

20.1 INTRODUCTION

20.1.1 This chapter of the ES presents the results of the assessment of landscape and visual impacts of the proposed AMEP.

20.1.2 The chapter 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 Landscape character and resources are considered to be of importance in their own right and are valued for their intrinsic qualities regardless of whether they are seen by people. Impacts on visual amenity as perceived by people, are therefore clearly distinguished from, although closely linked to, impacts on landscape character and resources. Landscape and visual assessments are therefore separate, although linked processes.

20.2 LEGISLATION, POLICY AND GUIDANCE

20.2.1 A range of national and local plan policies of relevance to landscape and visual issues are outlined in this section.

National Parks and Access to the Countryside Act 1949; Countryside and Rights of Way Act 2000

20.2.2 This Act provides for the designation of National Parks and Areas of Outstanding Natural Beauty (AONB) respectively. Statutory duties are provided for in Section 11A(2) of the National Parks and Access to the Countryside Act 1949 and Section 85 of the Countryside and Rights of Way Act 2000. Specifically, the Acts state that, '*in exercising or performing any functions in relation to, or so as to affect, land*' in these areas, relevant authorities '*shall have regard*' to their purposes.

20.2.3 National Park purposes are to conserve and enhance their natural beauty, wildlife and cultural heritage and to promote opportunities for

the understanding and enjoyment of their special qualities by the public. The statutory purpose of AONBs is to conserve and enhance the natural beauty of their area. This Act is of relevance to this proposal as the Lincolnshire Wolds AONB lies south of the site within the study area for the landscape and visual assessment.

National Policy Statements

- 20.2.4 The NPS for Ports recognises that port development can sometimes have a negative impact on the characteristics and visual amenity of an area both from its physical appearance but also from light pollution.
- 20.2.5 The NPS requires an applicant to assess the visibility and conspicuousness of a given proposal during construction and operation including potential impacts on views and visual amenity. The assessment should include any light pollution effects including on local amenity, rural tranquillity and nature conservation.

Planning Policy Guidance/Statements

Planning Policy Statement 7: Sustainable Development in Rural Areas

- 20.2.6 PPS7 acknowledges the continuing pressures faced within the countryside to accommodate new development. The document states that a greater understanding of the distinctive features found within the countryside is the basis of ensuring that any new development is sensitive to its surroundings. Paragraphs 13 and 24 identify the importance of Landscape Character Assessments as the tool for achieving this understanding ensuring that unsustainable development is prevented and unrenewable and natural resources within the countryside are protected.
- 20.2.7 Paragraph 28 of PPS7 also notes that weighting should be given to the presence of the best and most versatile agricultural land (defined as Grades 1, 2 and 3a of the Agricultural Land Classification) as a sustainability consideration in the potential effects arising from development.
- 20.2.8 The proposed AMEP lies within North Lincolnshire. Policies of relevance to landscape and visual amenity in this area are outlined below.

North Lincolnshire Core Strategy Adopted June 2011

- 20.2.9 Policy CS16 relates to North Lincolnshire's landscape, greenspace and waterscape and states the following:

‘The council will protect, enhance and support a diverse and multi-functional network of landscape, greenspace and waterscape through:

- 1. Identifying in supporting documents within or evidencing the Local Development Framework, a network of strategically and locally important landscape, greenspace and waterscape areas. Development on or adjacent to these areas will not be permitted where it would result in unacceptable conflict with the function(s) or characteristic of that area.*
- 2. Requiring development proposals to improve the quality and quantity of accessible landscape, greenspace and waterscape, where appropriate.*
- 3. Requiring development proposals to address local deficiencies in accessible landscape, waterscape and greenspace where appropriate.*
- 4. Requiring the protection of trees, hedgerows and historic landscape to be specified where appropriate.’*

The creation and maintenance of the network of landscape, green space and waterscapes will be secured by a range of measures, including protecting open space, creating new open spaces as part of new development, and by using developer contributions to create, improve and maintain green infrastructure assets where appropriate

North Lincolnshire Local Plan

20.2.10 Policy LC7 relates to landscape protection and states the following,

‘where development is permitted within rural settlements or within the open countryside, special attention will be given to the protection of the scenic quality and distinctive local character of the landscape. Development which does not respect the character of the local landscape will not be permitted.’

20.2.11 The Policy further states that wherever possible valuable existing landscape features such as,

‘hedgerows, trees, copses, ponds, watercourses, dykes, historical sites, estate features, enclosure landscapes and other built heritage features will be protected and enhanced.’

20.2.12 Policy LC8, defines Areas of High Landscape Value. This policy states that certain areas deemed as having special characteristics are classified as being of High Landscape Value and should be retained. The study area for this assessment includes the following:

- LC8-2 Lincoln Edge Woodland and Heathland areas East of Scunthorpe;
- LC8 – 3 Wold Villages Scarp Slope;

20.2.13 Policy LC10 relates to development in Areas of High Landscape Value and states the following,

‘proposals for development in Areas of High Landscape Value, existing or proposed, will be subject to special scrutiny. Development will only be permitted where it is sensitively related to the distinctive local character of the landscape.’

20.2.14 Proposed Areas of High Landscape Value are also present in the study area and these include the following:

- LC9 – 1 Deepdale;
- LC 9 - 2 Barton Claypits;

20.2.15 Policy LC11 relates to Areas of High Amenity Importance and states the following,

‘Within important amenity areas, development will only be permitted where it would not adversely affect their open character, visual amenity or wildlife value or compromise the gap between conflicting land uses. Where development is permitted, measures shall be taken to minimise their impact or, where necessary, make a positive contribution to such areas.’

20.2.16 Policy LC13 relates to Parks, Gardens and Landscapes of Special Historic Interest and states the following,

‘The character and features of parks and gardens of historic or landscape interest will be preserved and enhanced. Development within or adjacent to those listed in the Register of Parks and Gardens of Special Historic Interest, which is maintained by English Heritage, will not be permitted if this would adversely affect their special historic character and appearance or their setting. Where development is permitted the use of conditions or planning obligations to ensure the protection and enhancement of special features will be sought.’

20.2.17 Policy LC20, South Humber Bank Landscape Initiative Area, covers a large area of land within and around the application site. The policy sets out measures for landscape treatment within and around the allocated industrial area on the South Humber Bank. Measures include:

- *'Softening – provision of stepped-back security fences, fringed with shrubs and trees;*
- *Screening – establishment of mixed broad-leaf and conifer belts;*
- *Habitat conservation – maintenance of wet areas and other existing features, such as woods and hedges, to provide a good framework for future improvements;*
- *Habitat creation – introduction of lakes, ponds and marshes;*
- *Field boundary management – careful management of existing hedges to increase height;*
- *Tree and hedge planting – new planting, carefully positioned for maximum effect, with minimum impact of farm management industry's operational needs and sites of archaeological importance.'*

20.2.18 Policy relating to neighbouring local authorities is outlined below.

North East Lincolnshire Local Plan 2003

20.2.19 The proposal lies adjacent to the western boundary of this area and policies of relevance to landscape and visual amenity are set out below.

20.2.20 Policy NH 8 relates to Areas of Outstanding Natural Beauty and states the following,

'Development Proposals likely to have an unduly adverse effect either directly or indirectly upon the natural beauty of the landscape of the Lincolnshire Wolds area of outstanding natural beauty will only be permitted where it can be demonstrated that other material considerations outweigh the intrinsic value of the area and no alternative sites are available.'

20.2.21 Policy NH 9 relates to Landscape Areas of Strategic Importance and states the following,

'Development proposals requiring Planning Permission within the landscape areas of strategic importance defined as Strategic Gaps on the Proposals Map will be permitted provided:

- *that they are uses compatible with a countryside setting;*
- *that they will avoid creating ribbon development or a fragmented pattern of development resulting in a significant increase in scale of the built environment between defined development areas.'*

20.2.22 Policy NH 10 relates to the South Humber Bank Landscape Area and starts the following,

‘The Council will encourage the implementation of landscaping and woodland planting schemes and associated Management Plans within the South Humber Bank Landscape Area.’

East Riding of Yorkshire Council – Holderness District Wide Local Plan 1999

20.2.23 The proposed AMEP lies outside East Riding of Yorkshire and will therefore not directly affect the landscapes therein. As the proposal has the potential to be visible from parts of East Yorkshire, the following policies may be of relevance to the assessment.

20.2.24 Env 10 relates to Heritage Coast and states the following,

‘In the defined area of the Heritage Coast the Council will only allow tourism, recreational and educational activities which are compatible with the objective of conserving an unspoilt coastline provided that they do not adversely affect heritage features, natural coastal processes, flora and fauna, the coast or access to it by reason of scale, siting, design, noise disturbance or traffic. Proposals involving other land uses are covered by other policies in this Plan.’

20.2.25 Env 11 relates to the Humber Estuary and states the following,

‘Proposals for development in the estuarine coastal area must accord with Env5 and the other nature conservation policies of this plan. The Council will require a comprehensive scheme to accompany significant estuary related proposals, including environmental measures to safeguard environmental features of importance.’

20.3 ASSESSMENT METHODOLOGY AND CRITERIA

Overview

20.3.1 The assessment methodology will be informed by the following guidance:

- Guidelines for Landscape and Visual Impact Assessment, Landscape Institute and Institute of Environmental Management and Assessment (2002, 2nd Ed.);

- Guidelines on the Environmental Impacts of Wind Farms and Small Scale Hydro-electric Schemes, Scottish Natural Heritage, 2001;
- Visual Representation of Wind Farms, Good Practice Guidance, Scottish Natural Heritage, 2007.

20.3.2 The assessment methodology is presented below for the landscape and visual impact assessment.

20.3.3 Whilst this assessment methodology follows best practice as outlined in the above guidance, the assessment also takes account of some limited definition of the height, size and positioning of proposed buildings and structures. In this regard, the “Rochdale approach” is used, and this considers the worst or maximum case scenario in terms of the potential size and scale of the proposal subject to landscape and visual impact assessment.

