Badger%20Bait-Marking%20Survey%20April%202011.pdf>

- Examination documents of relevance:
 - EX 35.12 – Farmland Disturbance at Cherry Cobb Sands¹⁰
 - EX 35.13 – Badger Bait-Marking Survey
 - EX35.14 – Cherry Cobb Sands Compensation Site: Bird Survey Results August 2010 to April 2011¹¹

Consideration of the Extension of Time

- 35.1.2** The full details of the proposed extension of time is described in Chapter 4 of this Environmental Review (ER) to the original ES and Material Change 2 UES. In relation to this application, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.
- 35.1.3** This Chapter forms part of a comprehensive Environmental Review of previous environmental information and considers the impact of the proposed extension of time to construct the AMEP development on relevant receptors. Any changes to baseline conditions characterised in the original ES in relation to the Compensation Site are fully considered in the review).
- 35.1.4** This Chapter specifically reviews the potential impacts on terrestrial ecology and birds using Cherry Cobb Sands frontage and the CCS site and where appropriate, considers if mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

- 35.1.5** This Chapter reports on any change in the findings of the original ES in respect of the Terrestrial Ecology and Birds and in particular in the vicinity of the proposed CCS site development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.
- 35.1.6** This chapter includes consideration of:
- New relevant baseline data pertaining to the parameters as covered in the original ES (Chapter 35 Terrestrial Ecology and Birds).
 - The impacts to terrestrial ecology and birds which are specific to the Compensation Site (CCS site). Information relating to the terrestrial ecology and birds for the main Able Marine Energy Park and its associated compensation is covered in Chapter 11 of the Updated Environmental Statement for the Material Change 2 UES¹².
 - This chapter therefore concentrates on the changes in sensitive receptors, magnitude of change (impact) and any potential alterations to the significant effects associated with the extension of

¹⁰ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001612-OS-003_TR030001_Able%20UK%20Ltd_Supplementary%20Environmental%20Information_File%202%20of%202.zip

¹¹ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

¹² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000133-TR030006-APP-6-11.pdf>

time for the implementation and completion of the CCS site.

35.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

- 35.2.1 There have been no significant changes to extent or content of the conservation / protection designations to the Humber Estuary since the original ES and DCO application.
- 35.2.2 Directive 92/43/EEC (The Habitats Directive) provides a common framework throughout EU States for the conservation of wild plants, animals and habitats of community interest, and to maintain biodiversity. It established a network of Special Areas of Conservation (SAC) designated by Member States to conserve habitats and species (listed in Annexes I and II).
- 35.2.3 Directive 2009/147/EC (The Birds Directive) provides a comprehensive scheme of protection for all wild bird species across EU States and recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore considers the protection of habitats for endangered as well as migratory species (listed in Annex I), through the establishment of a coherent network of Special Protection Areas (SPAs) comprising all the most suitable territories for these species.
- 35.2.4 There have been no further Special Area of Conservation (SAC), Special Protection Area (SPA) and Wetland of International Importance (Ramsar) designations within the area of the Cherry Cobb Sands development.

Habitats Regulations 2017

- 35.2.5 The Habitats Directive and Birds Directive are implemented in England and Wales through the Conservation of Habitats and Species Regulations 2017 as amended, this known as the Habitats Regulations.
- 35.2.6 Following the UK's withdrawal from the European Union (Brexit), Defra has published a new policy document (Defra, 2021) to explain the changes made to the Conservation of Habitats and Species Regulations 2017 (as amended) (the 2017 Regulations). The 2017 Regulations transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known together as the Nature Directives) into UK law.
- 35.2.7 The main change introduced by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations) was to make the 2017 Regulations operable from 1 January 2021. The change covers England and Wales including their inshore waters up to 12 nautical miles.
- 35.2.8 The main changes to the 2017 Regulations are:
- the creation of a national site network within the UK territory comprising the protected sites already designated under the Nature Directives, and any further sites designated under these Regulations
 - the establishment of management objectives for the national site network (the 'network objectives')
 - a duty for appropriate authorities to manage and where necessary adapt the national site

network as a whole to achieve the network objectives

- an amended process for the designation of Special Areas of Conservation (SACs)
- arrangements for reporting on the implementation of the Regulations, given that the UK no longer provides reports to the European Commission
- arrangements replacing the European Commission's functions with regard to the imperative reasons of overriding public interest (IROPI) test where a plan or project affects a priority habitat or species
- arrangements for amending the schedules to the Regulations and the annexes to the Nature Directives that apply to the UK

35.2.9 SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network and instead the 2019 Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

35.2.10 Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

35.2.11 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network. Many Ramsar sites overlap with SACs and SPAs, and may be designated for the same or different species and habitats.

35.2.12 All Ramsar sites remain protected in the same way as SACs and SPAs.

35.2.13 The Humber Estuary is designated as an SAC, SPA and Ramsar Site (see Chapter 10 of the Material Change 2 UES)

35.2.14 Since the original ES, The Greater Wash SPA has been designated (2018) for a number of non-breeding and breeding seabird species and covers an area of sea and coast along the east coast of England between the counties of Yorkshire (to the north) and Suffolk (to the south). Further offshore, The Southern North Sea SAC was designated in 2019 for Harbour Porpoise.

Existing Legislation of Particular Relevance

Wildlife and Countryside Act 1981

35.2.15 This is the primary mechanism for wildlife protection in Britain with legislation covering four areas:

- Wildlife protection, including protection of wild birds, their eggs and nests, protection of other animal and protection of plants
- Nature Conservation, Countryside & National Parks
- Public Rights of Way

- Miscellaneous provisions

Countryside & Rights of Way Act 2000

35.2.16 The protection of SSSIs (Site of Special Scientific Interest), already established in the Wildlife and Countryside Act, is strengthened in this legislation. The Act also allows for prosecution of third parties that damage or destroy a SSSI.

Wild Mammals (Protection) Act 1996

35.2.17 This Act offers a form of protection to all wild species of mammals.

Hedgerows Regulations 1997

35.2.18 These regulations fall under the local authority and are intended to protect important hedgerows from removal. Owners and managers must request permission from their local authority before removing a hedgerow, and permission may not be granted if it supports a diverse range or protected species.

Protection of Badgers 1992

35.2.19 This animal welfare legislation protects badgers and their setts, and makes it illegal to:

- Wilfully capture, injure or kill a wild badger
- Be in possession of a live or dead badger
- Destroy or obstruct access to an active badger sett

Ecological Impact Assessment Guidelines

35.2.20 The assessment is based on standard assessment methods as applied to the original ES Chapter.

35.2.21 This includes the principles of relevant guidance, including Institute of Environmental Management and Assessment (IEMA) guidelines, and the latest Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for ecological impact assessment in the UK and Ireland, these considered to be 'best practice'.

The National Planning Policy Framework

35.2.22 The National Planning Policy Framework (NPPF) has replaced the individual Planning Policy Statements (PPS) and was first published in 2012 and updated in 2018, 2019 and 2021. The NPPF sets out the government's planning policies for England and how these are expected to be applied and includes components of relevance to this Chapter, namely meeting the challenge of climate change, flooding and coastal change¹³; and conserving and enhancing the natural environment¹⁴.

35.2.23 2021 updates to the NPPF include provisions to:

¹³ NPPF, [Meeting the challenge of climate change, flooding and coastal change](#)

¹⁴ NPPF, [Conserving and enhancing the natural environment](#)

- explicitly protect and enhance, and to improve biodiversity, where before the requirement was simply to contribute to these matters;
- presumption in favour of sustainable development;
- take into account all sources of flood risk and to use opportunities provided by improvements in green infrastructure, and to make as much use as possible of natural flood management techniques;
- refuse permission for major development applications within National Parks, the Broads and Areas of Outstanding Natural Beauty other than in exceptional circumstances

35.2.24 Chapter 15 of the NPPF requires that planning policies and decisions should contribute to, and enhance, the natural and local environment by:

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services, including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

The UK Marine Policy Statement (MPS)

35.2.25 The Marine Policy Statement (2011) (MPS)¹⁵ is the framework for preparing marine plans and taking decisions affecting the marine environment. The MPS also sets out the general environmental, social and economic considerations that need to be taken into account in marine planning and provides guidance on the pressures and impacts that decision makers need to consider when planning for and permitting development in the UK marine areas. Paragraphs 3.1.7 and 3.1.8 of the MPS are relevant to the aquatic ecology assessment of the Cherry Cobb Sands compensation site which, amongst other things, state that:

35.2.26 *Marine plan authorities and decision makers should take account of how developments will impact*

¹⁵ <https://www.gov.uk/government/publications/uk-marine-policy-statement>

on the aim to halt biodiversity loss and the legal obligations relating to all MPAs, their conservation objectives, and their management arrangements.

- 35.2.27 Marine plan authorities and decision-makers should take account of the regime for MPAs and comply with obligations imposed in respect of them. This includes the obligation to ensure that the exercise of certain functions contribute to, or at least do not hinder, the achievement of the objectives of an Marine Conservation Zone (MCZ), including obligations in relevant legislation relating to SSSIs and sites designated under the Birds and Habitats Directives.

Local MPAs

- 35.2.28 The Holderness Inshore MCZ¹⁶ was designated in 2016, and is an inshore site covering an area of approximately 309km². The site is located north of the Humber Estuary mouth and includes the Spurn Head geological features as well as intertidal and subtidal habitats, with restrictions in place to manage various potentially damaging activities.
- 35.2.29 The Holderness Offshore MPA was designated in 2019 and covers an area north of the Humber and further offshore than the Holderness Inshore Marine Conservation Zone.

East Riding of Yorkshire Council Local Plan

- 35.2.30 East Riding of Yorkshire Council (ERYC) are currently producing a new Local Plan, which once agreed (formally adopted), will replace the current Local Plan. Public consultation on the Draft Local Plan Update was undertaken in 2022 with Submission and Examination planned during 2023 and for Adoption in 2024.
- 35.2.31 The existing adopted local Plan 2012-2029¹⁷ (adopted 2016) remains current until the new plan is adopted. However, this document superseded the ERYC's Holderness District Wide Local Plan (1999), which was referenced in the original ES.
- 35.2.32 A draft Local Plan Strategy Update was published in 2021¹⁸. This includes a series of Environmental Policies, including, of relevance to this development:

'ENV2: Promoting a high quality landscape

- A. Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features. To achieve this, development should: 1. Protect the character and individual identity of settlements by maintaining their physical separation, including through the maintenance of the Key Open Areas identified in Policies A1-A6, where there is a risk of settlement coalescence. 2. Protect and enhance important open spaces within settlements which contribute to their character. 3. Ensure important hedgerows and trees are retained unless their removal can be justified in the wider public interest. Where important hedgerows and trees are lost replacements will usually be required. 4. Maintain*

¹⁶ <https://www.gov.uk/government/publications/marine-conservation-zones-holderness-inshore>

¹⁷ ERYC Local Plan (adopted 2016), <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/>

¹⁸ ERYC Local Plan Update (2021 draft), <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/local-plan-update/draft-local-plan-update-consultation/>

or enhance the character and management of woodland where appropriate. 5. Retain, not detract from, and enhance wetland and water feature characteristics. 6. Protect and enhance views across valued landscape features, including flood meadows, chalk grassland, lowland heath, mudflats and salt marsh, sand dunes and chalk cliffs. 7. Protect and enhance the undeveloped coast.

B. Proposals should protect, enhance and be compatible with the existing landscape character as described in the East Riding Landscape Character Assessment, in particular, within the following Important Landscape Areas as shown on the Draft Policies Map Update: 1. The Yorkshire Wolds, with special attention to ensuring developments are of an appropriately high quality and will not adversely affect the historic and special character, appearance or conservation value. 2. The Heritage Coast designations at Flamborough and Spurn Head. 3. The Lower Derwent Valley, which includes the River Derwent Corridor and Pocklington Canal. 4. The Thorne, Crowle and Goole Moors.

ENV4: Conserving and enhancing biodiversity and geodiversity:

A. Proposals that are likely to have a significant effect on an International Site will be considered in the context of the statutory protection which is afforded to the site.

B. Proposals that are likely to have an adverse effect on a National Site (alone or in combination) will not normally be permitted, except where the benefits of development in that location clearly outweigh both the impact on the site and any broader impacts on the wider network of National Sites.

C. Development resulting in loss or significant harm to a Local Site, or habitats or species supported by Local Sites, whether directly or indirectly, will only be supported if it can be demonstrated there is a need for the development in that location and the benefit of the development outweighs the loss or harm.

D. The mitigation hierarchy should be used to first avoid, then mitigate, and where necessary compensate for loss or harm to biodiversity. Where loss or harm to a National or Local designated site, cannot be prevented or adequately mitigated, as a last resort, compensation for the loss/harm must be agreed. Development will be refused if loss or significant harm cannot be prevented, adequately mitigated against or compensated for.

E. Proposals should further the aims of the Nature Recovery Strategy and Nature Recovery Network, Net Gain and other relevant strategic landscape scale biodiversity initiatives.

F. To optimise opportunities to enhance biodiversity, proposals should seek to achieve a net gain in biodiversity, in addition to the measures required in part D, and will be supported where they: 1. Conserve, restore, enhance or recreate biodiversity and geological interests including the Priority Habitats and Species and Local Sites. 2. Safeguard, enhance, create and connect habitat networks in order to: I. protect, strengthen and reduce fragmentation of habitats; II. create a coherent ecological network that is resilient to current and future pressures; III. conserve and increase populations of species; and IV. promote and enhance green infrastructure.

ENV5: Strengthening blue/green infrastructure

A. Development proposals will: 1. Incorporate a comprehensive design that is underpinned by its

consideration of existing and new blue/green infrastructure features, including those features required by policies ENV1, 2, 3, 4, 6 and C3; 2. Capitalise on opportunities to: I. Enhance and/or create links between blue/green infrastructure features. Links should be created both on-site and, where possible, with nearby blue/green infrastructure features; and II. Utilise potential multifunctional benefits of blue/green infrastructure features.

- B. Development proposals within, or in close proximity to, a blue/green infrastructure corridor should enhance the functionality and connectivity of the corridor; and*
- C. Development Proposals that have the potential to increase recreational pressures on designated biodiversity assets should provide mitigation in the form of blue/green infrastructure provision.*

ENV6: Managing environmental hazards

- A. Environmental hazards, such as flood risk, coastal change, nutrient deposition, aerial pollution, groundwater pollution and other forms of pollution, will be managed to ensure that development does not result in unacceptable consequences to its users, the wider community, and the environment.*

ENV6: Flood risk

- B. The risk of flooding to development, from all sources both now and in the future, will be managed by applying a sequential test to ensure that development is steered towards areas of lowest risk, as far as possible. The sequential test will, in the first instance, be undertaken on the basis of the East Riding Strategic Flood Risk Assessments (SFRA) and the Environment Agency's Flood Map, within appropriate search areas. Where development cannot be steered away from Flood Zone 3, the sub-delineation of Zone 3, detailed within the relevant SFRA, will be used to apply the sequential test, with preference given to reasonably available sites that are in the lower risk/hazard zones. Where necessary, development must also satisfy the exception test.*
- C. If, following application of the sequential test, it has not been possible to successfully steer development to a site at low risk of flooding from all sources now and in the future, a sequential approach will be taken to site layout and design, aiming to steer the most vulnerable uses towards the lowest risk parts of the site and upper floors.*
- D. Flood risk will be proactively managed by: 1. Ensuring that new developments: I. limit surface water run-off to existing run-off rates on greenfield sites, and on previously developed land reduce existing run-off rates by a minimum of 30%, or to greenfield run-off rate; II. do not increase flood risk within or beyond the site; III. incorporate Sustainable Drainage Systems (SuDS) into major development proposals and proposals at risk of flooding, unless demonstrated to be inappropriate; IV. do not culvert or otherwise build over watercourses, unless supported by the Risk Management Authority; V. have a safe access/egress route from/to Flood Zone 1 or establish that it will be safe to seek refuge at a place of safety within a development; VI. incorporate high levels of flood resistant and resilient design if located in a flood risk area; VII. are adequately set-back from all watercourses including culverted stretches; and VIII. adhere to other relevant SFRA recommendations. 2. Supporting proposals for sustainable flood risk management, including the creation of new and/or improved flood defences, water storage areas and other schemes, provided they would not cause unacceptable adverse environmental, social, or economic impacts. 3.*

Supporting the removal of existing culverting and returning these sections to open watercourse. 4. Designating areas of Flood Zone 3b (Functional Floodplain) and safeguarding land for current and future flood risk management, on the Draft Policies Map Update.

ENV 6 Coastal change

- E. Development likely to be affected by coastal change will be proactively managed by designating a Coastal Change Management Area (CCMA) on the Draft Policies Map Update.*
- F. Within the CCMA proposals will be supported where it: 1. Can be demonstrated that an appropriate temporary development, such as those included in Guide to appropriate development within the CCMA, will contribute to the local economy and/or help to improve the East Riding's tourism offer; or 2. Would involve re-location or roll back of existing development to an alternative location, provided the existing development is in permanent use and is a permanent structure, or is an existing caravan or holiday home park. The alternative location should be a suitable coastal location; and 3. Is ensured that: I. the development is safe from the risks associated with coastal change for its intended lifespan; II. the development does not have an unacceptable impact on nature conservation, heritage and/or landscape designations; III. sites to be vacated as a result of relocation/roll back or expiry of a temporary permission, will be cleared and restored to a natural state, with net sustainability benefits and, where appropriate, public access to the coast; and IV. the development has an acceptable relationship with coastal settlements in relation to character, setting, residential amenity and local services.*
- G. Development proposals for sustainable coastal change management, including improvements to coastal defences or managed realignment, should have regard to the most up to date Shoreline Management Plan and the latest coastal monitoring information. Proposals will be supported where they would not have any unacceptable adverse environmental, social or economic impacts.*

ENV 6 Groundwater pollution

- H. The risk of groundwater pollution will be managed by: 1. Avoiding development that will increase the risk of pollution in source protection zones (SPZ) and where this is not possible, ensuring that appropriate mitigation measures are employed; 2. Supporting developments which will decrease the risk of pollution in SPZs by cleaning up contaminated land and incorporating pollution-prevention measures; 3. Preventing inappropriate uses/activities in SPZ1 and SPZ2, unless adequate safeguards against possible contamination can be agreed; 4. Preventing non-mains drainage that would involve sewage, trade effluent or other contaminated discharges, as far as possible; and 5. Ensuring re-development of previously developed sites does not contaminate under-lying aquifers.'*

Scoping Opinion

- 35.2.33 In relation to this update to the original ES , there are no physical alterations proposed to the scheme and the only matter being considered is an extended time limit for construction of the development itself. There has been no update to the Scoping Opinion for the original provisions addressed in this document.

Additional Consultation

35.2.34 At this stage, no additional consultation relating to the compensation site requirements has been necessary. However, given that the time limit in Article 7 prohibits new works from starting after 28 October 2024, the Undertaker now wishes to apply to the Secretary of State to extend the timeframe to ‘substantially commence’ the works. The full details of the proposed extension of time is described in Chapter 4 of this Article 7 ER to the original ES and Material Change 2 UES. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit to ‘substantially commence’ the development.

Assessment Methodology

35.2.35 The updated baseline description, impact assessment coverage and approach follows that undertaken in the original ES.

Study Area

35.2.36 It would appear that no specific study area was established for the Terrestrial Ecology and Birds assessment of the original ES, or at least it is not described in the original ES Chapter. However it would be presumed that in consultation, an effective area was agreed as suitable and as such, the study area for this update has been defined to match the areas of cover from the original ES and which characterise and address both the directly affected and influenced areas around the CCS site footprint.

35.2.37 It should be noted that The Old Little Humber Farm site which was referred to in the original ES was withdrawn from the application during the Hearings. The redesign of the compensation site and an EIA review was set out in EX28.3 Parts 1-10.

Sensitivity Criteria

35.2.38 For the purposes of the assessment of the Cherry Cobb Sands site, there has been a change to the sensitive receptors identified in the original ES, with the potential addition of otters. The following are therefore considered to be sensitive terrestrial/intertidal receptors that occur within the vicinity of the site:

- terrestrial habitats;
- protected species:
 - great crested newt;
 - water vole;
 - reptiles;
 - badger and
 - otter.
- birds:

- coastal waterbirds; and
- breeding birds.

Significance Criteria

35.2.39 The significance criteria for the CCS site were determined in the same manner as for the AMEP site in the original ES, and have not been altered for this update. These are defined within Section 10.3 of the original ES.

Magnitude of Change (Impact)

35.2.40 The approach has been used as defined for the assessment methodology applied in the original ES (AMEP site). The magnitude of impact is assessed by considering the following:

- the nature of the change (what is affected and how);
- the type of impact;
- its size, scale or intensity;
- its geographical extent and distribution;
- its timing, duration, frequency, reversibility; and
- where relevant, the probability of the impact occurring as a result of accidental or unplanned events.

35.2.41 Evaluation of the impact takes the magnitude of impact and explains what it means in terms of its importance to society and the environment.

35.2.42 Magnitude of Change (Impact) is established within paragraph 10.3.7 of the original ES.

Significance of Effect

35.2.43 The Significance of Effects have been assessed based on the criteria established in the original ES and follow IEEM guidance (IEEM, 2010). This has been updated where appropriate using additional CIEEM guidance e.g. CIEEM (2019) e.g. an effect should be determined as being significant when it 'either supports or undermines biodiversity conservation objectives for important ecological features'.

35.2.44 The determination of significance follows that used in the original ES Chapter, based on whether the impact will affect the integrity or conservation status of the species, habitat, site or ecosystem within a given geographical frame of reference.

35.2.45 Given the location of the Cherry Cobb Sands site, within and adjacent to, the Humber Estuary European Marine Site, the assessment is carried out with particular consideration to the proposed works and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features.

35.2.46 Significance of effect is established within paragraphs 10.3.11-10.3.13 of the original ES.

Effects Not Requiring Further Assessment

35.2.47 For this review, the assessment of effects follows that undertaken in the original ES. No additional or removed pathways of impact are considered.

35.2.48 It should be noted that the topic area 'Coastal Waterbirds' e.g. birds utilising the aquatic (intertidal) components of Cherry Cobb Sands as well as the CCS site, were covered under Chapter 35 of the original ES (Terrestrial Ecology and Birds). This approach is therefore followed for this baseline update, with waterbirds using the Cherry Cobb Sands intertidal area addressed within this Chapter and with little or no reference made to waterbird usage of the Cherry Cobb Sands intertidal under Chapter 34 (Aquatic Ecology).

35.3.0 Changes in Baseline Conditions

DCO Baseline

Overview of the Humber Ecosystem

- 35.3.1 The Humber is an extensive macrotidal estuary on the east coast of England, characterised by a large tidal range and high levels of suspended sediment, with hydrodynamic processes creating a dynamic rapidly changing system with accretion and erosion of intertidal and sub-tidal habitats.
- 35.3.2 Importantly, the dynamic nature of the system, and its effects on associated habitats and biological communities are acknowledged within the Site Designations and associated Conservation Objectives, with management cognisant of these dynamisms.
- 35.3.3 This dynamism occurs both at a system and local scale, and potential changes in the habitats and associated communities within and around the AMEP development and was acknowledged in the Examining Authorities Report (2013) following completion of the examination of the DCO application in 2012. Specifically, the Examiner recorded:
- That the Humber estuary is highly dynamic, both as a result of the natural characteristics of an estuary with a high tidal range and the added consequences of rising sea levels associated with climate change.
 - That the habitats affected by the proposal are found extensively throughout the estuary and that they are subject to continuous change through natural and man-induced processes of erosion, including dredging, and deposition.
 - That the combined effect of rising sea level and fixed flood defences results in the estuary as a whole being subject to “coastal squeeze” with pressure particularly on salt marsh habitat.
 - That as a response to coastal squeeze the Environment Agency has promoted a policy of selective managed retreat of flood defences to re-establish estuarine habitat on land reclaimed for agriculture in historical times.
 - That this policy has been implemented in association with schemes of habitat compensation carried out as part of harbour works on the Humber, including ABP’s works at Welwick, Chowderness and Alkborough associated with the Immingham Outer Harbour and at Green Port Hull.
 - That the character of the foreshore at both the main application site and Cherry Cobb Sands has changed in living memory, that the changes are measurable and can be expected to continue to evolve.
 - That conditions favourable to the formation of extensive areas of very gently sloping inter-tidal mudflat at the North Killingholme Marshes have been reinforced by the creation of the Immingham Outer Harbour but that the general pattern is that accreting shorelines will develop into salt marsh as has happened observably at Cherry Cobb Sands and in some locations on the Killingholme shore adjacent to the floodwall’, (Examining Authorities Report, paragraph 10.79).
- 35.3.4 The whole of the Humber Estuary and parts of the adjacent hinterland is covered by a number of

wildlife protection designations. The estuary is designated as a Special Protection Area (SPA) and Ramsar site for its waterbird community, and as a Special Area of Conservation (SAC) for habitats, several species of fish and the Grey Seal.

35.3.5 Importantly, the Humber Estuary is a highly modified system, with large areas of historical land-claim having modified its planform e.g. at Sunk Island.

35.3.6 There is therefore extensive low-lying land around much of the estuary, this primarily having been reclaimed for agricultural use, with much of this area remaining as arable farmland. Small areas of this land adjacent to the estuary are identified as being functionally linked to the aquatic system, through utilisation as inland feeding and roosting sites for a number of waterbird species. These areas are considered essential to the conservation status of features of the SPA and Ramsar site, although for some habitats e.g. terrestrial arable fields and pasture located behind the flood protection banks, their functional delivery is to some extent dependent on agricultural operations and associated economics.

The Potential for Natural Change in Intertidal Communities around the Cherry Cobb Sands Site

35.3.7 The statements of the Examining Authorities Report (2013) relating to the dynamic nature of the estuarine system and its associated floral and faunal communities are important, with alterations in structure and extent occurring naturally over time. These variations underline the need to update this Chapter where appropriate, with changes to community details potentially simply a reflection of the dynamic system and ecosystem trajectory.

Original ES/DCO Baseline for Cherry Cobb Sands Site

35.3.8 A number of ecology studies were undertaken as part of the original ES baseline. These were primarily a Phase 1 Habitat Survey, badger (*Meles meles*) survey, water vole (*Arvicola amphibius*) survey, great crested newt (*Triturus cristatus*) survey and a waterbird survey for the Cherry Cobb Sands site and a Phase 1 Habitat Survey for Old Little Humber Farm. The results of these as described in the original ES are summarised below.

Terrestrial Habitats

35.3.9 A Phase 1 habitat survey was undertaken in 2010 with the results shown in Figure 35-1. The baseline habitats identified in the original ES baseline are summarised as follows.

Figure 35-1: Terrestrial habitats present within and around Cherry Cobb Sands (Phase 1 Habitat Survey (2010). Just Ecology).



Standing Water

- 35.3.10 Some sections of the roadside ditch held standing open water, with common reed (*Phragmites australis*) and the submerged aquatic plant fennel pondweed (*Potamogeton pectinatus*).
- 35.3.11 There are no ponds directly within the Cherry Cobb Sands site.

Ditches

- 35.3.12 Cherry Cobb Sands supports a network of drainage ditches, which includes a soke dyke, approximately 2m wide, which runs along the landward side of the flood embankment (the majority of which supports standing open water), a large drainage channel along the western side of Cherry Cobb Sands Road (around half of which supports standing open water), and intersecting drainage ditches that form boundaries between arable fields (which are mainly dry).
- 35.3.13 The soke dyke is partly shaded by hawthorn and scrub along its western margin and the majority had significant silt accumulation. Aquatic vegetation was sparse with occasional patches of common reed and sea club-rush (*Bolboschoenus maritimus*). A single extensive stand of sea club-rush was present in a drain adjoining the dyke.
- 35.3.14 The roadside drainage ditch was un-shaded for most of its length and comprised a steep sided channel (1.5 – 2.0m wide at its base) with characteristic semi-improved rough grassland banks. Wild

celery (*Apium graveolens*) was occasionally present at the base of the channel banks and more rarely in other ditches elsewhere within the survey area. This plant species is specifically associated with coastal sites, including brackish ditches and tidal river banks in England and Wales. Although it is not a scarce or rare plant species (and has no specific conservation status in the UK), its widespread occurrence within the site is of botanical note due to its localised occurrence on a national basis and its specific habitat requirements.

- 35.3.15 Some sections of the roadside ditch supported a range of damp ground and brackish plant species, such as red goosefoot (*Chenopodium rubrum*), spear-leaved orache (*Atriplex prostrata*) and sea aster (*Aster tripolium*).

Grassland and Cultivated Land

- 35.3.16 The Compensation Site was entirely dominated by intensive arable land, which mostly comprised recently ploughed ground and cereal stubble at the time of the Phase 1 Habitat Survey. Arable weeds included common species such as common field speedwell (*Veronica persica*), nettle (*Urtica dioica*), charlock (*Sinapis arvensis*), cleavers (*Galium aparine*), common orache (*Atriplex patula*), and scentless mayweed (*Tripleurospermum inodorum*).

- 35.3.17 There were three small areas of improved grassland within Cherry Cobb Sands including a small enclosed sheep-grazed pasture field in the north, a small field in the south corner close to Stone Creek and a small field immediately south of Sands House.

- 35.3.18 Semi-improved neutral grassland was confined to narrow strips along field, road and ditch edges, and along the flood embankment. The majority of this grassland is unmanaged and of similar species composition, most characteristically forming rank and species-poor swards dominated by either false oat-grass (*Arrhenatherum elatius*) and/or common couch (*Elytrigia repens*).

Hedgerows & Hedgerow Trees

- 35.3.19 Occasional sections of species-poor, hawthorn (*Crataegus monogyna*) dominated hedgerows without trees present. A small section of species-poor hedgerow with trees occurred to the northwest of the site, which included elm (*Ulmus* sp.), horse chestnut (*Aesculus hippocastanum*), hawthorn and sycamore (*Acer pseudoplatanus*).

Woodland

- 35.3.20 A few small woodland plantations occurred within the study area, including a linear broadleaved plantation dominated by oak (*Quercus robur*) and beech (*Fagus sylvatica*) trees, and a small area of mixed plantation consisting of Scots pine (*Pinus sylvestris*), grey alder (*Alnus incana*) and horse chestnut. These woodlands were considered to be of relatively limited ecological value due to their small size and lack of ancient and/or semi-natural woodland character.

Scrub

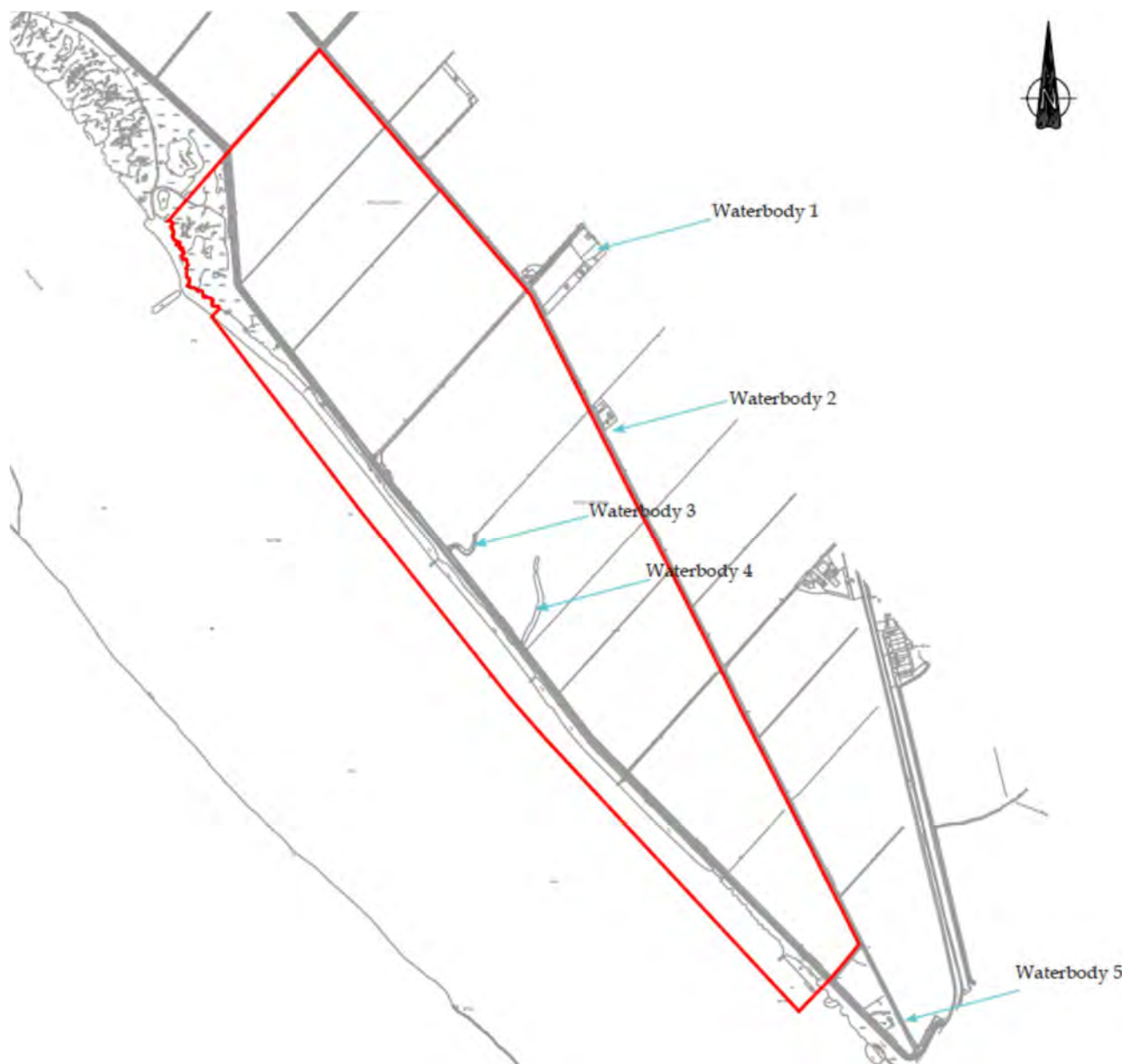
- 35.3.21 Scattered woody scrub, that was almost exclusively hawthorn, was present as an almost continuous line of bushes along the base of the flood embankment, and along Keyingham Drain.

Protected Species

Great Crested Newt

- 35.3.22 Great Crested Newt (GCN) were investigated at two confirmed freshwater ponds and three other reported waterbodies either in or around Cherry Cobb Sands (shown in Figure 35-2).
- 35.3.23 The pond at Sands House (Waterbody 1) was not surveyed due to access restrictions. This pond however, is 400 m from the site margin, and is described as a former slurry lagoon and therefore unlikely to support GCNs. Another of the waterbodies east of Cherry Cobb Sands (Waterbody 2) was dry at the time of survey and the remaining waterbodies all proved unsuitable for GCNs.
- 35.3.24 No GCN or GCN eggs were captured or seen on any of the four survey occasions in any of the water bodies that were surveyed.

Figure 35-2: Waterbodies Investigated for GCN



Bats

- 35.3.25 There were no local records of bat species within 2 km of Cherry Cobb Sands. However, the residential housing, plantation woodland and main drain along the northern boundary of the site was considered to be of potential local value to foraging/commuting bats.
- 35.3.26 The agricultural land that dominates the remainder of the site was considered unlikely to be of importance to bats.

Water Vole

- 35.3.27 Water vole field evidence was searched for along the entire length of all water filled ditches within Cherry Cobb Sands area using standard methods.
- 35.3.28 Very little field evidence of water voles was identified within the study area, with the only evidence being four suspected burrow holes in the ditch adjacent to Cherry Cobb Sands Road.
- 35.3.29 No additional water vole field evidence (e.g. footprints, runs, droppings, latrines or feeding signs) were present in association with any of the four holes, and the presence of a small water vole population in this ditch was therefore only suspected and could not be verified.
- 35.3.30 The conclusion of the survey was that a small transient population was suspected that may fluctuate in size and distribution according to ditch water levels.

Reptiles

- 35.3.31 There were no local records of reptile species within 2 km of Cherry Cobb Sands. However, the original ES concluded that the rank seminatural grassland (particularly the grassland along the flood embankment along the southern boundary of the site) had the potential to support reptile species such as grass snake (*Natrix natrix*), however no evidence of its occupation was recorded at the time of the survey.

Badger

- 35.3.32 Surveys identified eight badger setts within Cherry Cobb Sands and it was expected that these setts belonged to at least two social groups of badgers, who also used the wider area.
- 35.3.33 Four setts were within the original flood defence embankment, one sett on the western boundary of the site and three setts along field boundaries through the centre of the site. Some of these setts appeared well used, but not as main or annex setts.
- 35.3.34 Badger activity was generally found to be at low levels within Cherry Cobb Sands when compared to the wider survey area. There were fewer and smaller setts, less well worn paths and less evidence of foraging activity.
- 35.3.35 However, there were signs that badgers foraging within the field boundaries and also accessing the embankment.

Coastal Waterbirds

- 35.3.36 The original ES provides a detailed summary of waterbird maxima on the wider Foulholme Sands/Cherry Cobb Sands intertidal area, based on Wetland Bird Survey (WeBS) data (Paull to Stone

Creek). This was an extensive area of intertidal sandy mud with fringing saltmarsh at the time of the original ES (and covering the data period of 2004/5-2008/9).

35.3.37 The detail of this utilisation is not included in this summary, but can be accessed at Section 35.7 of Chapter 35 of the original ES¹⁹, with summary species data provided in Table 35-1.

Table 35-1: Summary Key Species Maxima (Original ES) for Paull to Stone Creek.

Annex I Bird Species of the Humber Estuary Surveyed in the Paull to Stone Creek WeBS Sector (Figure 35.4)

Species	Population	Population (Five Year Mean of Peaks - 2004/05 to 2008/09)
Avocet	Wintering population from Western Europe / Western Mediterranean population	103
Bar-tailed Godwit	Wintering Population from Western Palearctic population	2124
Golden Plover	Wintering Population from breeding North-Western Europe population	16 851
Hen Harrier	Supported over winter	1
Marsh Harrier	Supported during the breeding season	3
Ruff	Passage Population from Africa - wintering population	2

Source: BTO WeBS data 2004/05 – 2008/09 and Calbrade et al. (2010) *Waterbirds in the UK 2008/09*

Populations of Regularly Occurring Migratory Species of the Humber Estuary SPA Surveyed in the Paull to Stone Creek WeBS Sector (Figure 35.4)

Species	Population	Population (Five Year Mean of Peaks - 2004/05 to 2008/09)
Dunlin	Passage and Wintering Populations of Northern Siberia/Europe/Western Africa population	3591
Knot	Passage and Wintering Populations of North-eastern Canada/Greenland/Iceland/North-western Europe population	1135
Black-tailed Godwit	Passage and Wintering Populations of Iceland Breeding population	386
Shelduck	Passage and Wintering Populations of North-western Europe population	1522
Redshank	Passage and Wintering Populations of Eastern Atlantic wintering population	1401

Source: BTO WeBS data 2004/05 – 2008/09 and Calbrade et al. (2010) *Waterbirds in the UK 2008/09*

¹⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000340-35%20-%20Ecology%20and%20Nature%20Conservation.pdf>

Cherry Cobb Sands

35.3.38 More site specific data were provided in the original ES, from a survey programme along the Cherry Cobb Sands frontage, e.g. centred around the intertidal frontage of the proposed CCS compensation site. These data were reported by IECS from August 2010-April 2011. The survey area is shown in Figure 35-3.

Figure 35-3: Wetland Bird Survey Zones as used for the Cherry Cobb Sands Site Survey (Original ES)



35.3.39 The survey area included both the terrestrial fields including the CCS site, and the fronting Cherry Cobb Sands intertidal zone.

Terrestrial Fields

35.3.40 Of the bird species that are individual qualifying interests of the Humber SPA designated population only four species (golden plover, dunlin (*Calidris alpina*), bar tailed godwit (*Limosa lapponica*) and ruff (*Calidris pugnax*) were recorded in the fields behind the existing embankment (Zones 1-9 on Figure 35-3) over the August 2010 – April 2011 wintering period, the majority of which were recorded in Zone 1.

35.3.41 The peak counts for each of these four SPA species were 40 roosting golden plover in Zone 3 (early October), 85 dunlin in Zone 1 (early September), 21 roosting bar tailed godwit in Zone 9 (mid-late September) and 1 ruff in Zone 1 (September). All these counts were made during high tide surveys. Five species listed in the SPA were recorded within the Compensation Site in Zones 1-9 at some stage of the survey (peak counts within Zones 1-9 and the corresponding month are given in brackets), including curlew (*Numenius arquata*) (640 in September), grey plover (*Pluvialis squatarola*) (26 in October), mallard (*Anas platyrhynchos*) (9 in March), teal (*Anas crecca*) (42 in February) and lapwing (*Vanellus vanellus*) (787 in February).

35.3.42 By far, the most widespread and frequent use of Zones 1-9 was by curlew. Birds particularly favoured the site at high tide for roosting and this extended across all Zones, in particular Zones 8 and 9. The fields behind the existing embankment at Cherry Cobb Sands (Zones 1-9) were hardly used by other species e.g. grey plover, mallard or teal.

Fronting Intertidal

35.3.43 Foreshore areas were much more heavily utilised by birds than the terrestrial fields, including 17 of the SPA species listed in the SPA citation.

35.3.44 Zones B, C and D, regularly supported large flocks of waders, whilst Zone A and the Buffer Zone fronting the Cherry Cobb saltmarsh were less frequently used, probably due the saltmarsh cover in Zone A and in the Buffer Zone.

35.3.45 Conversely, Zone A and the adjacent Buffer Zone, were seen to attract the bulk of the wildfowl population, in particular dabbling ducks such as wigeon (*Anas penelope*) and teal. These species favoured the pioneer saltmarsh and the network of creeks associated with the Cherry Cobb saltmarsh.

35.3.46 Golden plover (*Pluvialis apricaria*) (11,735 peak count in September) and knot (*Calidris canutus*) (5,180 peak count in November) were present in the largest numbers on the foreshore and favoured Zones C and D on a frequent basis.

35.3.47 Curlew (1,703 peak count in August) were present across all of the foreshore Zones including the buffers and were frequently recorded using the site for the entire survey season. Redshank (*Tringa totanus*) (801 peak count in September) and grey plover (623 peak count in February) were also frequent users of the foreshore area in all Zones except for the western buffer was not used by grey plover.

35.3.48 Mallard were recorded using all Zones including the buffers but in comparatively smaller numbers (240 peak count in October).

35.3.49 Generally Zones C and D were favoured by all the above species and September and October had the highest number of visits.

35.3.50 It was noted in the original ES that black tailed godwit did not appear to currently use the agricultural land at Cherry Cobb Sands. This was identified as one of the main species that will be displaced from the AMEP site and will need new feeding ground at Cherry Cobb Sands.

Breeding Birds at Cherry Cobb Sands.

35.3.51 Four breeding bird surveys were undertaken for the original ES and several Red-List Species were

recorded as breeders (possible or probable) immediately within and in very close vicinity of the proposed development area.

35.3.52 Farmland bird species were well represented across the survey area with skylark (*Alauda arvensis*) and yellow wagtail (*Motacilla flava*) present in good numbers in the fields. Reed buntings (*Emberiza schoeniclus*) were also well represented along the relict hedgerows bordering the fields and the vegetated soke dykes. Breeding linnets (*Carduelis cannabina*) were present in low numbers in dense patches of hawthorn, whilst the more mature and continuous hedgerows supported several breeding territories of yellowhammers (*Emberiza citrinella*). Other Red List species recorded in the survey area included grey partridge (*Perdix perdix*).

DCO Future Baseline

35.3.53 No specific alterations to the future Terrestrial Ecology and Birds baseline components were identified in the original ES (Chapter 35). However, as noted above and in the Examining Authorities Report (2013), the estuarine ecosystem was identified as naturally dynamic and subject to natural change.

35.3.54 In fact it is likely that in addition to natural ecosystem dynamisms, climate change related factors are already acting on the Humber. Certainly there is variability in the timing of some species movements e.g. migration, as well as changes in assemblage composition, although the degree to which these changes are climate change related vs natural ecosystem dynamics is difficult to identify.

35.3.55 However, in the future marine and estuarine species are likely to become increasingly vulnerable to anthropogenic pressures due to the predicted effects of climate change and ocean acidification in combination with more local pressures, although these changes will continue to occur against the background of a naturally dynamic estuarine ecosystem.

35.3.56 The 2020 Marine Climate Change Impacts Partnership (MCCIP) report card (MCCIP, 2020²⁰) highlighted the following changes to marine ecology receptors could potentially occur as a result of climate change:

- Sea-level rise could result in deeper waters and larger waves reaching saltmarsh and other intertidal habitats, causing erosion at the seaward edge;
- Changes in patterns of rainfall or temperature changing vegetation composition of coastal saltmarsh communities;
- Marine communities around the UK altering as ocean acidification increases;
- Changing sea temperatures resulting in range shifts for both benthic species and mobile species (such as fish, marine mammals). This could result in a decline of some cold-water species around certain parts of the UK and an increase in the prevalence of non-native species;
- Changing temperatures affecting spawning in some marine species as well as the timings of migrations;

²⁰ https://www.mccip.org.uk/sites/default/files/2021-07/mccip-report-card-2020_webversion.pdf

- Coastal waterbirds showing north-easterly shifts in the winter distributions in Europe; and
- Changes in prey distribution and availability, resulting in range shifts in some regional populations of marine mammals, fish and seabirds.

35.3.57 The aim of this document is to address any such substantial changes e.g. to the current baseline, and correspondingly update the assessment of impacts, mitigation measures and residual impacts etc. where appropriate.

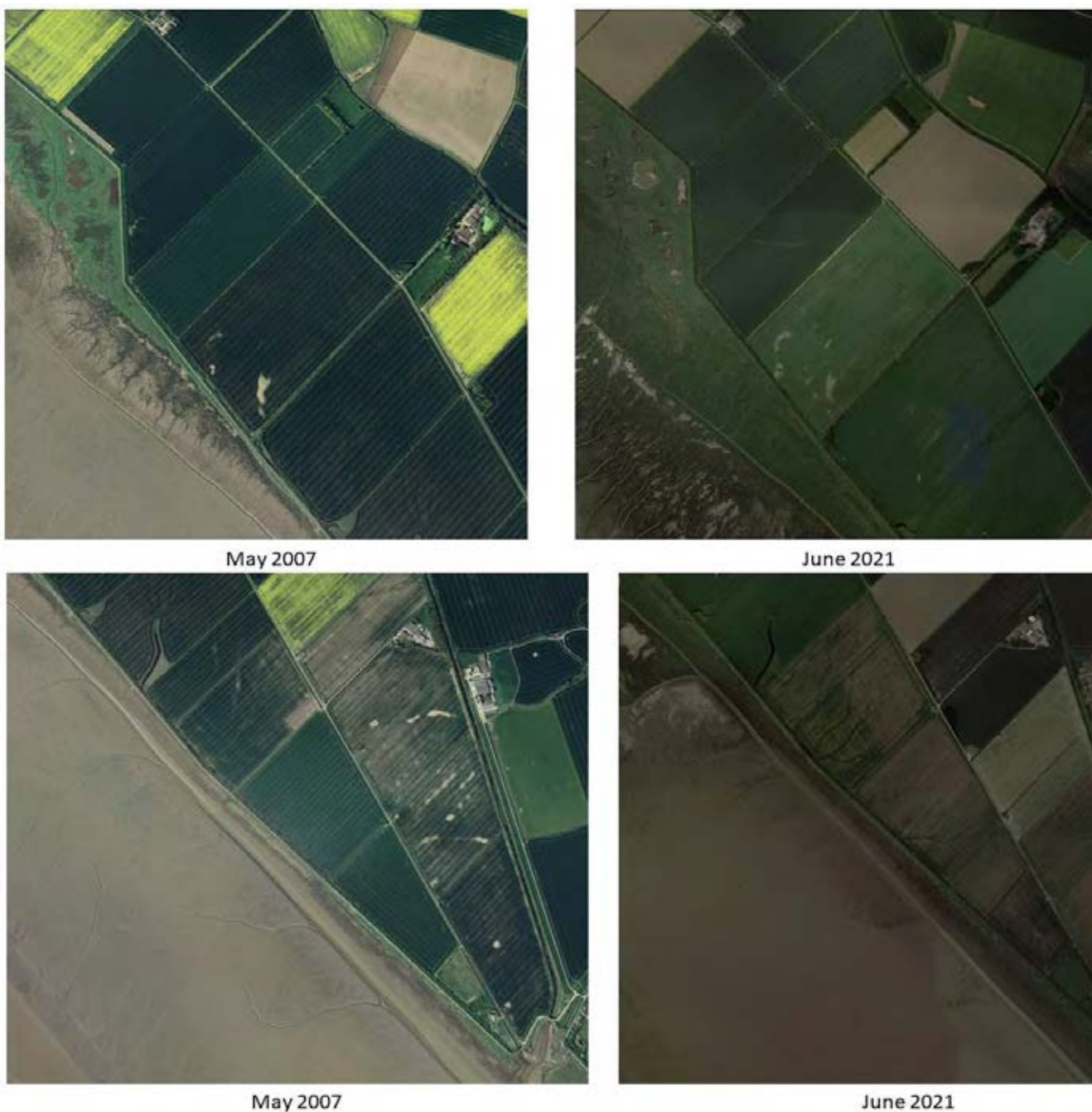
Current Baseline

Terrestrial Habitats

Cherry Cobb Sands (Terrestrial)

35.3.58 No new habitat surveys have been carried out at the site on behalf of the developer since the original ES. A comparison of aerial images for the main Cherry Cobb Sands site from the spring of 2007 (prior to the original ES) and spring 2021 are shown in Figure 35-4.

Figure 35-4: Aerial Image Comparison of the Cherry Cobb Sands Site 2007 and 2021. Image Source: Google Earth Pro.



35.3.59 The comparison of the 2007 and 2021 images in Figure 35-4 shows a broadly similar agricultural land use between images, albeit with the land within the CCS site apparently not having had a crop put down in 2021.

35.3.60 This is consistent with observations made during the 2020-2021 waterbird survey (Cutts & Hemingway, 2021), whereby other than crop differences, the land use and fringing habitats e.g. hedges and ditches were broadly similar to those from around the time of the original ES data collection.

35.3.61 A change was however noted in saltmarsh extent on the fronting intertidal, with considerable increase in floristic cover in 2021 compared to the time of the original ES data collection.

Protected Species

Great Crested Newt

35.3.62 No new surveys have been carried out at the site on behalf of the developer since the original ES.

Bats

35.3.63 No new surveys have been carried out at the site on behalf of the developer since the original ES.

Water Voles

35.3.64 A dedicated water vole survey was carried out in 2020 (Arbtech, 2020). The programme used standard assessment methods and was conducted in early July 2020.

35.3.65 The survey found no water vole latrines or foraging evidence. Boundary drainage ditches were dry or contained little water, with water that was present displaying evidence of a typical saline habitat that would likely be less favoured by water voles. Additionally, the banks were steep ranging from a 75-90° angle.

35.3.66 To the north and east of the site, Keyingham Drain also showed a saline habitat that is less favoured by water voles.

35.3.67 The report on the potential for water vole utilisation of the site following the survey visit concluded that the CCS development site provides negligible habitat value for water voles. No evidence of water voles was found and the site provides limited habitat for water voles. Furthermore, a survey carried out in 2015 also found no evidence of water voles in the area.

35.3.68 On this basis, it is not considered likely that the CCS site is an important habitat for water voles.

Reptiles

35.3.69 A dedicated reptile presence/absence survey programme was carried out in 2020 (Arbtech, 2020). The programme used standard assessment methods and was conducted between July and September 2020.

35.3.70 An initial desk study was undertaken which included a 2km radius review of statutory and non-statutory designated sites, Biodiversity Action Plan (BAP) Priority Habitats and granted EPSML records for reptiles held on Magic database.

35.3.71 Seven surveys were carried out at the site, using 180 reptile ‘refugia’ placed in suitable habitats within the survey area giving a survey density of 10 felts/ha which accords with guidelines. Of the 180 refugia, 162 were ‘felts’ (heavy duty bitumen roofing felt cut into approximately 50cm x 50xm squares) and 18 were corrugated roofing felt sheets of approximately 50cm x 50xm square. These were allowed to bed in for two weeks before the commencement of the surveys.

Figure 35-5: Location of the Individual Refugia and Sites where Common Lizard were Recorded (Arbtech, 2020).



Table 35-2: Reptile Presence/Absence Survey Results. Arbtech 2020.

Date	Survey Number	Observations
22/07/2020	1	No reptiles found in any felt group or elsewhere on site.
29/07/2020	2	One common lizard was located under Felt #155.
04/08/2020	3	One common lizard was located under Felt #56.
18/08/2020	4	No reptiles found in any felt group or elsewhere on site.
16/09/2020	5	No reptiles found in any felt group or elsewhere on site.
19/09/2020	6	No reptiles found in any felt group or elsewhere on site.

Date	Survey Number	Observations
24/09/2020	7	No reptiles found in any felt group or elsewhere on site.

35.3.72 Arbtech reported that during the survey effort there was disturbance to the grass verges on site resulting in the loss of refugia sheets. As such a maximum of one common lizard (*Zootoca vivipara*) was recorded on the site during the surveys (Figure 35-5 & Table 35-1) with an additional single common lizard found approximately 425m off site.

35.3.73 Arbtech advised that a Reptile Mitigation Plan will be required for the site which should include specific precautionary measures of working to avoid harm to common lizards and detailed enhancements of the developed site for the species.

Badgers

35.3.74 Following the initial identification of a number of active badger setts at the site for the original ES, one way badger gates were deployed under licence to deter badgers from the development site prior to the commencement of works. The original licence was from 22nd October 2015 and 30th November 2015, but was subsequently extended to permit the sett closure to continue until 15th December 2015 (Quants Environmental, 2016a).

35.3.75 Subsequent to the gate installation, a series of badger surveys have been conducted at the CCS site for the most part by Quants Environmental Ltd, primarily in 2016, 2018 and 2021, but also by Arbtech (2020) and Protected Species Ecology Ltd (2021).

35.3.76 The surveys have been undertaken in order to identify the ongoing presence of the species. These surveys employed standard observational evidence methods including the presence of latrines, snuffle holes, setts, snagged hair, badger footprints/paths and scratching posts.

35.3.77 Bait marking surveys have also been carried out, whereby bait containing peanuts, treacle, golden syrup and coloured granular plastic markers was placed at three main setts, with different coloured plastic markers for each sett, thus allowing to identify, through subsequent analysis of bead colour, inter-sett interactions.

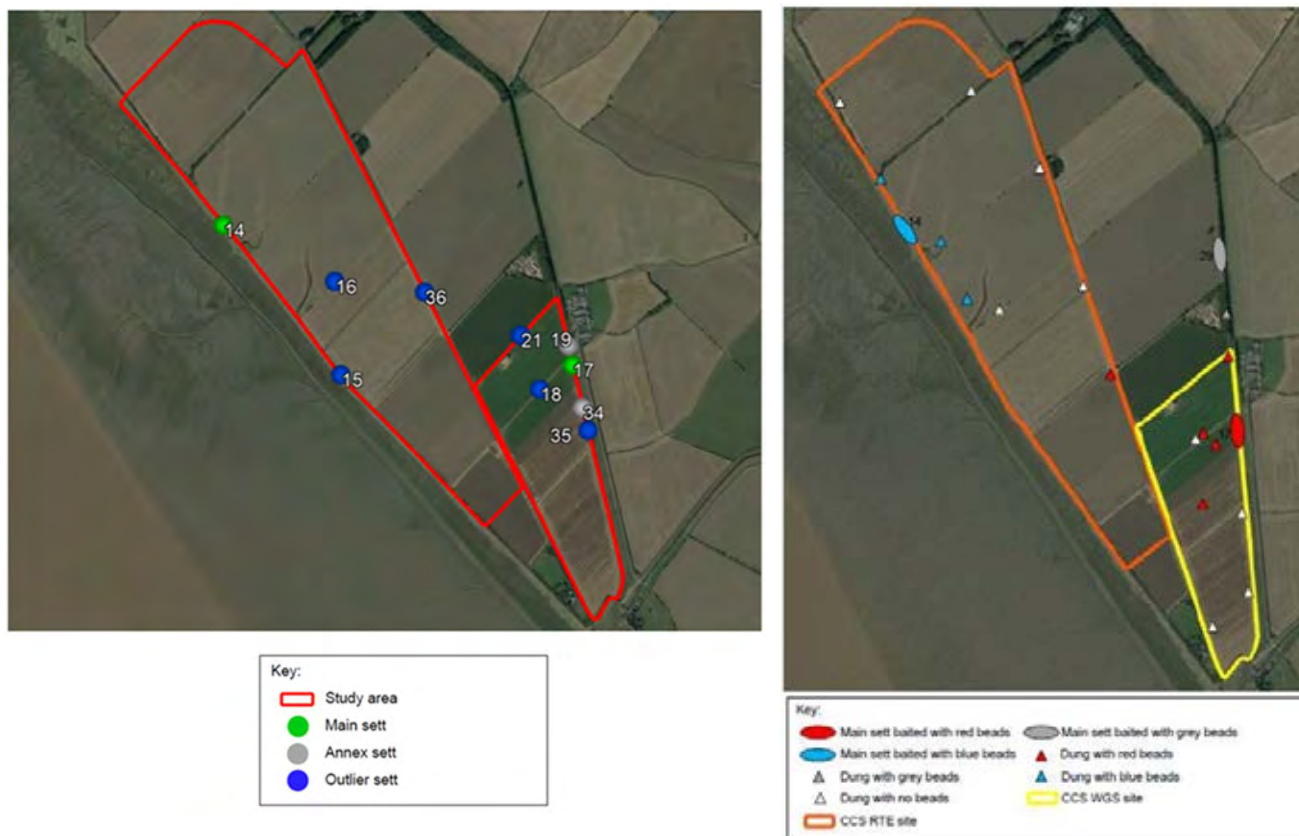
35.3.78 The Quants Environmental (2016b) programme recorded three main setts located on the CCS boundary adjacent to Keyingham Drain with the majority of entrances located within the banks of the drain. All of the entrances of the main setts were well used with connecting paths between entrances. Outlier setts were scattered throughout the ditches within the fields; the majority of which appeared to be active with well-worn paths leading from the setts.

35.3.79 The main setts comprised the following entrances:

- Sett A - 8 entrances; seven entrances are situated within the bankside of Keyingham drain with one large entrance on the bank top along the field boundary.
- Sett B - 26 entrances all located within the bankside of Keyingham drain.
- Sett C – 10 all located within the banks of a dry ditch along the woodland edge.

- 35.3.80** The Quants Environmental 2018 survey again recorded the greatest concentration of setts to be located adjacent to Keyingham Drain in the eastern part of the site, with three main setts along the Drain. Outlier setts were scattered throughout the field boundaries within the arable farmland and Quants concluded there to be a relatively high concentration of badger activity within the study area; a total of 83 active sett entrances recorded.
- 35.3.81** The Quants Environmental (2021a) spring 2021 survey recorded two main setts (comprising 6 entrances; and 9 entrances respectively). There were also two annexe setts (comprising 3 entrances; and 1 entrance respectively), five single-entrance outlier setts and one double-entrance Outlier sett.
- 35.3.82** The greatest concentrations of setts were located alongside Keyingham Drain on the eastern side of the study area and alongside Cherry Cobb Sands Bank on the western side of the study area. Elsewhere, single-entrance outlier setts were scattered along field boundaries within the arable farmland.
- 35.3.83** The Quants Environmental bait marking survey (Quants Environmental, 2021b) recorded dung without beads found throughout the site. Dung was not confined to field boundaries, but was also found along badger paths extending through the centre of fields. At these locations, dung was typically scattered rather than in a 'pit'. When typical latrines; i.e. dung 'pits' were located they were generally on corners of boundaries or close to a sett.
- 35.3.84** The majority of red beads (from bait placed at Sett 17) were found in dung pits in proximity to Sett 17 with one dung pit with red beads found in a field across Cherry Cobb Sands Road on the RTE side of the site. Only one return of grey beads was found (from bait placed at Sett 29) and this was in close proximity to Sett 29. All blue beads (from bait placed at Sett 14) were found in dung in proximity to Sett 14.
- 35.3.85** The movement of beads during the bait-marking survey indicated that there are potentially three separate social groups of badgers at the site. The territory of badgers at Sett 17 is likely to extend south as far as the southern end of Cherry Cobb Sands Road where Keyingham Drain / Stone Creek meet the Humber Estuary and these watercourses together act as barriers of dispersal (badgers can swim, but they are unlikely to do this on a regular basis).
- 35.3.86** It was concluded by Quants Environmental that there remained a relatively high concentration of badger activity within the study area, with further setts along Keyingham Drain but outside the wet grassland site, one of these sett having been previously included in the main sett totals for the site.
- 35.3.87** The distribution of setts from the Quants Environmental 2021a survey is shown in Figure 35-6, together with the results of the Quants Environmental 2021b bait (bead) survey.
- 35.3.88** A further survey of the CCS site in autumn 2021 (Protected Species Ecology Ltd, 2021) recorded three large setts along the flood defences, with one provisionally identified as a main sett, but it noted that the three setts could belong to individual groups. The survey also identified a potential increase in setts within the wet grassland area, albeit with one main sett present.
- 35.3.89** Notably, this survey also recorded evidence of otter (*Lutra lutra*). Otter are a European Protected Species and any impacts have to be licensed and have to be underpinned by a justification known as the three tests (necessary and unavoidable/public interest/favourable conservation status).

Figure 35-6: Badger Setts within the CCS Site (Left) & Bead Locations (Right)(Quants, 2021)



Otter

- 35.3.90 Although not identified as being present around the CCS site area in the original ES, the autumn 2021 surveys for badger presence (Protected Species Ecology Ltd, email to Able September 2021) identified the presence of otters in some of the badger setts.
- 35.3.91 They recorded evidence of otter using some of the badger setts and runs adjacent to Keyingham Drain, with the potential for wider use across the CCS site.

Birds

Coastal Waterbirds on the Intertidal Frontage

- 35.3.92 A survey programme to determine waterbird utilisation of the fronting intertidal area of the CCS site and within the RTE area was carried out in the autumn-winter-spring of 2020-2021. A detailed description of the survey methods and findings are described in Cutts & Hemingway (2021). The following summarises the abundance and distribution of key species recorded on the CCS intertidal frontage from this programme.
- 35.3.93 The survey areas referred to in the following summary text are shown in Figure 35-7, and are effectively as used for the baseline data collected for the original ES. Whilst the terrestrial habitat of the proposed RTE remained largely in arable production or as some form of set-aside as described in the 2011 data, importantly the 2020-2021 survey noted a considerable increase in the extent of saltmarsh on the fronting intertidal, with a concomitant reduction in open mudflat (see Figure 35-4

which has aerial photographs taken in 2007 and 2021 for comparison).

35.3.94 Only Zones C & D and the downstream buffer (downstream from Stone Creek) was sufficiently open to permit accurate survey counts from the flood bank, a reduced area than for the original baseline.

Figure 35-7: Waterbird Survey Programme 2020-2021. Survey Area and Reporting Sectors. Cutts & Hemingway (2021).



Shelduck (Tadorna tadorna)

35.3.95 Shelduck were present on the intertidal frontage throughout the survey programme with numbers tending to peak during the winter, with a site maxima of 1,196 individuals recorded around low water. The Cherry Cobb Sands therefore supports nationally important numbers of the species and is of considerable importance for Shelduck within the context of the Humber Estuary system.

Mallard (Anas platyrhynchos)

35.3.96 Small numbers of the species were present on most surveys, often using the creeks, including Stone Creek channel, and the smaller lateral creek running along shore and fronting the flood defences of Zones D and C. The peak of 64 individuals (from March) represents 6% of the Humber mean population, and as such, despite the low maxima, the location remains of regional importance for the species e.g. supporting over 1% of the Humber population of the species.

Teal (Anas crecca)

- 35.3.97 A peak of 598 birds was recorded at high water in December, with birds foraging predominantly along the lateral creek at this time, together with loafing birds. However, the distribution of the species within the creek systems of the intertidal frontage means that, like Mallard, a potential undercount occurred during the programme at low water, with flocks hidden from view in the creek system.

Lapwing (Vanellus vanellus)

- 35.3.98 Up to 2,678 birds were recorded around high water, the peak occurring in December, with most birds observed to be roosting, and with 2,191 birds at low water in the same month. The species tended to prefer the more open Zone D at this time, although smaller flocks were also recorded using the other Zones and from most months of the survey, giving a survey mean of 430 birds around high water and 516 individuals at low water. The peak from the programme represented around 16% of the Humber 5 year mean maxima with the site of regional importance for the species.

Golden Plover (Pluvialis apricaria)

- 35.3.99 The programme recorded a peak of 7,000 individuals on the frontage in December, towards high water, and with the majority of birds preferring the more open intertidal area of Zone D, these birds roosting. Flock size was in excess of the National Importance threshold on occasion.

Grey Plover (Pluvialis squatarola)

- 35.3.100 The species was generally well distributed across the site, preferring the mid shore, and responding to tidal inundation, often feeding in the tide edge. Some roosting was observed, primarily at high water, as well as sheltering in creeks, depressions and behind vegetation during periods of strong wind. A peak of 946 birds was recorded at low water in February, although with large, loose flocks present during most of the winter months. Numbers were well in excess of the national importance threshold in most survey months.

Curlew (Numenius arquata)

- 35.3.101 A peak of 597 individuals was recorded at low water in September 2020, but with birds present throughout the reporting period in numbers in excess of 100. Numbers at high water were lower with a peak of 259 birds. Notably, the species was also regularly recorded on the adjacent terrestrial fields (see Chapter 35). Interestingly however, although there was interchange by these birds between the fields and intertidal mudflat, there was no observed movement correlation with tidal inundation.

Bar-Tailed Godwit (Limosa lapponica)

- 35.3.102 Peaks of 400 (high water) and 373 (low water) were recorded from the current programme, these occurring in March and February respectively, and with most birds using Zone D to both feed and roost (regional importance).

Black-tailed Godwit (Limosa limosa)

- 35.3.103 The peak low water maxima of 1,555 individuals made in February was in excess of the International Importance threshold for the species (1,100 birds), with foraging undertaken across the mid to upper shore of all areas. High water also supported large numbers on neap tides, with a Nationally

Important 1,019 recorded in December.

Knot (Calidris canutus)

- 35.3.104 The species was almost absent around high water, but with some flocks recorded mostly roosting at low tide, with a December peak of 1,109 birds e.g. 5% of the Humber Estuary 5 year peak maxima, and thus of regional Importance.

Dunlin (Calidris alpina)

- 35.3.105 The species was one of the most numerous recorded at the site from the current programme, with foraging across most of the tide, and with roosting only at high water on the edge of the marsh on neaps, but with birds moving upstream to the larger marsh areas of Zones B & A on larger tides. A peak of 4,618 birds was recorded at low water in January, with loose flocks distributed across the mid shore. Although the high tide mean was lower at 1,602, with larger tides pushing birds out of view, the peak maxima was higher, with 5,480 birds present in December, with birds continuing to feed across the tide. Both the high and low tide maxima were in excess of the National Importance threshold for the species and represented around a third of the Humber 5 year mean maxima indicating that the Cherry Cobb Sands site is extremely important for the species.

Redshank (Tringa totanus)

- 35.3.106 At low water a peak of 825 birds was recorded in October, with numbers peaking during the autumn, and reducing to around 100 for the winter before a passage increase in March to over 250. At low water most birds were observed to be foraging. The high water peak of 704 birds was achieved in November, with some roosting. Zone D appeared to be the preferred area for the species, with birds in particular foraging and roosting in Stone Creek. This location preference meant the species was more readily disturbed by third parties than others located further down the intertidal zone. The maxima recorded indicate the site being of importance for the species at a Humber system level.

Conclusions

- 35.3.107 Based on the above, it was concluded by Cutts & Hemingway that the Cherry Cobb Sands intertidal frontage supported a waterbird assemblage which has considerable regional importance e.g. is an important component of the Humber Estuary SPA, with a number of species occurring in National and occasionally International Importance (Table 35-2).

Table 35-3: Waterbird Maxima & Mean Values (Autumn-Spring 2020-2021), Including Importance Thresholds (Cutts & Hemingway, 2021).

	Regional Importance (1% Humber WeBS Popn 19/20)	National Importance (1% National Population 18/19)	International Importance (1% of Flyway Population)	Cherry Cobb Sands Frontage: High Water		Cherry Cobb Sands Frontage: Low Water	
				2020-21 Maxima	2020-21 Average	2020-21 Maxima	2020-21 Average
Pink-footed Goose	110	5100	5400	2790	349	161	20
Shelduck	31	470	2500	927	563	1196	631
Wigeon	26	4500	14000	20	3	0	0
Mallard	10	670	20000	16	8	64	15
Teal	30	4300	5000	598	207	344	73
Lapwing	129	6200	20000	2678	430	2191	516
Golden Plover	216	4000	9300	7000	1050	5108	1875
Grey Plover	16	330	2000	861	235	946	466
Ringed Plover	4	420	540	0	0	223	65
Curlew	21	1200	7600	259	64	597	243
Bar-tailed Godwit	18	500	1500	400	105	373	128
Black-tailed Godwit	71	390	1100	1019	219	1555	429
Knot	129	2600	5300	40	5	1109	217
Dunlin	160	3400	13300	5480	1602	4618	2324
Redshank	22	940	2400	704	159	825	326

35.3.108 The summary data in Table 35-3 indicate that the CCS site intertidal frontage supported an internationally important population of Black-tailed Godwit, a qualifying species for the Humber Estuary SPA, on one occasion around low water, and a nationally important low water population mean across the survey programme.

35.3.109 This is of some note given the requirements of the CCS site (RTE and wet grassland to compensate for losses of Black-tailed Godwit from the AMEP Site on the south bank. Movement across the estuary was observed by Cutts & Hemingway (2021) during the survey programme, and certainly the data indicate a considerable population of the species undertakes movements across the estuary.

35.3.110 Other species in national importance and/or qualifying features of the Humber SPA are Shelduck with a maxima of 1196 representing 27% of the Humber WeBS 5 year mean (15/16-19/20); Golden Plover with a maxima of 7,000 representing 22% of the Humber 5 year mean; Knot with a maxima of 1,109 representing 5% of the Humber 5 year mean; Dunlin with a maxima of 5,480 representing 34% of the Humber 5 year mean; Bar-tailed Godwit with a maxima of 400 representing 26% of the Humber 5 year mean and Redshank with a maxima of 825 representing 29% of the Humber 5 year mean.

35.3.111 Based on these percentage values, it was considered by Cutts & Hemingway (2021) that the Cherry Cobb Sands intertidal frontage is an nationally important site in its own right, supporting a waterbird assemblage density that is greater than the Humber Estuary as a whole.

Coastal Waterbirds on the CCS (RTE) Site (Terrestrial Fields)

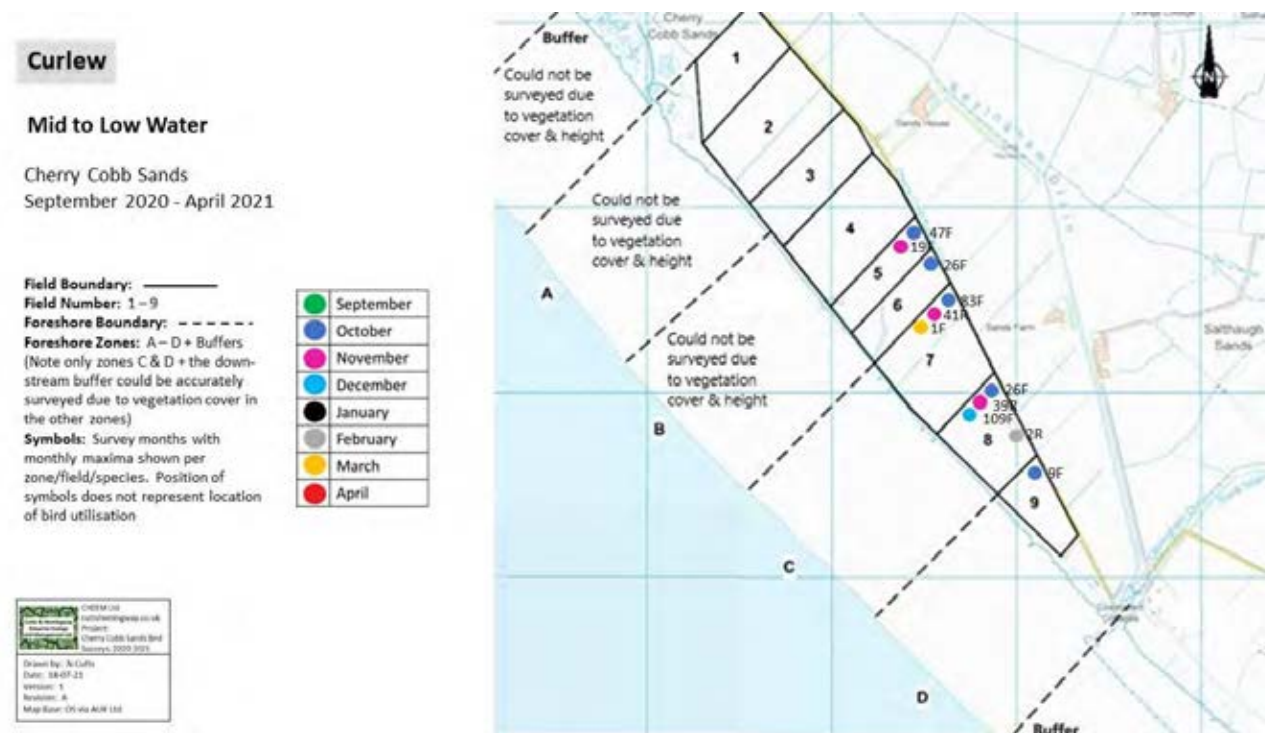
35.3.112 The arable fields between the flood bank and Cherry Cobb Sands road were also surveyed as part of the programme. As noted above, whilst some of the fields were under arable cultivation, most of the fields which would form the RTE site were uncultivated, although had stubble and or emergent vegetation present during the programme.