Construction Phase

20.3.4 The methodology outlined for the operational phase set out below also applies to the construction phase.

Operational Phase

Study Area

20.3.5 The main elements of the project which will be the subject of the landscape and visual impact assessment include a new quayside and Core Development Areas as indicated in *Figure 4.1*. The core development comprises a heavy component manufacturing plant and a supply chain park comprising of a number of buildings, warehouses and hardstandings. An overspill storage area will be located to the north of the site. A number of wind turbines and wind turbine components all reflecting different stages of assembly will be present on the proposed quayside temporarily, before they are despatched to offshore wind farm schemes. Taking into consideration the scale of the elements proposed, the study area for the landscape and visual impact assessment of the AMEP has been defined as a 30 km radius area from the centre of the application site. On the basis of experience and professional judgement, the 30 km area will also be used for the Zone of Theoretical Visibility (ZTV) analysis, recognising the scale of the development proposals which will affect the surrounding landscape and visual amenity, albeit the wind turbines being present as temporary structures. Thus the study area and geographic scope for the ZTV of 30 km is selected to capture all significant landscape and visual impacts.

This geographic scope for the ZTV has been agreed with Natural England.

20.3.6 The key steps in the assessment methodology are outlined as follows:

- a ZTV, also known as ZVI (Zone of Visual Influence), was defined for the proposal covering the study area as specified above.
- the landscapes within this area were analysed at a local level covering a distance ranging from 0 km to 10 km from the centre of the AMEP site. National landscape character areas were analysed within a distance ranging from 10 km to 30 km of the centre of the AMEP site.
- Drawing upon existing studies on landscape character and the findings of the site visits, the sensitivity of each area to development of the type and scale proposed was determined as part of the impact assessment study;
- policy designations relevant to landscape and visual impacts were also identified;
- viewpoints across the ZTV were selected as representative of the range of views and types of viewer likely to be affected by AMEP, in consultation with statutory consultees;
- photomontage images of the development from six viewpoint locations were prepared. These images are to be read at A3 paper size at a 400 mm viewing distance, with the exception of Figure 20.3b which should be read at 300mm. This shorter viewing distance is set due to the proximity of the viewpoint to the site, which, if set at a 400 mm viewing distance would result in the photomontage being split and presented onto a series of four A3 pages rather than two A3 pages. For this close viewpoint, the 300 mm viewing distance allows more of the context (surroundings) in which the site is set to be displayed;
- the sensitivity of each landscape and visual receptor was assessed;
- the magnitude of change in the landscape of each character area and in the visual amenity of each of the viewpoints was predicted; and
- the level of significance of impact on each character area and viewpoint was evaluated.

Sensitive Receptors

- 20.3.7 The sensitive receptors considered in the assessment include a range of landscape resources and viewers. In regard to landscape, the receptors include landscape character, specifically the National and Local landscape character areas located within the study area and geographic scope for the ZTV. Other landscape resources include specific designated landscapes such as registered parks and gardens and country parks.
- 20.3.8 Visual receptors include residents of dwellings, recreational users, workers and those engaged in travel such as commuters. Impacts on viewers were assessed at viewpoint locations selected to represent a range of distances and directions from the proposal.

Significance Criteria

Sensitivity of Landscape and Visual Receptors

- 20.3.9 The sensitivity of a landscape is judged based on the extent to which it can accept change of a particular type and scale without adverse effects on its character. Sensitivity varies according to the type of development proposed and the nature of the landscape: its individual elements, key characteristics (land use, pattern and scale of landscape, enclosure/openness), inherent quality, condition, presence of detracting elements (eg pylons), value and capacity to accommodate change, and any specific values such as designations that apply.
- 20.3.10 Each viewpoint was selected to represent a typical view from the immediate area which it represents. Viewpoint sensitivity depends on a number of factors including the context of the viewpoint, the current occupation (ie residents, recreational visitors, passers by, workers) and viewing opportunity of the groups of people being considered, and the number of people affected.
- 20.3.11 In this assessment methodology, sensitivity is described as low, moderate or high as defined and illustrated in *Table 20.1* and *Table 20.2*.

Magnitude of Change

- 20.3.12 The magnitude of change affecting landscape or visual receptors depends on the nature, scale and duration of the particular change that is envisaged in the landscape and the overall effect on a particular view. In a landscape, this will require consideration of the loss of or change in any important characteristic or feature of the landscape, the proportion

of the landscape that is affected, and any change in the backdrop to, or outlook from, the landscape that affects its character.

- 20.3.13 The magnitude of change in views will depend on the scale of the development and the distance from the viewpoint, the angle of view occupied by the development, the extent of shielding by intervening features, the degree of obstruction of existing features, the degree of contrast with the existing view, and the frequency or duration of visibility.

Significance of Impacts

- 20.3.14 No established, measurable technical thresholds of significance exist for landscape and visual impacts (Landscape Institute and IEMA, 2002). Significance is therefore determined by considering the sensitivity of the landscape or visual receptor and the magnitude of change expected as a result of the development. Professional judgement and experience are applied on a case by case basis in order to identify broad levels of significance for each receptor. Each case is assessed on its own merits as factors unique to each circumstance need to be considered.
- 20.3.15 There are, however, general principles which can be used as a guide to this process and these are set out in *Table 20.1* and *Table 20.2*. Following these the level of significance of impact is described as being not significant, minor, moderate, or major. This is, however, recognised as a continuum and where impacts lie on the borderline impacts may be described as minor to moderate for example.
- 20.3.16 Impacts which are graded as being major are usually those which concern immediate landscapes around a site and close views from sensitive visual receptors. Moderate levels of impact are also considered significant in EIA terms, but they are of progressively reducing importance. Impacts graded as minor still constitute effects which warrant being brought to the attention of the decision-maker. Impacts that are less than minor are considered to be not significant.
- 20.3.17 Impacts may also be described as being positive or negative. A positive impact arises where a proposed change brings about an enhancement in landscape character or visual amenity. A negative impact arises where the proposed change brings about deterioration in landscape character and visual amenity.

Table 20.1 Levels of Significance of Landscape Impacts

			Magnitude of Change in Landscape caused by Proposed Development			
			Imperceptible	Small	Medium	Large
			An imperceptible, barely or rarely perceptible change in landscape characteristics.	A small change in landscape characteristics over a wide area or a moderate change either over a restricted area or infrequently perceived	A moderate change in landscape characteristics, frequent or continuous and over a wide area or a clearly evident change either over a restricted area or infrequently perceived.	A clearly evident and frequent/continuous change in landscape characteristics affecting an extensive area.
Sensitivity of Landscape	Low	A landscape which is not valued for its scenic quality or where its character, existing land use, pattern and scale are tolerant of the type of change envisaged, and the landscape has capacity to accommodate change.	Not significant	Not significant	Minor	Minor to Moderate
	Medium	A moderately valued landscape, perhaps a locally important landscape, or where its character, land use, pattern and scale may have the capacity to accommodate a degree of the type of change envisaged.	Not significant	Minor	Moderate	Moderate to Major
	High	A landscape protected by a regional (structure plan) or national designation and/ or widely acknowledged for its quality and value; a landscape with distinctive character and low capacity to accommodate the type of change envisaged	Not significant	Minor to Moderate	Moderate to Major	Major

This table is a guide only. The descriptions of levels of magnitude and sensitivity are illustrative only. Each case is assessed on its own merits using professional judgement and experience, and there is no defined boundary between levels of impacts.

Table 20.2 Levels Significance of Visual Impacts

			Magnitude of Change in View caused by Proposed Development			
			Imperceptible	Small	Medium	Large
			Change which is barely visible, at very long distances, or visible for a very short duration, perhaps at an oblique angle, or which blends with the existing view.	Minor changes in views, at long distances, or visible for a short duration, perhaps at an oblique angle, or which blends to an extent with the existing view.	Clearly perceptible changes in views at intermediate distances, resulting in either a distinct new element in a significant part of the view, or more wide ranging, less concentrated change across a wider area.	Major changes in view at close distances, affecting a substantial part of the view, continuously visible for a long duration, or obstructing a substantial part or important elements of view.
Sensitivity of Viewpoint	Low	Small numbers of visitors with interest in their surroundings. Viewers with a passing interest not specifically focussed on the landscape eg workers, commuters. The quality of the existing view, as likely to be perceived by the viewer, is assessed as being low	Not significant	Not significant	Minor	Minor to moderate
	Medium	Small numbers of residents and moderate numbers of visitors with an interest in their environment. Larger numbers of recreational road users. The quality of the existing view, as likely to be perceived by the viewer, is assessed as being medium	Not significant	Minor	Moderate	Moderate to major
	High	Larger numbers of viewers and/or those with proprietary interest and prolonged viewing opportunities such as residents and users of attractive and well-used recreational facilities. The quality of the existing view, as likely to be perceived by the viewer, is assessed as being high	Not significant	Minor to moderate	Moderate to major	Major

This table is a guide only. The descriptions of levels of magnitude and sensitivity are illustrative only. Each case is assessed on its own merits using professional judgement and experience, and there is no defined boundary between levels of impacts.

Cumulative Impact Assessment Methodology

- 20.3.18 The proposed development represents a large scale industrial development with structures of some considerable height and scale. The scope of the cumulative assessment will consider other industrial developments of a similar scale and type which are either present in the receiving landscape or have entered the planning process. The methodology and approach to cumulative impacts is outlined in *Section 20.9*.

20.4 *CONSULTATION*

- 20.4.1 The Scoping Report prepared for the Project outlined in broad terms, the approach for the landscape and visual assessment. Following an initial site visit, a more detailed scope of work for the landscape and visual impact assessment was prepared and issued in a letter for comment to all of the local authorities within the defined study area on 27 October 2010. In addition, Natural England was consulted on the scope of the assessment.
- 20.4.2 A preliminary landscape and visual impact assessment was prepared as part of the PEIR.
- 20.4.3 *Annex 2.2* details all consultation responses received directly from consultees in response to the consultation letter together with responses made to the IPC.