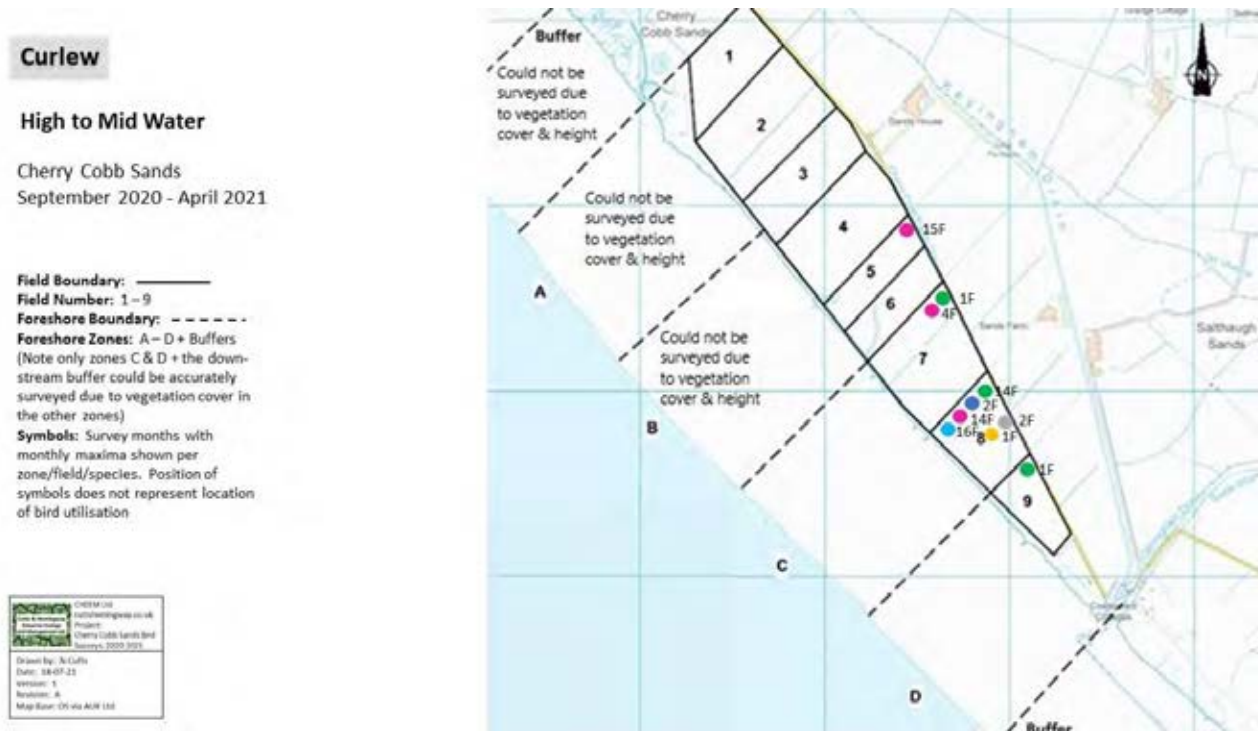
- 35.3.113 Field utilisation by waterbirds was generally low during the programme, although it was noted that some of the programme was conducted during COVID restrictions, and there was considered to be considerable public access both along the flood bank crest by walkers, dog walkers, and along the road by walkers and cyclists with disturbance to waterbirds (flight response) using the fields frequently observed.
- 35.3.114 Lapwing and Redshank were occasionally observed in several of the fields, with 45 Lapwing roosting in field 8 between high and mid water in October, and a flock of 480 birds roosting in field 9 between mid and low water in February.
- 35.3.115 However, Curlew were most frequently recorded from the RTE site fields, present from fields 5 to 9 on occasion, but with greatest utilisation of field 8 (Figure 35-8).
- 35.3.116 Peak usage of the fields was in October and November, with a near absence by March with birds moving out to breeding areas.

Breeding Birds

- 35.3.117 No new breeding bird data have been collected at the CCS site since the original ES.

Figure 35-8: Curlew Field Utilisation September 2020-April 2021 High to Mid and Mid to Low Tides (Cutts & Hemingway, 2021)





Changes in Baseline

Terrestrial Habitats

- 35.3.118 Examination of aerial images e.g. Google Earth Pro, including those in Figure 35-4 taken in spring 2007 and 2021, shows a broadly similar agricultural land use between years, albeit with the land within the CCS site apparently not having had a crop put down in 2021.
- 35.3.119 This is consistent with observations made during the 2020-2021 waterbird survey, whereby other than crop differences, the arable nature of the land use and fringing habitats e.g. hedges and ditches were broadly similar to those from around the time of the original ES data collection.
- 35.3.120 As noted earlier in text, the extent of saltmarsh habitat on the intertidal fronting the CCS site had however increased substantially from the original ES baseline. This increase is consistent with that identified by the Environment Agency (2022) in the middle and lower Humber.

Protected Species

Great Crested Newt

- 35.3.121 The original ES did not identify the presence of Great Crested Newt within the CCS site boundaries. No new data has been collected since the original ES.
- 35.3.122 Given little apparent change in habitats around the CCS site, it is not expected that there has been a change in status of the species.

Bats

- 35.3.123 A likely presence of bat species was identified in the original ES. No new data has been collected since the original ES.
- 35.3.124 Given little apparent change in habitats around the CCS site, it is not expected that there has been a change in status of the species.

Water Voles

- 35.3.125 The potential presence of water voles within the original ES was noted (four potential burrows, but no evidence of footprints, runs, droppings, latrines or feeding signs. Additional surveys were conducted at the CCS site in 2015 and 2020 with these not identifying any signs of water vole use, these concluding that the CCS development site provides negligible habitat value for water voles.
- 35.3.126 Given little apparent change in habitats around the CCS site, it is not expected that there has been a change in status of the species.

Reptiles

- 35.3.127 The surveys conducted for the original ES did not record any reptiles, concluding the arable cultivation would be unsuitable for most species, although with the potential for utilisation of fringing rank grassland by grass snake (*Natrix natrix*). The dedicated reptile survey conducted in 2020 recorded the presence of common lizard, although in low numbers.
- 35.3.128 Given little apparent change in habitats around the CCS site, the presence of common lizard on the site suggests a change from baseline data. However, it may be that survey effort was considerably greater in the 2020 survey, allowing a greater opportunity for reptiles to be recorded. The 2020 data did not record the species as abundant, although with some disturbance to the traps, which may have affected positive recording.
- 35.3.129 The presence of common lizard within the CCS site will mean the potential for impacts, the need for mitigation measures and development of a management plan. Aspects of this are discussed in the following Section.

Badgers

- 35.3.130 Surveys undertaken for the original ES identified a series of active setts around the CCS site, predominantly along the main drains and flood banks. A series of badger surveys have been undertaken since the original ES, primarily in 2016, 2018 and 2021, with the active setts recorded each survey year. The most recent programme (2021) recorded two active main setts, two annex setts and a series of active outlier setts. Bait tracking indicated that there are three separate social groups.
- 35.3.131 On the basis that badger setts were recorded as part of the baseline, and throughout the subsequent decade, it is concluded that there is no substantial alteration to the status of the species, this despite attempts to reduce their presence through the use of badger gates on some setts.
- 35.3.132 The conclusions from the 2021 survey was that the CCS site supports a relatively high concentration of the species with the CCS site development having the potential for impacts, the need for licensing of activities, potential mitigation measures and development of a management plan. Aspects of this are discussed in the following Section.

Otters

- 35.3.133** Presence of the species was noted from badger surveys undertaken in September 2021 (Protected Species Ecology Ltd via email to Able). Although otters were not directly observed the survey recorded clear evidence of otter using the badger setts and runs along Keyingham Drain, and with the potential for other setts within the wider CCS site to also be being used by otter.
- 35.3.134** Otters are designated and protected as a European Protected Species (EPS), and EPS are protected under the Conservation of Habitats and Species Regulations 2017. It is an offence to:
- deliberately kill, injure, disturb or capture them damage or destroy their breeding sites and resting places - even if otters are not present possess, control or transport them (alive or dead).
- 35.3.135** It is also an offence under the Wildlife and Countryside Act 1981 to intentionally or recklessly:
- disturb otters while they occupy a structure or place used for shelter or protection
 - obstruct access to a place of shelter or protection
- 35.3.136** If a proposed development is likely to affect an otter, then developer must apply for an otter mitigation licence. There would be an expectation that this would be a requirement at the CCS site.

Coastal Waterbirds

Waterbirds on the Fronting Intertidal

- 35.3.137** An important waterbird assemblage was recorded from baseline surveys of the CCS site intertidal frontage for the original ES. An autumn to spring survey programme undertaken on the CCS site frontage over 2020-2021 also recorded an important assemblage, but with some variation in species composition, abundance and utilisation.
- 35.3.138** A comparison of high and low water maxima and mean values between the 2010/11 and 2020/21 surveys for key species of waterbirds is provided in Table 35-3.
- 35.3.139** Whilst for some species, Table 35-4 shows a broad comparability in in utilisation between the two programmes, there are also some species which have increased in numbers, and some that have decreased. Patterns are further complicated between high and low water data.

Table 35-4: Waterbird Species Abundance Maxima Comparison. Cherry Cobb Sands 2010/11 – 2020/21. Cutts & Hemingway 2021. Cells shaded green indicate a higher usage value from the 2020/21 programme compared to 2010/11. Cells shaded red denote a corresponding reduction in values from the programme.

	Cherry Cobb Sands Frontage: High Water						Cherry Cobb Sands Frontage: Low Water					
	2010-11 Maxima	2020-21 Maxima	2010-11 Average	2020-21 Average	Maxima Change 2010-2020	Average Change 2010-2020	2010-11 Maxima	2020-21 Maxima	2010-11 Average	2020-21 Average	Maxima Change 2010-2020	Average Change 2010-2020
Pink-footed Goose	48	2790	6	349			400	161	70	20		
Shelduck	869	927	309	563			2408	1196	546	631		
Mallard	240	16	82	8			125	64	87	15		
Teal	529	598	105	207			215	344	70	73		
Lapwing	72	2678	17	430			2073	2191	383	516		
Golden Plover	7800	7000	1571	1050			11735	5108	3089	1875		
Grey Plover	248	861	158	235			623	946	443	466		
Ringed Plover	284	0	36	0			351	223	46	65		
Curlew	994	259	271	64			1703	597	413	243		
Bar-tailed Godwit	358	400	70	105			282	373	84	128		
Black-tailed Godwit	53	1019	9	219			544	1555	123	429		
Knot	2600	40	1014	5			5180	1109	2699	217		
Dunlin	2940	5480	842	1602			2790	4618	1612	2324		
Redshank	579	704	275	159			801	825	355	326		

35.3.140 One potential key causal factor in variability is intertidal elevation change and/or associated saltmarsh colonisation. However, whilst this expansion certainly restricted available open mudflat carrying capacity it appears not to have impacted the numbers of some species using the wider site, both at low and high water.

35.3.141 For instance, a substantial increase in Black-tailed Godwit was recorded at both high and low water from the 2020/21 survey campaign compared to the 2010/11 data, despite only a small change in regional numbers between the programme periods (WeBS on-line accessed April 2023). This would suggest that conditions, in particular for foraging, are as good, if not better currently (2020/21).

35.3.142 However, Knot numbers declined substantially over the same period, although with the species ostensibly having broadly similar prey preferences to those of Black-tailed Godwit e.g. bivalves and polychaetes.

35.3.143 Dunlin, however, which often forage with Knot, and again have a broadly similar diet showed considerable increases in numbers at the site over the same period.

35.3.144 The authors of the 2021 report concluded that changes in functional delivery at the site are therefore complex, and possibly related to multiple factors which affect individual species differently.

35.3.145 They did note that tidal inundation had a substantial influence on high water utilisation at the site, and suggested that as such, any increase in mudflat elevation would allow foraging and roosting on the site to occur over both longer diurnal periods and a greater number of tides.

35.3.146 This may therefore have influenced some waterbird species utilisation, but in the absence of additional detailed and historical environmental data, no firm casual factors could be determined. However, it is emphasised that changes in mudflat extent, elevation, tidal inundation and associated faunal characteristics and higher trophic guild functional provisions will vary naturally in estuaries.

35.3.147 Such variability is considered an important component of the maintenance of the health of the

Humber Estuary ecosystem.

- 35.3.148** These changes in the abundance and utilisation of individual species, as well as increase in saltmarsh extent and concomitant loss of open mudflat does not decrease the general value of the fronting intertidal.
- 35.3.149** The Cherry Cobb Sands intertidal frontage can be considered a nationally important site in its own right, supporting a waterbird assemblage density that is greater than the Humber Estuary as a whole, as well as substantially contributing functional capacity for Humber Estuary ecosystem health and the Conservation Objectives of Humber Estuary SPA, SAC and Ramsar.
- 35.3.150** As such, the impacts of the CCS site development will require detailed impact assessment, as well as the provision of mitigation measures and a management plan. Aspects of this are discussed in the following Section.

Coastal Waterbirds on the CCS (RTE) Site (Terrestrial Fields)

- 35.3.151** Utilisation of the arable fields behind the flood bank by some waterbird species was recorded in 2010/11 for the original ES and with a similar survey coverage in 2020/21.
- 35.3.152** The 2010/11 baseline data recorded a number of species using the terrestrial fields, including 787 Lapwing, 40 Golden Plover, 85 Dunlin, 26 Grey Plover, 21 Bar-tailed Godwit and 650 Curlew.
- 35.3.153** The 2020/21 programme recorded fewer species using the terrestrial fields. Lapwing and Redshank were occasionally observed in several of the fields, with a maxima of 480 Lapwing roosting, and 4 Redshank feeding. The most frequent utilisation of the fields was by Curlew with a peak of 181 birds recorded using the CCS fields
- 35.3.154** The reason for the reduction in species and numbers using the fields is unclear. As noted above, most of the fields within the CCS site were under some form of set-aside during much of the survey, with stubble and then residual crops developing in the area.
- 35.3.155** The absence of ploughing and tilling of these fields may have reduced their potential for foraging and suitability for roosting, particularly as flocks of Curlew, Lapwing and Black-tailed Godwit were observed flying from the intertidal to fields further in land on several surveys, with these fields potentially under active farming and thus potentially more attractive.
- 35.3.156** Changes in saltmarsh extent, and potentially intertidal elevation may also have affected the requirement for high tide roost use on the adjacent terrestrial fields.
- 35.3.157** The saltmarsh upstream on Cherry Cobb Sands was regularly noted to be being used by very large flocks of wildfowl and waders around spring tides when the areas of upper shore open mudflat were inundated, with flocks only occasionally observed as they put to flight from the vegetation or pans within the vegetation, before resettling again out of sight from the flood bank.
- 35.3.158** On neap tides a considerable area of the mid to upper shore open mudflat remained available, and as such, waterbirds preferentially utilised this area rather than moving inland.
- 35.3.159** In fact Cutts & Hemingway (2021) noted that there was surprisingly very little correlation between utilisation of the terrestrial fields of the CCS site and tidal inundation.
- 35.3.160** On the basis of the 2020/2021 data, it would seem that the importance of the terrestrial fields within

the CCS site has slightly reduced in value compared to the original baseline.

Breeding Birds

- 35.3.161** A breeding bird assemblage characteristic of a largely arable near-estuary habitat was identified in the original ES baseline. No new data have been collected for this update.
- 35.3.162** Given little apparent change in habitats around the CCS site, it is not expected that there has been any substantial change in the breeding bird assemblage, other than wider (regional and national) changes to breeding farmland bird status e.g. Harris et al, 2022.

35.4.0 Assessment of Effects

- 35.4.1 The following is based on the proposed CCS works proceeding as originally identified and consented. The assessment follows a similar approach to that of the original ES, but where applicable updates the findings based on either new ecological data or a revised assessment framework.

Additional Construction Phase Effects

Terrestrial Habitats

- 35.4.2 No new data have been collected for Terrestrial Habitats since the original ES. Comparison of aerial photographs (Google Earth Pro) from spring 2007 (before the original ES) and 2021 (an approximate 'current state', show little change in the flood bank, drainage ditches and field layout, although it appears that the arable land of the CCS site is no longer under agricultural production at the time of the 2021 photograph.
- 35.4.3 This correlates with observations made during the 2020-2021 waterbird survey at the site. As such, it is considered that the original ES assessment remains valid.
- 35.4.4 The original ES stated that once construction starts there will be disturbance to most existing terrestrial habitats within the Cherry Cobb Sands due to the re-grading of ground and movement of plant and machinery across the site. There will be a substantial amount of earth moving to create the realigned embankment and the new intertidal area.
- 35.4.5 However, given the large extent of similar terrestrial habitat in the local area, the loss of useable habitat on site during construction has been assessed as being of **permanent minor adverse significance**.

Protected Species

Great Crested Newt

- 35.4.6 No new surveys have been undertaken. However, the species was absent from the original ES. As such, the original ES assessment is considered valid, with no predicted impact to the species.

Bats

- 35.4.7 No new surveys have been undertaken. However, the habitats of the area remain broadly similar to those from the original ES. The assessment from the original ES therefore remains valid.
- 35.4.8 If bats are foraging in or around the site, they may be impacted by any local artificial lighting that is in use after sunset during the construction phase as they would not be habituated to this. Nevertheless, the works are planned to be undertaken during normal working hours in the summer months (with comparatively late sunsets), and therefore light disturbance during foraging is unlikely to be an issue.

Water Voles

- 35.4.9 Dedicated water vole surveys conducted at the CCS site in 2015 and 2020 did not find any signs of water vole use, these concluding that the CCS development site provides negligible habitat value for water voles. Given little apparent change in habitats around the CCS site, it is not expected that

there has been a change in status of the species.

- 35.4.10 The original ES recorded four holes in the banks of the ditch running adjacent to Cherry Cobb Sands Road suggesting a transient population. The original ES concluded that there would be an impact of negative significance. However, given the subsequent absence of the species, this might be considered to be of **permanent minor adverse significance**.

Reptiles

- 35.4.11 No reptiles were recorded from the original ES. However the presence of at least one common lizard was recorded from more recent surveys.
- 35.4.12 The original ES assessment concluded that if present on site, reptiles would be vulnerable to injury by construction plant and machinery. However, as reptiles will be mobile during summer months (when construction is planned) they have the potential to disperse to adjacent areas if necessary. Potential impacts upon reptiles were therefore assessed as being **negligible**.

Badgers

- 35.4.13 The presence of badgers within the CCS site was identified during the original ES, and they continue to be present (most recent 2021 data). However, sett utilisation has varied over time, with the general results of the original ES assessment being that no main or annex setts would be affected. From the more recent surveys, it would be more likely the case that such setts would have the potential to be detrimentally affected by the CCS development with the following impacts:
- Destruction / partial-destruction of badger setts including two outlier setts and three entrances of one of the main setts.
 - Disturbance (noise, vibration) of badgers using all identified setts during construction.
 - Obstruction of access to key badger foraging grounds and dispersal routes applicable to all identified setts during construction.
- 35.4.14 On this basis, the impact to badgers on the CCS site is considered to be a **permanent major adverse effect** which is **significant**. This is an **increase in the severity** of impact from the original ES. Nevertheless, these changes in impact and effect are borne from a change in the baseline subsequent to ongoing surveys, and would not be as a result of the proposed extension of time.

Otters

- 35.4.15 The 2021 badger survey recorded clear evidence of otter use in setts and along runs adjacent to Keyingham Drain, and with the potential for wider utilisation of the same by the species across the CCS site.
- 35.4.16 Otters are designated and protected as a European Protected Species under the Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act 1981.
- 35.4.17 There is a strong likelihood that the proposed works would affect otters in the area, certainly through disturbance and loss of habitat.
- 35.4.18 The presence of otter on the CCS site was not recorded in the original ES, and a dedicated otter survey programme is required to confirm the presence of the species on the CCS site, and if present,

actions necessary to ensure no contravention of protected species legislation.

- 35.4.19** This may involve pre-construction for methods to exclude otter from the site and thus from risk of disturbance or harm, but without surety of the presence of otter, then impacts cannot be fully addressed.
- 35.4.20** However, on a precautionary presumption that the species is present, based on non-species specific survey observations (Protected Species Ecology Ltd via email to Able, 2021), the impact to otter on the CCS site is considered to be a **permanent major adverse effect** which is **significant**. This is an **increase in the severity** of impact from the original ES which did not identify the presence of the species on the site.

Birds

Coastal Waterbirds on the Intertidal

- 35.4.21** There will be a range of construction activities undertaken within the CCS site over the period of construction. These works will generate noise and also potentially visual disturbance cues. Construction of the breach requires excavation of saltmarsh habitat immediately in front of the defences that will be removed which will allow water to enter the site.
- 35.4.22** The area of saltmarsh habitat that will be excavated is approximately 250m wide. The width of saltmarsh at the breach location has potentially increased since the original ES, and extends further down the intertidal profile to a lateral creek. The saltmarsh is c. 125m wide at this point (from creek to base of the flood bank, compared to the 70m figure used in the original ES).
- 35.4.23** The original ES noted the possibility that construction of the breach and new embankment, and associated earthworks at the CCS site will cause disturbance to birds using intertidal foreshore areas in front of the existing embankment, due to noise and the presence of additional personnel in the area. The original ES identified that the extent of such disturbance on the foreshore will vary depending on the construction work being undertaken and on the state of the tide. The original ES noted that around low tide, birds may not be disturbed as they can utilise the mudflats further out into the estuary, but at higher states of the tide, impacts may be greater as birds will be restricted to a narrower strip of the intertidal zone which will result in them being in closer proximity to construction plant and personnel.
- 35.4.24** The original ES also noted that some birds will tolerate a degree of disturbance from noise and additional personnel in the area, as they will be habituated to noise and visual intrusion from agricultural operations and users of the footpath on the existing embankment.
- 35.4.25** Whilst the new waterbird data collected from 2020-2021 indicate some changes in assemblage composition, in general, the potential pathways of effect identified from the original ES remain valid.
- 35.4.26** However, the presence of a fringing saltmarsh of between 100m and 150m width between the flood bank and lateral creek fronting the CCS site meant (an increase in extent from that present for the original ES), means that utilisation of the upper shore near-bank linear intertidal habitat by waterbirds was low.
- 35.4.27** Some utilisation of the lateral Cherry Cobb Sands creek which runs parallel to the flood bank, c. 125m-150m from its toe, by Mallard, Teal, Curlew and Redshank was observed from the 2020-2021 programme, but these birds were often disturbed (put to flight) by third party walkers along the

public right of way on the flood bank crest. Such a response might be expected given the proximity of birds to the disturbance stimuli e.g. as described in Cutts et al 2013.

- 35.4.28** The original ES noted that the working area will be concentrated at different locations within the Cherry Cobb Sands site as construction progresses and therefore the distance of waterbirds on the adjacent intertidal zone to the main source of noise is likely to be greater than 200m, with the greatest impacts to waterbirds on the intertidal frontage during the excavation works within terrestrial zones 4-9, with the corresponding fronting intertidal zones (zones B, C, D and E) having the highest levels of bird usage.
- 35.4.29** The original ES concluded that given the important waterbird assemblage on the foreshore, the temporary disturbance of these birds as a result of construction noise and the presence of construction workers would have been of moderate negative significance.
- 35.4.30** However, the findings of the 2020-2021 survey indicate that whilst zones C & D (and zone E on the down-stream side of Stone Creek), support large numbers of waterbirds, the increase in the fringing upper shore saltmarsh means that waterbirds tends to restrict foraging to c. 125m of the flood bank.
- 35.4.31** Furthermore, given mudflat profile and regular disturbance from third parties on the flood bank PRoW, the majority of foraging and roosting/resting, is conducted over 200m from the bank, and predominantly with the majority of birds using the 500m wide mid-shore band starting c. 250-300m from the upper shore and extending down-shore to c. 250-300m from low water
- 35.4.32** From the 2020-2021 programme, the majority of waterbirds utilised the wider mid shore extensive mudflats to feed and roost around high to mid water, with the majority of birds using the 500m wide mid-shore band starting c. 250-300m from the upper shore and extending down-shore to c. 250-300m from low water.
- 35.4.33** Observation of third party effects during the 2020-2021 bird survey programme suggests that visual disturbance effects from the crest would be generally limited to a radius of 225m, which is consistent with recommendations on disturbance ranges (Flight Initiation Distance (FID)) for most species in Cutts & Hemingway 2013, with disturbance tending to occur primarily only during periods around high water when birds are forced onto the upper shore within c. 150m of the bank e.g. onto the lateral creek banks and channel.
- 35.4.34** As such, only a relatively small number of the Cherry Cobb Sands waterbird assemblage would now be within range of potential disturbance from the CCS site works and breach construction (compared to at the time of the original ES), with most of the assemblage preferentially utilising the roosting area upstream on the main Cherry Cobb Sands marsh around high water.
- 35.4.35** Furthermore, existing disturbance stimuli from the PRoW on the bank crest provides a restriction in high tide compression utilisation on the extreme upper shore.
- 35.4.36** The potential for impact to the waterbird assemblage of the intertidal is further reduced given the intertidal area to be 'lost' due to the breach and breach channel is colonised by saltmarsh. Based on the data from the 2020-2021 waterbird survey, this area of extreme upper shore is colonised by wet grassland and saltmarsh (mostly *Spartina*).
- 35.4.37** As such, the loss of functional habitat area for waterbirds is negligible. Furthermore, it would be expected that the small loss of fronting intertidal function for waterbirds will be compensated for within the Cherry Cobb Sands site once new habitat forms within the site following the breach.

35.4.38 On this basis, whilst the waterbird assemblage has a high sensitivity, the factors affecting utilisation around the CCS breach and site works indicate a low magnitude and the resulting effect is considered to be a reduction of severity from the original ES to a **permanent minor adverse effect** which is **significant**.

Coastal Waterbirds on the Terrestrial CCS Site

35.4.39 The original ES identified that construction of the Cherry Cobb Sands managed realignment scheme would cause loss of roosting and feeding habitat for waterbirds utilising fields behind the existing embankment at Cherry Cobb Sands. This area is used by certain waterbirds, including curlew and eight other SPA designated species. It was considered that during construction of the site, curlew and other waterbirds utilising the fields for roosting would migrate to the extensive available area of fields at either end of, or behind, the realigned embankment. The impact was therefore considered to be temporary and of moderate negative significance.

35.4.40 The new waterbird data for terrestrial CCS field usage (2020-2021) identified a reduction in the number of species and abundance of those present, utilising the fields, possibly reflecting a change in agricultural practice and or, changes in the intertidal profile allowing roosting on the intertidal over more tide heights.

35.4.41 The availability of adjacent arable fields remains the case, with likelihood of birds moving to these during construction, with waterbirds observed using these alternative fields during the 2020-2021 programme.

35.4.42 The impact to waterbirds from construction related exclusion from the CCS fields is therefore still considered to be temporary but now of a **minor adverse effect** which is **not significant**.

Breeding Birds

35.4.43 No new breeding bird data have been collected, and subject to the notes on land use above, there has been little or no change to habitats within the CCS site since the original ES.

35.4.44 It is therefore considered that the assessment of impacts to breeding birds would be unaltered. The conclusion of impact severity in the original ES was assessed as being of **short term minor beneficial effect** which is **not significant**, with impacts to the soke dyke being of **negligible adverse** and **not significant**.

Additional Operational Phase Effects

Terrestrial Habitats

35.4.45 No new data have been collected for Terrestrial Habitats since the original ES. Comparison of aerial photographs (Google Earth Pro) from spring 2007 (before the original ES) and 2021 (an approximate 'current state', show little change in the flood bank, drainage ditches and field layout, although it appears that the arable land of the CCS site is no longer under agricultural production at the time of the 2021 photograph.

35.4.46 This correlates with observations made during the 2020-2021 waterbird survey at the site. As such, it is considered that the original ES assessment remains valid.

35.4.47 The original ES identified that the creation of the managed realignment at Cherry Cobb Sands will

result in the permanent loss of terrestrial habitats including agricultural land (mainly arable) with associated soke dykes, hedgerows and occasional trees and a few small patches of improved grassland. The permanent loss of terrestrial habitat is therefore assessed as being of **minor adverse effect** which is **not significant**.

35.4.48 Loss of trees from the Cherry Cobb Sands site was also assessed as being of **minor adverse effect** which is **not significant**.

35.4.49 Given no fundamental change in habitats at the site, the conclusions on impact remain as in the original ES.

Protected Species

Great Crested Newt

35.4.50 No new surveys have been undertaken. However, the species was absent from the original ES and therefore the original ES assessment does not consider Great Crested Newt impacts.

35.4.51 However, given surveys have indicated conditions to be unsuitable for the species, then the original ES assessment findings for the construction phase would appear to be equally valid for the operational phase, with **no predicted impact** to the species.

Bats

35.4.52 The original ES identified that if bats are foraging nearby, their feeding patterns may be impacted by the removal of hedgerows that form flight paths. However, survey evidence indicated that the area was not very important to bats, and therefore any impact will be negligible.

35.4.53 No new survey data have been collected, but on the basis of the design remaining as was identified from the original ES, then the impact remains valid.

Water Voles

35.4.54 The water vole survey carried out for the original ES identified a small transient population with four holes in the banks of the ditch running adjacent to Cherry Cobb Sands Road. The original ES concluded that there would be negligible effects on water voles once the managed realignment site is operational.

35.4.55 Dedicated water vole surveys conducted at the CCS site in 2015 and 2020 did not find any signs of water vole use, these surveys concluding that the CCS development site provides negligible habitat value for water voles.

35.4.56 Given little apparent change in habitats around the CCS site, it is not expected that there has been a change in status of the species. Based on the apparent absence of the species, this might be considered to be of at worst a **minor adverse effect** which is **not significant**.

Reptiles

35.4.57 No reptiles were recorded from the original ES. However the presence of at least one common lizard was recorded from more recent surveys.

35.4.58 The original ES assessment concluded that there would not be any impacts on reptiles during

operation of the CCS site.

- 35.4.59 Given the presence of a common lizard from the more recent surveys, the impact is therefore increased from not occurring to one assessed as being **negligible adverse effect** and **not significant**.

Badgers

- 35.4.60 The original ES considered the operational impacts of the CCS site to be that the site would be less suitable for the species, but with the loss of foraging habitat only likely to be detrimental during periods of food shortage.

- 35.4.61 Effectively this would remain the case, based on the impacts to setts occurring during construction, with, assuming setts remained operational, the change in habitat reducing preferred foraging habitats and associated food sources. On this basis the impact is considered at worst of a **minor adverse effect** which is **not significant**.

Otters

- 35.4.62 A potential presence of otter was identified at the site during badger surveys undertaken in 2021, with potential use of badger setts and along runs / paths.

- 35.4.63 Otters are designated and protected as a European Protected Species under the Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act 1981 and additional studies will be required to assess current otter use at the CCS site.

- 35.4.64 The outcomes of such a survey will determine the presence of otter and, if present, actions necessary to ensure no contravention of protected species legislation. This may involve pre construction for methods to exclude otter from the site and from risk of disturbance or harm.

- 35.4.65 As such, there would be potentially few additional impacts during operation, with otters potentially having been excluded from the site pre-construction of the CCS, or perhaps provided with alternative holts etc.

- 35.4.66 In fact there is the potential for the operational CCS site which would include wet grassland, marsh, tidal creeks and large lagoonal areas that there would be an increase in potential for otters to forage.

- 35.4.67 Given the absence of the species from the original ES assessment, then the operational impact is therefore potentially increased. However, as there are no definitive results from dedicated otter surveys at the CCS site, there is a potential range of impact from not occurring to one assessed as being **long-term minor adverse to positive** depending on status.

Birds

Coastal Waterbirds on the Intertidal

- 35.4.68 The CCS site was assessed as having a positive impact upon the feeding resource for waterbirds of major significance in the original ES given the increase in intertidal area provided adjacent to the existing Cherry Cobb Sands intertidal resource.

- 35.4.69 However, as the boundary of the site will be much closer to Cherry Cobb Sands Road than the original ES suggested, feeding or roosting birds on the site may therefore be more readily disturbed by passing traffic along the road or during activities to maintain the new embankment (including

grass cutting for example). However, habituation to existing similar activities was noted, and that the new embankment itself would act as a noise and visual buffer. The impact of operational noise upon birds was therefore considered to be negligible.

- 35.4.70 Given the new data (e.g. 2020-2021) for birds using the fronting intertidal, then it is concluded that the value of the new habitat as identified in the original ES remains valid, particularly given the level of Black-tailed Godwit utilisation observed. Furthermore, given the level of disturbance noted along the current PRoW, then the provision of a new bank will potentially reduce the net disturbance impact. As such, a **minor positive effect** is expected.

Coastal Waterbirds on the Terrestrial CCS Site

- 35.4.71 The original ES identified that the operation of the managed realignment at Cherry Cobb Sands would cause a loss of roosting and feeding habitat for waterbirds utilising the fields behind the existing embankment. However, during operation of the site, waterbirds utilising the fields for roosting would migrate to fields at either end of, or behind, the realigned embankment.
- 35.4.72 The original ES assessed the operational impact of this loss of habitat as being of minor negative significance.
- 35.4.73 The new waterbird data for terrestrial CCS field usage (2020-2021) identified a reduction in the number of species and abundance of those present, utilising the fields, possibly reflecting a change in agricultural practice and or, changes in the intertidal profile allowing roosting on the intertidal over more tide heights.
- 35.4.74 The availability of adjacent arable fields as cited in the original ES would however remain the case, with likelihood of birds moving to these during construction, with waterbirds observed using these alternative fields during the 2020-2021 programme.
- 35.4.75 The impact to waterbirds from the operational loss of the CCS arable field habitat is therefore considered only to be of negligible significance given the generally low level of utilisation by waterbird species and the presence of alternative habitats that, during the 2020-2021 survey programme, were already being used.

Breeding Birds

- 35.4.76 The original ES identified that the fields of the CCS site were of low to moderate ornithological value for breeding birds, and were characteristic of farmland habitat and the estuarine fringe of the Holderness area. The impact of loss of roosting and feeding areas for breeding birds was assessed as being of long term minor negative significance.
- 35.4.77 No new breeding bird data have been collected, and subject to the notes on land use above, there has been little or no change to habitats within the CCS site since the original ES. It is therefore considered that the assessment of impacts to breeding birds would be unaltered.

Additional Cumulative Effects

- 35.4.78 These are the same as described in the previous Material Change 2 UES. There has not been any further consented schemes.

Consideration of DCO

There is no change to the CCS site design, construction and operational parameters, and therefore no significant or measurable new impact pathways to the existing ecological receptors.

- 35.4.79** As described above, where new data have been collected, baseline terrestrial ecological conditions are not considered to have significantly changed from the original ES, and any alterations reflect only a slight change within a species/habitat assemblage.
- 35.4.80** The exception to this is the potential for otters to be using the CCS site. The species was not identified in the original ES but potential usage of badger setts and runs by otters was identified from a dedicated badger survey around Keyingham Drain (2021), with potential for further utilisation by otters across the wider CCS site. Given the legal protection afforded otters, a dedicated otter surveys is required to assess presence of the species. The outcome from this will better inform the impact assessment, mitigation measures and management for the species.
- 35.4.81** For the waterbirds utilising the intertidal habitat, changes in assemblage composition (species and relative abundances) are considered artefacts of natural population dynamics and/or natural estuarine ecosystem dynamics e.g. natural changes in habitat affecting changes in function and species associated with these.

35.5.0 Requirement for Additional Mitigation

DCO Mitigation and Compensation

- 35.5.1 The original ES identified that best practice guidance would be followed. By way of example, mitigation would include, but not limited to, measures to avoid spills and contamination of habitats and watercourses; provision of ecological awareness training; maintenance of equipment and dust suppression.
- 35.5.2 As part of the wider AMEP development a series of management and monitoring plans were drawn-up and approved. This includes the Able Marine Energy Park Compensation Site Environmental Monitoring and Management Plan (CEMMP)²¹ which was developed in consultation with the regulators and approved.
- 35.5.3 More specifically for the CCS terrestrial site, whilst the original ES concluded that there were no practical mitigation measures available for the habitats to be affected, other than the newly created habitats would likely to be more ecologically valuable, a series of measures were identified for species. These are provided in detail in the original ES, but in summary include:

Birds

- Construction of the managed realignment at Cherry Cobb Sands to be undertaken between April and October to minimise disturbance.
- Due to a necessary summer working period, including the bird breeding season from 1 March to 31 August an Ecological Clerk of Works (ECOW) will supervise any vegetation removal that occurs during the bird breeding season. If an active nest is located it will be retained along with its associated vegetation until the nest is vacated.
- CCS design to ensure good sight and flight lines for birds.
- Provision of bird hides to manage anthropogenic disturbance.

Great Crested Newt

- Consideration of erecting newt fencing to prevent the species gaining access to the site. Measures will only need to be considered if the design of the managed realignment encroaches near unsurveyed/new wetlands. Currently the risk of encountering the species is very unlikely.

Bats

- The use of artificial lighting should be avoided as far as possible, since it will disturb feeding by bats.

²¹ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001705-121123_TR030001_Able%20Humber%20Ports%20Ltd%20\(Compensation%20EMMP\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001705-121123_TR030001_Able%20Humber%20Ports%20Ltd%20(Compensation%20EMMP).pdf)

Water Voles

- No measures required.

Reptiles

- Before commencing work to divert the soke dyke, close hand strimming will be undertaken to discourage reptiles from using the dykes and to allow them to move away from the area.

Badgers

- Provision of a badger mitigation strategy.
- Licence required for badger exclusion and/or sett closure.

Site Management

- Able will develop and implement a management plan for the future management and maintenance of the Compensation Site. The management plan will be developed in consultation with Regulators, particularly Natural England.
- As part of the site management plan, a monitoring strategy for the site to be developed and initiated for bird species and other conservation features.
- Monitoring methods would be similar to those employed for the baseline data collection phases.

35.5.4 The update and review of baseline data, where available and/or appropriate, have for the most part not identified any significant receptors or new impact pathways and as such, no additional mitigation or compensation is considered necessary for those receptors identified in the original ES.

35.5.5 However, for some protected species, additional clarification has been provided, and importantly the potential presence of otters has been recorded around Keyingham Drain (albeit this is not located within the boundary of the Compensation Site). These are addressed below.

Alternate or Additional Mitigation

Reptiles

35.5.6 A European Protected Species Mitigation Licence (EPSML) will not be required to enable the proposed works to be lawfully undertaken due to the likely absence of smooth snakes and sand lizards on the site.

35.5.7 The presence of reptiles at the time of the original ES and associated CEMMP was uncertain, with Objective C1 of the CEMMP having a target of no killing or injuring of protected species, advising on management measures to ensure habitat remains unsuitable and requiring monitoring to be carried out pre-construction. However, the CEMMP, based on the original ES did not consider it likely that reptiles would be present.

35.5.8 However, whilst there is presence of common lizard within the CCS site, it is suggested that a Reptile Mitigation, Monitoring and Management Plan (RMMMP) is not required given the level of alternate

habitat in the locality (including Sunk Island) and that the CSS site is to be utilised as intertidal habitat.

Badgers

- 35.5.9** It will be necessary to obtain a badger licence from Natural England prior to the start of CCS works which would otherwise be illegal (e.g. resulting in the destruction / partial-destruction of badger setts; disturbance of badgers using setts; and obstruction of access to key foraging grounds).
- 35.5.10** Associated with this license application, it may be necessary to undertake additional data collection to identify how impacts might be offset by the new habitat, including the provision of an artificial sett.
- 35.5.11** However, due to the abundance of suitable alternative sett excavation locations in the vicinity, it is possible that artificial sett construction will not be necessary. However, further work will be required to justify any such decision in the licence application.

Otters

- 35.5.12** Otters were not identified as being present in the CCS site at the time of the original ES, and as such, are not addressed in the CEMMP. The more recent surveys have identified their potential presence within Keyingham Drain which, whilst in proximity, is not located within the CCS site.
- 35.5.13** Currently their status at the wider CCS site has not been definitively established, other than being as comments on presence in badger setts and runs as part of a dedicated badger survey at the CCS site in September 2021.
- 35.5.14** It will be necessary to definitely identify the presence and distribution of otters around the CCS site. Based on the outcomes of this survey programme, an appropriate Otter Mitigation, Monitoring and Management Plan (OMMMP) will be developed. This should then, once approved, provided as an Annex to the existing approved CEMMP.

35.6.0 Residual Effects

- 35.6.1 Given the above, then residual effects are effectively as described in the original ES. However, based on the new baseline data, some of the residual impact weightings have altered slightly.

Construction Phase

- 35.6.2 The loss of terrestrial habitat of relatively low ecological importance is unavoidable during the construction of the CCS site. The residual impact on terrestrial habitats will therefore remain as being of minor negative significance. Residual impact remains as minor negative significance.
- 35.6.3 Given that the works will take approximately 12 months to complete, the works will mostly be undertaken outside of the overwintering season. Furthermore, the construction of the wet grassland habitat will mitigate for the temporary loss of roosting and feeding habitat for waterbirds utilising the foreshore and the fields behind the existing defence, as waterbird species will largely be using the site during autumn and winter months; the residual impacts during construction are therefore assessed as being negligible. Residual impact remains as minor negative significance.
- 35.6.4 Residual impacts from construction of the CCS site, in relation to noise disturbance to waterbirds are likely to be negligible.
- 35.6.5 The residual impact on feeding opportunities for breeding birds during construction is assessed as being of short term minor beneficial significance. Residual impact remains as minor beneficial significance.
- 35.6.6 Mitigation to deter protected species from using the site during construction will reduce potential impacts upon the species to negligible levels. This remains the case.
- 35.6.7 The additional presence of common lizard within the at the CCS site, and potentially otter within the Keyingham drain near to the CCS site, may require mitigation to be determined. These measures would be expected to be similar to those for other protected species e.g. deterrence subject to licence, which will reduce potential impacts upon the species to negligible levels.

Operational Phase

- 35.6.8 The loss of terrestrial areas of vegetation, including agricultural land (mainly arable), soke dykes, hedgerows, occasional trees and patches of improved grassland, of relatively low ecological importance will be mitigated through creation of the wet grassland site, as well as the creation of a new soke dyke behind the realigned embankment. The residual impact upon terrestrial habitats is therefore assessed as minor negative. Residual impact remains as minor negative significance.
- 35.6.9 As explained above, the permanent loss of terrestrial roosting and feeding habitat for waterbirds in the area to be used for intertidal habitat creation will be minimal because of the extensive available alternative land for them to use, and it will also be partly offset through the creation of the wet grassland area. Furthermore, birds will readily utilise fields at either end of, or behind, the realigned embankment and will therefore be largely unaffected.
- 35.6.10 Monitoring of waterbird usage of adjacent fields will be undertaken as part of the monitoring programme during operation of the scheme. It is assessed that (subject to the results of future monitoring) the residual impacts upon roosting and feeding habitat for waterbirds in fields behind

the existing embankment is of minor negative significance. Residual impact remains as minor negative significance.

- 35.6.11** The creation of wet grassland (primarily for use by Black tailed godwit) in addition to the managed realignment site at Cherry Cobb Sands, will provide feeding, roosting and breeding opportunities for breeding birds during operation. The residual impacts are therefore assessed as being negligible. This would remain the case.
- 35.6.12** The additional presence of the protected species common lizard and potentially otter at the CCS site will require mitigation to be determined. Whilst operational impacts would be negligible, depending on measures it may be possible to provide enhancements for otter at the site

35.7.0 Other Environmental Issues

- 35.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 35.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 35.7.3 There are no new impacts related to the CCS site infrastructure with regard to the consideration of terrestrial ecology beyond those considered within the original ES.

Waste

- 35.7.4 There are no new impacts upon waste with regard to the consideration of terrestrial ecology beyond those considered within the original ES.

Population and Human Health

- 35.7.5 There are no new impacts upon population and human health with regard to the consideration of terrestrial ecology beyond those considered within the original ES.

Climate and Carbon Balance

- 35.7.6 There are no new impacts upon climate and carbon balance with regard to the consideration of terrestrial ecology beyond those considered within the original ES.

Risks of Major Accidents and/or Disasters

- 35.7.7 There are no new risks of major accidents and/or disasters with regard to the consideration of terrestrial ecology beyond those considered within the original ES.

Summary

- 35.7.8 No other environmental issues of relevance to terrestrial ecology have been identified.

35.8.0 Summary of Effects

- 35.8.1 There are no new potential pathways for environmental effects from the proposed CCS site (construction & operation).
- 35.8.2 The type and sensitivity of receptors largely remain effectively as identified in the original ES, albeit with some natural changes to structure and abundance which do not affect the outcomes of the assessment.
- 35.8.3 Updated baseline information has shown some small changes to the composition of the receptors e.g. habitat and species, but these are within the scale of change to be expected to occur naturally, and in particular for coastal waterbirds, within a naturally dynamic estuarine environment.
- 35.8.4 However, the presence of common lizard and potential presence of otter require specific actions to be taken to determine distribution, mitigation, monitoring and management measures. These would be in the form of EMMPs that would be subject to approval and provided as Annexes to the CEMMP.
- 35.8.5 Potential impact pathways are therefore centred around:
- Construction and operation of the CCS site for impacts to the status of terrestrial habitats.
 - Construction and operation of the main CCS site on terrestrial land use by coastal waterbirds and breeding birds, and including aspects of the fronting intertidal and breach for coastal waterbird status and impacts.
 - The operation of the above.
- 35.8.6 The actual likelihood of any new significant effects to occur to the terrestrial ecology of the area and the coastal waterbird assemblage from the baseline update have been discounted, with it being concluded that the type of effects as identified in the original ES remain valid.
- 35.8.7 For the most part, only very small scale localised alterations to the of the receptors (the terrestrial ecology of the area and the coastal waterbird assemblage) have been identified. These alterations have had little effect on the unmitigated impact assessments other than small modifications to the level of severity both up and down in relation to receptor composition changes, these arising from the natural variability of the ecology of the area and in particular the very dynamic estuarine system.
- 35.8.8 However, the potential presence of otters was not addressed in the original ES, whilst the presence of reptiles (including common lizard) was considered unlikely. These species will require specific actions to identify presence, distribution, mitigation and management measures to be provided as an Annex to the CEMMP.
- 35.8.9 Other than the two species above, mitigation measures identified in the original ES remain appropriate and fit for purpose.
- 35.8.10 Other than the two species above, the residual impacts following application of the mitigation measures as identified in the original ES remain valid.

35.9.0 Conclusions

- 35.9.1 The baseline conditions have been reviewed and updated since 2011 to reflect the current baseline. No significant changes have been identified compared to those described in the DCO (2014) and the Examining Authority's Report (2013).
- 35.9.2 For the most part, any changes identified reflect natural ecosystem dynamics and in particular those associated with estuarine systems, with such a dynamism being of intrinsic value in maintaining ecosystem health.
- 35.9.3 Based on the above assessment of potential changes to the terrestrial ecology of the area against conditions identified in the original ES baseline, and given no modification to the design, construction or operational components of the CCS compensation site, for the most part no significant effects have been identified other than those assessed in the original ES from the DCO.
- 35.9.4 However, from subsequent survey work (updated baseline) there are several protected species which have been identified as requiring additional attention:

Badger

- 35.9.5 The presence of setts were identified around the site in the original ES, and measures were employed to exclude badgers from the CCS site. These measures appear not to have been successful, with a similar, perhaps greater badger presence having been reported from subsequent surveys at the site. Measures as described in the CEMMP will need to be instigated to ensure legal compliance prior to construction commencement, and potentially with an updated strategy in the CEMMP given the apparent failure of measures to date.

Common Lizard

- 35.9.6 This was not identified as present in the original ES although the wider 'reptile' group was addressed and management measures identified in the CEMMP. Measures appear not to have been successful and an RMMMP including common lizard is considered necessary as an Annex to the CEMMP.

Otter

- 35.9.7 The species was not addressed in the original ES (nor CEMMP). The status of the species at the CCS site needs to be addressed to ensure legal compliance prior to construction commencement, and depending on findings, the production of an OMMMP is considered necessary as an Annex to the CEMMP.
- 35.9.8 Given the above, the assessment of mitigation measures provided in Chapter 35 Terrestrial Ecology of the original ES are considered to remain largely valid, with no significant residual impacts expected to the terrestrial ecology of the terrestrial land adjacent to the Cherry Cobb Sands intertidal, subject to the provisions for badgers, common lizard and otter, nor to the coastal waterbird community which utilises both aquatic and terrestrial components of the area following their discharge.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 36: DRAINAGE AND FLOOD RISK

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
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CONTENTS

36.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
36.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Additional Consultation.....	4
Assessment Methodology	4
Effects Not Requiring Further Assessment.....	6
36.3.0 CHANGES IN BASELINE CONDITIONS.....	6
DCO Baseline	6
DCO Future Baseline.....	7
Current Baseline	7
36.4.0 ASSESSMENT OF EFFECTS	8
Additional Construction Phase Effects	8
Consideration of DCO	8
36.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	9
DCO Mitigation.....	9
Alternate or Additional Mitigation	9
36.6.0 RESIDUAL EFFECTS	10
Construction Phase	10
Consideration of DCO	10
36.7.0 OTHER ENVIRONMENTAL ISSUES.....	11
Other Environmental Issues of Relevance	11
Summary	11
36.8.0 SUMMARY OF EFFECTS	12
36.9.0 CONCLUSIONS	13

DOCUMENT REFERENCES

FIGURES

Figure 36-1: Significance of Effect Table (Table 13.1 from Chapter 13 of original ES).....5

36.1.0 Introduction

Development Consent Order Context

36.1.1 An assessment of the impacts of the development on Drainage and Flood Risk at the Compensation Site was included in Chapter 36 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 36: Drainage and Flood Risk (Compensation Site)
- Appendix 36.1- Flood Risk Assessment² to original ES Chapter 36
- Examination Documents:
 - EX 28.3 Part 6: Environmental Assessment of the proposed Compensation Scheme for the Able Marine Energy Park³
 - EX 36.2 North Bank Flood Defence Height
 - EX 36.3 Residual Flood Risk to Property on North Bank
 - EX 36.4 Embankment Inspection and Monitoring Report

Consideration of the Extension of Time

36.1.2 The full details of the proposed extension of time are described in Chapter 4 of this ER of the original ES and Material Change 2 UES. In relation to this extension of time submission, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.

36.1.3 This Chapter forms part of the ER for the proposed extension of time to the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 36: Drainage and Flood Risk). This Chapter will review the potential impacts on flood and drainage and, where appropriate, mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

36.1.4 This Chapter reports on any change in the findings of the original ES in respect of the Drainage and Flood Risk of the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development

1 Environmental Statement Chapter 36: Drainage and Flood Risk (Compensation Site), <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000341-36%20-%20Drainage%20and%20Flood%20Risk.pdf>

2 Appendix 36.1 - Flood Risk Assessment, <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000443-36.1%20-%20Flood%20Risk%20Assessment.pdf>

3 X28.3 Part 6: Environmental Assessment of the proposed Compensation Scheme for the Able Marine Energy Park, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001740-121012_TR030001_Leslie%20Hutchings%20of%20Able%20Humber%20Ports%20Limited.zip

or consequential to any changes since the original assessments were undertaken.

36.1.5 This Chapter includes consideration of:

- changes in legislation, policy and guidance relating to Flood Risk and Drainage since the DCO application and original ES;
- physical changes in the baseline context at the site as relevant to Flood Risk and Drainage and the extension of time;
- changes in the understanding of risk for both the current day situation and future scenarios; and
- any additional impact relating to Flood Risk and Drainage associated with permitting a further 7 years for the carrying out of construction activities.

36.2.0 Methodology

- 36.2.1 As part of the DCO application a Flood Risk Assessment (FRA) was undertaken for the AMEP scheme and presented within Appendix 36.1 of the original ES. The FRA assessed how the proposed development will affect the site and its surroundings as well as the integrity of the Humber Estuary's flood defences.
- 36.2.2 Within Chapter 36 Flood Risk and Drainage (compensation Site) of the original ES, the impact of the proposed development on the hydrological environment at the site was evaluated to determine the likelihood of the compensation scheme causing impacts to the surface water environment as follows:
- impacts on land drainage and flooding;
 - impacts associated with the pollution of surface watercourses during the construction phase; and
 - impacts associated with the pollution of surface watercourses during the operation phase.

Changes in Legislation, Guidance and Planning Policy

Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

- 36.2.3 These regulations revoke and replace the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI 2003 No. 3242). They continue to transpose Directive 2000/60/EC for England and Wales, establishing a framework for Community action in the field of water policy (the Water Framework Directive).
- 36.2.4 They also transpose aspects of Directive 2006/118/EEC on the protection of groundwater against pollution and deterioration (the Groundwater Directive) and of Directive 2008/105/EC on environmental quality standards in the field of water policy (the Environmental Quality Standards Directive).

National Planning Policy Framework⁴

- 36.2.5 The previous assessments reference Planning Policy Statement 25. This was superseded in 2012 by the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance (PPG) for Flood Risk and Coastal Change⁵.
- 36.2.6 The NPPF and associated PPG now provide the framework for assessing development vulnerability and site suitability with regards to flood risk, including associated requirements for undertaking the Sequential Test and Exception Test where appropriate.

4 National Planning Policy Framework, Ministry of Housing, Communities & Local Government, Published March 2012, Updated July 2021, <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

5 Planning Practice Guidance, Flood risk and coastal change, Ministry of Housing, Communities & Local Government, Published March 2014, Updated August 2022, <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

Flood Risk Assessments: Climate change allowances⁶

- 36.2.7 In February 2016 the Environment Agency issued updated guidance on the impacts of climate change on flood risk in the UK to support the NPPF. This advice, which was most recently updated in July 2020, sets out how projected changes in peak rainfall intensity, sea level, peak river flow; offshore wind speed and extreme wave heights associated with climate change should be considered within the development process.

Non-statutory Technical Standards for Sustainable Drainage Systems⁷

- 36.2.8 This document sets out non-statutory technical standards for the design, maintenance and operation of sustainable drainage systems. Systems to drain surface water from housing, non-residential or mixed-use developments for the lifetime of the developments.

Pollution Prevention for Businesses⁸

- 36.2.9 This guidance, published by the Environment Agency in 2016, supersedes the older Pollution Prevention Guidance documents referenced in Flood Risk and Drainage chapter of the original ES. The new guidance sets out how businesses and organisations can avoid causing pollution from oil and chemical storage, car washing, construction and other activities.

Additional Consultation

- 36.2.10 At this time, no further consultation relating to Flood Risk and Drainage has been undertaken as part of this proposed extension of time application.

Assessment Methodology

Study Area

- 36.2.11 A study area for Flood Risk and Drainage was not formally defined within the original ES.
- 36.2.12 In relation to drainage, the assessment considered all direct surface water receptors at the Cherry Cobbs Sand site (note that the Old Little Humber Farm site was not included within the DCO as made). The assessment also considered the downstream receptors of the drainage system at Cherry Cobbs Sand including Cherry Cobb Sands Drain, Stone Creek and the Humber Estuary.
- 36.2.13 With regards to flood risk the assessment considered the two sites and the local flood cell of the tidal floodplain within which the site is situated. It also considered land along any channels whose catchment areas were likely to be impacted by the works which was determined to be limited to Cherry Cobb Sands Drain.
- 36.2.14 With the exception of the Old Little Humber Farm site being excluded, the same study area has been

6 Flood risk assessments: climate change allowances, Environment Agency, Published February 2016, Updated May 2022, <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

7 Sustainable Drainage Systems: non statutory technical standards, Department for Environment, Food and Rural affairs, Published March 2015, <https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards>

8 Pollution prevention for businesses, Department for Food and Rural Affairs and Environment Agency, Published July 2016, Updated August 2022, <https://www.gov.uk/guidance/pollution-prevention-for-businesses>

applied for the preparation of this ER.

Significance of Effect

36.2.15 Significance criteria relating to drainage and flood risk are defined within Table 13.1 of the original ES (methodology for Chapter 36 was in common to Chapter 13). This table is provided for reference within Figure 36-1 below.

Figure 36-1: Significance of Effect Table (Table 13.1 from Chapter 13 of original ES)

Significance Criteria for Drainage and Flood Risk

Significance of Impact		Description
Negligible		No appreciable impact on humans, aquatic flora and fauna, or surface water resources. Any minor effects are reversible.
Minor	Adverse	Minor detrimental effect on local watercourses. Minor increased risk of local flooding adjacent to the site. Minor local-scale reduction in surface water quality, reversible with time. Reversible detrimental effects on aquatic flora and fauna.
	Beneficial	Minor reduction in risk to humans, animals or plant health. Minor localised improvement to the quality of surface water resources or minor reduction in flood risk.
Moderate	Adverse	Moderate detrimental effect on local watercourses. Moderate increased risk of flooding or change to flow characteristics of watercourses. Moderate reduction in surface water quality, reversible with time. Moderate effects on aquatic flora and fauna.
	Beneficial	Moderate reduction in risk to humans, animals or plant health. Moderate localised improvement to the quality of surface water resources or moderate reduction in flood risk.
Major	Adverse	Major detrimental effect on local watercourses. Major increased risk of flooding or change to flow characteristics of watercourses. Permanent reduction in surface water quality. Permanent effects on aquatic flora and fauna.
	Beneficial	Major reduction in risk to humans, animals or plant health. Major regional improvement to the quality of surface water resources. Major reduction in local flood risk.

36.2.16 The same significance criteria have been applied for the preparation of this ER and there has been no change in the receptors identified or their defined sensitivity from that contained within the original ES.

Magnitude of Change (Impact)

36.2.17 With the original ES the magnitude of change was incorporated into the definitions for the significance of effect. The same approach has been applied for the preparation of this ER.

Mitigation Hierarchy

36.2.18 While not defined within the original ES, a hierarchy has been employed for mitigation. Where possible this seeks to avoid adverse effects and only where this is not possible are remedial options for reducing, remedying or compensating for any identified effects considered.

Effects Not Requiring Further Assessment

36.2.19 Following approval of the DCO at examination, work was progressed to discharge a number of the DCO Requirements relating to the detailed design of the compensation scheme. Of relevance to Drainage and Flood Risk at the Compensation are requirements 39, 43 and 44. In relation to these, the following assessments / designs have been approved:

- Requirement 39;
 - Cherry Cobb Sands, Stone Creek Monitoring Plan, Final, V5, August 2016
- Requirement 43 (4) & 44:
 - Cherry Cobb Sands RTE, Morphological development of the creek system inside and outside the RTE site, DDR5470-RT001-R09-00, August 2016.
 - Cherry Cobb Sands Protection Technical Note, Reference 122437-BVL-Z0-RTE-RP-H-00008 (with mark-up), May 2016.
 - Preliminary Operation and Maintenance manual, reference 122437-BVL-Z0-RTE-RP-H-00017 (with mark-up), August 2016.

36.2.20 No changes are proposed to the final approved scheme and therefore impacts associated with the completed (operational) scheme are not considered further.

36.2.21 Given that the long term completed scheme (which is approved) is not being assessed, changes in flood severity would only need to be considered through the construction period. When considered over an additional construction period of a further 7 years the changes from what was previously considered is minimal and is therefore not considered further.

36.3.0 Changes in Baseline Conditions

DCO Baseline

36.3.1 A Flood Risk Assessment was included at Appendix 36.1 of the original ES², and the Environment Statement submitted as part of the examination documentation³, provides a robust summary of flood risk at the Cherry Cobb Sands compensation site.

36.3.2 These documents describe the Compensation Site on the north bank of the Humber as a low-lying

tidal floodplain drained by a series of small drains to a larger channel called Cherry Cobb Sands Drain. This drain discharges into the Humber Estuary at Stone Creek through a sluice structure.

- 36.3.3** Raised defences, in the form of embankments, are present along the estuary and these, along with the sluice at Stone Creek protect the land from regular inundation providing a standard of protection of around 1 in 80 (annual probability). Discharge via the sluice becomes tide locked during high tides and the configuration of the sluice prevents sea water flowing into the drain.

DCO Future Baseline

- 36.3.4** Monitoring of the position and elevation of the local creek systems reported since the DCO identified some accretion of sediment within the channels and a migration of the receiving creek to the east. Agreed commitments exist to continue to monitor this through the implementation of the proposed realignment.
- 36.3.5** The DCO scheme for the compensation land involves the realignment of the existing flood defences to create an area of restored salt marsh habitat. This will involve the construction of new defences away from the estuary to an improved standard.
- 36.3.6** Once the new defences are completed and have been surveyed and signed off by the Environment Agency the existing defences will be breached to allow regular inundation of the land by tidal water. As the existing defences will not be breached until the new defences have been completed there will be no deterioration in the standard of flood protection locally during the construction phase.

Current Baseline

- 36.3.7** To date no works on implementing the DCO scheme on the compensation site have been started.

36.4.0 Assessment of Effects

Additional Construction Phase Effects

- 36.4.1 Construction phase impacts associated with Flood Risk and Drainage will be largely unchanged from those considered in the original ES.

Consideration of DCO

- 36.4.2 It is concluded that the changes in baseline understanding and the additional seven year to complete construction will not result in any new or significant increased effects on Flood Risk and Drainage.

36.5.0 Requirement for Additional Mitigation

DCO Mitigation

36.5.1 Key mitigation proposed for the construction phase as part of the DCO involves adherence to good construction methodology as set out in Environment Agency Pollution Prevention Guidance [now Pollution Prevention for Business]. Much of this is secured under requirements of Schedule 11 of the DCO.

36.5.2 This will include:

- minimising pollution risk through the use of good construction practices including use of drip trays on mechanical equipment such as pumps and generators and fail-safe bunded storage of fuel and cement and other materials to prevent spillage to groundwater, watercourses or the sea;
- over-pumping around works in watercourse channels will be carried out with a suitably-sized pump, in order that excessive flows are not generated and disturbance of the bed material is minimised;
- watercourse bank reinstatement works will be carried out by vehicles operating from the bank rather than the watercourse channel;
- for work on, over or adjacent to the watercourses, a maximum of one third of the watercourse will be bunded at any time, and the bunds will have a minimal height above normal water level, and should either wash out or create minimal obstruction during flood conditions;
- construction materials will be prevented from entering watercourses or the sea and blocking either the channels or culverts and bridges;
- care will be taken with all works involving concrete and cement. Suitable provision will be made for the washing-out of concrete mixing plant or ready-mix concrete lorries, and such washings will not be allowed to flow into watercourses or the sea; and
- temporary lagoons may be required to allow any sediment carried by surface water runoff to settle out and be trapped on site, prior to the runoff discharging to inland watercourses or the sea.

Alternate or Additional Mitigation

36.5.3 It is concluded that no further mitigation is required, over and above that committed to as part of the DCO application. This will be sufficient to control adverse effects to Flood Risk and Drainage relating to the proposed scheme.

36.6.0 Residual Effects

Construction Phase

- 36.6.1 Within the original ES, following consideration of mitigation, the residual effects relating to Flood Risk and Drainage were determined to be not significant.

Consideration of DCO

- 36.6.2 It is concluded that the additional 7 year to complete construction works will not result in changes to the residual effects previously identified within Chapter 36 of the original ES.

36.7.0 Other Environmental Issues

- 36.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 36.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 36.7.3 The risks associated with Infrastructure are not of relevance to this Chapter.

Waste

- 36.7.4 The risks associated with Waste are not of relevance to this Chapter.

Population and Human Health

- 36.7.5 The Chapter has considered the risks associated with Flood Risk and the impacts this may pose with regard to population and human health.

Climate and Carbon Balance

- 36.7.6 The assessment has duly considered the risks associated with climate change through assessment of a suitable future flood risk scenario with raised sea levels. As such, the consideration of climate change is inherently contained within the existing assessment.

Risks of Major Accidents and/or Disasters

- 36.7.7 The assessment duly considers the risks associated with major accidents and/or disasters through assessing the risks associated with flooding, especially with regard to a breach flood scenario.

Summary

With regards to the EIA regulations 2017, in terms of Flood Risk and Drainage there are not considered to be any likely significant effects with regards to Other Environmental Issues.

36.8.0 Summary of Effects

- 36.8.1 Chapter 36 of the original ES states that all potential residual effects (no greater than Minor Adverse) relating to Flood Risk and Drainage will be further controlled through the implementation of additional mitigation (see Section 36.8 therein). While not expressly stated in the original ES, it is therefore clear that the residual effects of the DCO scheme in relation to Flood Risk and Drainage would not be significant.
- 36.8.2 This chapter demonstrates that the proposed extension of time for constructing the AMEP development will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Flood Risk and Drainage will remain not significant.

36.9.0 Conclusions

- 36.9.1 The site is set in a context where flooding is possible; however, this risk is largely controlled through flood defences. The scheme design seeks to realign the flood defences to create new intertidal habitat.
- 36.9.2 With regards to drainage, storm water runoff from the site will continue to be discharged to the Humber Estuary. During construction there is however a potential for pollution to occur to the adjacent surface water channels and networks. This will be controlled and managed through the implementation of good construction practices.
- 36.9.3 The proposed extension of time for constructing the AMEP development will make no difference to the potential effects identified within the original ES (not significant) and no additional mitigation will be required.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 37: TRAFFIC & TRANSPORT

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

37.1.0 INTRODUCTION	1
Development Consent Order	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
37.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Scoping Opinion	4
Consultation	5
Assessment Methodology	5
37.3.0 CHANGES IN BASELINE CONDITIONS.....	7
DCO Baseline	7
Changes in Baseline	7
37.4.0 ASSESSMENT OF EFFECTS	10
Additional Construction Phase Effects	10
Additional Operational Phase Effects.....	10
Additional Cumulative Effects	10
Consideration of DCO	10
37.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	11
DCO Mitigation	11
Alternate or Additional Mitigation	11
37.6.0 RESIDUAL EFFECTS	12
Construction Phase	12
Operational Phase	12
Consideration of DCO	12
37.7.0 OTHER ENVIRONMENTAL ISSUES.....	13
Other Environmental Issues of Relevance	13
Summary	13
37.8.0 SUMMARY OF EFFECTS	14
37.9.0 CONCLUSIONS	15

DOCUMENT REFERENCES

FIGURES

Figure 37-1: Receptor Sensitivity (Table 15.7 of the Original ES).....	6
Figure 37-2: The road network leading to the Compensation Site (Figure 37.1 of the original ES).....	7
Figure 37-3: Additional vehicle movements associated with the RTE Scheme (Table 3-1 of the original ES)	8

37.1.0 Introduction

Development Consent Order

- 37.1.1** An assessment of the impacts of the development on Traffic and Transport at the Compensation Site was included in Chapter 37 of the original ES that formed part of the DCO application in 2012¹. No supplementary environmental information was issued during the examination of the project pertaining to traffic and transport associated with the Compensation Site.
- 37.1.2** In June 2021 an application for a material amendment to the DCO (Material Change 2) was submitted to the Planning Inspectorate under Schedule 6 of the Planning Act 2008 and Part 2 of the Infrastructure Planning (Changes to, Revocation of, Development Consent Orders) Regulations 2011 ('the 2021 application').
- 37.1.3** Material Change 2 was considered to represent 'EIA development' as it met the definition of DCO), and the changes had the potential to give rise to significant effects of a new or different nature to those reported in the original ES. Accordingly, the application was accompanied by an Updated Environmental Assessment (Material Change 2 UES) which covered those environmental issues that had the potential to be impacted by the change. Certain environmental issues were screened out of requiring a new assessment.
- 37.1.4** An assessment of the impacts of the development on Traffic and Transport at the Compensation Site was included in Chapter 37 of the original ES that formed part of the DCO application in 2012.
- 37.1.5** There are no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

- 37.1.6** The full details of the proposed extension of time is described in Chapter 4 of this Environmental Review (ER) of the original ES and Material Change 2 UES. In relation to this submission seeking an extension of time, there are no physical alterations proposed and the only matter being considered is an extended time limit for construction of the development.
- 37.1.7** This Chapter forms part of the Environmental Review for the proposed extension of time to the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 37: Traffic and Transport). This Chapter will review the potential impacts upon Traffic and Transport and where appropriate, where mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

- 37.1.8** This Chapter reports on any change in the findings of the original ES in respect of the Traffic and Transport impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.
- 37.1.1** This chapter includes consideration of any changes to:

¹ Environmental Statement Chapter 37: Traffic and Transport <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000342-37%20-%20Transport.pdf>

- Legislation, policy and guidance relating to Traffic and Transport;
- Baseline conditions;
- Assessment of effects; and
- Proposed mitigation.

37.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

37.2.1 Where there have been subsequent changes to legislation, policy or guidance contained within Chapter 37 of the original ES, those documents and changes are detailed below. Where legislation, policy or guidance has changed, a summary of the changes and an assessment as to whether they alter the original assessment is detailed.

37.2.2 Legislation, policy and guidance on traffic and transport is set out within Section 37.2 of the original ES. This states that where legislation, policy and guidance on traffic and transport are common to both AMEP and the Compensation Site, these are included in Chapters 15 and 37 of the original ES. Any relevant plans and policies contained within the ERYC Local Plan which are specific to the Compensation Site are summarised within Section 37.2 of the original ES.

Legislation

37.2.3 Relevant legislation is common to both AMEP and the Compensation Site and as such is set out within Chapters 15 and 37 of the original ES. There have been no changes in relevant legislation since the production of the original ES.

Policy

National Planning Policy Framework 2021

37.2.4 With regards to Traffic and Transport, the NPPF (published subsequent to the original ES) states under Section 9 Promoting Sustainable Transport at Paragraph 104 that:

‘Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a) the potential impacts of development on transport networks can be addressed;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.’*

37.2.5 Paragraph 105 states that:

‘The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.’

37.2.6 The requirements for producing a Transport Statement or Assessment in support of development proposals are outlined at Paragraph 113 which notes that:

'All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.'

37.2.7 Paragraph 111 states:

'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'.

37.2.8 Whilst the NPPF sets out various Transport requirements as above, it does not set absolute criteria for the purposes of environmental impact assessment; there the most relevant National and International standards are referred to in this assessment, which provide definitive guidance on Traffic and Transport impact.

NPS for Ports

37.2.9 With regards to the National Policy Statement for Ports, whilst this is currently under review, the Department of Transport website confirms that the current version published in 2012 will remain in full effect during the period of the review and as such does not alter the assessment methodology or findings of the original ES.

ERYC Local Plan

37.2.10 The original ES referred to the East Riding of Yorkshire Council (ERYC) Local Plan.

37.2.11 The ERYC Local Plan was updated in August 2021 following:

- Changes in the New National Planning Policy Framework;
- Issues identified in the inspector's report on the Local Plan examination; and
- The monitoring of current Local Plan policies and updates to the Evidence base.

37.2.12 It is considered that the changes do not alter the assessment methodology or findings of the original ES.

Scoping Opinion

37.2.13 Given the limited scope of the proposals, no formal Scoping or Consultation has been undertaken for this ER. As such, there is no Scoping Opinion relating to the extended time limit.

37.2.14 A formal EIA Scoping exercise was undertaken for the previous Material Change 2 UES, the details of which can be found in Chapter 5 of this report. As part of the Scoping Opinion adopted by PINS, it was confirmed that all matters (including those relating to construction and operational Traffic and Transport) could be 'scoped out' of the previous Material Change 2 UES.

Consultation

- 37.2.15** Consultation was undertaken by the previous consultant, with consultation comments received that relate to traffic and transport at the Compensation Site detailed in Annex 2.2 of the original ES² together with a description of how the comments have been addressed within the original ES.
- 37.2.16** As detailed within the original ES, a meeting was held with ERYC on 17 November 2010 to discuss the general impacts of the Compensation Site, including issues associated with increased traffic during construction. The level of assessment for traffic and transport was outlined and it was agreed that further consultation would take place once details of the design had been finalised.
- 37.2.17** As a result of further consultation and following more detailed design which evolved during the Examination process, revised proposals for the Cherry Cobb Sands site were put forward. Much of the managed realignment component of the Compensation Scheme has now been designed as a Regulated Tidal Exchange (RTE) scheme and the wet grassland scheme at Old Little Humber Farm (OLHF) has been withdrawn in favour of a new area of wet grassland to be developed adjacent to the managed realignment scheme at Cherry Cobb Sands (CCSWGGS).
- 37.2.18** Following these revised proposals, a review of the EIA was undertaken in October 2012, as set out within the 'EX 28.3 Part 6 – EIA Review' report. This document has been reviewed for the purposes of this Chapter to ascertain what Traffic and Transport elements have been superseded since the original ES, the findings of which will be set out later under the relevant headings/sections, as appropriate.
- 37.2.19** During further consultation with the ERYC highways department, the most appropriate routes for construction traffic to enter and exit the site at Cherry Cobb Sands were agreed. In addition, ERYC advised that a Traffic Management Plan was required to further reduce the impact on traffic and transport.
- 37.2.20** Additional consultation with the ERYC highways department was subsequently undertaken during the production of the Traffic Management Plan to address 'Requirement 30' of the DCO, which has subsequently been discharged. In addition, consultation with the ERYC highways department was also undertaken in order to successfully discharge Requirement 10 (Highway Access), 25 (Construction Traffic) and 29 (Construction Travel Plan).

Assessment Methodology

Study Area

- 37.2.21** The study area is as defined within the original ES Chapter and does not require amendment as a result of the proposed time extension. On this basis, the study area as utilised within the original ES is robust and has been utilised in undertaking the ER (notwithstanding the earlier points made within paras 37.2.18 and 37.2.19 above).

Sensitivity Criteria

- 37.2.22** Sensitivity criteria for receptors are described within Chapter 37 of the original ES. The significance of the impacts will depend on the importance/sensitivity of the receptor, the magnitude of impact, the duration/persistence of impact and the likelihood of the impact. Examples of criteria that have been used to make judgements on the importance/sensitivity of the receptor(s) are presented in

² [Microsoft Word - Annex 2 2 - 20111215 \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/annex-2-2-20111215/)

Table 15.7 of the original ES, reproduced below (Figure 37-1) for ease of reference:

Figure 37-1: Receptor Sensitivity (Table 15.7 of the Original ES)

Table 15.7 Receptor Sensitivity

Receptor Sensitivity/Importance	Description
High	People whose livelihood depends upon unrestricted movement within their environment; this includes commercial drivers and the companies who employ them. Local residents whose daily activities depend upon unrestricted movement within their environment. Receptors such as schools, colleges, accident hotspots.
Moderate	People who pass through or habitually use the area but whose livelihood is not wholly dependant on free access. Receptors such as congested junctions, hospitals, most residential areas and conservation areas.
Low	Occasional users of the road network. Receptors such as public open space.
Negligible	Users not sensitive to transport effects.