20.5 *BASELINE*

Study Area

- 20.5.1 The assessment of landscape and visual impacts of the AMEP addresses landscape and visual amenity within a 30 km radius area from the centre of the application site as follows. This approach and area of search was agreed with Natural England in November 2010. The study area will be broken down and impacts addressed as follows:
- 0 to 10 km radius study area selected for assessment of impacts on landscape character at local or county level together with impacts on visual amenity, designated landscape areas, and landscape features. The features in this study area will be subject to a more detailed level of study.

- A study area located between 10 and 30 km radius study area is selected for broader assessment of impacts on landscape character with reference to the National Landscape Character Areas. Impacts on designated landscapes, landscape features and visual amenity will also be addressed.

Existing Landscape Character

20.5.2 The baseline landscape character is outlined with reference to landscape character assessment data available at County and National Level. The landscape character data used is summarised below.

- National Landscape Character Areas - Joint Character Areas held by the Countryside Agency;
- North Lincolnshire Landscape Character Assessment and Guidelines, September 1999;
- North East Lincolnshire Landscape Character Assessment, February 2010;
- West Lindsey Landscape Character Assessment, 1999;
- East Riding of Yorkshire Landscape Character Assessment, November 2005;

20.5.3 The Local Landscape Character Areas considered in the assessment are listed below. An outline of the key characteristics as cited in the original landscape character data documents are presented in *Annex 20.1*.

North Lincolnshire Landscape Character Assessment, 1999:

- Humber Estuary
- Lincolnshire Drift
- Lincolnshire Wolds

North East Lincolnshire Landscape Character Assessment, 2010:

- Landscape Character Area A – Humber Estuary
- Landscape Character Area B – Lincolnshire Coast and Marshes

West Lindsey Landscape Character Assessment, 1999:

- Wolds Estates

East Riding of Yorkshire Landscape Character Assessment, 2005:

- Low Lying Drained Farmland of the Humber Estuary

- 21B – Sunk Island
- 21C – South Patrington, Ottringham and Keyingham Farmland
- 21D – Paull Farmland
- Open Farmland of Holderness
 - 19E Burstwick to Withernsea Farmland
- Farmed Urban Fringe of Holderness
 - 17A Hedon, Preston and Bilton Farmland

20.5.4 The Local Landscape Character Areas are illustrated in *Figure 20.2: Local Landscape Character Areas* and an evaluation of each in terms of sensitivity to the proposed change is presented in *Tables 20.3 – 20.6* below. The evaluation of sensitivity is based on a part of each local landscape character area that lies within 10 km of the centre of the site as outlined in the methodology above.

Table 20.3 *Local Landscape Character – North Lincolnshire*

Local Landscape Character Area and Sensitivity to the proposed change.
Humber Estuary - Medium <p>This flat low lying expansive estuarine landscape is visually very open. Long ranging views over the estuary and farmed landscape north of the river are available from many locations on the river edge which also features a public footpath. This visual openness renders this landscape particularly sensitive to change. This landscape also directly overlooks the waterway associated with the Humber Estuary.</p> <p>The south east part of this landscape, which includes the site for the proposal, features a concentration of industrial developments including an oil refinery, power stations at North Killingholme, the Humber sea terminal and Immingham Docks. The docks feature an extensive area in use as the Immingham bulk coal import facility. The conveyor structures and associated spoil heaps associated with this facility are visually prominent in the surrounding local landscape. A series of jetties on the existing quayside are also present.</p> <p>The north western part of this landscape contrasts strongly with that located further south east. It comprises flat open marshes and wet farmland and has rural and tranquil qualities in its own right albeit the visibility of the industrial elements further south east as distant elements is regularly experienced by the viewer travelling within and around this area. These are detracting elements in this landscape.</p> <p>A <i>medium</i> sensitivity to the proposed change will arise in this landscape and this takes account of the visual openness of the estuarine farmland and the degrading influences of the industrial elements present therein.</p>
Lincolnshire Drift - Medium <p>This is generally a visually open landscape. The openness results from gradual field amalgamation and hedgerow loss which has occurred over time. The implications of this is that the proposal will potentially be more visible over this landscape than a more densely vegetated landscape with a smaller scale field pattern thereby making it</p>

Local Landscape Character Area and Sensitivity to the proposed change.
<p>sensitive to the proposed change.</p> <p>This landscape is located inland from the Humber Estuary and consequently the waterway is not visible from this area and is less influential in influencing the scenic quality of this area.</p> <p>The tranquil farmed landscapes around South End, Wootton and Thornton Abbey are relatively flat and have sparse vegetation cover apart from isolated small patches of woodland. As a consequence, these areas afford views towards the east including the site for the proposal together with the tall structures associated with the Lindsey Oil Refinery. This industrial facility has an adverse influence on the quality of this landscape.</p> <p>The scenic and rural quality of this agricultural landscape is also undermined by the presence of powerlines in the vicinity of Wootton and Thornton Curtis, a disused airfield at Goxhill and a concentration of major roads in the vicinity of Ulceby and South Killingholme. This is especially true of the southern part of this area. In addition, the southern part of this landscape commands views of the oil refinery and industrial structures in the adjacent Humber Estuary landscape character area. The site for the proposal is located nearest to the southern part of this landscape character area where the visual amenity of settlements such as Immingham and North and South Killingholme is already adversely affected in part by industries present in the landscape, in particular the Lindsey Oil Refinery.</p> <p>A <i>medium</i> sensitivity to the proposed change is predicted to arise and this takes account of both the visual openness (scarcity of vegetation screens) and the degraded character of the landscape caused by the presence of transmission lines and industry.</p>
Lincolnshire Wolds
<p>A very tiny part of this local landscape character area is located within the 10 km radius study area. As most of this landscape is located over 10 km away from the proposal, the baseline evaluation of sensitivity and assessment of impacts is addressed with reference to National Character Area no. 43 Lincolnshire Wolds.</p>

Table 20.4 *Local Landscape Character – North East Lincolnshire*

Local Landscape Character Area and Sensitivity to the proposed change.
Landscape Character Area A – Humber Estuary - Low
<p>The part of this local landscape character area that lies within the 10 km radius study area has been identified in the County Landscape Character Assessment as <i>Industrial Landscape</i>. It features level low lying farmland with small settlements. Immingham Port occupies a large area in the north western part of this landscape. This area features the large settlement of Immingham. A number of roads and railways criss cross this area.</p> <p>The northern part of this landscape directly overlooks the Humber Estuary and commands views out over this waterway. Industrial development features on the water's edge including the South Humber Bank powerstation and other industrial facilities. Overall, the south bank is densely developed. Further inland, an industrial estate is located east of the large settlement of Immingham.</p>

Local Landscape Character Area and Sensitivity to the proposed change.
<p>The quality of this landscape is adversely affected by the presence of the docks which are visually prominent in the area together with other industrial facilities and the power station on the south bank. The site for the proposal lies further north west and hence much of this landscape is physically and visually separated in part from the proposal by Immingham Port and adjacent industry and transport infrastructure. A <i>low</i> sensitivity to the proposed change is predicted to arise.</p>
Landscape Character Area B - Lincolnshire Coast and Marshes - Low.
<p>Compared with the estuary landscape referenced above, this area features undulating farmland. Field sizes are large and vegetation is scarce apart from a small number of woodland clumps east of Habrough. This area is generally visually open. It is located some distance inland from the Humber Estuary waterway and this waterway has therefore less influence in determining landscape character.</p> <p>The A180 road route runs along the northern boundary of this area.</p> <p>This landscape is a rural visually open landscape. The County landscape assessment describes this area as 'unexceptional with views across to the urban / industrialised coast'.</p> <p>It will command views in a northwesterly direction towards the site for the proposal albeit with other large development in the foreground such as the settlement of Immingham and the docks together with the A180 road. Given these intervening elements which influence the character of this landscape, a <i>low</i> sensitivity to the proposed change is predicted to arise.</p>

Table 20.5 *Local Landscape Character - West Lindsey*

Local Landscape Character Area and Sensitivity to the proposed change.
Wolds Estates - Low
<p>This is a gently undulating farmed landscape which features extensive areas of woodland. Examples of these include Roxton Wood and a large extent of woodland which encloses the Brocklesby Registered Park.</p> <p>Many large clumps of deciduous woodland are located in the landscape between Habrough and Riby.</p> <p>The area is of some considerable scenic quality and this is derived from the settlements and their wooded settings and the expansive parkland landscape near Brocklesby.</p> <p>The powerline that crosses Landscape Character Area B - Lincolnshire Coast and Marshes is visible from the edge of this landscape and lies between this landscape and the site for the proposed AMEP.</p> <p>The undulating and wooded characteristics of this landscape are such that it is mostly visually screened from the site for the proposal. This landscape is located some distance inland from the Humber Estuary and the waterway itself is not visible from this area. A <i>low</i> sensitivity to the proposed change is predicted to arise.</p>