Magnitude of Effect/Change (Impact)

37.2.23 Criteria to describe magnitude of changes are as defined within Table 15.8 of the original ES. No change has occurred due to the time extension.

Significance of Effect

37.2.24 Significance criteria for assessing traffic and transport impacts are as defined within Table 15.9 of the original ES. No change has occurred due to the time extension.

Mitigation Hierarchy

37.2.25 Mitigation measures to reduce the traffic and transport impacts from the operational phase have been recommended within the original ES. For the construction phase however, it was concluded that since there is no predicted significant traffic impact, no mitigation is required during the construction phase.

37.3.0 Changes in Baseline Conditions

DCO Baseline

- 37.3.1 DCO baseline conditions are set out within Section 37.5 of the original ES. This sets out the road access to Cherry Cobb Sands, via Cherry Cobb Sands Road (an unclassified single lane carriageway), which runs north-west to south-east along the eastern boundary of the site. The major road in the area is the A1033 which passes approximately 4 km north of Cherry Cobb Sands Road and is a single carriageway.
- 37.3.2 Access between Cherry Cobb Sands Road and the A1033 is via unclassified single lane roads. The A1033 connects with the A63 which ends at the M62, which then offers connection to the strategic road network. Within the Cherry Cobb Sands site there are two private access tracks which are currently used to access agricultural fields. One track, opposite Sands Farm has access to the foreshore at TA 225 197.
- 37.3.3 The road network leading to the Compensation Site is presented in Figure 37.1 of the original ES, reproduced below (Figure 37-2) for ease of reference:

Figure 37-2: The road networking leading to the Compensation Site (Figure 37.1 of the original ES)



Figure 37.1 The road network leading to the Compensation Site

Changes in Baseline

- 37.3.4 As previously set out within paras 37.2.18 and 37.2.19 above, as a result of further consultation and following more detailed design which evolved during the Examination process, revised proposals for the Cherry Cobb Sands site were put forward.
- 37.3.5 The 'EX 28.3 Part 6 – EIA Review' report undertaken in October 2012, which reviewed these revised proposals, updated the Traffic and Transport position for the RTE Scheme within paras 3.3.25 to

3.3.29 and the CCSWGS within para 3.4.48, reproduced in the sub-sections below for ease of reference:

Regulated Tidal Exchange (RTE) Scheme

- 37.3.6** The RTE scheme involves the excavation of 240,000m³ of material from the Compensation Site. This material will be reused on site and therefore will not require exporting for disposal. This will help to ensure minimal additional traffic movements on local roads.
- 37.3.7** Other vehicle movements for the delivery of material to the site associated with the construction of the RTE structures, including concrete, piles and sluices, in addition to that outlined in paragraph 37.6.3 of the original ES are shown in Table 3-1 (Figure 37-3 below) and will equate to approximately 1971 heavy goods vehicles (HGVs) over a 6 month period, or between an additional 8-10 movements per day (based on current design information).
- 37.3.8** This is unlikely to result in significant changes to the traffic and transport of the surrounding area, therefore the assessment of impacts in paragraphs 37.6.4 to 37.6.8 of the original ES is unchanged.

Figure 37-3: Additional vehicle movements associated with the RTE Scheme (Table 3-1 of the original ES)

Table 3-1: Additional vehicle movements associated with the RTE Scheme

ITEM	NO OF CONTROL STRUCTURES	NO OF LORRIES	COMMENTS
In situ concrete	4	336	6m ³ per lorry
Precast box culverts	4	36	40t / lorry
Steel reinforcement	4	10	40t / lorry
Penstocks	4	8	3 per lorry
Flapvalves	4	8	3 per lorry
Stoplogs (1 set per structure)	4	4	1 set per lorry
Bearing piles	4	20	15 piles per lorry
Armorflex 180	4	72	40t / lorry
Geotextile	4	16	Approximately 1000m ² /lorry
Miscellaneous	4	24	6 per structure for fencing/timber/fuel etc

- 37.3.9** Regular management and maintenance of the sluices on the RTE site will typically require one vehicle to travel to the site on a daily basis on alternate weeks. In the context of the baseline use of local and main roads, this would result in a negligible impact.
- 37.3.10** Overall, the significance of impacts on traffic and transport described in the original ES remains unchanged; the levels are assessed as between negligible and temporary minor negative.

Cherry Cobb Sands Wet Grassland Site (CCSWGGS)

- 37.3.11** The creation of the CCSWGS will not result in an increase in the vehicles used during construction. As such, there are not anticipated to be any changes to the impacts described in the original ES.

Latest Position

- 37.3.12** There are no identified changes to areas surrounding sensitive receptors that are considered to have led to significant changes in baseline conditions since those that were set out within the 'EX 28.3 Part 6 – EIA Review' report.

37.4.0 Assessment of Effects

Additional Construction Phase Effects

- 37.4.1 On the basis of the proposed extension of time, in that there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development, it is therefore considered that this will not result in greater traffic and transport effects than those predicted within Chapter 37 the original ES.
- 37.4.2 In summary, there are no changes in the method of construction and no material changes (in terms of traffic and transport) to the location or the change in timescales that would lead to greater traffic and transport effects than those identified within the original ES due to the proposed extension of time. Further consideration of construction phase effects is not required.

Additional Operational Phase Effects

- 37.4.3 There are no changes to the proposed operation that would result in changes to predicted operational traffic levels and therefore the original assessment of effects. Further consideration of operational phase effects is not required.

Additional Cumulative Effects

- 37.4.4 A review of committed developments (additional to those considered within the original ES) has confirmed that no further applications are proposed. Further consideration of cumulative effects is not required.

Consideration of DCO

- 37.4.5 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects as a result of the proposed extension to the timescales for completion of the development as contained within this ER.

37.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 37.5.1 Appropriate mitigation was identified in Chapter 37 of the original ES and has subsequently been agreed and secured through the DCO itself since consent was granted. It is considered that this mitigation remains appropriate.

Alternate or Additional Mitigation

- 37.5.2 The mitigation measures identified within the original ES and to be implemented as part of the DCO are considered entirely appropriate. No alternate or additional mitigation measures beyond that contained within the original ES are required.

37.6.0 Residual Effects

Construction Phase

- 37.6.1 Following consideration of mitigation, residual effects relating to traffic and transport during the construction phase are identified within the original ES.
- 37.6.2 Given that the proposed extension of time will not alter the findings of the original ES, the residual traffic and transport impacts for the construction phase remain as described in the original ES, the levels assessed as between negligible and temporary minor negative.

Operational Phase

- 37.6.3 Following consideration of mitigation, residual effects relating to traffic and transport during the operational phase are identified within the original ES.
- 37.6.4 Given that the proposed amendment will not alter the findings of the original ES, no additional residual effects for the operational phase are predicted.

Consideration of DCO

- 37.6.5 Following this review, it is considered that there are not any changes to the assessment of residual effects identified within the original ES. On this basis, the findings of the original ES are considered to be appropriate and robust when considering the proposed extension of time.

37.7.0 Other Environmental Issues

Other Environmental Issues of Relevance

37.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.

37.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Infrastructure

37.7.3 None identified.

Waste

37.7.4 None identified.

Population and Human Health

37.7.5 The scope of any traffic and transport assessment inherently considers the population and human health, given the known impacts of traffic and transport on human health, as assessment criteria contained within the relevant guidance documents are based on human response to traffic and transport.

37.7.6 Potential impacts on human health have therefore been assessed for both the construction and operational phases. As potential traffic and transport impacts upon sensitive receptors have been assessed as 'negligible' and 'temporary minor negative' at worst, significance of effects upon population and human health are concluded to be 'not significant'.

Climate and Carbon Balance

37.7.7 None identified.

Risks of Major Accidents and/or Disasters

37.7.8 None identified.

Summary

37.7.9 With the exception of population and human health, which is concluded as being 'not significant', no other environmental issues of relevance have been identified.

37.8.0 Summary of Effects

- 37.8.1 Chapter 37 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 37.8.2 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.

37.9.0 Conclusions

- 37.9.1 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 37.9.2 It is therefore concluded that Chapter 37: Traffic and Transport of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 38: NOISE

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

38.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
38.2.0 METHODOLOGY	3
Changes in Legislation, Guidance and Planning Policy.....	3
Scoping Opinion	4
Additional Consultation.....	4
Assessment Methodology	4
Effects Not Requiring Further Assessment.....	5
38.3.0 CHANGES IN BASELINE CONDITIONS.....	6
DCO Baseline	6
DCO Future Baseline.....	6
Current Baseline	6
Changes in Baseline	7
38.4.0 ASSESSMENT OF EFFECTS	8
Additional Construction Phase Effects	8
Additional Operational Phase Effects.....	8
Additional Cumulative Effects	8
Consideration of DCO	9
38.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	10
DCO Mitigation.....	10
Alternate or Additional Mitigation	10
38.6.0 RESIDUAL EFFECTS	11
Construction Phase	11
Operational Phase	11
Consideration of DCO	11
38.7.0 OTHER ENVIRONMENTAL ISSUES.....	12
Other Environmental Issues of Relevance	12
Summary	12

38.8.0	SUMMARY OF EFFECTS	13
38.9.0	CONCLUSIONS	14

DOCUMENT REFERENCES

FIGURES

Figure 38-1: Magnitude of Change (Impact)	5
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TABLES

Table 38-1: Receptor Sensitivity.....	4
Table 38-2: Baseline Noise Levels – Cherry Cobb Sands (Short Term Measurement).....	6

38.1.0 Introduction

Development Consent Order Context

38.1.1 An assessment of the impacts of the development on Noise at the Compensation Site was included in Chapter 38 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 38: Noise (Compensation Site);
- Appendices to ES Chapter 38 (links are provided at relevant sections of this Chapter):
 - ES Annex 11.11: Noise Contour Maps.
 - ES Chapter 10: Aquatic Ecology.
 - ES Chapter 11: Terrestrial Ecology and Birds.
 - ES Annex 10.3: MEP Effects of Underwater Piling Noise on Migratory Fish.

38.1.2 No additional documents of relevance to noise were submitted as part of the Examination, whilst there are also no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

38.1.3 The full details of the proposed extension of time are described in Chapter 4 of this Environmental Review (ER) to the original ES and Material Change 2 UES. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.

38.1.4 This Chapter forms part of the ER for the proposed extension of time to the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 38: Noise). This Chapter will review the potential impacts regarding noise and where appropriate, any mitigation measures and any requirement for these to be reviewed and/or revised.

Purpose and Structure of Chapter

38.1.5 This Chapter reports on any change in the findings of the original ES in respect of Noise impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

38.1.6 This chapter includes consideration of:

- Changes in legislation, policy and guidance relating to noise and vibration;
- Changes in baseline conditions;
- Changes in assessment of effects; and

¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000314-10%20-%20Aquatic%20Ecology.pdf>

- Changes in proposed mitigation.

38.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

38.2.1 Where there have been subsequent changes to legislation, policy or guidance contained within Chapter 38 of the original ES, those documents and changes are detailed below. Where legislation, policy or guidance has changed, a summary of the changes and an assessment as to whether they alter the original assessment is detailed.

Legislation

38.2.2 Relevant legislation set out within Section 38.2 of the original ES. There have been no changes in relevant legislation since the production of the original ES.

Policy

National Planning Policy Framework 2021

38.2.3 Regarding noise pollution, the NPPF (published subsequent to the original ES) states, *“planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *“Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development, and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason”*

38.2.4 As stated above, the NPPF makes reference to mitigating and reducing to a minimum potential adverse impact resulting from noise produced by, or impacting on a new development, but not does not set absolute criteria; there the most relevant National and International standards are referred to in this assessment, which provide definitive guidance on noise impact.

ERYC Local Plan

38.2.5 The original ES referred to the East Riding of Yorkshire Council (ERYC) Local Plan, which states no general policy on noise associated with development, however they did have a website on ‘Noise and Planning’ which provides useful advice, guidance and relevant information on noise issues (ERYC 2010a). The website refers to national guidance set out in PPG24 (now superseded) which sets out the Government Policies in relation to using planning controls to minimise the effect of noise either from or on a new development.

38.2.6 The ERYC Local Plan was updated in August 2021 following:

- Changes in the New National Planning Policy Framework;
- Issues identified in the inspector’s report on the Local Plan examination; and

- The monitoring of current Local Plan policies and updates to the Evidence base.

38.2.7 It is considered that the changes do not alter the assessment methodology or findings of the original ES.

Scoping Opinion

38.2.8 Given the limited scope of the proposals, no formal Scoping or Consultation has been undertaken for the ER. As such, there is no Scoping Opinion relating to the proposed extension of time.

Additional Consultation

38.2.9 At this time, no additional consultation has been undertaken in support of the ER.

38.2.10 Notwithstanding, consultation was previously undertaken with ERYC to discuss the assessment methodologies to be used in the impact assessment undertaken within the original ES. During this consultation ERYC confirmed that there are no local policies relating to noise and that the noise impacts of any development would be considered with regard to national legislation and guidance. No further comments relating to noise have been received during the stakeholder consultation process that relate directly to the Compensation Site.

Assessment Methodology

Study Area

38.2.11 The study area is as defined within the original ES Chapter and does not require amendment as a result of the proposed time extension. On this basis, the study area as utilised within the original ES is robust and had been utilised in undertaking the ER.

Sensitivity Criteria

38.2.12 Sensitivity criteria for receptors are described within Chapter 38 of the original ES. The significance of the noise effect will depend on the receptor type and its sensitivity to the noise impact. Examples indicating the sensitivity of the receiving environment are shown in Table 38-1.

Table 38-1: Receptor Sensitivity

Sensitivity	Definition
Very High	Residential properties (night-time), Schools and healthcare building (daytime)
High	Residential properties (daytime), Special Areas of Conservation, Special Protection Areas, Sites of Special Scientific Interest (or similar areas of special interest)
Medium	Offices and other non-noise producing employment areas
Low	Industrial areas

38.2.13 All receptors considered within Chapter 38 of the original ES are residential and therefore sensitivity would be defined as ‘high’ during the day due to the residents being likely accustomed to noise levels associated with general farming activities. No activity will occur during the night time period, and as such, the sensitivity of receptors has not been defined.

Magnitude of Change (Impact)

38.2.14 Criteria to describe magnitude of changes are as defined within Table 38.1 of the original ES. No change has occurred due to the time extension. An extract of Table 38.1 from the original ES is provided within Figure 38-1 below.

Figure 38-1: Magnitude of Change (Impact)

IMPACT MAGNITUDE			
Major	Moderate	Minor	Negligible
Noise levels over 80 dB(A)	Noise levels generally between 70 dB(A) and 80 dB(A)	Noise levels generally between 60 dB(A) and 70 dB(A)	Noise levels normally less than 60 dB(A)

Significance of Effect

38.2.15 Significance criteria for assessing noise impacts are as defined within paragraph 38.3.11 of the original ES. No change has occurred due to the time extension.

Mitigation Hierarchy

38.2.16 Mitigation measures to reduce sound from construction and operational phases have been recommended within the original ES. Whilst not defined within the original ES, the preference would always be to reduce noise at source where practicable, before the implementation of other measures (e.g. screening). The recommended mitigation measures have been proposed with reference to best practice guidance.

Effects Not Requiring Further Assessment

38.2.17 The proposed extension of time will not affect road noise, therefore there will be no new or different impacts associated with road traffic noise. No new or different impacts associated with noise during operation will arise as a result of the proposed extension of time.

38.3.0 Changes in Baseline Conditions

DCO Baseline

- 38.3.1 DCO baseline conditions are set out within Section 38.5 of the original ES.
- 38.3.2 Noise monitoring was undertaken on 22 November 2010 at four locations which were close to the residential receptors adjacent to intertidal site at Cherry Cobb Sands (Figure 38.2 of the original ES). The survey was conducted in the evening (between 20:45 and 22:30) and comprised short term measurements of five minutes in duration.
- 38.3.3 There had been heavy to moderate rain immediately prior to the survey however given a break in the rain it was possible to conduct the survey in dry conditions. Air temperature was approximately 3-4 °C. There was a light breeze during the time of the measurement and the speed of wind was less than 5 m/s with occasional gusts.
- 38.3.4 Baseline noise levels obtained through the spot measurements for the noise survey are shown in Table 38-2. Noise levels obtained at the four sites were very low as would be expected in an isolated rural setting. The $L_{Aeq,T}$ baseline noise levels were between 42 dB(A) and 51 dB(A).

Table 38-2: Baseline Noise Levels – Cherry Cobb Sands (Short Term Measurement)

Page & Paragraph No.	Location 1: Stone Creek House	Location 2: Sands Farm	Location 3: Sands House	Location 4: New House Farm
NGR (National Grid Reference)	TA 235 188	TA 229 201	TA222 213	TA 213 223
Time Sampled	20:48	21:14	21:35	21:57
$L_{A_{Max}, T}$	61.9	79.5	60.1	75.6
$L_{A_{Min}, T}$	25.6	20.1	21.0	21.9
$L_{A_{eq}, T}$	42.1	51.0	41.6	44.0
L_{A90}, T	27.5	21.0	22.5	23.5

DCO Future Baseline

- 38.3.5 No future baseline was established within the original ES. As such, the baseline conditions remain as per the DCO baseline conditions are set out within Section 38.5 of the original ES.

Current Baseline

- 38.3.6 Since the original ES was undertaken, Location 2 has been granted planning for the erection of a single storey extension to the site and rear, raising the roof over the main dwelling (planning application ref. 22/00393/PLF). This change is not considered significant in changes to the baseline.
- 38.3.7 RJ Robinson and Partners, to the north of Location 3, have sought planning permission for the update to condition 5 relating to waste (planning application ref. 21/30100/CONDET). This change is not considered significant in changes to the baseline.

Changes in Baseline

- 38.3.8 There are no identified changes to areas surrounding sensitive receptors that are considered to have led to significant changes in baseline conditions from those set out within Section 38.5 of the original ES.

38.4.0 Assessment of Effects

Additional Construction Phase Effects

- 38.4.1 The sources of construction noise at Cherry Cobb Sands will be mainly from earthworks within the site and also from plant and HGV deliveries.
- 38.4.2 Table 38.3 of the original ES states that the predicted noise associated with the construction phase results in a **'Negligible'** impact for the majority of the receptors. This is based on the magnitude of effect which is deemed to be negligible as predicted noise levels are under 60 dB(A). For three receptors the noise levels are deemed to be minor as the levels fall between 60 and 70 dB(A). The significance is deemed to be minor as exposure to noise of short duration and therefore the overall significance is assessed as being a temporary minor negative impact for three receptors. When looking at the resultant noise levels at the nearest noise sensitive receptors, the inclusion of dredging would not significantly increase the levels to those deemed significant.
- 38.4.3 The noise assessment is based on all plant operating at the same time. This conservative approach ensures that the 'worst case' scenario has been assessed. In reality it is unlikely that all plant would operate at all times during construction and therefore the actual noise levels experienced are likely to be lower than the levels which have been presented here.
- 38.4.4 The EIA review EX 28.3 Part 6 states that the proposal includes for the excavation of an additional 240,000m³ of soil during the construction phase which differs from the previous report quantity within the ES. In addition, dredging will also be undertaken to maintain levels and prevent colonisation of salt marsh plants. Having reviewed the amendments, the amendment to the original proposal is not likely to be discernible from the existing situation and no further effects are predicted.
- 38.4.5 As the assessment undertaken within the original ES is worst-case, it is therefore considered that changes proposal will not result in greater noise or vibration effects than those predicted within Chapter 38 the original ES. The discernible difference in the consideration of construction phase is that the effects will be present during a different time period (i.e. in a different calendar year) but would be of the same duration as that originally assessed within the original ES.
- 38.4.6 In summary, there are no changes in the method of construction and no material changes (in terms of noise and vibration) to the location of the change in timescales that would lead to greater noise or vibration effects than those identified within the original ES due to the proposed extension of time. Further consideration of construction phase effects is not required

Additional Operational Phase Effects

- 38.4.7 There are no operational phase effects to be considered from a noise and vibration perspective.

Additional Cumulative Effects

- 38.4.8 A review of committed developments (additional to those considered within the original ES) has confirmed that no further applications are proposed and that noise emissions will be unlikely to lead to a perceptible increase in sound levels at receptor locations, due to distance and existing ambient and background sound levels. Further consideration of cumulative effects is not required.

Consideration of DCO

- 38.4.9 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects as a result of the proposed extension to the timescales for completion of the development as contained within this ER.

38.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 38.5.1 Appropriate mitigation has been identified in Chapter 38, of the original ES and secured through the DCO itself. It is considered that proposed mitigation remains appropriate.
- 38.5.2 Suitable mitigation measures to ensure that potential noise and vibration effects are managed and controlled to acceptable levels where practicable will be implemented are described within the original ES.
- 38.5.3 The original ES identifies a number of mitigation measures to be utilised as part of the DCO, including (but not limited to):
- The contractor carrying out the earthworks to construct the new embankment at Cherry Cobb Sands will follow best practicable means to reduce the noise impact upon the local community.
 - The new embankment at Cherry Cobb Sands will be constructed in sections. This may provide the opportunity for the bank to act as a shield for noise, which could help to further mitigate for the impact of construction noise.
 - All construction plant and equipment will comply with EU noise emission limits.
 - Proper use of plant with respect to minimising noise emissions and regular maintenance. All vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and will be maintained in good efficient working order.
 - Selection of inherently quiet plant where appropriate. All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers.
 - Machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum.
 - Avoid road traffic queuing and bunching of heavy vehicle movements such as deliveries to the site.

Alternate or Additional Mitigation

- 38.5.4 The mitigation measures identified within the original ES and to be implemented as part of the DCO are considered entirely appropriate. No alternate or additional mitigation measures beyond that contained within the original ES are required.

38.6.0 Residual Effects

Construction Phase

- 38.6.1 Following consideration of mitigation, residual effects relating to noise during the construction phase are identified within the original ES.
- 38.6.2 Given that the proposed extension of time will not alter the findings of the original ES, the residual noise impacts for the construction phase remain as temporary minor significance, with a level of effect of 'not significant' (Table 38.3 of the original ES).

Operational Phase

- 38.6.3 Following consideration of mitigation, residual effects relating to noise during the operational phase are identified within the original ES.
- 38.6.4 Given that the proposed amendment will not alter the findings of the original ES, the predicted noise levels typical operations will remain below the threshold values, and therefore no residual effects for the operational phase are predicted (paragraph 38.6 of the original ES).

Consideration of DCO

- 38.6.5 Following this review, it is considered that there are not any changes to the assessment of residual effects identified within the original ES. On this basis, the findings of the original ES are considered to be appropriate and robust when considering the proposed extension of time.

38.7.0 Other Environmental Issues

Other Environmental Issues of Relevance

38.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.

38.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Infrastructure

38.7.3 None identified.

Waste

38.7.4 None identified.

Population and Human Health

38.7.5 The scope of any noise and vibration assessment inherently considers the population and human health, given the known impacts of noise and vibration on human health, as assessment criteria contained within the relevant guidance documents are based on human response to noise and vibration.

38.7.6 Potential impacts on human health have therefore been assessed for both the construction and operational phases. As potential noise and vibration impacts upon sensitive receptors have been assessed as 'negligible' to 'minor' at worst, significance of effects upon population and human health are concluded to be 'not significant'.

Climate and Carbon Balance

38.7.7 None identified.

Risks of Major Accidents and/or Disasters

38.7.8 None identified.

Summary

38.7.9 With the exception of population and human health, which is concluded as being 'not significant', no other environmental issues of relevance have been identified.

38.8.0 Summary of Effects

- 38.8.1 Chapter 38 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 38.8.2 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.

38.9.0 Conclusions

- 38.9.1 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 38.9.2 It is therefore concluded that Chapter 38: Noise of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 39: AIR QUALITY

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

39.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
39.2.0 METHODOLOGY	2
Changes in Legislation, Guidance and Planning Policy.....	2
<i>The Air Quality Strategy for England, Scotland, Wales and Northern Ireland</i>	5
Assessment Methodology	5
Effects Not Requiring Further Assessment.....	6
39.3.0 CHANGES IN BASELINE CONDITIONS	7
DCO Baseline	7
DCO Future Baseline.....	7
Current Baseline	7
Changes in Baseline	7
39.4.0 ASSESSMENT OF EFFECTS	9
Additional Construction Phase Effects	9
Additional Operational Phase Effects.....	9
Additional Cumulative Effects	9
Consideration of DCO	9
39.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	10
DCO Mitigation.....	10
Alternate or Additional Mitigation	10
39.6.0 RESIDUAL EFFECTS	11
Construction Phase	11
Consideration of DCO	11
39.7.0 OTHER ENVIRONMENTAL ISSUES	12
Other Environmental Issues of Relevance	12
Summary	12
39.8.0 SUMMARY OF EFFECTS	13
39.9.0 CONCLUSIONS	14

39.1.0 Introduction

Development Consent Order Context

39.1.1 An assessment of the impacts of the development on Air Quality at the Compensation Site was included in Chapter 39 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES and of relevance to air quality are as follows:

- Environmental Statement Chapter 39: Air Quality (Compensation Site).

39.1.2 There are no documents of relevance to this chapter that were submitted during the examination of the DCO, nor within the Material Change 2 UES.

Consideration of the Extension of Time

39.1.3 The full details of the proposed extension of time are described in Chapter 4 of this review of the original ES. In relation to this submission, there are no physical alterations proposed and the only matter being considered is an extended time limit for the construction of the development.

39.1.4 This Chapter will review the potential impacts regarding air quality and whether any mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

39.1.5 This Chapter reports on any change in the findings of the original ES in respect of potential Air Quality impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

39.1.6 This chapter includes consideration of:

- Changes in legislation, policy and guidance relating to air quality;
- Changes in baseline conditions;
- Changes in assessment of effects; and
- Changes in proposed mitigation.

39.1.7 It is noted only that air quality legislation, policy and guidance of relevance to Chapter 39 of the original ES which relates to the Cherry Cobb Sands / the Compensation Site has been considered.

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000344-39%20-%20Air%20Quality.pdf>.

39.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

39.2.1 In the interim since the extant DCO and original ES, changes in legislation, guidance and planning policy detailed in the following subsections have occurred. As noted by the dates, several of the guidance documents were not available at the time of the original air quality assessment.

39.2.2 It is noted that Chapter 39 of the original ES did not specify or directly refer to any relevant legislation, policy or guidance. Chapter 39 of the original ES simply refers to the legislation, policy or guidance contained within Air Quality Chapter 17 of the original ES. Therefore, this review considers the legislation, policy and guidance referenced within Chapter 17 of the original ES.

Legislation

39.2.3 The original ES referred to several legislative documents, including the following:

- The Air Quality Standards Regulations 2010 (AQSR 2010) – transposed from EU Ambient Air Quality Directive (2008/50/EC) and the Fourth Daughter Directive (2004/107/EC);
- Environmental Protection Act 1990; and
- The Environment Act 1995.

39.2.4 Of the above, and since the original ES, the AQSR 2010 were amended by The Air Quality Standards (Amendment) Regulation 2016. Furthermore, following the UK's withdrawal from the EU, the Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 was introduced to mirror revisions to supporting EU legislation. As a result, the fine particulate matter (particulate matter with an aerodynamic diameter of less than 2.5µm (PM_{2.5})) Limit Value was reduced to 20µg/m³ (to be met by 2020). Additionally, the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 introduced an annual mean concentration target of 10µg/m³ to be met across England by 2040.

39.2.5 However, none of the above amendments would materially change the assessment methodology or conclusions of the original ES. It is noted PM_{2.5} was not considered within the scope of the Chapter 39 of the original ES.

39.2.6 The air quality legislation within the original ES therefore remains valid, with no significant changes in the interim period.

Guidance

39.2.7 The original ES referred to the following guidance document:

- *Minerals Policy Statement 2.*

39.2.8 In the interim period since the original ES, the referenced guidance has been updated as follows:

Demolition and Construction Dust Guidance

- 39.2.9 The original ES refers to the ‘*Minerals Policy Statement 2*’ published by the Office of the Deputy Prime Minister in 2005, and studies by the Building Research Establishment (BRE). Recommendations for assessment have been utilised in the original ES and it therefore considered a qualitative ‘risk-based’ approach for the assessment of dust impacts.
- 39.2.10 More recently, in 2014 and later revised in 2016 incorporating minor amendments, the Institute of Air Quality Management (IAQM) published the document ‘*Guidance on the assessment of dust from demolition and construction*’ which details the current, recognised method of assessment of demolition and construction dust.
- 39.2.11 The above amendment to guidance would not materially change the assessment methodology or conclusions of the original ES.

Policy

- 39.2.12 The original ES referred to the following policy:
- Planning Policy Statement (PPS) 23: Planning and Pollution Control;
 - North Lincolnshire Council Local Plan;
 - East Riding of Yorkshire Council Local Plan; and
 - The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.
- 39.2.13 In the interim period since the original ES, the referenced guidance has been updated as follows:

National Planning Policy Framework

- 39.2.14 The original ES referenced PPS 23: Planning and Pollution Control.
- 39.2.15 This has since been replaced by the National Planning Policy Framework (NPPF), which was most recently updated in November 2019. The NPPF describes the policy context in relation to pollutants including air pollutants, as follows:

“Para 170: Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of [...] air [...] pollution [...]. Development should, wherever possible, help to improve local environmental conditions such as air [...] quality [...].”

“Para 180: Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.”

- 39.2.16 The NPPF is accompanied by web based supporting Planning Practice Guidance (PPG) which includes guiding principles on how planning can take account of the impacts of new development on air

quality. In regard to air quality, the PPG states:

“The Department for Environment, Food and Rural Affairs carries out an annual national assessment of air quality using modelling and monitoring to determine compliance with relevant Limit Values. It is important that the potential impact of new development on air quality is taken into account where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified. [...]”

Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity.”

- 39.2.17 The PPG sets out the information that may be required within the context of a supporting air quality assessment, stating that *“Assessments need to be proportionate to the nature and scale of development proposed and the potential impacts [...] Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact”*.

North Lincolnshire Council Planning Policy

- 39.2.18 The North Lincolnshire Local Plan was replaced by the North Lincolnshire Local Development Framework (LDF) in 2011.

- 39.2.19 The Core Strategy is a key part of the LDF and sets out the long-term vision for growth and development in North Lincolnshire. The Strategy includes Spatial Objective 7:

“To ensure the efficient use of resources, maximising recycling of minerals and waste products, minimising pollution, maintaining and improving air, soil and water quality, and employing sustainable building practices in new development.”

East Riding of Yorkshire Council Planning Policy

- 39.2.20 The East Riding of Yorkshire Local Plan was adopted in 2016. Policy S1 relates to a presumption in favour of sustainable development and for development proposals it states:

A. *“When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will work proactively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the East Riding of Yorkshire.*

B. *The Local Plan should be read as a whole. Planning applications that accord with the policies in the Local Plan will be approved without delay, unless material considerations indicate otherwise - taking into account whether:*

- 1. Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*

2. *Specific policies in that Framework indicate that development should be restricted.”*

- 39.2.21 Policy S2 relates to addressing climate change, stating that *“The Local Plan and development decisions will support a reduction in greenhouse gas emissions and adaptation to the expected impacts of climate change...”*.

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

- 39.2.22 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland was published in 2007, and updated in 2023 to be of relevance for England. The 2023 Air Quality Strategy remains to provide the delivery framework for air quality management across England for local authorities and summarises the air quality standards and objectives operable within England for the protection of public health and the environment.
- 39.2.23 The above amendments to policy would not materially change the assessment methodology or conclusions of the original ES.

Assessment Methodology

Study Area

- 39.2.24 No specific study area was defined within the original ES Chapter 39. Alternatively, receptors to potential construction phase impacts were identified based upon the study area and methodology defined in Chapter 17 of the original ES. On this basis, the study area as utilised within the original ES is robust and had been utilised in undertaking the ER. The identified updates to guidance would not change the overall study area definition. No change to the study area would arise as a result of the extension of time.

Sensitivity Criteria

- 39.2.25 No specific sensitivity criteria was established within the original ES Chapter 39. Alternatively, receptor sensitivity was identified based upon the methodology defined in Chapter 17 of the original ES. The identified updates to guidance would not change the overall receptor sensitivity. No change to the receptor sensitivity would arise as a result of the extension of time.

Magnitude of Change (Impact)

- 39.2.26 No specific magnitude of change definition was established within the original ES Chapter 39. Alternatively, magnitude of change was identified based upon the methodology defined in Chapter 17 of the original ES. The updated identified updates to guidance would not change the overall magnitude of change definition. No change to the magnitude of change definition would arise as a result of the extension of time.

Significance of Effect

- 39.2.27 Regarding the applied significance of effect, the Chapter 39 of the original ES states:
- “Given the limited scale of anticipated air quality impacts for the Compensation Site, no specific significance criteria have been developed. Instead, significance of impacts will be determined using the general significance assessment method outlined in Chapter 2.”*

39.2.28 The identified updates to guidance would not change the overall significance of effect. No change to the significance of effect would arise as a result of the extension of time.

Mitigation Hierarchy

39.2.29 The original ES did not employ or detail the use of a mitigation hierarchy. However, in reviewing whether any alternate or additional mitigation is required in response to the findings of this ER, SLR has utilised the basic hierarchy principles, provided by the IAQM, for determining appropriate mitigation measures for a development scheme. These are as follows:

- 1 **Preventing and Avoiding** - the initial step should be to, if possible, prevent or avoid exposure to the pollutant by isolating or removing potential sources. The design process should take air quality into account.
- 2 **Reduction and Minimisation** - all options for avoiding exposure and preventing exposure should be implemented. Preference should be given to measures which are close to the potential source, then those which act on the pathway and finally measures close to the point of exposure.
- 3 **Off-setting** - compensating for impacts associated with the new development by contributing to air quality improvements elsewhere.

39.2.30 This hierarchy for mitigation measures has been considered in the determination of mitigation measures required.

39.2.31 The mitigation measures are detailed within Section 39.8 of the original ES and were determined based on the predicted effects of the assessments and industry good practice.

Effects Not Requiring Further Assessment

39.2.32 The proposed extension of time will not affect air quality in respect of any new impacts associated with the identified scope of assessment of construction phase road traffic / plant emissions and construction dust. Rather, the proposed extension of time will change the window over which the source of emission / impact on air quality occurs. No new or different impacts associated with air quality during operation will arise as a result of the proposed amendments.

39.3.0 Changes in Baseline Conditions

DCO Baseline

- 39.3.1 DCO baseline conditions are set out within Section 39.5 of the original ES.

DCO Future Baseline

- 39.3.2 There is no future baseline established within the original ES. This continues to be a reasonable assumption.

Current Baseline

- 39.3.3 The receptors defined within the original ES are still considered to be unchanged and have the same sensitivities as previously defined.
- 39.3.4 To determine the current baseline air quality conditions, Local Air Quality Management (LAQM) reports and monitoring data within the administrative areas of North Lincolnshire Council (NLC), North East Lincolnshire Council (NELC), East Riding of Yorkshire Council (ERoYC) and Kingston-upon-Hull City Council (KuHCC) were considered. It is noted that this review considers monitoring data collected prior to the COVID-19 pandemic (i.e. pre-2020) in order to characterise the baseline environment, as pollutant concentrations monitored during 2020 and 2021 are expected to be atypical, and not representative of the local environment. 2020 / 2021 monitoring data has therefore not been considered as per guidance produced by Defra and a position statement published by the IAQM.
- 39.3.5 From review of the Site locale, two of the AQMAs detailed within the original ES are still present – the Hull AQMA declared for nitrogen dioxide (NO₂), and the Scunthorpe AQMA declared for particulate matter with an aerodynamic diameter of less than 10µm (PM₁₀). However, neither of these AQMAs are located within 10km of the Compensation Site and are therefore not of relevance. Given that the number of declared AQMAs within the study area has decreased in the interim since the original ES, this suggests an improvement in the air quality baseline conditions. For an AQMA to be revoked, Defra would require long-term evidence of the downward trend in pollutant concentrations and therefore such revocations present a positive outlook in terms of air quality. A review of the NLC 2020 Air Quality Annual Status Report (ASR) and the NELC 2020 Air Quality ASR demonstrates this improving air quality through annual year-on-year reductions of monitored air pollutants. It is noted the original ES referred to the Immingham AQMA (declared for 24-hour mean PM₁₀) and the Low Stanton AQMA (declared for annual mean PM₁₀): these were revoked in January 2016 and March 2018, respectively, as a result of no ongoing monitored exceedences of the respective AQALs.

Changes in Baseline

- 39.3.6 As referenced above, a review of the NLC 2020 ASR and the NELC 2020 ASR indicates an improvement in baseline concentrations in recent years and since the original ES. This is consistent with current predictions and trends for pollutant concentrations across the UK.
- 39.3.7 Given the remote location of the Compensation Site / Cherry Cobb Sands, there are no identified committed developments which would change baseline air quality at relevant sensitive receptors

which would otherwise result in changes to receptor sensitivity, for example.

39.4.0 Assessment of Effects

Additional Construction Phase Effects

Construction Dust

- 39.4.1 The proposed extension of time is not anticipated to result in any additional construction phase dust effects to those detailed in the original ES. It is noted that the assessment of effects associated with construction dust within the original ES previously assumed that dust generating activities would occur for a period of >12-months as the maximum considered time period. Therefore, the potential for construction dust effects over an appropriate time period was previously considered within the original ES.

Construction Phase – Road Sources

- 39.4.2 The proposed extension of time is not anticipated to result in any additional construction phase road traffic effects to those detailed in the original ES. It is noted that the assessment of effects associated with construction road traffic emissions within the original ES previously was based upon impacts on annual mean concentrations for consideration against the annual mean Air Quality Assessment Levels (AQAL). Therefore, the potential for construction phase road traffic emission effects over an appropriate time period was previously considered within the original ES.

Additional Operational Phase Effects

- 39.4.3 The original ES screened out potential operational phase air quality effects, on the basis that “*Once construction works are complete, it is anticipated that the Compensation Site will have no impact on air quality. Therefore, the impacts from operation of the site on air quality will not be considered as part of the assessment*”. The proposed extension of time is not anticipated to result in any potential operational phase effects which require assessment.

Additional Cumulative Effects

- 39.4.4 A review has identified no committed developments (additional to those considered within the original ES) with the potential to generate construction phase road traffic / plant emissions or construction dust which require consideration of cumulative effects.
- 39.4.5 Notwithstanding, it is noted that other developments in the area will also be required to implement good-practice mitigation and dust control measures for which each individual development will subsequently concluded to result in a not significant effect based upon commensurately identified mitigation. As such, the risk of concurrent / sequential construction dust effects associate with other committed developments is considered to be 'not significant'.

Consideration of DCO

- 39.4.6 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects on air quality as a result of the proposed extension to the timescales for completion of the development as contained within this Article 7 ER.

39.5.0 Requirement for Additional Mitigation

DCO Mitigation

39.5.1 Appropriate mitigation has been identified in Chapter 39 of the original ES and secured through the DCO itself as referenced within Schedule 11 Requirement 22 (Code of Construction Practice) and Requirements 28 (Control of Emissions). It is considered that proposed mitigation remains appropriate.

39.5.2 Suitable mitigation measures to ensure that potential air quality effects are managed and controlled to acceptable levels where practicable will be implemented are described within the original ES.

39.5.3 The original ES identifies a number of mitigation measures to be utilised, including (but not limited to):

- All vehicles used for the works will be kept in a well-maintained and serviced state and comply with emissions standards at all times;
- Engines will be switched-off when not in use, for example during unloading;
- A high level of housekeeping will be maintained at the construction site;
- Mixing of the lime with the soil should be avoided in particularly windy conditions;
- During periods of particularly warm, dry weather dust suppression through damping down with water will be used where appropriate. Care will be taken to ensure that no excess surface water is generated, in order to minimise risk of mobilising dust and mud; and
- When working with the lime, the following measures must be carried out to limit the release of lime into the environment:
 - Careful choice of storage systems / area;
 - The connection of the silos' air vents to filters must be maintained in good condition;
 - The spreading of lime must be avoided in strong winds; and
 - The lime spreading machines must be fitted with dust valances.

Alternate or Additional Mitigation

39.5.4 The mitigation measures identified within the original ES and to be implemented as part of the DCO are considered entirely appropriate. No alternate or additional mitigation measures beyond that contained within the original ES are required.

39.6.0 Residual Effects

Construction Phase

- 39.6.1 Following consideration of mitigation, residual effects relating to air quality during the construction phase are identified within the original ES.
- 39.6.2 Given that the proposed extension of time will not alter the findings of the original ES, the residual air quality impacts for the construction phase remain as temporary negligible significance (i.e. 'not significant').

Consideration of DCO

- 39.6.3 Following this review, there are no changes to the residual effects identified within the original ES Chapter 39 in context of Cherry Cobb Sands / the Compensation Site. On this basis, the findings of the original ES are considered to be appropriate and robust when considering the proposed extension of time.

39.7.0 Other Environmental Issues

- 39.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 39.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

- 39.7.3 Infrastructure has been indirectly considered, in terms of construction and demolition and road traffic/plant associated with this. The significance of effects were concluded as 'not significant'.

Waste

- 39.7.4 The issue of waste has not been directly considered; however, it is recognised that the waste materials from construction activities has the potential to generate dust and therefore this has been covered within the assessment of construction dust.

Population and Human Health

- 39.7.5 The scope of any air quality assessment inherently considers the population and human health, given the known impacts of air pollutants on human health.
- 39.7.6 Potential impacts on human health have been assessed for the construction phase, and the significance of effects were concluded as 'not significant'.

Climate and Carbon Balance

- 39.7.7 The risks of climate and carbon balance is not considered of relevance to the air quality Chapter.

Risks of Major Accidents and/or Disasters

- 39.7.8 The risks of major accidents and/or disasters is not considered of relevance to the air quality Chapter.

Summary

- 39.7.9 With regards to the EIA regulations 2017, in terms of air quality there are not considered to be any likely significant effects with regards to Other Environmental Issues.

39.8.0 Summary of Effects

- 39.8.1 Chapter 39 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 39.8.2 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.

39.9.0 Conclusions

- 39.9.1 This review has identified that the proposed amendment, and changes in legislation, guidance and policy, and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES Chapter 39 air quality. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 39.9.2 It is therefore concluded that Chapter 39: Air Quality of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 40: HISTORIC ENVIRONMENT

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
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CONTENTS

40.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	2
Purpose and Structure of Chapter	2
40.2.0 METHODOLOGY.....	3
Changes in Legislation, Guidance and Planning Policy.....	3
Assessment Methodology	7
Effects Not Requiring Further Assessment.....	8
40.3.0 CHANGES IN BASELINE CONDITIONS.....	9
DCO Baseline	9
DCO Future Baseline.....	9
Current Baseline	9
Changes in Baseline	9
40.4.0 ASSESSMENT OF EFFECTS	10
Additional Construction Phase Effects	10
Additional Operational Phase Effects.....	10
Additional Cumulative Effects	10
Consideration of DCO	10
40.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	11
DCO Mitigation.....	11
Alternate or Additional Mitigation.....	11
40.6.0 RESIDUAL EFFECTS	12
Construction Phase	12
Operational Phase.....	12
Consideration of DCO	12
40.7.0 OTHER ENVIRONMENTAL ISSUES.....	13
Other Environmental Issues of Relevance	13
Summary	13
40.8.0 SUMMARY OF EFFECTS	14
40.9.0 CONCLUSIONS	15

DOCUMENT REFERENCES

APPENDICES

Appendix ER40-1 Desk-based Historic Environment Assessment, dated October 2010

Appendix ER40-2 Cherry Cobb Sands Geophysical survey, dated April 2011

Appendix ER40-3 Cherry Cobb Sands Geo-archaeological assessment, dated May 2011

Appendix ER40-4 Written Scheme of Investigation: Coastal and Marine, dated September 2021

40.1.0 Introduction

Development Consent Order Context

40.1.1 The impacts of the development on the Historic Environment associated with the Compensation Site were considered in Chapter 40 of the Original ES that formed part of the DCO application in 2012. A full list of the documents and assessments submitted in support of the Original ES are as follows:

- Environmental Statement Chapter 40¹: Historic Environment (Compensation Site);
- Appendices to Chapter 40 (links are provided at relevant sections of this Chapter):
 - Appendix 40.1: Historic Environment Desk-based Assessment (Appendix ER40-1);
 - Appendix 40.2: Geophysical survey of Cherry Cobb Sands (Appendix ER40-2); and
 - Appendix 40.3: Geoarchaeological appraisal of Cherry Cobb Sands (Appendix ER40-3).

40.1.2 A marine archaeological Written Scheme of Investigation (WSI) was produced in 2012 in order to set out the mitigation agreed to limit the development's impacts on the marine Historic Environment on both the south and north sides of the Humber Estuary (Material Change 2 Appendix UES18-1) (Appendix ER40-4). This WSI was based on a review of geoarchaeological data (Wessex Archaeology 2011 & 2012b; Material Change 2 Technical Appendices UES18-3 and UES18-4) and geophysical survey data captured by Emu Limited in 2010 (Emu 2010)².

40.1.3 Schedule 11 Requirement 17 of the DCO (Appendix ER1-1) required that:

- (1) No stage of the authorised development is to commence until, for that stage, a written project design for the investigation of areas of archaeological interest as identified in Chapters 18 and 40 of the environmental statement has been submitted to and approved by the relevant planning authority.
- (2) The project design must accord with the evaluation results and mitigation measures included in the document *Able UK Ltd Marine Energy Park: Framework for archaeological investigation and mitigation strategies* prepared by AC Archaeology Ltd (ref: ACW283/3/1 revised June 2012)³, and the *Written Scheme of Investigation: Coastal and Marine* prepared by Wessex Archaeology (ref 79490.02 revised March 2012) and subsequent updates, to be agreed by the relevant planning authority.
- (3) The project design must identify—

¹<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000345-40%20-%20Historic%20Environment.pdf>

²<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000365-7.1%20-%20Geoenvironmental%20Assessment.pdf>

³<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-001598-SOCG005%20TR030001%20Able%20Humber%20Ports%20Ltd%20Statement%20of%20Common%20Ground%20with%20English%20Heritage.pdf>

- (a) areas where fieldwork is required;
 - (b) measures to be taken to identify, protect, record and recover any archaeological remains that may be found including artefacts and ecofacts;
 - (c) methodologies for post-excavation assessment and analysis of artefacts and ecofacts;
 - (d) arrangements for dissemination and publication of reports;
 - (e) preparation of archive material and its deposition with recognised repositories;
 - (f) an implementation timetable;
 - (g) monitoring arrangements, including notification and commencement of work;
 - (h) details of contractors involved in the implementation of archaeological works; and
 - (i) proposals for publicity and community outreach work.
- (4) Any archaeological works carried out under the scheme must be carried out by a suitably qualified person or body.
 - (5) Any archaeological works must be carried out in accordance with the approved scheme and timings, subject to any variation approved by the relevant planning authority.

40.1.4 No change to the 2012 Written Scheme of Investigation for marine archaeology is proposed as part of the extension of time application.

Consideration of the Extension of Time

40.1.5 The full details of the proposed extension of time is described in Chapter 4 of this Article 7 ER. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development. This Chapter will review the potential impacts on the historic environment and where appropriate, mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

40.1.6 This Chapter reports on any change in the findings of the Original ES in respect of the Historic Environment of the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

40.1.7 This chapter includes consideration of:

- Additional baseline historic environment data that may have been acquired since the collation of data presented in the 2012 DCO application; and
- Any proposed material changes in the development proposal.

40.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

40.2.1 In the interim since the extant DCO and original ES, changes in legislation, guidance and planning policy detailed in the following subsections have occurred. As noted by the dates, several of the guidance documents were not available at the time of the original assessment of the Historic Environment.

Legislation

The National Planning Policy Framework

40.2.2 The National Planning Policy Framework (NPPF) was introduced in 2012 and updated in July 2021, replacing the former Planning Policy Statement 5 (PPS5). The Framework sets out the government's planning policies for England and how they are expected to be applied. Chapter 16 is entitled *Conserving and enhancing the historic environment*. The principal paragraphs that relate to this chapter are:

- Paragraph 189:

Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.

- Paragraph 194:

In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

- Paragraph 195:

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.

- Paragraph 197:

In determining applications, local planning authorities should take account of:

- a) *the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- b) *the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- c) *the desirability of new development making a positive contribution to local character and distinctiveness.*

- Paragraph 199:

When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

- Paragraph 200:

Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) *grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*
- b) *assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

- Paragraph 202:

Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

- Paragraph 203:

The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

- Paragraph 204:

Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

- Paragraph 205:

Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding

whether such loss should be permitted.

- Paragraph 206:

Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.

Planning Practice Guidance

- 40.2.3 Following the publication of the NPPF, the Planning Practice Guidance was published in November 2016 and last updated in June 2021. The guidance provides clarification of the application and implementation of policies set out in the NPPF and is considered to be a material consideration in planning policy and an adjunct to the Town and Country Planning Act 1990.

Other

- 40.2.4 There has been no other legislative changes that affect the historic environment.

Guidance

Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015).

- 40.2.5 This document updates previous guidance contained in the English Heritage's *Conservation Principles – Policies and guidance for the sustainable management of the historic environment* (English Heritage 2008). It states that significance of a heritage asset can derive from historical or archaeological interests and outlines a methodology for the identification of significance.

Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second edition, December 2017).

- 40.2.6 This document updates previous guidance on the assessment of the how setting may contribute to the significance of a heritage asset and an outline methodology for the assessment of setting, how it may be affected by development and how that may affect a heritage asset's significance.

Commercial Renewable Energy Development and the Historic Environment (Historic England Advice note 15 2021)

- 40.2.7 This document sets out the government's commitment to reducing carbon emissions and guidance on the effects that a variety of renewable energy projects may have on the historic environment. It considers the means by which significance of heritage assets can be affected, by means of direct physical impacts, and indirectly on the setting of heritage assets. Consideration is also given to the reversibility of adverse effects and to decommissioning.

Policy

Marine Policy Statement (HM Government 2011)

- 40.2.8 The policy statement was first issued in 2011 and updated in September 2020. The document sets out policy for the management of the marine historic environment and is supplemented by a

guidance document that provides appropriate amendments following the UK departure from the EU.

East Riding of Yorkshire Planning Policy

40.2.9 The East Riding Local Plan Update 2020-2039, Draft Strategy Document Update, issued May 2021 contains the following policies:

- Policy ENV3: Valuing our Heritage

A. Where possible, designated and non-designated heritage assets should be used to reinforce local distinctiveness and create a sense of place, especially the key features that contribute to the East Riding's distinctive historic character, including but not limited to:

- 1. The dominance of the church towers and spires as one of the defining features of the landscape, such as those of Holderness and the Wolds.*
- 2. Heritage assets associated with the East Yorkshire Coast and the foreshore of the Humber Estuary.*
- 3. The historic, archaeological and landscape interest of the Registered Battlefield at Stamford Bridge.*
- 4. The historic cores of medieval settlements, and, where surviving former medieval open field systems with ridge and furrow cultivation patterns or garth plots, and*
- 5. The nationally significant archaeology of the Yorkshire Wolds.*

B. In determining applications, proposals which preserve or better reveal the significance of a heritage asset should be treated favourably. Development that is likely to cause harm to the significance of a heritage asset will only be granted where the public benefits of the proposal outweigh the potential harm. Consideration must be given to:

- 1. Listed buildings;*

I. Designated listed buildings should be conserved in a manner appropriate to their significance and setting.

II. Substantial harm to the significance or setting of a grade I or II designated heritage asset will only be permitted in exceptional circumstances.*

- 2. Conservation areas;*

I. Development should preserve, or where possible, enhance the character and appearance of the conservation area.

- 3. Registered parks and gardens;*

I. Development should consider the key views in and out of these landscapes, preserving the character and sense of place within a registered park and garden.

- 4. Registered battlefields;*

I. Development should consider the context and setting of registered battlefields.

C. Proposals which would remove or harm the significance of a built non-designated heritage asset, or its contribution to the character of a place will only be permitted where demonstrable justification is provided for a balanced judgement.

D. Heritage assets should assist in the delivery of the economic wellbeing of the area. This can be achieved by putting assets, particularly those at risk, to an appropriate, viable and sustainable use.

E. Proposals situated within a conservation area, or that impact a heritage asset (including setting) should be accompanied by a heritage statement; proportionate to the asset's significance. Additionally, development proposals which have archaeological potential should include a desk based assessment and evaluation report with their planning application.

F. Considerable weight will be given to the preservation and protection of archaeological remains, particularly scheduled monuments where substantial harm should be wholly exceptional. To minimise conflict and ensure mitigation of damage, preservation of the remains in situ is the preferred solution. However where the significance of archaeological remains is such that their preservation in situ is not essential, and is not feasible, a written scheme of investigation and programme of archaeological works aimed at achieving preservation by record will be required to be submitted to and agreed with the local planning authority.

Assessment Methodology

40.2.10 Chapter 40 of the Original ES for the DCO set out the Assessment Methodology and Criteria used in the assessment of the effects on the historic environment. The methodology used at the time is still considered consistent with the updated policy and guidance outlined above and reference should be made Chapter 40 of the Original ES for further details.

Study Area

40.2.11 No changes to the study area relating to the historic environment, as set out in Chapter 40 of the Original ES for the DCO, are proposed as a result of the proposed extension of time.

Sensitivity criteria

40.2.12 No changes to the sensitivity criteria relating to the historic environment, as set out in Chapter 40 of the Original ES for the DCO, are proposed as a result of the proposed extension of time.

Magnitude of Change (impact)

40.2.13 No changes to the definition of the magnitude of change (impact) relating to the historic environment, as set out in Chapter 40 of the Original ES for the DCO, are proposed as a result of the proposed extension of time.

Significance of Effect

40.2.14 No changes to the application of significance of effect relating to the historic environment, as set out in Chapter 40 of the Original ES for the DCO, are proposed as a result of the proposed extension of time.

Mitigation

- 40.2.15 No changes to the consideration of mitigation relating to the historic environment, as set out in Chapter 40 of the Original ES for the DCO, are proposed as a result of the proposed extension of time.

Effects Not Requiring Further Assessment

Terrestrial Historic Environment

- 40.2.16 Consultation with the Humber Archaeology Partnership, advisors to East Riding Council, in 2015 following approval of the DCO application, determined that there was no archaeological interest landward of the sea wall and that no additional survey or mitigation was required.
- 40.2.17 A review of updated baseline data held by the Humber Historic Environment Record in June 2023 (see below) confirmed that no additional historic environment data had been acquired which might require a review of impacts.

40.3.0 Changes in Baseline Conditions

DCO Baseline

- 40.3.1 The baseline studies of the Cherry Cobb Sands site comprised a desk-based heritage assessment of the site, followed by archaeological evaluation by geophysical survey and palae-environmental/geoarchaeological assessment of the terrestrial component. The results of these surveys were incorporated into Chapter 40 of the original ES.
- 40.3.2 The baseline marine assessment comprised a desk-based study and walkover survey of the foreshore, the results of which were incorporated into Chapter 40 of the original ES.
- 40.3.3 The development of Cherry Cobb Sands has comprised various episodes of erosion, accretion and drainages over several centuries as a result of tidal and sea-level change, storm surges and human intervention. The land was reclaimed and drained following the construction of the sea wall in the late 18th century.

DCO Future Baseline

- 40.3.4 There is no anticipated change to the future baseline defined in the Original ES prepared for the DCO.

Current Baseline

- 40.3.5 A review of current baseline data held in the Humber Historic Environment Record in June 2023 has added no additional information from that defined in the Original ES prepared for the DCO.

Changes in Baseline

- 40.3.6 There is no anticipated change to the baseline defined in the Original ES prepared for the DCO.

40.4.0 Assessment of Effects

- 40.4.1 The excavation of foreshore deposits and the breaching of the existing sea wall may reveal, disturb or remove deposits of archaeological or paleoenvironmental significance. These effects will be highly localised and are considered to be a minor adverse impact without the identified mitigation.

Additional Construction Phase Effects

- 40.4.2 There are no effects of construction identified additional to those described in Chapter 40 of the Original ES for the DCO.

Additional Operational Phase Effects

- 40.4.3 There are no effects of operation identified additional to those described in Chapter 40 of the Original ES for the DCO.

Additional Cumulative Effects

- 40.4.4 There are no cumulative effects identified additional to those described in Chapter 40 of the Original ES for the DCO.

Consideration of DCO

- 40.4.5 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects on the historic environment as a result of the proposed extension to the timescales for completion of the development as contained within this Article 7 ER.

40.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 40.5.1 There is no requirement for additional mitigation in relation to the terrestrial archaeological interests of the Compensation Site, as confirmed by the Humber Archaeology Partnership, archaeological advisors to ERYC, by email dated 17 July 2015, and there has been no change to the baseline conditions.
- 40.5.2 Outline details of the required mitigation for marine archaeological interests have been set out in the WSI for Marine Archaeology dated 2012. No additional mitigation is required, and arrangements for archaeological monitoring and reporting will be confirmed in a subsequent project design for approval by the local planning authority, as confirmed in the Humber Archaeology Partnership email dated 17 July 2015.

Alternate or Additional Mitigation

- 40.5.3 No additional mitigation measures beyond those outlined within the Original ES for the DCO and addressed in response to Schedule 11 (Condition 17) of the DCO, are proposed based on this updated assessment.

40.6.0 Residual Effects

Construction Phase

- 40.6.1 The Original ES for the DCO describes the potential for previously unrecorded heritage assets being encountered during the construction of the Compensation Site and mitigation measures to address this.
- 40.6.2 The changes proposed as part of the proposed extension of time do not result in any additional residual effects, beyond those identified in the Original ES for the DCO.

Operational Phase

- 40.6.3 The changes proposed as part of the proposed extension of time do not result in any additional residual effects, beyond those identified in the Original ES for the DCO.

Consideration of DCO

- 40.6.4 This assessment demonstrates that there are no changes to the Residual Effects previously identified as part of the DCO

40.7.0 Other Environmental Issues

40.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.

40.7.2 Please see Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ES.

Other Environmental Issues of Relevance

Infrastructure

40.7.3 Infrastructure is not considered of relevance to the historic environment Chapter.

Waste

40.7.4 Waste is not considered of relevance to the historic environment Chapter.

Population and Human Health

40.7.5 Population and human health is not considered of relevance to the historic environment Chapter.

Climate and Carbon Balance

40.7.6 The risks of climate and carbon balance is not considered of relevance to the historic environment Chapter.

Risks of Major Accidents and/or Disasters

40.7.7 The risks of major accidents and/or disasters is not considered of relevance to the historic environment Chapter.

Summary

40.7.8 There are no effects associated with the additional topics introduced into EIA requirements that relate to the historic environment. No further assessment is considered necessary.

40.7.9 With regards to the EIA regulations 2017, in terms of air quality there are not considered to be any likely significant effects with regards to Other Environmental Issues.

40.8.0 Summary of Effects

- 40.8.1 Chapter 40 of the Original ES for the DCO set out the requirement for mitigation to address impacts associated with construction of the Compensation Site at Cherry Cobb Sands. This has been undertaken, as required in Schedule 11 (Condition 17) of the DCO and these requirements have yet to be discharged.
- 40.8.2 No other additional effects will be generated as a result of the proposed extension of time.

40.9.0 Conclusions

- 40.9.1 This review has identified that the proposed amendment, and changes in legislation, guidance and policy, and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES Chapter 40: Historic Environment. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 40.9.2 It is therefore concluded that Chapter 40: Historic Environment of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 41: LANDSCAPE AND VISUAL

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

41.1.0 DEVELOPMENT CONSENT ORDER	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
41.2.0 METHODOLOGY.....	2
Changes in Legislation, Guidance and Planning Policy.....	2
Scoping Opinion	2
Assessment Methodology	3
Additional Consultation.....	4
41.3.0 CHANGES IN BASELINE CONDITIONS.....	5
DCO Baseline	5
DCO Future Baseline.....	5
Current Baseline	5
Changes in Baseline	5
41.4.0 ASSESSMENT OF EFFECTS	7
Additional Construction Phase Effects	7
Additional Operational Phase Effects.....	7
Additional Cumulative Effects	7
Consideration of DCO	7
41.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	8
41.6.0 RESIDUAL EFFECTS	9
41.7.0 OTHER ENVIRONMENTAL ISSUES.....	10
Summary	10
41.8.0 SUMMARY OF EFFECTS	11
41.9.0 CONCLUSIONS	12

41.1.0 Development Consent Order

41.1.1 An assessment of the impacts of the development on Landscape and Visual at the Compensation Site was included in Chapter 41 of the original ES that formed part of the DCO application in 2012¹. A full list of the documents and assessments submitted in support of the original ES are as follows:

- Environmental Statement Chapter 41: Landscape and Visual (Compensation Site);
- Appendices to ES Chapter 41 (links are provided at relevant sections of this Chapter):
 - Appendix 41.1: Summary of Adopted Landscape Character Assessments²
 - Appendix 41.2: Landscape Context Photographs³
 - Appendix 41.3: Photomontages⁴

41.1.2 No additional documents of relevance to landscape and visual were submitted as part of the Examination, whilst there are also no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

41.1.3 The full details of the proposed extension of time are described in Chapter 4 of this Environmental Review (ER) to the original ES and Material Change 2 UES. In relation to this submission, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

41.1.4 This Chapter forms part of the ER for the proposed extension of time to the AMEP development, together with any changes to baseline conditions characterised in the original ES in relation to the Compensation Site (Chapter 41: Landscape and Visual). This Chapter will review the potential landscape and visual impacts and where appropriate, mitigation measures need to be reviewed and/or revised.

Purpose and Structure of Chapter

41.1.5 This Chapter reports on any change in the findings of the original ES in respect of the Landscape and Visual impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000346-41.20-Landscape%20and%20Visual%20Context.pdf>

² [TR030001-000447-41.1 - Summary of Adopted Landscape Character Assessments.pdf \(planninginspectorate.gov.uk\)](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000447-41.1-Summary%20of%20Adopted%20Landscape%20Character%20Assessments.pdf)

³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000448-41.20-Landscape%20Context%20Photographs.pdf>

⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000449-41.30-Photomontages.pdf>

41.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

National Planning Policy

- 41.2.1 The National Policy Statement (NPS) for Ports was designated in January 2012.
- 41.2.2 The National Planning Policy Framework (NPPF), which was published in March 2012, and has since been updated, with the latest version dated July 2021. The NPPF supersedes the Planning Policy Statements (PPSs) including PPS7 referenced in Chapters 20 and 41 of the original ES. The NPPF sets out the government's planning policies for England and how these are expected to be applied.
- 41.2.3 Paragraph 11 sets out the fundamental principle of the document: that there is a presumption in favour of sustainable development. All development that is in accordance with the development plan should be approved *"without delay"* and that *"where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date"* permission should be granted for development *"unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework taken as a whole."*
- 41.2.4 In relation to landscape, the NPPF defines sustainability as including the protection and enhancement of the *"natural, built and historic environment"* (paragraph 8c) including *"adapting to climate change, including moving to a low carbon economy"*.
- 41.2.5 Paragraph 100 relates to rights of way and access, stating that these should be *"protected and enhanced"*. It is noted that better facilities should be provided for users of rights of way, for example by *"adding links to existing rights of way"*. Paragraph 100 does not deal with the protection and enhancement of views rather the functionality, facilities and connectivity of physical route.

Local Planning Policy

- 41.2.6 The East Riding of Yorkshire Council – Holderness District Wide Local Plan 1999 has been replaced by the East Riding Local Plan 2012 – 2029 Strategy Document (Adopted April 2016). The following policies have relevance to the landscape and visual resource:
- Policy ENV2: Promoting a high quality landscape states that *"Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features"*.

Scoping Opinion

- 41.2.7 Given the limited scope of the proposals, no formal Scoping or Consultation has been undertaken for the ER. As such, there is no Scoping Opinion relating to the proposed extension of time.
- 41.2.8 Nevertheless, it is worth noting that Section 4.14, p39, of the Scoping Opinion for Able Marine Energy Park (AMEP) Material Change 2 (Case Reference: TR030006, March 2021) the Inspector states:

“The Inspectorate agrees that the proposed changes are unlikely to alter the characteristics of these impacts such that new or different significant effects would occur. The Inspectorate agrees that this aspect can be scoped out of the updated assessment”.

Assessment Methodology

41.2.9 GLVIA 2nd Edition (2002, Landscape Institute and Institute of Environmental Management and Assessment) has been replaced by GLVIA 3rd Edition (2013, Landscape Institute and Institute of Environmental Management and Assessment).

Study Area

41.2.10 The study area remains as defined within 41.3.4 – 41.3.5 of the original ES for the DCO. No alterations to the Zone of Theoretical Visual Influence and Viewpoints Plans as provided within the original ES are proposed. These are provided for reference within Figures 41-1 and 41-2 below.

Figure 41-1: Extract of Zone of Theoretical Visual Influence and Viewpoints Plan 1 (Figure 45.1 in original ES)



Figure 41-2: Extract of Zone of Theoretical Visual Influence and Viewpoints Plan 2 (Figure 45.2 in original ES)



Sensitivity Criteria

- 41.2.11 The sensitivity criteria remain as defined within Sections 41.3.8 – 41.3.10 of the original ES.

Magnitude of Change (Impact)

- 41.2.12 The magnitude of change (impact) remains as defined within Sections 41.3.11 – 41.3.12 of the original ES.

Significance of Effect

- 41.2.13 The significance of effect remains as defined within Sections 41.3.13 – 41.3.16 of the original ES.

Mitigation Hierarchy

- 41.2.14 No mitigation hierarchy is established for landscape and visual matters within the original ES.

Additional Consultation

- 41.2.15 At this time, no consultation has been undertaken specifically for landscape and visual matters.

41.3.0 Changes in Baseline Conditions

DCO Baseline

- 41.3.1 Details on the baseline conditions for the original assessment of landscape and visual resource are comprehensively described in Chapter 41, Section 41.5, paragraphs 41.5.1 to 41.5.44 of the original ES and are not repeated in detail here.
- 41.3.2 Baseline details include information on the landscape character of the site and surrounding context and identify sensitive visual receptors and detail potential sensitive views.

DCO Future Baseline

- 41.3.3 No future baseline was identified in the original ES for landscape and visual matters associated with the compensation site at Cherry Cobb Sands.

Current Baseline

- 41.3.4 There have not been significant alterations to the baseline conditions as described within the original assessment of landscape and visual resource are detailed in Chapter 41 of the original ES prepared for the DCO.

Changes in Baseline

- 41.3.5 There have been a number of changes to the visual baseline described for the DCO as follows:
- Killingholme A Power Station (Centrica) has been closed and demolished;
 - Construction of Hornsea Offshore Wind Farm (Zone 4) Project One;
 - Construction of the Hornsea Offshore Windfarm and Hornsea 02 substations;
 - Work completed on Humber Hull Frontages (flood defence scheme); and
 - 6 no. 50m high, 36m diameter biomass silos have been constructed at the HIT Terminal (ABP Port of Immingham).
- 41.3.6 Additional and updated sources of landscape character assessment have been prepared in the intervening period as follows:
- The North East Lincolnshire Landscape Character Assessment (February 2010) remains current but should be read in conjunction with the North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study (January 2015); and
 - The East Riding of Yorkshire Landscape Character Assessment (November 2005) was updated in October 2018.
- 41.3.7 The main changes resulting from these documents are outlined, in brief, below.

North East Lincolnshire Landscape Character Assessment, Sensitivity and Capacity Study (January 2015)

- 41.3.8** The site is not located within the area assessed within this document. The landscape character type (LT) which adjoins the character area within which the site is located site is described in this assessment as LT1: Industrial Landscape. LT 1 is described as *“visually intrusive, stretching from the north-western edge of Grimsby up to and around Immingham. It is dominated by on-shore oil and gas refineries and other large scale industrial units and extends inland to the A180”*.

East Riding of Yorkshire Landscape Character Assessment (January 2015)

- 41.3.9** This character assessment relates purely to the Cherry Cobb Sands compensation site located on the northern side of the Humber Estuary. No changes are proposed to these sites within the Article 7 extension of time and so no further detail is provided here of the updated assessment.

41.4.0 Assessment of Effects

Additional Construction Phase Effects

- 41.4.1 No additional construction phase effects have been identified as a result of the proposed Article 7 extension of time.

Additional Operational Phase Effects

- 41.4.2 No additional operational phase effects have been identified as a result of the Article 7 extension of time.

Additional Cumulative Effects

- 41.4.3 It is considered that there will be no additional landscape or visual cumulative effects.

Consideration of DCO

- 41.4.4 It is considered that the changes in baseline situation and the proposed changes to the scheme will not result in any new or significant increased landscape or visual effects.

41.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 41.5.1 Appropriate mitigation has been identified in Chapter 41, of the original ES and secured through the DCO itself. It is considered that proposed mitigation remains appropriate.

Alternate or Additional Mitigation

- 41.5.2 The mitigation measures identified within the original ES and to be implemented as part of the DCO are considered entirely appropriate. No alternate or additional mitigation measures beyond that contained within the original ES are required.

41.6.0 Residual Effects

- 41.6.1 Following consideration of mitigation, residual landscape and visual effects during the construction phase are identified within the original ES.
- 41.6.2 Given that the proposed extension of time will not alter the findings of the original ES, the residual landscape and visual impacts for the construction phase would remain unchanged.

41.7.0 Other Environmental Issues

Other Environmental Issues of Relevance

41.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.

41.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Infrastructure

41.7.3 None identified.

Waste

41.7.4 None identified.

Population and Human Health

41.7.5 None identified.

Climate and Carbon Balance

41.7.6 None identified.

Risks of Major Accidents and/or Disasters

41.7.7 None identified.

Summary

41.7.8 No other environmental issues of relevance have been identified.

41.8.0 Summary of Effects

- 41.8.1 Chapter 41 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 41.8.2 Following this review, no changes have been identified that would alter the assessment of landscape and visual effects as described within the original ES.

41.9.0 Conclusions

- 41.9.1 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, do not alter the findings presented within the original ES. As such, it is not considered necessary to undertake further technical assessments in support of the proposed extension of time.
- 41.9.2 It is therefore concluded that Chapter 41: Landscape and Visual of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 42: SOCIO-ECONOMICS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



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CONTENTS

42.1.0 INTRODUCTION	1
Development Consent Order Context.....	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
42.2.0 METHODOLOGY	1
Changes in Legislation, Guidance and Planning Policy.....	1
Additional Consultation.....	3
42.3.0 CHANGES IN BASELINE CONDITIONS.....	4
DCO Baseline	4
DCO Future Baseline.....	4
Current Baseline	4
Changes in Baseline	4
42.4.0 ASSESSMENT OF EFFECTS	6
Additional Construction Phase Effects	6
Additional Operational Phase Effects.....	6
Additional Cumulative Effects	6
Consideration of DCO	6
42.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	7
DCO Mitigation	7
Alternate or Additional Mitigation	7
42.6.0 RESIDUAL EFFECTS	8
42.7.0 OTHER ENVIRONMENTAL ISSUES.....	9
Other Environmental Issues of Relevance	9
Summary	9
42.8.0 SUMMARY OF EFFECTS	10
42.9.0 CONCLUSIONS	11

42.1.0 Introduction

Development Consent Order Context

42.1.1 An assessment of the impacts of the development upon socio-economics relevant to the Compensation Site was included in Chapter 42 of the original ES¹ that formed part of the DCO application in 2012.

Consideration of the Extension of Time

42.1.2 The full details of the proposed extension of time for completion of works is described in Chapter 4 of this ER to the original ES and Material Change 2 UES. In relation to this ER, there are no physical alterations proposed and the only matter considered is an extended time limit for the completion of the development.

42.1.3 No additional documents of relevance to socio economics were submitted as part of the Examination, whilst there are also no documents of relevance to this chapter within the Material Change 2 UES.

Purpose and Structure of Chapter

42.1.4 This Chapter considers any changes to in the findings of the original ES in relation to the Compensation Site (also referred to as 'Cherry Cobb Sands') with regard to socio-economics.

42.1.5 This chapter includes consideration of any changes to:

- baseline socio-economic data;
- legislation, policy and guidance;
- relevant receptors;
- assessment of effects; and
- proposed mitigation.

42.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

42.2.1 With regard to legislation, policy and guidance, there is no specific guidance for undertaking socio-economic assessment and consequently such assessments are undertaken on the basis of best practice using professional experience. In the period since 2012 there has been no material change to established best practice.

42.2.2 There is no legislation or national policy for assessing and evaluating effects on agricultural land within the context of an EIA. However, in 2022 the Institute of Environmental Management and

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000347-42%20-%20Socio-Economics.pdf>

Assessment (IEMA) published new guidance, 'A New Perspective on Land and Soil in Environmental Impact Assessment'².

42.2.3 With regard to relevant national policy, the National Policy Statement for Ports is currently under review, but the Department of Transport website confirms that the current version published in 2012 will remain in full effect during the period of the review. The National Planning Policy Framework for England was last updated in July 2021, and amended the policy on public rights of way (PRoW).

42.2.4 Paragraph 100 states "*Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.*"

42.2.5 The emphasis behind the protection of recreational routes remains unchanged, however, the specific reference to local authorities has been removed to broaden the scope of including further stakeholders.

42.2.6 National planning policy guidance in respect of Sustainable Economic Growth remains unchanged.

42.2.7 The relevant local policy for the Compensation Site comprises the East Riding Local Plan, and the policies set out by the local authority, East Riding of Yorkshire Council. The East Riding Local Plan was adopted in April 2016, and includes the following documents:

- Strategy Document (Adopted April 2016)³;
- Allocations Document (Adopted July 2016)⁴; and
- Policies Map (Adopted July 2016)⁵.

42.2.8 The Plan, in turn, is supported by various Neighbourhood Plans and Supplementary Planning Documents.

42.2.9 The key policies of the Local Plan of relevance to the Compensation Site are:

- Policy C3: Providing public open space for leisure and recreation;
- Policy S8: Connecting people and places.

42.2.10 Policy C3 specifies that "*Proposals should maintain and/or enhance the quantity, quality and accessibility of open space and address any shortfalls in provision, when measured against the standards set out in Table 12.*" The approved scheme provides for maintaining the existing PRoW and the inclusion of a new car park, which would increase the accessibility of the area, without degrading the current quality of open space available in the Site. The proposed Compensation Site would allow for a securing of natural and semi-natural green space in accordance with the quality standards.