Table 20.6 Local Landscape Character – East Riding of Yorkshire

Local Landscape Character Area and Sensitivity to the proposed change.
<p>Low Lying Drained Farmland of the Humber Estuary – Sunk Island - Medium</p> <p>This landscape overlooks the Humber Estuary at Foulholme Sands. The estuary margin features a coastal footpath which is an important recreational asset in the locality. This commands expansive yet distant views out onto the estuary in the direction of the site for the proposal and the landscape of the south Humber Bank. A range of industrial developments and the urban area of Grimsby can be seen from this landscape character area. These include Immingham Port, Killingholme Power Station and the tall structures associated with the Lindsey Oil Refinery. The South Humber Bank, being distant and separated from this area by the expansive Humber Estuary could be perceived as a separate and distant landscape by viewers in this tranquil area.</p> <p>Sunk Island is a remote relatively flat farmed landscape with few dwellings and occasional small settlements. This remote quality and the panoramic viewing opportunities of this coastal aspect confer a high scenic quality to the area albeit with existing industrial elements visible on the skyline.</p> <p>The waterway associated with the Humber Estuary separates this landscape from that on the south bank. Nonetheless, the scarcity of vegetation cover means that the landscape on the south bank is visible from many locations. The outlook to the south bank is somewhat adversely affected by the visible presence of industrial elements. Taking all of the above into account and the conservation area status of this landscape, a <i>medium</i> sensitivity to the proposed change is predicted to arise.</p>
<p>Low Lying Drained Farmland of the Humber Estuary – South Patrington, Ottringham and Keyingham Farmland - Medium</p> <p>This farmed landscape is located on higher ground than Sunk Island. Field sizes are smaller and more hedgerow vegetation is present in this landscape compared with Sunk Island. Small areas of woodland are present throughout. It is a rural tranquil landscape of some scenic quality influenced by the expansive sky views. It is visually open in many places and features few if any detracting elements. A very small part of this landscape east of Paull directly overlooks the Humber Estuary. As with Sunk Island, this landscape is visually and physical separated from the landscape of the site by the Humber Estuary waterway. Intervening vegetation cover in this landscape and the landscape of Sunk Island will offer some limited visual screening from the proposal thereby rendering it less sensitive to change. Overall this landscape is considered to be of <i>medium</i> sensitivity to the proposed change.</p>
<p>Low Lying Drained Farmland of the Humber Estuary – Paull Farmland - Medium</p> <p>The settlement of Paull, dating back to Viking times lies on the shoreline of the Humber Estuary. It is a designated Scheduled Monument and commands expansive panoramic views out onto the estuary.</p> <p>The farmland further within is visually open and features little woodland vegetation apart from that located in the vicinity of Paull Holme. The industrialised landscape of Saltend occupies the western part of this landscape and is visually dominant from the flat farmland further east. This industrial area is visually associated with the large urban area of Kingston Upon Hull. Taking into account the rural, tranquil and scenic qualities of this landscape and the conservation status of Paull, it would be considered to be highly sensitive to change in the form of the introduction of tall structures. The</p>

<p>Local Landscape Character Area and Sensitivity to the proposed change.</p> <p>proposed change, however, will be located on the South Humber bank in another industrialised landscape separated from this one by an expansive waterway. A <i>medium</i> sensitivity to the proposed change is therefore predicted to arise.</p>
<p>Open Farmland of Holderness – Burstwick to Withernsea Farmland. - Medium</p> <p>As the title suggests, this area is visually open in part because there is very little mature wooded vegetation in particular in the vicinity of Hedon. Field amalgamation over time has also resulted in hedgerow loss. Hedgerows, where present, are usually fragmented affording views through successive large arable farmed fields. The visual openness is apparent from many locations where panoramic expanses of farmland can be seen together with distant church spires which are notable landmarks, seen as small distant vertical elements on the skyline. This landscape is located inland from the Humber Estuary and this waterway is not visible from within this landscape. It is a scenic and relatively unspoiled landscape with attractive small settlements built of red brick. Some detracting elements include the visually prominent industrial elements at Saltend which influence the landscape around Hedon and also extensive glasshouse crops near Camerton. Its scenic quality and visual exposure means that this landscape is highly sensitive to any proposed changes that would result in the introduction of tall structures to the area. Given that the proposed change occurs in another industrialised landscape which is visually and physically distanced from this one by an expansive waterway, an overall <i>medium</i> sensitivity to the proposed change is predicted to arise.</p>
<p>Farmed Urban Fringe of Holderness – Hedon, Preston and Bilton Farmland</p> <p>A very tiny part of this local landscape character area is located within the 10 km radius study area. As most of this landscape is located over 10 km away from the proposal, the baseline evaluation of sensitivity and assessment of impacts is addressed with reference to National Character Area no. 40 Holderness under national landscape character.</p>
<p>Kingston Upon Hull - Low</p> <p>The settlement of Kingston Upon Hull, being a built up area, is generally not visually exposed to the wider landscape of the Humber Estuary. A small part of the city, namely the docklands area, is visually open and commands views out over the Humber Estuary in part albeit with some visual screening provided by docklands infrastructure and vessels. Given the relatively low quality of the dockland landscape a <i>low</i> sensitivity to the proposed change is predicted to arise.</p>

National Landscape Character

20.5.5

The National Landscape Character Areas are listed below and illustrated in *Figure 20.1* National Landscape Character Areas and Landscape Features. An evaluation of each in terms of their sensitivity to the proposed change is presented in *Table 20.7* below. This assessment of sensitivity covers the parts of these landscapes that lie within the 10 – 30 km radius study area in line with the methodology outlined previously.

20.5.6 An outline of the key characteristics as cited in the original landscape character data documents are presented in *Annex 20.1*.

- Humber Estuary (No. 41);
- Lincolnshire Coast and Marshes (No. 42);
- Holderness (No. 40);
- Lincolnshire Wolds (No. 43);
- Yorkshire Wolds (No. 27);
- Central Lincolnshire Vale (No. 44);
- Northern Lincolnshire Edge with Coversands (No. 45); and
- Humberhead Levels (No 39).

Table 20.7 *National Landscape Character*

National Landscape Character Area and Sensitivity to the proposed change.
<p>Humber Estuary (No. 41) - Medium</p> <p>The geographic areas within this national character area that are located within the study area (between 10 to 30 km from site) and are therefore of relevance to this assessment include the following:</p> <ul style="list-style-type: none"> • Eastern part of Sunk Island extending out to Spurn Point; • Urban area of Kingston Upon Hull; • River edge landscape in the vicinity of North Ferriby and Welton; • Eastern edge of Grimsby; and • River edge landscape extending from Barrow upon Humber west to Whitton Sands (near the confluence of the Humber and Trent Rivers). <p>The landscape of Sunk Island and in the vicinity of Spurn Point is scenic and visually exposed. This is the main part of the National character Area No. 41 within the study area that will potentially be affected. Part of the special quality of this landscape is attributed to the aspect out over the Humber Estuary. Although this confers a scenic quality to this area, the panoramic views to be gained of the landscapes further south are somewhat adversely affected by the presence of visible built and industrial development including the high rise tower blocks at Grimsby, Immingham Port, Lindsey Oil Refinery and the stacks associated with Killingholme Power Station. Given the conservation status applicable to Sunk Island and the Heritage Coast designation applicable to Spurn Point, this part of the landscape is considered to be more sensitive to change than other parts of this national character area within the study area.</p> <p>Both Grimsby and Kingston Upon Hull will be of low sensitivity to the proposed change as these areas are not visually exposed owing to their built up nature. The river edge landscapes around North Ferriby and Welton, are visually open and command views out onto the Humber Estuary albeit with the Humber Bridge in the foreground.</p> <p>On the south bank of the river, the river edge landscape west of Barrow upon Humber is associated with the valley of the Ancholme River and owing to its low lying</p>

<p>National Landscape Character Area and Sensitivity to the proposed change.</p> <p>topography; this does not command long ranging views in an easterly direction out over the Humber Estuary. Built up areas such as the large settlement of Barton Upon Humber currently visually separate this area from the eastern part of the estuary including the site for the proposal. These areas are not considered to be sensitive to the proposed change.</p> <p>Some of the smaller parts of this National Character Area (within the 10 – 30 km distance range from the site) are not so sensitive to the proposed change because of characteristics which visually screen these areas from the site for the proposal as described above. However a large area in the vicinity of Sunk Island and Spurn Point will be sensitive to change as already outlined. Taking all of this into account, the Humber Estuary National Character Area is considered to be of <i>medium</i> sensitivity to the proposed change.</p>
<p>Lincolnshire Coast and Marshes (No. 42) - Low</p> <p>The specific areas within this National Character Area which are of relevance to this assessment include the following:</p> <ul style="list-style-type: none"> • Farmed settled landscape east of Grimsby; • Landscape in the vicinity of Barrow Upon Humber <p>The landscape east of Grimsby is relatively flat and visually open at the edge of the Humber Estuary. Further inland, the topography changes to become more undulating where this meets the Lincolnshire Wolds. Many of the areas east of Grimsby and Cleethorpes have limited views out over the estuary. These are often visually screened from the site for the proposal by the built up areas of Grimsby and Cleethorpes. Further east and inland, the undulating topography limits long range views from this landscape. In addition, there are no areas of high ground from which long range views out over the estuary, including the site, will be available. The landscape immediately south of Barrow Upon Humber is in a low lying area and as a result, does not command views out over the estuary and the site for the proposals. Overall, this National Character Area is considered to be of <i>low</i> sensitivity to the proposed change.</p>
<p>Lincolnshire Wolds (No. 43) - Medium</p> <p>The specific landscapes within this National Character Area that is of relevance to this assessment are listed below as follows:</p> <ul style="list-style-type: none"> • The landscape extending from Barton Upon Humber southwards towards the A46 road route linking Caistor and Laceby; and • A part of the Lincolnshire Wolds AONB extending southward from the A46 road route to Market Rasen in the west and North Elkington in the east. <p>The visual openness of the relatively flat farmed landscape between Barton Upon Humber and Barnetby le Wold is such that it commands long range views from many locations toward the Humber Estuary and the site for the proposal, albeit sometimes with the Lindsey Oil refinery in the foreground. The landscapes further south have a more undulating topography owing to the influence of the Lincolnshire wolds. Large tracts of woodland in the vicinity of Brocklesby act as visual screens from many areas within this landscape. These tracts of vegetation visually separate this landscape from the landscapes located further north including the site for the proposal.</p>