42.2.11 Policy S8 states that "*Existing and disused public transport, cycling and footpath networks and*

² IEMA (2022), A New Perspective on Land and Soil in Environmental Impact Assessment

³ East Riding of Yorkshire Council (2016), *East Riding Local Plan 2012 – 2029, Strategy Document*

⁴ East Riding of Yorkshire Council (2016), *East Riding Local Plan 2012 – 2029, Allocations Document*

⁵ East Riding of Yorkshire Council (2016), *East Riding Local Plan 2012 – 2029, Policies Map*

facilities, including Public Rights of Way, will be enhanced and/or protected, particularly within and linking to the Major Haltemprice Settlements, Principal Towns, and Towns". The existing PRoW located in the Compensation Site is proposed to be maintained, in line with Policy S8.

Additional Consultation

- 42.2.12 At this time, no further changes or additional consultation has been undertaken with regard to Socio Economics.

42.3.0 Changes in Baseline Conditions

DCO Baseline

- 42.3.1 The data given for the Compensation Site locality in the original ES for Paull Civil Parish was reliant upon the 2001 Census.
- 42.3.2 Rates of unemployment in East Riding of Yorkshire were based upon datasets from July 2009 to June 2010.
- 42.3.3 Data relating to the agricultural land is based on the Agricultural Land Classification administered by Natural England.
- 42.3.4 At the time the DCO baseline was reviewed within the original ES, the route of the England Coast Path in this area had not been defined, nor was there any other designated long distance trail covering this section of coast. The original ES sets out the details of the PRoW, Paull Footpath No. 6, which joins the suburbs of Kingston upon Hull to the drainage sluices at Stone Creek and stretches approximately 11 km along the Humber Estuary shoreline, running along the crest of existing flood embankment along the length of the western boundary of the proposed intertidal site at Cherry Cobb Sands.

DCO Future Baseline

- 42.3.5 No future baseline was defined within the original ES for the consideration within the Compensation Site socio-economic assessment.

Current Baseline

- 42.3.6 The published socio-economic (population) datasets available for the Compensation Site locality are the 2011 Census⁶.
- 42.3.7 Rates of unemployment in East Riding of Yorkshire are available for 2021⁷
- 42.3.8 Data relating to the agricultural land has not been updated and is based on the Agricultural Land Classification administered by Natural England.
- 42.3.9 The route of the England Coast Path is confirmed, although the route is not yet adopted, and follows the Paull Footpath No. 6. The relevant section of the England Coast Path is Section 56, which according to the Natural England website is approved in whole but not yet open, establishment works planned or in progress⁸. The England Coast Path is considered to be a receptor of national significance and therefore high sensitivity.

Changes in Baseline

- 42.3.10 The baseline changes compared to the original ES comprise, in the main, relatively minor updates to population and employment data. The rate of unemployment shows a relatively high level of

⁶ ONS (2012), 2011 Census

⁷ ONS (2022), Annual Population Survey

⁸ Natural England (2022), *England Coast Path: overview of progress*

change, from 6% for the East Riding of Yorkshire in the original ES to 3.0% in the most recent data⁹. Whilst this demonstrates a more buoyant employment position in the area, it is not considered that it would contribute to a significant change in the findings of the assessment for the socio-economic impacts of the Compensation Site as this part of the project would not give rise to any substantial employment impacts.

⁹ East riding of Yorkshire Council (2011), *The Importance of Agriculture and Land Management to the East Riding of Yorkshire*

42.4.0 Assessment of Effects

Additional Construction Phase Effects

- 42.4.1 There are no additional construction phase effects beyond those considered within the original ES.
- 42.4.2 The original ES gave full consideration to impacts on the PRoW Paull Footpath No.6 which will now be followed by the route of the English Coast Path. This change increases the sensitivity of the receptor; however, given that the agreed mitigation plan for management of impacts on the PRoW during construction would also apply to the England Coast Path, the temporary effects are considered to be adequately mitigated by the methods set out in the original ES, resulting in the same level of effect.
- 42.4.3 With regard to agricultural land, the original ES concluded that there is no mitigation possible for the loss of agricultural land at the Compensation Site, and the potential for the land to contribute to the national food resource will be lost, although the affected tenants who will lose their use of viable farmland will receive statutory compensation in accordance with the Agricultural Holdings Act 1986.
- 42.4.4 Whilst there has been a change in the guidance for assessment of loss of agricultural land¹⁰ the implementation of the delay to completion of the works would not cause any additional loss of agricultural land compared with the previous assessment. There are no additional construction phase effects beyond those considered within the original ES.
- 42.4.5 This agricultural land has now been purchased by Able Humber Ports Limited with the move toward formally implementing the Cherry Cobb Sands compensation site.

Additional Operational Phase Effects

- 42.4.6 There are no additional operational phase effects beyond those considered within the original ES.

Additional Cumulative Effects

- 42.4.7 There are no additional cumulative effects beyond those considered within the original ES.

Consideration of DCO

- 42.4.8 The assessment of effects considered within the original ES is considered to be unchanged, with the implementation of a 7-year delay to the workings not considered to have additional socio-economic effects.

¹⁰ IEMA (2022), A New Perspective on Land and Soil in Environmental Impact Assessment

42.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 42.5.1 Potential adverse effects related to the construction of the Compensation Site have been proposed to be mitigated through the measures outlined in Chapter 37: Traffic, Chapter 38: Noise and Chapter 39: Air Quality, which are considered to be appropriate to the scale of the development.
- 42.5.2 Further mitigation is proposed with the creation of 4,100 jobs at the AMEP site, along with the statutory compensation in accordance with the Agricultural Holdings Act 1986. The jobs created at the AMEP site cannot be considered appropriate mitigation as the jobs provided by the AMEP development would be unrelated to Compensation Site as they would be within a separate local authority and industry. The proposed compensation in accordance with the Agricultural Holdings Act 1986 was (and is) considered to be adequate in compensating land owners for the loss of their land.
- 42.5.3 Further mitigation was proposed through the undertaking of consultation with stakeholders, implementation of three bird watching huts, implementation of a small car park and rerouting of the Public Rights of Way (PRoW). The proposals to the PRoW were considered to be satisfactory mitigation by the East Riding of Yorkshire Council PRoW officer.
- 42.5.4 The Original DCO outlines that there is no mitigation possible for the loss of agricultural land at the Compensation Site, however, outlines the aforementioned statutory compensation for impacted tenants. This is considered to be unchanged, with no current methods of mitigating the loss of BMV land. As outlined above, this agricultural land has now been purchased by Able Humber Ports Limited with the intention of implementing the Cherry Cobb Sands compensation site.

Alternate or Additional Mitigation

- 42.5.5 No alternate or additional mitigation proposed.

42.6.0 Residual Effects

42.6.1 The residual effects outlined in the original ES for the DCO are considered to be unchanged.

42.7.0 Other Environmental Issues

42.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.

42.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Other Environmental Issues of Relevance

Infrastructure

42.7.3 The issue of infrastructure is not considered of relevance to this Chapter.

Waste

42.7.4 The issue of waste is not considered of relevance to this Chapter.

Population and Human Health

42.7.5 The scope of any socio-economic assessment inherently considers the population and human health.

Climate and Carbon Balance

42.7.6 Climate and Carbon Balance is of relevance to socio-economics and the consideration of the Compensation Site.

42.7.7 In removing the agricultural activities and replacing them with a nature reserve, there are both, potential savings in carbon output, whilst simultaneously the potential to construct a site which would contribute to carbon reduction. However, this was adequately addressed within the original ES.

Risks of Major Accidents and/or Disasters

42.7.8 The risks of major accidents and/or disasters is not considered of relevance to the air quality Chapter.

Summary

42.7.9 With regards to the EIA regulations 2017, in terms of socio-economics there are not considered to be any additional or altered likely significant effects with regards to Other Environmental Issues.

42.8.0 Summary of Effects

- 42.8.1 The changes to the policy, guidance and baseline are not considered to be of a scale to significantly impact the results of the original ES. There have been no changes to the workings considered at the Compensation Site since the submission of the original ES, therefore the effects identified within the original ES are unchanged.

42.9.0 Conclusions

- 42.9.1 There are no changes considered with the scope of the impacts covered by the original ES and the Study Areas outlined. The land is currently unchanged since the original submission, as it is of an agricultural nature, nor has the proposed scope of works changed.
- 42.9.2 The East Riding of Yorkshire Local Plan has been adopted in the time since the submission of the original ES, which has been outlined in the Chapter, as has IEMAs guidance on agricultural land use.
- 42.9.3 The baseline, in terms of scope and the impacts considered remains unchanged. Some updates have been provided to certain employment datasets, where more recent data is available. One of the PRoWs identified in the original ES, Paull Footpath No. 6, is now planned to be part of the England Coast Path, which would make it a highly sensitive receptor, however, the mitigations in place are considered adequate enough for this to remain non-significant.
- 42.9.4 The assessment of effects in the original ES have been duly considered with regard to the proposed extension of time (7-years) to the construction of the development; and noting that there are no physical alterations to the proposed development. With this in mind, it is not considered that this delay would cause any changes to what has been considered in the original ES.
- 42.9.5 The mitigations outlined in the original ES are still considered appropriate to the scale of the development and are considered to be unchanged, however, it is noted that those 4,100 jobs created at the AMEP site is unrelated to the local authority of East Riding of Yorkshire is not considered be mitigation due to this being both a different local authority location and a different industry.
- 42.9.6 It is further noted that the statement regarding no mitigations being available for the loss agricultural land in the original ES is also unchanged.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

COMPENSATION SITE

CHAPTER 43: WASTE

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



BASIS OF REPORT

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CONTENTS

43.1.0 INTRODUCTION	1
Development Consent Order	1
Consideration of the Extension of Time	1
Purpose and Structure of Chapter	1
43.2.0 METHODOLOGY	2
Changes in Legislation, Guidance and Planning Policy.....	2
Consultation	3
Assessment Methodology	3
43.3.0 CHANGES IN BASELINE CONDITIONS.....	4
DCO Baseline	4
DCO Future Baseline.....	4
Current Baseline	4
Changes in Baseline	4
43.4.0 ASSESSMENT OF EFFECTS	5
Additional Construction Phase Effects	5
Additional Operational Phase Effects.....	5
Additional Cumulative Effects	5
Consideration of DCO	5
43.5.0 REQUIREMENT FOR ADDITIONAL MITIGATION	6
DCO Mitigation.....	6
Alternate or Additional Mitigation	6
43.6.0 RESIDUAL EFFECTS	7
43.7.0 OTHER ENVIRONMENTAL ISSUES.....	8
Other Environmental Issues of Relevance	8
Summary	8
43.8.0 SUMMARY OF EFFECTS	9
43.9.0 CONCLUSIONS	10

43.1.0 Introduction

Development Consent Order

43.1.1 An assessment of the impacts of the development on waste at the Compensation Site was included in Chapter 43 of the original ES¹ that formed part of the DCO application in 2012.

43.1.2 No additional documents of relevance to waste were submitted as part of the Examination, whilst there are also no documents of relevance to this chapter within the Material Change 2 UES.

Consideration of the Extension of Time

43.1.3 The full details of the proposed extension of time are described in Chapter 4 of this Environmental Review (ER) to the original ES and Material Change 2 UES. In relation to this submission varying the DCO, there are no physical alterations proposed and the only matter being considered is an extended time limit for the completion of the development.

Purpose and Structure of Chapter

43.1.4 This Chapter reports on any change in the findings of the original ES in respect of the Waste impacts upon the Compensation Site (also referred to as 'Cherry Cobb Sands') in the vicinity of the proposed development pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

43.1.1 This chapter includes consideration of any changes to:

- Legislation, policy and guidance relating to Waste;
- Baseline conditions;
- Assessment of effects; and
- Proposed mitigation.

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030001/TR030001-000348-43%20-%20Waste.pdf>

43.2.0 Methodology

Changes in Legislation, Guidance and Planning Policy

- 43.2.1 As stated within the original ES for the DCO (section 43.2), the Legislation, policy and guidance relating to waste are common to both the AMEP and the Compensation Site (which were covered in Chapter 16 of the original ES for the DCO).
- 43.2.2 A review of the changes in Legislation, guidance and policy was completed for the Material Change 2 UES, and can be found within Chapter 23² of that submission. Nevertheless, this is repeated below for reference.

The Site Waste Management Plans Regulations 2008 SI 314

- 43.2.3 These Regulations were repealed on 1 December 2013 and therefore businesses in England are no longer legally obliged to produce a SWMP. However, SWMP's are sometimes required as a condition of planning permission by the planning authority and are still considered to be good practice as they aim to improve resource efficiency within the construction industry in order to reduce the amount of waste produced and recover as much value as possible from the waste that cannot be prevented.

The Hazardous Waste (England and Wales) (Amendment) Regulations 2016

- 43.2.4 The Hazardous Waste (England and Wales) (Amendment) Regulations 2016 came into force on 1st April 2016 and amend The Hazardous Waste (England and Wales) Regulations 2005. The 2016 regulations revoke Part 5 of the 2005 regulations, which means that (in England) if premises produce or hold hazardous waste then the owners or occupiers will no longer have to register the premises.

The Environmental Permitting (England and Wales) Regulations 2016

- 43.2.5 Consolidation of numerous amendments made to the 2010 Regulations to provide one clear set of applicable legislation.

The Waste (Circular Economy) (Amendment) Regulations 2020

- 43.2.6 The Regulations amend a number of primary and secondary legislation on waste, to cross-refer to the updated EU legislation and its requirements. The Regulations require 55% reuse/recycling by 2025, 60% in 2030, and 65% in 2035, as well as a reduction in landfill to 10% of residual waste by 2035.

Resources and Waste Strategy for England, 2018 ('Our Waste, our Resources: A Strategy For England')

- 43.2.7 The strategy sets out to preserve resources by minimising waste, promoting resource efficiency and moving towards a circular economy. It also seeks to minimise the damage caused to the natural environment by reducing and managing waste safely and carefully, and by tackling waste crime. The strategy is largely aligned with the Circular Economy package and the longer-term policy direction contained in the Defra 25 Year Environment Plan. A Waste Management Plan for England 2021 has been published to provide an overview of waste management in England and bring current policies

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR030006/TR030006-000115-TR030006-APP-6-23.pdf>

together in one document.

Consultation

- 43.2.8 At this time, no additional consultation has been undertaken with regard to waste.

Assessment Methodology

Study Area

- 43.2.9 No study area is geographically defined within Chapter 43. However, the chapter considers waste from a 'receiving environment' and 'natural resources' perspective. Further study area consideration is also provided within Chapter 23 of the original ES.

Sensitivity Criteria

- 43.2.10 The sensitivity criteria for waste remain as defined within sections 43.3.8 of the original ES which cross references sections 23.3.10 and Tables 23.1 – 23.3 of Chapter 23 of the original ES for the DCO.

Magnitude of Change (Impact)

- 43.2.11 The magnitude of change for waste remains as defined within sections 43.3.9 of the original ES which cross references sections 23.3.10 and Tables 23.1 – 23.3 of Chapter 23 of the original ES for the DCO.

Significance of Effect

- 43.2.12 The significance of effect for waste remains as defined within sections 43.3.9 of the original ES which cross references sections 23.3.10 and Tables 23.1 – 23.3 of Chapter 23 of the original ES for the DCO.

Mitigation Hierarchy

- 43.2.13 There is no mitigation hierarchy established within the original ES.

43.3.0 Changes in Baseline Conditions

DCO Baseline

- 43.3.1 As defined within the original ES for the DCO (section 43.5).

DCO Future Baseline

- 43.3.2 No future baseline was identified in the original ES for terrestrial waste matters associated with the compensation site at Cherry Cobb Sands.

Current Baseline

- 43.3.3 There have not been significant alterations to the baseline conditions as described within the original assessment of waste as detailed in Chapter 43 of the original ES prepared for the DCO.

Changes in Baseline

- 43.3.4 There is no change to the baseline for terrestrial waste arisings has resulted.

43.4.0 Assessment of Effects

- 43.4.1 SLR has reviewed the assessment of effects from the original DCO waste chapter. Although no detailed analysis has been completed by SLR itself to validate the excavated material quantities, the original assessment appears to provide a comprehensive assessment of effects for construction. The original DCO waste chapter confirms that no waste is anticipated from the operational phase.

Additional Construction Phase Effects

- 43.4.2 There are no proposed changes to the construction activities at the Compensation Site, purely an extension of time. As such, no additional construction phase effects have been identified as a result of the proposed extension of time.

Additional Operational Phase Effects

- 43.4.3 As detailed above, the Compensation Site is not anticipated to produce any operational wastes. Therefore no additional operational phase effects have been identified as a result of the proposed extension of time.

Additional Cumulative Effects

- 43.4.4 It is considered that there will be no additional waste cumulative effects as a result of the proposed extension of time.

Consideration of DCO

- 43.4.5 It is considered that the proposed changes to the scheme as a result of the proposed extension of time will not result in any new or significant increased terrestrial waste effects.

43.5.0 Requirement for Additional Mitigation

DCO Mitigation

- 43.5.1 Appropriate mitigation has been identified in Chapter 43 of the original ES and is considered to remain appropriate.

Alternate or Additional Mitigation

- 43.5.2 The mitigation measures identified within the original ES and to be implemented as part of the DCO are considered entirely appropriate. No alternate or additional mitigation measures beyond that contained within the original ES are required.

43.6.0 Residual Effects

- 43.6.1 Following consideration of mitigation, residual terrestrial waste effects during the construction phase are identified within the original ES.
- 43.6.2 Given that the proposed extension of time will not alter the findings of the original ES, the residual terrestrial waste impacts for the construction phase would remain unchanged.

43.7.0 Other Environmental Issues

Other Environmental Issues of Relevance

- 43.7.1 This Section seeks to detail any considerations and environmental effects which have been identified with regard to the range of topics which have been introduced into EIA requirements through the EIA Regulations 2017. Where there are no such considerations or environmental effects, this is also specified below for clarity.
- 43.7.2 Refer to Chapter 44 for a summary of the 'Other Environmental Issues' identified across all of the technical assessments undertaken and the Chapters prepared as part of the ER.

Infrastructure

- 43.7.3 There are no such considerations or environmental effects identified during this review of waste.

Waste

- 43.7.4 As outlined within the earlier sections of this Chapter, the proposed extension of time will not result in any new or significant increased terrestrial waste effects beyond those identified within the original ES.

Population and Human Health

- 43.7.5 There are no such considerations or environmental effects identified during this review of waste.

Climate and Carbon Balance

- 43.7.6 There are no such considerations or environmental effects identified during this review of waste.

Risks of Major Accidents and/or Disasters

- 43.7.7 There are no such considerations or environmental effects identified during this review of waste.

Summary

- 43.7.8 There are no such considerations or environmental effects identified during this review of waste.

43.8.0 Summary of Effects

- 43.8.1 Chapter 43 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 43.8.2 Following this review, no changes have been identified that would alter the assessment of terrestrial waste as described within the original ES.
- 43.8.3 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their scheduled timing. On this basis and following this review, it is concluded that waste (terrestrial) will not be adversely impacted by the proposed change.

43.9.0 Conclusions

- 43.9.1 This review has identified that the proposed amendment, and changes in Legislation, policy, guidance that have occurred since the original DCO application, do not alter the findings presented within the original ES. As such, it is not considered necessary to undertake further technical assessments in support of the proposed extension of time.
- 43.9.2 It is therefore concluded that Chapter 43: Waste of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 44: SUMMARY OF FINDINGS

Able Marine Energy Park, Killingholme, North Lincolnshire

SLR Ref: 416.064729.00001
Version No: FINAL
October 2023



BASIS OF REPORT

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CONTENTS

44.1.0 INTRODUCTION	1
44.2.0 MAIN SITE	2
Introduction.....	2
Other Environmental Effects.....	2
Assessment of Cumulative and In-Combination Effects	4
Summary of Mitigation and Monitoring	6
Summary of Findings.....	7
44.3.0 COMPENSATION SITE	9
Other Environmental Effects.....	9
Assessment of Cumulative and In-Combination Effects	10
Summary of Mitigation and Monitoring	12
Summary of Findings.....	13

DOCUMENT REFERENCES

TABLES

Table 44-1: Summary Table of ‘Other Environmental Issues’ Considered for Material Change 2 (Table 25-1 within Material Change 2 UES) – Main Site	3
Table 44-2: Summary of Additional Mitigation and Monitoring as recommended within the Material Change 2 UES – Main Site	6
Table 44-3: Summary of Findings – Main Site.....	7
Table 44-4: Summary Table of ‘Other Environmental Issues’ Considered – Compensation Site	9
Table 44-5: Summary of Additional Mitigation and Monitoring – Compensation Site.....	12
Table 44-6: Summary of Findings – Compensation Site.....	13

44.1.0 Introduction

44.1.1 This Chapter provides a summary of the findings of the ER pursuant to the proposed extension of time to the consented development or consequential to any changes since the original assessments were undertaken.

44.1.2 This chapter includes consideration of the following for both the Main Site (Chapters 7-24) and the Compensation Site (Chapters 31-43):

- Other Environmental Effects;
- Assessment of Cumulative and In-Combination Effects;
- Summary of Mitigation and Monitoring; and
- Summary of Findings.

44.2.0 Main Site

Introduction

44.2.1 Chapters 7 - 24 of this ER provides a technical review of the information contained within the previous Material Change 2 UES (and indirectly the original ES) with regard to the Main Site, to verify whether the proposed extension of time would alter the findings contained therein.

44.2.2 As such, the ER reviewed the following technical chapters from the Material Change 2 UES:

- Chapter 7: Geology, Hydrogeology and Ground Conditions;
- Chapter 8: Hydrodynamic and Sedimentary Regime;
- Chapter 9: Water and Sediment Quality;
- Chapter 10: Aquatic Ecology;
- Chapter 11: Terrestrial Ecology;
- Chapter 12: Commercial Fisheries;
- Chapter 13: Drainage and Flood Risk;
- Chapter 14: Commercial and Recreational Navigation;
- Chapter 15: Traffic and Transport;
- Chapter 16: Noise and Vibration;
- Chapter 17: Air Quality;
- Chapter 18: Historic Environment;
- Chapter 19: Light;
- Chapter 20: Landscape and Visual;
- Chapter 21: Socio-Economics;
- Chapter 22: Aviation;
- Chapter 23: Waste; and
- Chapter 24: Health.

Other Environmental Effects

44.2.3 As outlined above, the consideration of the Main Site was drawn from the previous Material Change 2 UES (and indirectly the original ES). In undertaking the review of these assessments with regard to the proposed extension of time, no new consideration of 'other environmental effects' has been identified beyond those recognised within the Material Change 2 UES.

44.2.4 On this basis, Table 44-1 below provides a summary of whether consideration of ‘Other Environmental Issues’ was necessary by the technical chapters as part of the previous Material Change 2 UES (Table 25-1 within the Material Change 2 UES).

Table 44-1: Summary Table of ‘Other Environmental Issues’ Considered for Material Change 2 (Table 25-1 within Material Change 2 UES) – Main Site

Chapter		Other Environmental Issues				
		Infrastructure	Waste	Population and Human Health	Climate and Carbon Balance	Risk of Major Accidents and/or Disasters
7	Geology, Hydrogeology and Ground Conditions	N/A	N/A	N/A	N/A	N/A
8	Hydrodynamics and Sedimentary Regime	Yes	Yes	None	None	Yes
9	Water and Sediment Quality	None	Yes	Yes	None	None
10	Aquatic Ecology	None	None	None	None	None
11	Ecology and Nature Conservation	None	None	None	None	None
12	Commercial Fisheries	None	None	None	None	None
13	Drainage and Flood Risk	None	None	Yes	Yes	Yes
14	Commercial and Recreational Navigation	None	None	Yes	None	Yes
15	Traffic and Transport	N/A	N/A	N/A	N/A	N/A
16	Noise and Vibration	None	Yes	Yes	None	None
17	Air Quality	Yes	Yes	Yes	Yes	None
18	Marine Archaeology (Historic Environment)	None	None	None	None	None
19	Light	N/A	N/A	N/A	N/A	N/A
20	Landscape and Visual	N/A	N/A	N/A	N/A	N/A
21	Socio-Economic	Yes	None	None	Yes	Yes
22	Aviation	None	None	None	None	Yes
23	Waste	N/A	N/A	N/A	N/A	N/A
24	Health	N/A	N/A	N/A	N/A	N/A

44.2.5 None of the environmental topics contained within the previous Material Change 2 UES identified ‘Other Environmental Issues’ which would result in significant effects beyond those previously identified within the original ES. This position has not altered for the proposed extension of time being considered within this ER.

44.2.6 In addition, for those topics identified as ‘Not Applicable’ within the previous Material Change 2 UES (shaded green in Table 44-1 above), none have identified altered or additional effects which would be significant beyond those contained within the previous Material Change 2 UES or original ES.

44.2.7 On this basis, no altered or additional ‘Other Environmental Issues’ associated with the proposed extension of time have been identified for the Main Site beyond those previously identified within either the Material Change 2 UES or original ES.

Assessment of Cumulative and In-Combination Effects

44.2.8 A single additional committed development has been identified beyond those considered within the Material Change 2 UES; namely Immingham Eastern Ro-Ro Terminal (PINS ref. TR030007). The EIA for this DCO application has, however, considered the AMEP development within its own cumulative assessment.

44.2.9 Notwithstanding, in considering the proposed extension of time, along with the additional committed development identified (Immingham Eastern Ro-Ro Terminal), the findings regarding cumulative and in-combination effects in relation to the Main Site are outlined in turn below.

Chapter 7: Geology, Hydrogeology and Ground Conditions

44.2.10 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 8: Hydrodynamic and Sedimentary Regime

44.2.11 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 9: Water and Sediment Quality

44.2.12 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 10: Aquatic Ecology

44.2.13 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 11: Terrestrial Ecology

44.2.14 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 12: Commercial Fisheries

44.2.15 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 13: Drainage and Flood Risk

44.2.16 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 14: Commercial and Recreational Navigation

44.2.17 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 15: Traffic and Transport

- 44.2.18 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 16: Noise and Vibration

- 44.2.19 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 17: Air Quality

- 44.2.20 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 18: Historic Environment

- 44.2.21 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 19: Light

- 44.2.22 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 20: Landscape and Visual

- 44.2.23 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 21: Socio-Economics

- 44.2.24 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 22: Aviation

- 44.2.25 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 23: Waste

- 44.2.26 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Chapter 24: Health

- 44.2.27 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time.

Transboundary Effects

- 44.2.28 No additional Transboundary Effects have been identified as a result of the proposed extension of

time.

Summary

44.2.29 As can be noted from the above summary, when assessing the proposed extension of time, none of the technical chapters contained within this ER has identified a change or an increased risk of cumulative or in-combination effects associated with the committed developments identified within Chapter 6: Description of Committed Developments.

44.2.30 As such, the consideration of cumulative, in-combination and transboundary effects remains consistent with those contained within the previous Material Change 2 UES and original ES and the risk of likely significant effects from cumulative effects remains consistent with that found to be acceptable in the making of the DCO.

Summary of Mitigation and Monitoring

44.2.31 In considering the proposed extension of time, this ER identifies that no alternate or additional mitigation in relation to the Main Site is required beyond that previously recommended within the Material Change 2 UES. Table 44-2 below provides a summary of the Additional Mitigation and Monitoring as recommended within the Material Change 2 UES.

Table 44-2: Summary of Additional Mitigation and Monitoring as recommended within the Material Change 2 UES – Main Site

Chapter	Topic	Additional Mitigation or Monitoring
7	Geology, Hydrogeology & Ground Conditions	No additional mitigation was required.
8	Hydrodynamic and Sedimentary Regime	No additional mitigation was required.
9	Water and Sediment Quality	No additional mitigation was required.
10	Aquatic Ecology	No additional mitigation was required.
11	Ecology and Nature Conservation	No additional mitigation was required.
12	Commercial Fisheries	No additional mitigation was required.
13	Drainage and Flood Risk	No additional mitigation was required.
14	Commercial and Recreational Navigation	It is concluded that further mitigation was required . A number of alternate or additional risk control measures were identified and included within the Navigational Risk Assessment.
15	Traffic and Transport	No additional mitigation was required.
16	Noise and Vibration	No additional mitigation was required.
17	Air Quality	No additional mitigation was required.
18	Historic Environment	No additional mitigation was required.
19	Light	No additional mitigation was required.
20	Landscape and Visual	No additional mitigation was required.
21	Socio-Economic	No additional mitigation was required.
22	Aviation	It is concluded that further mitigation was required . These additional mitigation measures were specific to the potential for 200 m maximum height quay-side cranes.

Chapter	Topic	Additional Mitigation or Monitoring
23	Waste	No additional mitigation was required.
24	Health	No additional mitigation was required.

Summary of Findings

44.2.32 Table 44-3 below provides a summary of whether additional findings were identified during the undertaking of this ER (note it does not extend to the findings of the previous Material Change 2 UES).

44.2.33 As can be noted, the proposed extension of time raises no additional ‘other environmental effects’, ‘cumulative and in-combination effects’, need for ‘alternate or additional mitigation and monitoring’, nor any changes in effects from those previously identified within the previous Material Change 2 UES (and indirectly the original ES).

Table 44-3: Summary of Findings – Main Site

Chapter	Other Environmental Effects	Cumulative and In-Combination Effects	Additional Mitigation	Summary of Changes in Effects
7 – Geology, Hydrogeology and Ground Conditions	None identified	None identified	None identified	None identified
8 – Hydrodynamic and Sedimentary Regime	None identified	None identified	None identified	None identified
9 – Water and Sediment Quality	None identified	None identified	None identified	None identified
10 – Aquatic Ecology	None identified	None identified	None identified	None identified
11 – Terrestrial Ecology	None identified	None identified	None identified	None identified
12 – Commercial and Recreational Fisheries	None identified	None identified	None identified	None identified
13 – Drainage and Flood Risk	None identified	None identified	None identified	None identified
14 – Commercial and Recreational Navigation	None identified	None identified	As per MC2	None identified
15 – Traffic and Transport	None identified	None identified	None identified	None identified
16 – Noise and Vibration	None identified	None identified	None identified	None identified
17 - Air Quality	None identified	None identified	None identified	None identified
18 – Historic Environment	None identified	None identified	None identified	None identified
19 – Light	None identified	None identified	None identified	None identified

Chapter	Other Environmental Effects	Cumulative and In-Combination Effects	Additional Mitigation	Summary of Changes in Effects
20 – Landscape and Visual	None identified	None identified	None identified	None identified
21 – Socio-Economics	None identified	None identified	None identified	None identified
22 – Aviation	None identified	None identified	As per MC2	None identified
23 – Waste	None identified	None identified	None identified	None identified
24 – Health	None identified	None identified	None identified	None identified

44.3.0 Compensation Site

44.3.1 Chapters 31 - 43 of this Environmental Review (ER) provides a technical review of the information contained within the previous original ES with regard to the Compensation Site, to verify whether the proposed extension of time would alter the findings contained therein.

44.3.2 As such, the ER reviewed the following technical chapters from the Material Change 2 UES:

- Chapter 31: Geology, Hydrology and Ground Conditions;
- Chapter 32: Hydrodynamic and Sedimentary Regime;
- Chapter 33: Water and Sediment Quality;
- Chapter 34: Aquatic Ecology;
- Chapter 35: Terrestrial Ecology;
- Chapter 36: Drainage and Flood Risk;
- Chapter 37: Traffic and Transport;
- Chapter 38: Noise;
- Chapter 39: Air Quality;
- Chapter 40: Historic Environment;
- Chapter 41: Landscape and Visual Impact;
- Chapter 42: Socio-Economic; and
- Chapter 43: Waste.

Other Environmental Effects

44.3.3 As outlined above, the consideration of the Compensation Site was drawn from the original ES. In undertaking the review of these assessments with regard to the proposed extension of time, Table 44-4 below provides a summary of whether consideration of ‘Other Environmental Issues’ has been necessary by the technical chapters as part of this ER.

Table 44-4: Summary Table of ‘Other Environmental Issues’ Considered – Compensation Site

Chapter		Other Environmental Issues				
		Infrastructure	Waste	Population and Human Health	Climate and Carbon Balance	Risk of Major Accidents and/or Disasters
31	Geology, Hydrogeology and Ground Conditions	None	None	None	None	None
32	Hydrodynamic and	None	None	None	None	None

Chapter	Other Environmental Issues					
	Infrastructure	Waste	Population and Human Health	Climate Carbon Balance	and	Risk of Major Accidents and/or Disasters
	Sedimentary Regime					
33	Water and Sediment Quality	None	None	Yes	None	None
34	Aquatic Ecology	None	None	None	None	None
35	Terrestrial Ecology	None	None	None	None	None
36	Drainage and Flood Risk	None	None	Yes	Yes	Yes
37	Traffic and Transport	None	None	Yes	None	None
38	Noise and Vibration	None	None	Yes	None	None
39	Air Quality	Yes	Yes	Yes	None	None
40	Historic Environment	None	None	None	None	None
41	Landscape and Visual	None	None	None	None	None
42	Socio-Economic	None	None	None	Yes	None
43	Waste	None	Yes	None	None	None

44.3.4 None of the environmental topics considering the proposed extension of time with regard to the Compensation Site identified ‘Other Environmental Issues’ which would result in likely significant effects beyond those previously identified within the original ES.

44.3.5 On this basis, no altered or additional ‘Other Environmental Issues’ associated with the proposed extension of time have been identified for the Compensation Site beyond those previously identified within the original ES.

Assessment of Cumulative and In-Combination Effects

44.3.6 As outlined above, a single additional committed development has been identified beyond those considered within the Material Change 2 UES; namely Immingham Eastern Ro-Ro Terminal (PINS ref. TR030007). The EIA for this DCO has, however, considered the AMEP development within its own cumulative assessment.

44.3.7 Notwithstanding, in considering cumulative and in-combination effects for the proposed extension of time associated with the Compensation Site, the findings for each environmental topic are outlined in turn below.

Chapter 31: Geology, Hydrology and Ground Conditions

44.3.8 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 32: Hydrodynamic and Sedimentary Regime

- 44.3.9 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 33: Water and Sediment Quality

- 44.3.10 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 34: Aquatic Ecology

- 44.3.11 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 35: Terrestrial Ecology

- 44.3.12 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 36: Drainage and Flood Risk

- 44.3.13 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 37: Traffic and Transport

- 44.3.14 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 38: Noise

- 44.3.15 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 39: Air Quality

- 44.3.16 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 40: Historic Environment

- 44.3.17 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 41: Landscape and Visual Impact

- 44.3.18 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Chapter 42: Socio-Economic

- 44.3.19 No additional cumulative or in-combination effects have been identified as a result of the proposed

extension of time. As such, the findings of the original ES are still robust.

Chapter 43: Waste

44.3.20 No additional cumulative or in-combination effects have been identified as a result of the proposed extension of time. As such, the findings of the original ES are still robust.

Transboundary Effects

44.3.21 No additional Transboundary Effects have been identified as a result of the proposed extension of time.

Summary

44.3.22 As can be noted from the above summary, when assessing the proposed extension of time, none of the technical chapters contained within this ER has identified a change or an increased risk of cumulative or in-combination effects associated with the committed developments identified within Chapter 6: Description of Committed Developments.

44.3.23 As such, the consideration of cumulative, in-combination and transboundary effects remains consistent with those contained within the original ES and the risk of likely significant effects from cumulative effects remains consistent with that found to be acceptable in the making of the DCO.

Summary of Mitigation and Monitoring

44.3.24 In considering the proposed extension of time and the Compensation Site, Table 44-5 below provides a summary of whether any alternate or additional mitigation is required beyond that previously identified within the original ES.

Table 44-5: Summary of Additional Mitigation and Monitoring – Compensation Site

Chapter	Topic	Additional Mitigation or Monitoring
31	Geology, Hydrogeology & Ground Conditions	No additional mitigation is required.
32	Hydrodynamic and Sedimentary Regime	No additional mitigation is required.
33	Water and Sediment Quality	No additional mitigation is required.
34	Aquatic Ecology	No additional mitigation is required.
35	Terrestrial Ecology	The ER chapter considers whether additional mitigation is required for reptiles, badgers and otters. However, any such additional mitigation would be as a result of ongoing works/investigations at the compensation site and their need/implementation being subject to licence applications with the appropriate authorities, rather than needing to be incorporated within the content of the DCO. As such, no additional mitigation is proposed/required at this time and their non-inclusion would not alter the DCO consenting position with regard to the proposed extension of time.
36	Drainage and Flood Risk	No additional mitigation is required.

Chapter	Topic	Additional Mitigation or Monitoring
37	Traffic and Transport	No additional mitigation is required.
38	Noise and Vibration	No additional mitigation is required.
39	Air Quality	No additional mitigation is required.
40	Historic Environment	No additional mitigation is required.
41	Landscape and Visual	No additional mitigation is required.
42	Socio-Economic	No additional mitigation is required.
43	Waste	No additional mitigation is required.

Summary of Findings

44.3.25 Table 44-6 below provides a summary of whether additional findings were identified during the undertaking of this ER. As can be noted, the proposed extension of time raises no additional ‘other environmental effects’ or ‘cumulative and in-combination effects’ beyond those identified within the original ES. Only a single environmental topic (Terrestrial Ecology) has identified the potential need for additional mitigation for some species. However, the identified species are already protected by law and Schedule 11 of the DCO already includes a requirement for pre-commencement surveys for the presence of European protected species and for the approval of a Compensation Environmental Management and Monitoring Plan. These existing controls will ensure the additional mitigation is provided.