National Landscape Character Area and Sensitivity to the proposed change.
<p>Further south the part of the AONB that is of relevance to this assessment comprises a strikingly undulating farmed landscape. Views from within this landscape are often of a short range quality, limited by the topography and consequently these are visually separated from the landscape of the Humber River including the site for the proposed change. Occasional high points are located within this area from which long range views to the north are available.</p> <p>Taking into account the scenic quality of the Lincolnshire Wolds which lies within this national Character Area, an overall <i>medium</i> sensitivity to the proposed change will arise.</p>
Central Lincolnshire Vale (No. 44) - Low
<p>A relatively narrow tract of land extending from South Ferriby, on the River Humber, southwards to Market Rasen is of particular relevance to this assessment. Much of this landscape is almost flat. It is lower lying than the landscapes located further east as it is associated with the broad valley of the River Ancholme. A prominent escarpment marks the eastern boundary of this landscape and this extends from South Ferriby in a south easterly direction and this visually separates this landscape from the landscapes further east. For this reason, a <i>low</i> sensitivity to the proposed change will arise in this landscape.</p>
Northern Lincolnshire Edge with Coversands (No. 45) - Low
<p>The part of this National Character Area located nearest to the Humber Estuary is a low lying landscape with elevation usually not exceeding 70 m AOD and with isolated and scarce patches of woodland. This means that this landscape offers limited long range views in an easterly direction, these being limited by the escarpment in the Central Lincolnshire Vale which reaches a maximum of 100m AOD. Within this landscape, the double escarpments which run southwards serve to further limit views in an easterly direction from local areas within this landscape.</p> <p>Extensive areas of woodland occupy the landscapes located between Scunthorpe and Broughton. Views from these landscapes will be limited to the shorter range owing to the screening provided by the woodland and indeed the large built up area of Scunthorpe.</p> <p>Taking all of the above into account, a <i>low</i> sensitivity to the proposed change will arise.</p>
Holderness (No. 40) - Low
<p>The part of the Holderness landscape which is of relevance to this assessment extends from Easington in the south east, as far as Hornsea and further west as far as the settlement of Beverley.</p> <p>The landscapes in the vicinity of Patrington, Burstwick and Hedon are relatively flat and have sparse vegetation cover apart from some small pockets of woodland and hedgerows. These overlook the even flatter landscape of Sunk Island and the Humber Estuary. Although this waterway is not visible from this area, the larger scale developments on the south bank are visible in part as small elements on the horizon. These include high rise residential tower blocks in Grimsby and tall structures associated with the Lyndsey Oil Refinery.</p>

National Landscape Character Area and Sensitivity to the proposed change.
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Views to the east of the industrial edge of Kingston On Hull are available from many locations within this landscape. Electricity Pylons and large cooling towers at Saltend are visually prominent landmarks which undermine the rural quality of this landscape.

Further east, the relatively flat farmed landscapes around the settlements of Skeffling and Easington overlook the mouth of the Humber and beyond, towards the site for the proposal. The existing Out Newton Wind Farm and the tall structures associated with the Easington and Dimlington Gas Terminals are visually prominent detracting elements in this landscape which draw the viewer's attention away from the Humber Estuary landscape.

Further north between Withernsea and Hornsea, the landscapes will offer limited long range views towards the Humber Estuary and the site for the proposal. This is due to the relatively flat topography which, combined with tree and hedgerow cover, will screendistant views. In addition, there will be many locations where the viewer's attention and focus will be drawn towards the North Sea, away from the site for the proposal.

Further west, in the vicinity of Lelley, Burton Pidsea and Sproatley, there are only a few opportunities to gain long range views of landscapes further south owing to the relatively flat topography and intervening vegetation cover.

The landscapes north west of Sproatley offer almost no long range views in a southerly direction owing to tree cover and intervening built up areas such as Kingston Upon Hull.

Taking all of the above into account, a *low* sensitivity to the proposed change will arise.

Yorkshire Wolds (No. 27) - Low

The part of this landscape that overlooks the Humber Estuary is a built up area featuring the suburbs of Kingston Upon Hull. Apart from the immediate shoreline featuring the Yorkshire Wolds Way, this area will be visually separated from the site for the proposals by the built up areas within.

Further north, the undulating topography and wooded vegetation cover associated with the Yorkshire Wolds is such that there will be limited long range views from this landscape. In the most elevated parts, long range views out over the Humber Estuary are available albeit with the large urban area of Kingston Upon Hull in the foreground. This urban area currently affects the setting of the Yorkshire Wolds landscape.

Taking all of the above into account, a *low* sensitivity to the proposed change will arise.

Humberhead Levels (No. 39) - Low

A very small part of the Humberhead Levels is of relevance to this assessment. This landscape directly overlooks the Humber Estuary. However, to the east the profile of the River and the presence of built up areas such as Welton and Brough will limit long

National Landscape Character Area and Sensitivity to the proposed change.
range views in an easterly direction towards the site for the proposed change.
Taking all of the above into account, a <i>low</i> sensitivity to the proposed change will arise.

Baseline Landscape Features

- 20.5.7 Landscape features and specially designated landscapes located within the 30 km study area are listed in *Table 20.8* below together with an evaluation of their sensitivity to the proposed change. The locations of these features are presented in *Figure 20.1: National Landscape Character Areas and Landscape Features*.

Table 20.8 Landscape Features

Local Landscape Character Area	Sensitivity to the proposed change
Lincolnshire Wolds Area Of Outstanding Natural beauty (AONB) located 12.5 km to the south of the proposal	
<p>Conservation and enhancement of this landscape is the main objective of the AONB policy designation. The landscape of the AONB has been characterised and the area is subdivided into four landscape types. The northern part of this AONB lies within the 30 km radius study area and this northern section features primarily the <i>chalk wolds</i> landscape type. The scenic quality is derived from the variable topography shaped by the last glaciation. This landscape comprises a plateau of rolling hills and secluded valleys with lush pastures and wooded slopes.</p> <p>The <i>north west scarp</i> landscape type comprises a dramatic escarpment overlooking the Lincolnshire Clay Vales (view direction is located away from the AMEP site to the west). The striking steep sided hill entitled Nettleton Top overlooks the settlement of Caistor. The higher points in this landscape are visually open in places, commanding long range views to the wider landscape and the valley landscape to the west. Views to the north and east are short range as a result of intervening topography.</p> <p>Many of the wooded valleys and hollows between hills are visually secluded landscapes in their own right which will not be affected by the proposal owing to visual screening provided by intervening topography. However the appreciation of the Wolds landscape will often be gained from the high points throughout the area although in the case of Nettleton Top, the view direction of interest overlooks the Ancholme Valley to the west, away from the site for the proposal. Taking account of the AONB designation, a <i>high</i> sensitivity to the</p>	High

Local Landscape Character Area	Sensitivity to the proposed change
proposed change is predicted to arise.	
Sunk Island Landscape Conservation Area located 2.5 km to the north of the proposal	
This is a visually open landscape which overlooks the waterway associated with the Humber Estuary. The assessment of impacts on the Sunk Island conservation landscape is outlined under impacts on local landscapes in <i>Table 20.6</i> above.	Medium
Spurn Heritage Coast located 20 km to the north east of the proposal	
Apart from the settlement of Kilnsea, the Spurn Peninsula is a narrow spit made up of sand and shingle with rough maritime grasslands. The spit is very narrow and measures approximately 5-km long. It extends southwards forming an arc shape which separates the Humber and the North Sea at the end of the Holderness Plain. The Heritage Coast designation is attributed to the special and scenic quality of this fragile and mobile landscape. It is visually dominated by the sea and being visually open, long range views to the South Humber bank are available throughout. This landscape is currently affected by the visibility of the industrialised shoreline of the south bank, namely Grimsby and the Out Newton Wind Farm and infrastructure associated with the Easington and Dimlington gas terminals. Taking into account the unique and scenic qualities of this landscape and the visibility of some detracting elements a <i>medium</i> sensitivity to the proposed change is predicted to arise.	Medium
Thwaite Hall - Registered Park (16.5 km north west of the site).	
This park is located within a built up area and is therefore visually separated from the AMEP site. A <i>low</i> sensitivity to the proposed change is predicted.	Low
Burton Constable - Registered Park (16 km north of the site)	
Burton Constable is a designed landscape dating back to 18 th century. The formal treelined avenues are arranged to focus and frame views in a westerly direction (away from the AMEP site). The park itself features much mature woodland and the surrounding area also features mature hedgerows and many smaller clumps of mature woodland. This vegetation cover will visually separate the park from the proposal. A <i>low</i> sensitivity to the proposed change will arise.	Low
People's Park Grimsby - Registered Park (12.5 km south east of the site)	
This park is located within a built up area and is therefore visually separated from the AMEP site. A <i>low</i> sensitivity to the proposed change is predicted.	Low
East Park, Hull - Registered Park (12 km north west of the site)	

Local Landscape Character Area	Sensitivity to the proposed change
This park is located within a built up area and is therefore visually separated from the AMEP site. A <i>low</i> sensitivity to the proposed change is predicted.	Low
Pearson Park - Registered Park (12.5 km north west of the site)	
This park is located within a built up area and is therefore visually separated from the AMEP site. A <i>low</i> sensitivity to the proposed change is predicted.	Low
Brocklesby Park - Registered Park (5 km south of the site)	
Large tracts of mature woodland are present in this park. These form a thick vegetation boundary to the northern part of this park. Further south, Cabourne High Woods and New Close Wood coincide exactly with the mapped boundary of this registered park. Thus, much of the southern part of this park comprises mature woodland. The open areas of farmland within the northern part of the park are visually separated from the site for the proposal. Overall, the woodland associated with this park is a notable visible feature from the surrounding farmed landscape in the vicinity of Brocklesby and Keelby. The setting of the park woodland could potentially be affected by the proposal. Given that its setting is already affected by the visibility of the existing Lindsey Oil Refinery, a <i>low</i> sensitivity to the proposed change is predicted.	Low
Risby Hall - Registered Park (22 km north west of the site)	
This park attracts recreational users with an interest in fishing. Located between Beverley and Little Weighton, the parkland is mostly wooded. It is visually separated from the site for the proposal by this woodland and vegetation cover in the wider landscape located between this park and the site for the proposal. A <i>low</i> sensitivity to the proposed change is predicted.	Low
Water's Edge - Country Park (13 km north west of the site)	
The park is visually separated from the site for the proposal. This visual screening is provided by parkland vegetation together with the changing course of the River Humber. A <i>low</i> sensitivity to the proposed change is predicted.	Low
Cleethorpes - Country Park (16 km south east of the site)	
The built up areas of Grimsby and Cleethorpes are located between this park and the site for the AMEP. The park is visually separated from the AMEP site and a <i>low</i> sensitivity to the proposed change is predicted.	Low
Humber Bridge - Country Park (15 km north west of the site)	

Local Landscape Character Area	Sensitivity to the proposed change
Expansive views out over the Humber Estuary and the site for the proposal will be gained by users of this park. The estuarine panoramic view is a particular feature associated with this park which draws visitors and recreational viewers. A <i>medium</i> sensitivity to the proposed change is predicted.	Medium
Burton Constable - Country Park (16 km north of the site)	
Baseline evaluation covered under Registered Park designation above.	
Normanby Hall - Country Park (26 km west of the site)	
This park is visually screened from the site for the proposal by intervening topography. A <i>low</i> sensitivity to the proposed change is predicted.	Low

Existing Visual Amenity

AMEP Zone of Theoretical Visibility

20.5.8 A ZTV was prepared for the AMEP. This shows the extent of theoretical visibility of the main elements of the proposal within the previously described 30 km radius study area from the centre of the site and is illustrated in *Figures 20.3 a and 20.3b: Zone of Theoretical Visibility and Viewpoint Locations*. The ZTV *Figure 20.3b* illustrates the visibility of the proposed buildings. The ZTV *Figure 20.3a* illustrates the visibility of the fully constructed wind turbines that will stand upright on the quayside for a temporary period until they are despatched. The ZTV figures illustrate theoretical visibility of the proposals and this is indicated by the orange coloured shading.

20.5.9 The ZTV presents a worst case scenario as it is based on bare ground and does not take into account visual screening by existing buildings and vegetation. In practice, many views towards the site will be filtered or screened by existing vegetation and by intervening structure and settlements. From an analysis of the ZTV and taking into account settlements, main routes through the area, locations of known tourist/visitor importance, and hills and hill ranges from which elevated views may be possible, 18 viewpoints were selected to represent the main areas from which the development may be seen and the different types of viewing opportunity these offer (residents, passers by, walkers, etc). Details of the nature of the viewpoints in

terms of the types and numbers of viewers they represent are provided in *Table 20.19*.

20.5.10 Six viewpoint locations have been selected for illustration in photomontages and these are listed below:

- *Figure 20.4a Photomontage – Viewpoint 1 - Public Footpath, South Humber Bank;*
- *Figure 20.4b Photomontage – Viewpoint 2 - North Killingholme Haven Pits;*
- *Figure 20.4c Photomontage – Viewpoint 3 – Coastal Footpath North Humber Bank;*
- *Figure 20.4d Photomontage – Viewpoint 13 - Residents of East Halton;*
- *Figure 20.4e Photomontage – Viewpoint 17 – Lincolnshire Wolds AONB; and*
- *Figure 20.4f Photomontage – Viewpoint 18 – Spurn Head, Car Park and Viewing Area.*

20.6 **IMPACTS**

Construction Phase

20.6.1 During construction, there will be short term landscape and visual impacts from plant and activities on the site including:

- clearance of vegetation and topsoil stripping to accommodate the Core Development Areas;
- construction of the buildings and warehouses associated with the Core Development Areas;
- construction of internal roads for access to the buildings and storage areas;
- a temporary construction compound including offices and canteen facilities for construction workers;
- temporary fencing;

- machinery and material storage;
- plant and vehicle movements and tall cranes;
- in-situ concrete works including falsework, shuttering and reinforcement;
- construction site lighting, in particular during the winter months; and
- construction works associated with the proposed new quayside storage area and the new quay, including dredging of the approach channel, piling works and concrete works associated with this proposed area of reclaimed land. This will involve large scale heavy machinery which will be visible from the Humber Estuary and the landscape further north east.

Operational Phase

20.6.2 The following long term actions will contribute to the landscape and visual impact from the AMEP.

- The introduction of the proposed AMEP on the site of the Killingholme Marshes. Permanent structures include warehouses, offices, and hardstandings associated with the proposed Supply Chain Park and a number of larger warehouses and hardstandings are associated with the heavy component manufacturing site. The final layout proposal will incorporate a degree of flexibility with respect to the actual sizing and siting of buildings however for the purpose of this assessment, the maximum size or scale of the likely development is being considered. This includes the following permanent structures which will be added to the receiving industrial landscape and will be the source of visual impact in the surrounding area:
- Heavy Component Manufacturing Site;
 - 3 no. nacelle factories (150m x 50m x 24m height to eaves);
 - 2 no. tower factories (200m x 100m x 24m height to eaves);
 - 2 no blade factories (each comprising 1 building measuring 300 x 40 x 24m height to eaves and 2 buildings measuring 100m x 50m x 24m height to eaves);

- 1 no. foundation factory (300m x 65m x 45m height to eaves) and a foundation factory paint shop (50m x 50m x 45m height to eaves).
- Supply Chain Park comprising a range of smaller scale buildings ranging in height from 6-15 m height to eaves for the purpose of manufacturing other smaller components;
- Overspill storage area located to the north of the site;
- The introduction of a new quay measuring 1 279 m in length. This is proposed to be a solid berth structure with a front wall made of steel piles (the level of the front wall of the quay is 6.1m AOD.) The existing intertidal area between the existing flood defence and the new quay will be filled with marine dredged material to form an area of reclaimed land. This will result in the alteration of the plan profile of the riverbank at South Killingholme, with the reclaimed area encroaching out into the estuary for a distance of approximately 400m ;
- Presence and movement of vessels and crawler cranes at the proposed quayside associated with the transport of wind turbines to offshore locations will contribute to the landscape and visual impact of the proposal. The land based crawler cranes will be on a wheel base in order to facilitate movement around the site and the height to the tip of the jib will measure approximately 150m. Existing installation vessels have an overall length of up to 180 m and a beam of up to 50 m with an air draught of around 50 m. These elements are of some considerable scale and will be sources of landscape and visual impact because of their visibility which could extend some kilometres.
- Presence of up to a maximum of 14 wind turbines arranged on the quayside as 2 groups of six wind turbines and a group of 2 wind turbines aligned alongside upright towers. These will be present on the quayside edge overlooking the Humber Estuary. A range of wind turbine components including sections of towers, blades and jacket foundations will be present in the storage area at any one time. The fully completed wind turbines will not exceed 165 m to tip height and as such are the tallest structures associated with the proposal. Consequently these will be sources of landscape and visual impact from nearby locations and locations further away up to 30 km distance;

20.7 MITIGATION MEASURES

Construction Phase

20.7.1 Mitigation measures to be applied during this phase will be as follows:

- limiting land clearance and occupation to the minimum necessary for the works;
- restricting construction site lighting outside normal working hours to the minimum required for public safety and security. Directional luminaires to be used to limit unwanted light spill;
- maintenance of tidy and contained site compound; and
- spreading of topsoil and replacement of turf, or reseeding and planting as soon as possible after sections of work are complete;
- limiting dust emissions.

Operational Phase

20.7.2 The buildings and warehouses associated with the AMEP will be coloured Goosewing Grey in order to mitigate visual impact.

20.7.3 The larger buildings have been oriented such that their longest dimensions do not face out onto the Humber Estuary. In this way, the density of the proposal as it presents itself visually north eastward over the river and beyond is reduced. This effect will arise only when the proposed large vessel is not berthed

20.7.4 A landscape and ecology mitigation strategy has been developed for the AMEP and this is illustrated in *Annex 4.5: Landscape Masterplan*. The planting proposals have been developed with the following mitigation objectives in mind:

- Boundary and internal structure planting will break up the large scale of the proposed AMEP and provide partial visual screening of the proposal thereby integrating same into the receiving landscape. Planting will be introduced within the site, for example, semi mature avenue trees along the two main access roads and in between large working areas. From a landscape and visual perspective this

planting will assist in breaking up the scale and mass of the buildings and hardstandings;

- Native species planting will be used to enrich the ecology of the area. These specific plantings will include tree, woodland, scrub and hedgerow belts with adjacent grassland and wild meadow areas;
- Planting is provided throughout in order to offset that lost as a result of the introduction of the AMEP and to provide for additional enhancement;
- Grassland and scrub habitat will be provided along the drainage ditches as an enhancement of the wildlife habitat;
- A number of small soft landscaped open spaces are provided for within the landscape masterplan. These areas feature semi mature tree planting, shrub planting and open seeded areas;
- Specific landscape treatment along Rosper Road will comprise woodland belt and hedgerow edge and grass margin together with some semi mature trees. Specific tree planting measures will be included to facilitate bat flight paths;
- The south eastern end of the site features Mitigation Area A which measures 47.8 hectares ;
- The low bunded area at the northern boundary of Mitigation Area A will comprise neutral grassland to offset that lost at the Station Road Fields Local Wildlife Site. A range of habitat creation and enhancement measures are proposed including woodland management, creation of new ponds to support great crested newts and grassland conservation; and
- Mitigation Area B is also identified for ecological enhancement in the masterplan.

20.8 *RESIDUAL IMPACTS*

- 20.8.1 The introduction of the proposed structures, namely very large buildings and large hard surfaced areas associated with the AMEP will add man-made elements, some of which are of considerable scale to the landscape establishing a new landmark feature and a point of reference in views from the wider area.