Table 44-6: Summary of Findings – Compensation Site

Chapter	Other Environmental Effects	Cumulative and In-Combination Effects	Additional Mitigation	Summary of Changes in Effects
31 – Geology, Hydrogeology and Ground Conditions	None identified	None identified	None identified	None identified
32 – Hydrodynamic and Sedimentary Regime	None identified	None identified	None identified	None identified
33 – Water and Sediment Quality	None identified	None identified	None identified	None identified
34 – Aquatic Ecology	None identified	None identified	None identified	None identified
35 – Terrestrial Ecology	None identified	None identified	Potential additional mitigation for reptiles, badgers and otters (TBC)	None identified
36 – Drainage and Flood Risk	None identified	None identified	None identified	None identified
37 – Traffic and Transport	None identified	None identified	None identified	None identified
38 – Noise and Vibration	None identified	None identified	None identified	None identified

Chapter	Other Environmental Effects	Cumulative and In-Combination Effects	Additional Mitigation	Summary of Changes in Effects
39 - Air Quality	None identified	None identified	None identified	None identified
40 – Historic Environment	None identified	None identified	None identified	None identified
41 – Landscape and Visual	None identified	None identified	None identified	None identified
42 – Socio-Economics	None identified	None identified	None identified	None identified
43 – Waste	None identified	None identified	None identified	None identified

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ABLE MARINE ENERGY PARK (ARTICLE 7 EXTENSION OF TIME)

ENVIRONMENTAL REVIEW

CHAPTER 45: CONCLUSION

Able Marine Energy Park, Killingholme, North Lincolnshire

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CONTENTS

45.1.0 INTRODUCTION	1
Development Consent Order	1
Requirements & Purpose of this Document	2
45.2.0 RESIDUAL EFFECTS & CONCLUSIONS – MAIN SITE	3
Geology, Hydrogeology and Ground Conditions.....	3
Hydrodynamic and Sedimentary Regime.....	3
Water and Sediment Quality.....	3
Aquatic Ecology.....	3
Terrestrial Ecology.....	4
Commercial Fisheries	4
Drainage and Flood Risk.....	4
Navigation	4
Traffic and Transport.....	5
Noise and Vibration.....	5
Air Quality.....	5
Historic Environment.....	5
Light	6
Landscape and Visual	6
Socio-Economic	6
Aviation	6
Waste	6
Health	7
45.3.0 RESIDUAL EFFECTS & CONCLUSIONS – COMPENSATION SITE.....	8
Geology, Hydrogeology and Ground Conditions.....	8
Hydrodynamic and Sedimentary Regime.....	8
Water and Sediment Quality.....	9
Aquatic Ecology.....	10
Terrestrial Ecology and Birds.....	11
Drainage and Flood Risk.....	13
Traffic and Transport.....	14
Noise 15	

Air Quality.....	15
Historic Environment.....	16
Landscape and Visual	17
Socio-Economic	17
Waste	18
45.4.0 CLOSURE	20

45.1.0 Introduction

- 45.1.1 This Environmental Review (ER) has been prepared by SLR Consulting Limited (SLR) on behalf of Able Humber Ports Limited (Able) regarding a proposed extension to the time limits by which the authorised development should be completed.
- 45.1.2 The following sections seek to provide a brief overview of the extant DCO, any subsequent amendments and/or variations of note and the purpose of this ER document itself.

Development Consent Order

- 45.1.3 The DCO for the Able Marine Energy Park (AMEP) was made on 13th January 2014, laid before Parliament on 10th February 2014 and subsequently came into force on 29th October 2014 (Statutory Instrument 2014 No. 2935). It was amended by a non-material change on 13 May 2021 and a material change on 16 July 2022 (see further below). A copy of the DCO is provided within Technical Appendix ER1-1.
- 45.1.4 The DCO permits, *inter alia*, the development of a new quay and associated development at Killingholme in North Lincolnshire, on the south bank of the Humber Estuary. Briefly, the development on the south bank comprises a quay, reclaimed estuarine habitat and the provision of onshore facilities for the manufacture, assembly and storage of components relating to the offshore renewable energy sector. The DCO further permits other associated development including environmental habitat, namely the Cherry Cobb Sands (CCS) compensation site, on the north bank of the Humber in the East Riding of Yorkshire authoritative area.
- 45.1.5 The authorised development is described in Schedule 1 of the DCO ‘Authorised Development’, whilst Part 2, Article 7 of the DCO limits the time period during which works can be carried out.
- 45.1.6 The DCO submission was accompanied by an Environmental Statement (ES). During the examination of the proposals, additional environmental information was submitted by the Applicant and was incorporated into the original ES for the Project. The documents forming the project ES are listed at Schedule 11, paragraph 1 of the AMEP DCO, and this complete set of documents is referred to in this ER as ‘the original ES’.

Article 7 – Period for Completion of Work

- 45.1.7 Article 7 of the DCO states the following:

‘Period for completion of work

7. If the authorised development is not completed within 10 years from the coming into force of this Order or such extended time as the Secretary of State may on the application of the undertaker allow, then on the expiration of that period or such extended time (as the case may be) the rights granted by this Order to the undertaker for making and maintaining the works cease except as to so much of them as is then substantially commenced’, (underline added).

- 45.1.8 Since the DCO came into force, the Undertaker has been developing various discrete elements of the project for delivery, with the wider consented scheme being formally commenced in June 2021 through the construction of a surface water pumping station which forms part of the associated development.

45.1.9 Nevertheless, market conditions have not yet enabled the commencement of the quay which is the primary element to which the Nationally Significant Infrastructure Project (NSIP) relates. Given that the time limit in Article 7 prohibits new works from starting after 28 October 2024, the undertaker now wishes to apply to the Secretary of State to extend the timeframe for completing the works by a further seven years, until **29th October 2031**.

Requirements & Purpose of this Document

45.1.10 This ER has been prepared by SLR Consulting Limited (SLR) on behalf of Able to support the proposed extended time limits in the DCO by which the authorised development should be completed. As agreed with the Secretary of State for Transport, this submission does not constitute a non-material change, but rather a standalone process as set out in Article 7 of the DCO (see above).

45.1.11 On this basis, the purpose of this document is to provide an Environmental Review (ER) of the current suite of environmental assessments for the wider AMEP scheme and thereby enable the Secretary of State to determine whether there are any new or altered likely significant environmental effects which should be given due regard before making any decision to extend the period for completion of the works.

45.1.12 A broad summary of all previous environmental information submitted in relation to the Project is outlined within Chapter 1 of the ER.

45.2.0 Residual Effects & Conclusions – Main Site

45.2.1 This section of the ER summarises the residual effects and conclusions reached with regard to the Main Site in undertaking a review of the assessments contained within the original ES and subsequent Material Change 2 UES.

Geology, Hydrogeology and Ground Conditions

45.2.2 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Geology, Hydrogeology and Ground Conditions regime will remain 'not significant'.

45.2.3 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Geology, Hydrogeology and Ground Conditions.

Hydrodynamic and Sedimentary Regime

45.2.4 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to the Hydrodynamic and Sedimentary Regime will remain 'not significant'.

45.2.5 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to the Hydrodynamic and Sedimentary Regime.

Water and Sediment Quality

45.2.6 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Sediment and Water Quality will remain 'not significant'.

45.2.7 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Water and Sediment Quality.

Aquatic Ecology

45.2.8 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regard to the following, as covered in Chapter 10 of the Material Change 2 UES:

- The requirement of additional mitigation;
- A change to residual effects;
- A change to other environmental issues;
- A change to the summary of effects.

45.2.9 It is also noted that aspects of relevant Legislation, Assessment Methodology and Effects Not Requiring Further Assessment currently remain valid. Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Aquatic Ecology.

Terrestrial Ecology

45.2.10 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regard to the following, as covered in Chapter 11 of the Material Change 2 application:

- The requirement of additional mitigation;
- A change to residual effects;
- A change to other environmental issues;
- A change to the summary of effects.

45.2.11 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Terrestrial Ecology.

Commercial Fisheries

45.2.12 This chapter concludes that the proposed extension of time will not result in increased impact and therefore the conclusions in the Material Change 2 UES are considered to remain valid. This includes no change in regards to the following conclusions, as covered in Chapter 12 of the Material Change 2 application:

- The requirement of additional mitigation;
- A change to residual effects;
- A change to other environmental issues;
- A change to the summary of effects.

45.2.13 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Commercial and Recreational Fisheries.

Drainage and Flood Risk

45.2.14 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Flood Risk and Drainage will remain 'not significant'.

45.2.15 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Drainage and Flood Risk.

Navigation

45.2.16 Having reviewed Chapter 14 of the Material Change 2 UES, it can be confirmed that no changes have been proposed with regards to Commercial and Recreation Navigation beyond an extension of time. While external factors have been identified which may change during the extension of time, it is considered likely that any such factors will not be sufficiently significant to change the overall, conclusion reached in Chapter 14 of the Material Change 2 UES, and therefore no further

consideration of Commercial and Recreation Navigation is required in relation to the extension of time.

45.2.17 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Commercial and Recreation Navigation.

Traffic and Transport

45.2.18 Having reviewed Chapter 15 of the Material Change 2 UES, it can be confirmed that no changes have been made with regards to Traffic and Transport and as such no further consideration to Traffic and Transport is required in relation to the extension of time.

45.2.19 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Traffic and Transport.

Noise and Vibration

45.2.20 Having reviewed Chapter 16 of the Material Change UES¹, it can be confirmed that no changes have been made, other than update to policy, and as such no further consideration is required in relation to the extension of time. The update to the policy does not affect the overall assessment and outcome of the assessment and as such, no further consideration needs to be given to this change. In summary:

- There has been some change in the guidance but this does not affect the overall assessment and outcome of the assessment.
- There have been no changes to the nearest noise sensitive receptors in the area.
- There have been no changes to the area relating to noise.

45.2.21 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Noise and Vibration.

Air Quality

45.2.22 This chapter concludes that the proposed extension of time will not result in increased levels of impact and therefore the residual effect of the scheme in relation to air quality will remain 'not significant'.

45.2.23 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Air Quality.

Historic Environment

45.2.24 It is concluded that there are no changes to the Residual Effects previously identified within the original ES for the DCO.

45.2.25 Chapter 18 of the Original ES for the DCO set out the requirement for mitigation to address impacts associated with construction and operation of the Main Site. This has been undertaken, in

¹ Able Marine Energy Park Material Change 2 | National Infrastructure Planning (planninginspectorate.gov.uk)

accordance Schedule 11 (Conditions 17 and 18) of the DCO, but final elements remain undischarged.

45.2.26 Therefore, it is confirmed that a 7-year extension does not alter the findings within the previous Material Change 2 UES with regards to the Historic Environment.

Light

45.2.27 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for Light to be adversely impacted by the proposed change have been identified.

45.2.28 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Light.

Landscape and Visual

45.2.29 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for landscape and visual matters to be adversely impacted by the proposed change have been identified.

45.2.30 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Landscape and Visual.

Socio-Economic

45.2.31 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their timing. On this basis following this review no realistic mechanism for Socio Economics to be adversely impacted by the proposed change have been identified.

45.2.32 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Socio Economic.

Aviation

45.2.33 The proposed extension of time will not change the nature of the works proposed, specifically the quay-side cranes to be used on the Project, simply the timing of their use. Given the “no change” status of Humberside Airport’s OLS, there will be no change to the aviation safeguarding risks and associated mitigation induced by the application.

45.2.34 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Aviation.

Waste

45.2.35 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their scheduled timing. On this basis and following this review, it is concluded that waste (terrestrial) will not be adversely impacted by the proposed change.

45.2.36 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Waste.

Health

45.2.37 It is confirmed that there are no changes to background information in respect of Health, the applicable scope of work, assessment of the potential impacts and effects of the development proposals that would affect the findings of the Material Change 2 UES.

45.2.38 Therefore, it is confirmed that a 7 year extension does not alter the findings within the previous Material Change 2 UES with regards to Health.

45.3.0 Residual Effects & Conclusions – Compensation Site

- 45.3.1 This section of the ER summarises the residual effects and conclusions reached with regard to the Compensation Site (Cherry Cobb Sands) in undertaking a review of the assessments contained within the original ES. There is no information of relevance regarding the Compensation Site contained within the Material Change 2 UES.

Geology, Hydrogeology and Ground Conditions

- 45.3.2 Excavation and movement of approximately 300,000m³ of soils will have construction phase effects of the Geology, Hydrogeology and Ground Conditions at Cherry Cobb Sands. Where polluted soils have been identified within the site, there is potential for these soil movements to mobilise pollutants or contaminants within the soil.
- 45.3.3 Additional site investigation and Contaminated Land Risk Assessment were proposed in the original ES for the DCO and included as a requirement in Schedule 11 of the DCO. As stated in Chapter 1, submissions to address these requirements (requirements 16, 40 and 41) were issued in December 2015 and these requirements have been discharged.

Residual Effects

- 45.3.4 The original ES for the DCO describes the potential for previously unrecorded contamination being encountered during construction of the Compensation Site and outline mitigation measures to address this.
- 45.3.5 The changes proposed as part of the proposed extension of time do not result in any additional residual effects, beyond those identified in the original ES for the DCO.

Technical Conclusion

- 45.3.6 A review of Chapter 31 of the original ES for the DCO has been carried out. No change to the baseline, effects and mitigation assessed in the original ES.
- 45.3.7 The original ES set out the requirement for additional site investigation and Contaminated Land Risk Assessment to address impacts associated with construction of the Compensation Site at Cherry Cobb Sands. This has been undertaken, as required in Schedule 11 of the DCO and these requirements have been discharged.
- 45.3.8 No other additional effects will be generated as a result of the proposed extension of time.

Hydrodynamic and Sedimentary Regime

- 45.3.9 The Cherry Cobb Sands site will start to have an effect on the hydrodynamic and sedimentary regime in the final stage of construction when saltmarsh fronting the site is removed down to the level of the inlet structures (2.0 ± 0.2 mAOD). This will allow tidal waters to enter the Regulated Tidal Exchange (RTE) site.
- 45.3.10 The control structures within the RTE Site will each be formed by three box culverts (1.25 m wide x 1.5 m high) which will be supported on a piled concrete capping slab to limit settlement. The flow through these culverts will be controlled by 'gates' and flow can be prevented entirely if necessary.

45.3.11 The breach into the compensation area will be first operated on a suitable neap tide. As the tides start to increase in range again, the site will be flooded on the first tide after the breach is completed that the high-water level exceeds the level of the breach. On the first one or two tides, low areas within the site will fill with saline tidal waters.

45.3.12 Allowing a further seven years to complete this process will have no material impact on the Hydrodynamic and Sedimentary Regime.

Residual Effects

45.3.13 Within the original ES, it was concluded that, during the construction phase, there would be no residual effects relating to the Hydrodynamic and Sedimentary Regime as construction would be isolated from the foreshore by the existing flood defences.

45.3.14 Within the original ES, it was concluded that the operation of the compensation site will result in a minor negative impact on the hydrodynamic and sedimentary regime after mitigation. This conclusion was reached due to uncertainties in the long-term effect of some of the changes that are difficult to predict or model. As there is no change proposed to the final scheme this conclusion does not change.

45.3.15 It is concluded that the additional 7 year to complete construction works will not result in changes to the residual effects previously identified within Chapter 32 of the original ES.

Technical Conclusion

45.3.16 The compensation site is set adjacent to the Humber Estuary but is currently separated from the estuarine environment by raised flood defences. Between the site and the main channel of the estuary is a foreshore area of intertidal habitat including mudflats, saltmarshes and creeks.

45.3.17 Due to uncertainties in the long-term effect of some the changes it was previously concluded that the scheme will result in a minor negative impact to the Hydrodynamic and Sedimentary Regime. Schedule 11, paragraph 19 of the DCO provides for a Marine Environmental Management and Monitoring Plan to ensure ongoing monitoring and management of impacts both within the site and Stone Creek.

45.3.18 The proposed extension of time for constructing the AMEP development will make no difference to the potential effects identified within the original ES and no additional mitigation will be required.

Water and Sediment Quality

45.3.19 Operational impacts have been screened out of this review as they are not of relevance to the increase the timescale for completion of construction works. Similarly impacts to groundwater have been screened out.

45.3.20 The remainder of the potential impacts remain relevant; however, increasing the timescale for completion of construction works will have no effect on the potential severity of impact and the previously proposed and agreed control mechanisms will remain appropriate.

Residual Effects

45.3.21 The original ES concluded that the temporary increase in suspended sediment concentrations associated with construction activities cannot be mitigated and should be considered as a temporary

minor negative significant effect.

45.3.22 Operational phase impacts on Water and Sediment Quality were assessed to be negligible.

45.3.23 It is concluded that there are no changes to the residual effects previously identified as part of the DCO.

Technical Conclusion

45.3.24 As detailed in the original ES, residual effects relating to Water and Sediment Quality will be minimal provided that the proposed control measures and monitoring are fully implemented. This review indicates that this conclusion will not be changed by the proposed increase in the timescale for completion of construction works.

45.3.25 The compensation site is located on low lying land adjacent to the Humber Estuary that is drained by a series of channels that discharge toward the estuary. Based in the data available, these systems and the sediment along the foreshore, are broadly unchanged since the original ES.

45.3.26 The potential for the scheme at the compensation sites to impact upon water and sediment quality is low and will be controlled by adherence to good practice and controls during construction and the scheme design. This will ensure that the change to water and sediment quality would be no greater than a minor negative effect.

45.3.27 The proposed increase in the timescale for completion of construction works will involve no changes to the scale or nature of the physical works required and no change to the final form of the scheme. As a result, there is no need for additional mitigation and no change to the conclusions of the assessment.

Aquatic Ecology

45.3.28 Baseline aquatic ecological conditions are not considered to have significantly changed from the original ES, and any changes are considered natural artefacts of a dynamic ecosystem.

45.3.29 Furthermore, there is no change to the CCS site design, construction and operational parameters, and therefore no significant or measurable new impacts to the existing aquatic ecological receptors.

Residual Effects

45.3.30 The review of revised baseline data where available and/or appropriate, has not identified any significant new impacts and as such, no additional mitigation is considered necessary.

45.3.31 The residual effects on the Aquatic Ecology receptors from the CCS compensation site remain as identified in the original ES.

Technical Conclusion

45.3.32 The baseline conditions have been reviewed and updated since 2011 to reflect the current baseline. No significant changes have been identified compared to those described in the DCO (2014) and the Examining Authority's Report (2013). Any changes identified reflect natural ecosystem dynamics in estuarine systems, with such a dynamism being of intrinsic value in maintaining ecosystem health.

45.3.33 Based on the above assessment of potential changes to the aquatic ecology of the area against

conditions identified in the original ES baseline, and given no modification to the design, construction or operational components of the CCS compensation site, no significant effects have been identified other than those assessed in the original ES from the DCO.

- 45.3.34 The assessment of mitigation measures provided in Chapter 34 Aquatic Ecology of the original ES are considered to remain valid, with no significant residual impacts to the aquatic ecology of the Humber Estuary expected following their discharge.

Terrestrial Ecology and Birds

- 45.3.35 There is no change to the CCS site design, construction and operational parameters, and therefore no significant or measurable new impact pathways to the existing ecological receptors.
- 45.3.36 As described above, where new data have been collected, baseline terrestrial ecological conditions are not considered to have significantly changed from the original ES, and any alterations reflect only a slight change within a species/habitat assemblage.
- 45.3.37 The exception to this is the potential for otters to be using the CCS site. The species was not identified in the original ES but potential usage of badger setts and runs by otters was identified from a dedicated badger survey around Keyingham Drain (2021), with potential for further utilisation by otters across the wider CCS site. Given the legal protection afforded otters, a dedicated otter survey is required to assess presence of the species. The outcome from this will better inform the impact assessment, mitigation measures and management for the species. The otter is a European protected species, so provision for such a survey, and subsequent liaison with Natural England, is already a requirement of Schedule 11, paragraph 31 of the DCO.
- 45.3.38 For the waterbirds utilising the intertidal habitat, changes in assemblage composition (species and relative abundances) are considered artefacts of natural population dynamics and/or natural estuarine ecosystem dynamics e.g. natural changes in habitat affecting changes in function and species associated with these.

Residual Effects

Construction Phase

- 45.3.39 The loss of terrestrial habitat of relatively low ecological importance is unavoidable during the construction of the CCS site. The residual impact on terrestrial habitats will therefore remain as being of minor negative significance. Residual impact remains as minor negative significance.
- 45.3.40 Earthworks will mostly be undertaken outside of the overwintering season. Furthermore, the construction of the wet grassland habitat will mitigate for the temporary loss of roosting and feeding habitat for waterbirds utilising the foreshore and the fields behind the existing defence, as waterbird species will largely be using the site during autumn and winter months; the residual impacts during construction are therefore assessed as being negligible. Residual impact remains as minor negative significance.
- 45.3.41 Residual impacts from construction of the CCS site, in relation to noise disturbance to waterbirds are likely to be negligible.
- 45.3.42 The residual impact on feeding opportunities for breeding birds during construction is assessed as being of short term minor beneficial significance. Residual impact remains as minor beneficial significance.

45.3.43 Mitigation to deter protected species from using the site during construction will reduce potential impacts upon the species to negligible levels. This remains the case.

45.3.44 The additional presence of common lizard within the at the CCS site, and potentially otter within the Keyingham drain near to the CCS site, may require mitigation to be determined. These measures would be expected to be similar to those for other protected species e.g. deterrence subject to licence, which will reduce potential impacts upon the species to negligible levels.

Operational Phase

45.3.45 The loss of terrestrial areas of vegetation, including agricultural land (mainly arable), soke dykes, hedgerows, occasional trees and patches of improved grassland, of relatively low ecological importance will be mitigated through creation of the wet grassland site, as well as the creation of a new soke dyke behind the realigned embankment. The residual impact upon terrestrial habitats is therefore assessed as minor negative. Residual impact remains as minor negative significance.

45.3.46 As explained above, the permanent loss of terrestrial roosting and feeding habitat for waterbirds in the area to be used for intertidal habitat creation will be minimal because of the extensive available alternative land for them to use, and it will also be partly offset through the creation of the wet grassland area. Furthermore, birds will readily utilise fields at either end of, or behind, the realigned embankment and will therefore be largely unaffected.

45.3.47 Monitoring of waterbird usage of adjacent fields will be undertaken as part of the monitoring programme during operation of the scheme. It is assessed that (subject to the results of future monitoring) the residual impacts upon roosting and feeding habitat for waterbirds in fields behind the existing embankment is of minor negative significance. Residual impact remains as minor negative significance.

45.3.48 The creation of wet grassland (primarily for use by Black tailed godwit) in addition to the managed realignment site at Cherry Cobb Sands, will provide feeding, roosting and breeding opportunities for breeding birds during operation. The residual impacts are therefore assessed as being negligible. This would remain the case.

Technical Conclusion

45.3.49 The baseline conditions have been reviewed and updated since 2011 to reflect the current baseline. No significant changes have been identified compared to those described in the DCO (2014) and the Examining Authority's Report (2013).

45.3.50 For the most part, any changes identified reflect natural ecosystem dynamics and in particular those associated with estuarine systems, with such a dynamism being of intrinsic value in maintaining ecosystem health.

45.3.51 Based on the above assessment of potential changes to the terrestrial ecology of the area against conditions identified in the original ES baseline, and given no modification to the design, construction or operational components of the CCS compensation site, for the most part no significant effects have been identified other than those assessed in the original ES from the DCO.

45.3.52 However, from subsequent survey work (updated baseline) there are additional species which have been identified as requiring additional attention:

Badger

- 45.3.53 The presence of setts were identified around the site in the original ES, and measures were employed to exclude badgers from the CCS site in November/December 2015. Subsequent monitoring in Spring 2016 showed badgers still using setts within the site. Measures as described in the CEMMP will need to be instigated again to ensure legal compliance prior to construction commencement, and potentially with an updated strategy in the CEMMP.

Common Lizard

- 45.3.54 This was not identified as present in the original ES although the wider 'reptile' group was addressed and management measures identified in the CEMMP. Subsequent surveys in 2015 and in 2020 identified the presence of common lizard and an RMMMP including common lizard is considered necessary. The CEMMP already provides protection for reptiles should they be found.

Otter

- 45.3.55 The species was not addressed in the original ES (nor CEMMP). The status of the species at the CCS site needs to be addressed to ensure legal compliance prior to construction commencement, and depending on findings, the production of an OMMMP is considered necessary as an Annex to the CEMMP. The DCO already provides suitable protection for all European protected species.
- 45.3.56 Given the above, the assessment of mitigation measures provided in Chapter 35 Terrestrial Ecology of the original ES are considered to remain largely valid, with no significant residual impacts expected to the terrestrial ecology of the terrestrial land adjacent to the Cherry Cobb Sands intertidal, subject to the provisions for badgers, common lizard and otter, nor to the coastal waterbird community which utilises both aquatic and terrestrial components of the area following their discharge.

Drainage and Flood Risk

- 45.3.57 Construction phase impacts associated with Flood Risk and Drainage will be largely unchanged from those considered in the original ES.
- 45.3.58 It is concluded that the changes in baseline understanding and the additional seven year to complete construction will not result in any new or significant increased effects on Flood Risk and Drainage.

Residual Effects

- 45.3.59 Within the original ES, following consideration of mitigation, the residual effects relating to Flood Risk and Drainage were determined to be not significant.
- 45.3.60 It is concluded that the additional 7 year to complete construction works will not result in changes to the residual effects previously identified within Chapter 36 of the original ES.

Technical Conclusion

- 45.3.61 Chapter 36 of the original ES states that all potential residual effects (no greater than Minor Adverse) relating to Flood Risk and Drainage will be further controlled through the implementation of additional mitigation (see Section 36.8 therein). While not expressly stated in the original ES, it is therefore clear that the residual effects of the DCO scheme in relation to Flood Risk and Drainage would not be significant.

- 45.3.62 The proposed extension of time for constructing the AMEP development will not result in increased levels of impact and therefore the residual effect of the scheme in relation to Flood Risk and Drainage will remain not significant.
- 45.3.63 The site is set in a context where flooding is possible; however, this risk is largely controlled through flood defences. The scheme design seeks to realign the flood defences to create new intertidal habitat.
- 45.3.64 With regards to drainage, storm water runoff from the site will continue to be discharged to the Humber Estuary. During construction there is however a potential for pollution to occur to the adjacent surface water channels and networks. This will be controlled and managed through the implementation of good construction practices.
- 45.3.65 The proposed extension of time for constructing the AMEP development will make no difference to the potential effects identified within the original ES (not significant) and no additional mitigation will be required.

Traffic and Transport

- 45.3.66 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects as a result of the proposed extension to the timescales for completion of the development as contained within this ER.

Residual Effects

- 45.3.67 Given that the proposed extension of time will not alter the findings of the original ES, the residual traffic and transport impacts for the construction phase remain as described in the original ES, the levels assessed as between negligible and temporary minor negative.
- 45.3.68 Given that the proposed extension of time will not alter the findings of the original ES, no additional residual effects for the operational phase are predicted.

Technical Conclusion

- 45.3.69 Chapter 37 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 45.3.70 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.
- 45.3.71 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 45.3.72 It is therefore concluded that Chapter 37: Traffic and Transport of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

Noise

- 45.3.73 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects as a result of the proposed extension to the timescales for completion of the development as contained within this ER.

Residual Effects

- 45.3.74 Given that the proposed extension of time will not alter the findings of the original ES, the residual noise impacts for the construction phase remain as temporary minor significance, with a level of effect of 'not significant' (Table 38.3 of the original ES).
- 45.3.75 Given that the proposed amendment will not alter the findings of the original ES, the predicted noise levels typical operations will remain below the threshold values, and therefore no residual effects for the operational phase are predicted (paragraph 38.6 of the original ES).
- 45.3.76 Following this review, it is considered that there are not any changes to the assessment of residual effects identified within the original ES. On this basis, the findings of the original ES are considered to be appropriate and robust when considering the proposed extension of time.

Technical Conclusion

- 45.3.77 Chapter 38 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 45.3.78 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.
- 45.3.79 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 45.3.80 It is therefore concluded that Chapter 38: Noise of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

Air Quality

- 45.3.81 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects on air quality as a result of the proposed extension to the timescales for completion of the development as contained within this Article 7 ER.

Residual Effects

- 45.3.82 Given that the proposed extension of time will not alter the findings of the original ES, the residual air quality impacts for the construction phase remain as temporary negligible significance (i.e. 'not significant').
- 45.3.83 Following this review, there are no changes to the residual effects identified within the original ES

Chapter 39 in context of Cherry Cobb Sands / the Compensation Site. On this basis, the findings of the original ES are considered to be appropriate and robust when considering the proposed extension of time.

Technical Conclusion

- 45.3.84 Chapter 39 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 45.3.85 Following this review, no changes have been identified that would alter the assessment of effects as described within the original ES.
- 45.3.86 This review has identified that the proposed amendment, and changes in legislation, guidance and policy, and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES Chapter 39 air quality. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.
- 45.3.87 It is therefore concluded that Chapter 39: Air Quality of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

Historic Environment

- 45.3.88 The excavation of foreshore deposits and the breaching of the existing sea wall may reveal, disturb or remove deposits of archaeological or paleoenvironmental significance. These effects will be highly localised and are considered to be a minor adverse impact without the identified mitigation.
- 45.3.89 There are no identified changes in baseline conditions nor changes in the assessment of effects that will result in new or significant effects on the historic environment as a result of the proposed extension to the timescales for completion of the development as contained within this ER.

Residual Effects

- 45.3.90 The Original ES for the DCO describes the potential for previously unrecorded heritage assets being encountered during the construction of the Compensation Site and mitigation measures to address this.
- 45.3.91 The changes proposed as part of the proposed extension of time do not result in any additional residual effects, beyond those identified in the Original ES for the DCO.
- 45.3.92 This assessment demonstrates that there are no changes to the residual effects previously identified as part of the DCO

Technical Conclusion

- 45.3.93 Chapter 40 of the Original ES for the DCO set out the requirement for mitigation to address impacts on the Historic Environment associated with construction of the Compensation Site at Cherry Cobb Sands. No other additional effects will be generated as a result of the proposed extension of time.
- 45.3.94 This review has identified that the proposed amendment, and changes in legislation, guidance and

policy, and baseline conditions that have occurred since the original DCO application, will not alter the findings presented within the original ES Chapter 40: Historic Environment. On this basis, it is not necessary to undertake further technical assessments in support of the proposed extension of time.

- 45.3.95 It is therefore concluded that Chapter 40: Historic Environment of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

Landscape and Visual

- 45.3.1 No additional construction or operational phase effects have been identified as a result of the proposed Article 7 extension of time. Furthermore, no additional landscape or visual cumulative effects have been identified.
- 45.3.2 It is considered that the changes in baseline situation and the proposed changes to the scheme will not result in any new or significant increased landscape or visual effects.

Residual Effects

- 45.3.3 Following consideration of mitigation, residual landscape and visual effects during the construction phase are identified within the original ES.
- 45.3.4 Given that the proposed extension of time will not alter the findings of the original ES, the residual landscape and visual impacts for the construction phase would remain unchanged.

Technical Conclusion

- 45.3.5 Chapter 41 of the original ES has been reviewed in the context of the proposed extension of time, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 45.3.6 Following this review, no changes have been identified that would alter the assessment of landscape and visual effects as described within the original ES.
- 45.3.7 This review has identified that the proposed amendment, and changes in policy, guidance and baseline conditions that have occurred since the original DCO application, do not alter the findings presented within the original ES. As such, it is not considered necessary to undertake further technical assessments in support of the proposed extension of time.
- 45.3.8 It is therefore concluded that Chapter 41: Landscape and Visual of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

Socio-Economic

- 45.3.9 There are no additional construction or operational phase effects beyond those considered within the original ES. Furthermore, there are no additional cumulative effects beyond those considered within the original ES.
- 45.3.10 The assessment of effects considered within the original ES is considered to be unchanged, with the implementation of a 7-year delay to the workings not considered to have additional socio-economic

effects.

Residual Effects

- 45.3.11 The residual effects outlined in the original ES for the DCO are considered to be unchanged.

Technical Conclusion

- 45.3.12 The changes to the policy, guidance and baseline are not considered to be of a scale to significantly impact the results of the original ES. There have been no changes to the workings considered at the Compensation Site since the submission of the original ES, therefore the effects identified within the original ES are unchanged.
- 45.3.13 There are no changes considered with the scope of the impacts covered by the original ES and the Study Areas outlined. The land is currently unchanged since the original submission, as it is of an agricultural nature, nor has the proposed scope of works changed.
- 45.3.14 The East Riding of Yorkshire Local Plan has been adopted in the time since the submission of the original ES, which has been outlined in the Chapter, as has IEMAs guidance on agricultural land use.
- 45.3.15 The baseline, in terms of scope and the impacts considered remains unchanged. Some updates have been provided to certain employment datasets, where more recent data is available. One of the PROWs identified in the original ES, Paull Footpath No. 6, is now planned to be part of the England Coast Path, which would make it a highly sensitive receptor, however, the mitigations in place are considered adequate enough for this to remain non-significant.
- 45.3.16 The assessment of effects in the original ES have been duly considered with regard to the proposed extension of time (7-years) to the construction of the development; and noting that there are no physical alterations to the proposed development. With this in mind, it is not considered that this delay would cause any changes to what has been considered in the original ES.
- 45.3.17 The mitigations outlined in the original ES are still considered appropriate to the scale of the development and are considered to be unchanged, however, it is noted that those 4,100 jobs created at the AMEP site is unrelated to the local authority of East Riding of Yorkshire is not considered be mitigation due to this being both a different local authority location and a different industry.
- 45.3.18 It is further noted that the statement regarding no mitigations being available for the loss agricultural land in the original ES is also unchanged.

Waste

- 45.3.19 Although no detailed analysis has been completed to validate the excavated material quantities, the original assessment appears to provide a comprehensive assessment of effects for construction. The original DCO waste chapter confirms that no waste is anticipated from the operational phase.
- 45.3.20 The proposed extension of time is not anticipated to produce any additional or alternate wastes during either the construction or operational phases of the Compensation Site. As such, no additional construction or operational phase effects have been identified as a result of the proposed extension of time.
- 45.3.21 It is considered that the proposed changes to the scheme as a result of the proposed extension of

time will not result in any new or significant increased terrestrial waste effects.

Residual Effects

- 45.3.22 Following consideration of mitigation, residual terrestrial waste effects during the construction phase are identified within the original ES.
- 45.3.23 Given that the proposed extension of time will not alter the findings of the original ES, the residual terrestrial waste impacts for the construction phase would remain unchanged.

Technical Conclusion

- 45.3.24 Chapter 43 of the original ES has been reviewed in the context of the proposed extension of time amendment, to determine whether the proposals, and subsequent changes in policy, guidance and baseline conditions have the potential to lead to changes in the findings as described within the original ES.
- 45.3.25 Following this review, no changes have been identified that would alter the assessment of terrestrial waste as described within the original ES.
- 45.3.26 The proposed extension of time will not change the nature of the works proposed or increase the duration of works, simply impact their scheduled timing. On this basis and following this review, it is concluded that waste (terrestrial) will not be adversely impacted by the proposed change.
- 45.3.27 This review has identified that the proposed amendment, and changes in Legislation, policy, guidance that have occurred since the original DCO application, do not alter the findings presented within the original ES. As such, it is not considered necessary to undertake further technical assessments in support of the proposed extension of time.
- 45.3.28 It is therefore concluded that Chapter 43: Waste of the original ES remains valid and that the proposed amendment of the extension of time is entirely appropriate in the context of the extant DCO.

45.4.0 Closure

- 45.4.1 The proposed Article 7 submission regarding a proposed extension to the time limits by which the authorised development should be completed has been assessed for additional and/or alterations to the environment effects contained within the original ES and subsequent Material Change 2 UES for the DCO. This has been undertaken through the preparation of this ER and the associated technical assessments contained or referenced herein.
- 45.4.2 In accordance with the EIA Regulations, consideration has been given to assessing additional potential effects during both the construction and operational phases of the development, whilst effects have been analysed in terms of residual and cumulative; temporary and permanent (short and long term); and beneficial, negligible and adverse.
- 45.4.3 It is acknowledged that the proposed development, as assessed within the original ES, will result in a number of adverse effects, some of which are considered 'significant' from an impact perspective. However, through the undertaking of this ER, it has been assessed that there will be no additional, or change to, the likely significant effects identified within the original ES or subsequent Material Change 2 UES.
- 45.4.4 On this basis, the conclusion is reached that the proposed extension to the time limits is appropriate in the context of the DCO and that there are adequate mitigation measures available to ensure that the proposed development could proceed, as amended, without giving rise to unacceptable environmental effects, even in combination with the other committed developments identified.
- 45.4.5 The mitigation measures identified within the original ES and DCO, along with any alternate or additional mitigation and monitoring identified within the Material Change 2 UES, would ensure to minimise any adverse residual effects on the existing environment or local amenity. No further mitigation measures are considered necessary to support the Article 7 submission.
- 45.4.6 On this basis, there should be no foreseeable reason why the proposed extension to the time limits by which the authorised development should be completed would be considered inappropriate or unacceptable from an environmental impact perspective.

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