- 20.8.2

The direct effects in terms of landscape losses or change on the site are outlined as follows;

 - loss of a large area of hardstanding at the north western end of the site near North Killingholme Haven. This area is of no landscape value. The area concerned will accommodate the Supply Chain Park, the overspill storage and a part of the Heavy Component Manufacturing Park;
 - loss of an area of farmland covering most of the south eastern half of the site. This loss of farmland will also include hedgerow vegetation losses. This area will accommodate approximately half of the proposed Heavy Component Manufacturing Park;
 - the loss of the coastal footpath along the estuary to accommodate the extended quay storage area and new quayside;

Long Term Impacts on Local Landscape Character.

20.8.3

The residual impacts of the proposal on local landscape character are presented in *Tables 20.9 – 20.12* below. Residual impacts on landscape character will arise as a result of the visibility of the proposals from within any of the landscape character areas as discussed below. These impacts will be derived mainly from the temporary presence of the proposed wind turbines together with cranes, shipping and other activities at the quayside. Impacts will also be derived from the larger land based elements of the proposal. These comprise three elements, namely the Supply Chain Park, the heavy component manufacturing park and an overspill storage area. The impacts will mostly be derived from the heavy component manufacturing park as this features the largest of the buildings and structures in the land based part of the AMEP. These three elements are collectively referred to as the core development areas in the assessment of impacts reported below. A summary of these residual impacts is presented in *Table 20.13*.

Table 20.9 *Impacts on Local Landscape Character – North Lincolnshire*

Local Landscape Character Area.
Humber Estuary
The proposed AMEP is located within this landscape character area and as a result, direct impacts will arise as a result of the introduction of the proposed quayside, core development areas and the temporary presence of wind turbines as these await despatch out to sea.
The character of this landscape will be indirectly affected by the visibility of the

<p>Local Landscape Character Area.</p> <p>proposals. These will usually be seen in association with existing industrial infrastructure present in this landscape character area. Such infrastructure includes the Lindsey Oil Refinery and Immingham Port. The proposal is of some considerable scale and will be seen as a large scale additional feature comprising new buildings, cranes and wind turbines which will be temporarily present as these await despatch. These elements, newly introduced to this industrial landscape, will be seen especially in the vicinity of East Halton Marshes and North Killingholme Haven Pits. Further afield to the north, the proposed wind turbines will be temporarily visible as small to medium sized elements depending on the distance from the proposal. Intervening vegetation and field hedgerow boundaries are likely to screen the buildings of the core development areas from view.</p> <p>Taking into account the fact that there is visible industrial infrastructure in this landscape, the proposed AMEP will bring about a <i>medium</i> magnitude of change to this landscape of <i>medium</i> sensitivity resulting in a <i>moderate</i> adverse impact on the character of this landscape.</p>
<p>Lincolnshire Drift</p> <p>The proposal will be clearly visible as a large new feature in the landscape especially in the vicinity of both North and South Killingholme. The main visible features will be the proposed wind turbines which will be temporarily visible as these await despatch out to sea together with crane infrastructure. These elements of the proposal will usually be seen as relatively large new features albeit with the Lindsey Oil Refinery in the foreground. The buildings associated with the core development areas will be mostly screened from view by this oil refinery.</p> <p>Further afield in the vicinity of South End and Thornton Curtis, the visually open landscape will mean that the proposal will be visible as small to medium sized elements from many locations albeit with the oil refinery in the foreground.</p> <p>Further South, in the vicinity of Wootton and Ulceby, there will be many locations where the proposed wind turbines will be temporarily visible along with the crawler cranes although with a double powerline and pylons in the foreground.</p> <p>The landscape in the vicinity of East Halton will be affected mainly by the temporary visibility of the wind turbines and the visibility of cranes and other infrastructure associated with the AMEP. From these locations, the existing visual amenity is affected by the visual prominence of the stacks associated with the Killingholme Power plant.</p> <p>Taking into account the fact that there is visible industrial infrastructure in this landscape, the proposed AMEP will bring about a <i>medium</i> magnitude of change to this landscape of <i>medium</i> sensitivity resulting in a <i>moderate</i> adverse impact on the character of this landscape.</p>
<p>Lincolnshire Wolds</p> <p>A very tiny part of this local landscape character area is located within the 10 km radius study area. As most of this landscape is located over 10 km away from the proposal, the assessment of impacts is addressed with reference to National Character Area no. 43 Lincolnshire Wolds.</p>

Table 20.10 Impacts on Local Landscape Character – North East Lincolnshire

Local Landscape Character Area.
Landscape Character Area A – Humber Estuary -
<p>The proposal will be visually prominent from the landscape west of Immingham. The proposal temporary wind turbines and associated crane infrastructure will be seen in the context of existing industrial developments such as the Lindsey Oil refinery and Immingham Port. Further afield to the east, the intervening built up areas associated with Immingham, the industrial estate and the industrial facilities along the south bank of the Humber Estuary will result in limited opportunities to view the development.</p> <p>Taking into account the fact that there is visible industrial infrastructure in this landscape, the proposed AMEP will bring about a <i>small – medium</i> magnitude of change to this landscape of <i>low</i> sensitivity resulting in a <i>not significant – minor</i> adverse impact on the character of this landscape.</p>
Landscape Character Area B – Lincolnshire Coast and Marshes
<p>The larger structures associated with the proposal such as the wind turbines and the crane infrastructure will be visible from many locations within this landscape. The wind turbines will be temporarily visible as these await despatch. These will be seen in the context of other existing industrial elements such as the Lindsey Oil Refinery and Immingham Port. From some locations, a visually prominent powerline will be in the foreground along with the proposal. The scale of the proposed elements will appear to be relatively tall compared with the existing industrial features. The proposed wind turbines will, however, be seen on a temporary basis as slender elements that do not compare with other existing features in terms of bulk or mass. Nonetheless these are likely to be the tallest elements in the view where visible. Taking this into account together with the fact that much of this landscape will be affected, a <i>medium</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>minor</i> adverse impact on the character of this landscape.</p>

Table 20.11 Impacts on Local Landscape Character – West Lindsey

Local Landscape Character Area.
Wolds Estates –
<p>There will be few locations in this landscape where views of the proposal will be gained. Glimpse views of the proposal will be gained and often these will be experienced as short flashes at points along road routes owing to screening by vegetation cover. The proposed temporary wind turbines will be seen only in part with the existing Lindsey Oil Refinery often in the foreground.</p> <p>A <i>small</i> magnitude of change is predicted to arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>

Table 20.12 Impacts on Local Landscape Character – East Riding of Yorkshire

Local Landscape Character Area.
Low Lying Drained Farmland of the Humber Estuary – Sunk Island
<p>The proposal will be partly visible over most of this landscape character area. The main elements which will be seen are the proposed wind turbines, which will be temporarily visible, and associated crane infrastructure. These will be seen as medium sized elements from the nearest point in this landscape to the site for the proposal which is approximately 4 km away. Further afield, these will be seen as even smaller elements in the landscape. The proposed wind turbines will be temporarily visible as tall elements on the horizon relative to other existing industrial element currently visible from this landscape. In addition, the crane infrastructure will be visible as well as the vessels temporarily berthed at the new quayside to facilitate shipment of the wind turbines. The buildings associated with the core development areas will be clearly visible and the collective scale and mass of these will be clearly apparent to the viewer. The scale of the proposal is such that it will be seen as the largest development on the south side of the Humber Estuary from this particular landscape. These effects are however limited to the river edge in this landscape. Further inland, the proposal will be less visually prominent.</p> <p>A <i>medium</i> magnitude of change is predicted to arise in this landscape of <i>medium</i> sensitivity resulting in a <i>moderate</i> impact.</p>
Low Lying Drained Farmland of the Humber Estuary – South Patrington, Ottringham and Keyingham Farmland
<p>The proposal, specifically the upper portions of the wind turbines and the crane infrastructure, will be visible over much of this landscape as it is more elevated than the Sunk Island landscape which lies in the foreground. The proposal will be seen as relatively small elements in the distance, located nearly 6 km away from the nearest point in this landscape. The wind turbines will be seen on a temporary basis only as these await despatch out to sea.</p> <p>A <i>small</i> magnitude of change is predicted to arise in this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Low Lying Drained Farmland of the Humber Estuary – Paull Farmland - Medium
<p>The proposals, mainly the proposed wind turbines will be temporarily visible from this landscape. Uninterrupted views of the proposal together with associated crane infrastructure and vessels will be gained from the edge of this character area as it overlooks the Humber Estuary. The proposed structures will be small elements, located approximately 7 km from the viewer at this location. Further inland, views of the proposal will be limited in part by the visual screening provided by the settlements of Paull and Paull Holme.</p> <p>A <i>small</i> magnitude of change is predicted to arise in this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Open Farmland of Holderness – Burstwick to Withernsea Farmland. - Medium
<p>The proposal will be seen from many locations along the A1032 Road Route from Hedon to Thorngumbald and onwards to Keyingham. The proposal will be seen from specific short sections of this route or point locations along this route where roadside vegetation screens are absent. Throughout the area generally, there will be limited</p>

Local Landscape Character Area.
opportunities to view the proposal and often weather conditions will prevent long range clear visibility in the direction of the Humber Estuary.
<i>An imperceptible - small magnitude of change is predicted to arise in this landscape of medium sensitivity resulting in a not significant - minor impact.</i>
Farmed Urban Fringe of Holderness – Hedon, Preston and Bilton Farmland - Low
A very tiny part of this local landscape character area is located within the 10 km radius study area. As most of this landscape is located over 10 km away from the proposal, the assessment of impacts is addressed with reference to National Character Area no. 40 Holderness under national landscape character.
Kingston Upon Hull - Low
The proposal will only be visible from the edge of the docklands area that overlooks the Humber Estuary. At distances of 9 – 10 km away, the proposed wind turbines, crane infrastructure and vessels for shipment will be seen as very small elements only in weather conditions which afford long range visibility. The wind turbines will be seen on a temporary basis only as these await despatch out to sea.
<i>An imperceptible - small magnitude of change is predicted to arise in this landscape of low sensitivity resulting in a not significant impact.</i>

Table 20.13 Summary of Landscape Impacts –Local Landscape Character Areas

Local Landscape Character Area	Sensitivity to the proposed change	Magnitude of change	Significance of Impact
North Lincolnshire			
Humber Estuary	Medium	Medium	Moderate
Lincolnshire Drift	Medium	Medium	Moderate
Lincolnshire Wolds	Addressed under national landscape character		
North East Lincolnshire			
Landscape Character Area A – Humber Estuary	Low	Small - Medium	Not Significant Minor
Landscape Character Area B – Lincolnshire Coast and Marshes	Low	Medium	Minor
West Lindsey			
Wolds Estates	Low	Small	Not Significant
East Riding of Yorkshire			
Low Lying Drained Farmland of the Humber Estuary – Sunk Island	Medium	Medium	Moderate
Low Lying Drained Farmland of the Humber Estuary – South Patrington, Ottringham and Keyingham Farmland	Medium	Small	Minor

Local Landscape Character Area	Sensitivity to the proposed change	Magnitude of change	Significance of Impact
Low Lying Drained Farmland of the Humber Estuary – Paull Farmland	Medium	Small	Minor
Open Farmland of Holderness – Burstwick to Withernsea Farmland	Medium	Imperceptible – Small	Not Significant - Minor
Farmed Urban Fringe of Holderness – Hedon, Preston and Bilton Farmland	Addressed under national landscape character.		
Kingston Upon Hull	Low	Imperceptible – Small	Not Significant.

Long Term Impacts on Local Landscape Character – North Lincolnshire.

- 20.8.4 The Humber Estuary landscape character area defined in the North Lincolnshire Landscape Character Assessment will be directly affected by the proposals. The landscape in the immediate vicinity of the site has been described in the baseline above. There are a number of industrial type features and facilities, the largest of these being an oil refinery, surrounding the site for the proposal which will largely screen the buildings and warehouses and other structures associated with the land based part of the AMEP from the landscape located inland in the counties of North and North East Lincolnshire and further afield. From these inland locations, the upper portions of the tallest elements of the AMEP are likely to be partly visible. These include the crane at the quayside and the wind turbines in temporary storage until they are despatched out to sea.

- 20.8.5 Some limited areas immediately to the north-west and south-east of the site boundary will be affected by the visibility of the AMEP together with the quayside and associated infrastructure. These areas will include sections of the public footpath on the existing quayside.

Long Term Impacts on National Landscape Character.

- 20.8.6 The residual impacts of the proposal on national landscape character are presented in *Table 20.14* below.

Table 20.14 Impacts on National Landscape Character

National Landscape Character Area.
Humber Estuary (No. 41)
<p>The ZTV indicates that almost all of this National Character Area that lies within the study area will be affected by the proposal. In reality, the screening provided by built up areas such as Kingston Upon Hull is such that this urban area and the landscapes further west will not actually be affected.</p> <p>The Sunk Island and Spurn Point landscapes will mainly be affected. Sunk Island is located 10 km away from the proposal at the nearest point whilst Spurn Point is located 22 km away. At these distances, the temporary wind turbines and the quayside will be seen as small or very small elements on the horizon in the context of other smaller scale industrial developments such as the Lindsey Oil Refinery. A <i>small</i> magnitude of change will arise in this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Lincolnshire Coast and Marshes (No. 42)
<p>The ZTV indicates that much of the landscape south east of Grimsby and Cleethorpes will be affected by the temporary visibility of the proposed wind turbines. In reality the areas in the vicinity of Grimsby and Cleethorpes will not be affected owing to the screening provided by these built up areas. Where the proposal is visible, it will be seen as a small element located 10 km away at the nearest point. A <i>small</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Lincolnshire Wolds (No. 43)
<p>The ZTV indicates that almost all of the the northern part of this landscape in the vicinity of the River Humber will be affected. In reality, the landscape immediately south of Barton Upon Humber will not be affected owing to subtle topography screens. Further south, limited opportunities to see the proposal will actually arise and at these distances (10 km from the proposal), the proposed temporary wind turbines will be temporarily visible as small elements in the distance.</p> <p>The ZTV indicates that limited elevated areas of the Lincolnshire Wolds, south of Laceby and Caistor will be affected. In many cases, only the wind turbines will be temporarily visible as very small elements on the horizon as these await despatch out to sea. For a large proportion of the year, weather conditions will render the proposal invisible from this landscape.</p> <p>Taking all of the above into account, A <i>small</i> magnitude of change will arise in this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Central Lincolnshire Vale (No. 44)
<p>The ZTV indicates that this landscape will be largely unaffected. This is as a result of the topographical features such as the escarpment outlined above in the baseline. An <i>imperceptible</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Northern Lincolnshire Edge with Coversands (No. 45)
<p>The ZTV indicates that only the landscape inbetween Broughton and Scunthorpe will</p>

National Landscape Character Area.
be affected. In reality, this will not be affected owing to the screening provided by the abundant woodland cover. An <i>imperceptible</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.
Holderness (No. 40)
The ZTV indicates that almost all of the Holderness landscape within the study area will be affected. In reality, this will not be the case. The relatively flat topography and hedgerow cover, albeit scarce, is such that the proposal will quickly disappear from view with increasing distance from the proposal. In reality the areas which will be affected will be in the vicinity of Hedon, Patrington and Weeton. From these areas, the proposal will be small, located between 10 and 14 km from the viewer. A <i>small</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.
Yorkshire Wolds (No. 27)
The ZTV indicates that small parts of the more elevated areas within this landscape will be affected by the proposals. In reality, the elevated locations where these wind turbines will actually be visible will be much less than that indicated due to woodland cover. The proposed wind turbines may be barely visible on a temporary basis as these await despatch from the quayside. At these distances (minimum 14 km from the proposal), the temporary wind turbines will be very small elements and will only be visible in clear weather conditions. From some locations, these structures will be seen as a very small change especially where they are seen against the urban area of Kingston Upon Hull. In most cases, the proposal will be imperceptible to the viewer. The viewer will have to make a conscious effort to see the proposal and often this will be imperceptible because of weather and indeed distance. An <i>imperceptible</i> magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.
Humberhead Levels (No. 39)
The ZTV indicates that the part of this landscape located within the study area will be affected by the proposal. The visual screening provided by built up areas is such that the proposal will not be seen from this area. An imperceptible magnitude of change will arise in this landscape of <i>low</i> sensitivity resulting in a not significant impact.

20.8.7

The impact of the proposed AMEP on the character of the National Landscape Character Areas are summarised in *Table 20.15* below.

Table 20.15 Summary of Landscape Impacts – National Landscape Character Areas

National Landscape Character Area	Sensitivity to the proposed change	Magnitude of change	Significance of Impact
Humber Estuary (No. 41)	Medium	Small	Minor
Lincolnshire Coast and Marshes (No. 42)	Low	Small	Not Significant
Lincolnshire Wolds (No. 43)	Medium	Small	Minor
Central Lincolnshire Vale (No. 44)	Low	Imperceptible	Not Significant
Northern Lincolnshire Edge with Coversands (No. 45)	Low	Imperceptible	Not Significant
Holderness (No. 40)	Low	Small	Not Significant
Yorkshire Wolds (No. 27)	Low	Imperceptible	Not Significant
Humberhead Levels (No. 39)	Low	Imperceptible	Not Significant

Long Term Impacts on Landscape Features.

20.8.8 The residual impacts of the proposal on designated landscapes, registered parks and gardens and country parks are presented in *Table 20.16* below. A summary is presented in *Table 20.17*

Table 20.16 Impacts on Landscape Features

Landscape Features
Lincolnshire Wolds Area Of Outstanding Natural beauty (AONB) located 12.5 km to the south of the proposal
The proposal will affect specific isolated patches of the Lincolnshire Wolds AONB, namely the more elevated areas according to the ZTV. In reality, vegetation cover will result in much of this landscape being unaffected by the proposal.
The upper portions of the proposed temporary wind turbines and the upper sections of the cranes will be the only elements of the proposal which are expected to be visible and at distances of 12 km at the nearest point; these will be visible as small elements only under weather conditions that offer long range clear visibility. Views of these elements will be available only from elevated locations in the landscape. In lower lying areas, the proposal will not be visible. <i>An imperceptible - small magnitude of change will arise to this landscape of high sensitivity resulting in a not significant - minor impact.</i>
Sunk Island Landscape Conservation Area located 2.5 km to the north of the proposal
A description of the impact of the proposal on the Sunk Island landscape is provided in <i>Table 20.12 Impacts on Local Landscape Character – East Riding of Yorkshire</i> . <i>A medium magnitude of change will arise to this landscape of medium sensitivity resulting in a moderate impact.</i>
Spurn Heritage Coast located 20 km to the north east of the proposal

Landscape Features
<p>The section of this designated Heritage Coast that extends northwards from Kilnsea is largely screened from view of the proposals by a combination of hedgerow vegetation cover and in some locations, linear earthworks bunds or embankments possibly associated with flood protection. South of Kilnsea, the narrow sand spit that extends out to Spurn Point will be affected. The proposal will be located approximately 25 km away and will be a very small element, visible only under exceptional weather conditions that afford clear long range views. Under favourable weather conditions, however, the proposal will be clearly seen as a small element comprising tightly clustered tall structures such as wind turbines, wind turbine components and cranes. The buildings associated with the AMEP will be barely visible. The proposal will be seen as a very small addition to the existing developed shoreline of the south bank, especially the development and built up area in the vicinity of Grimsby and Cleethorpes which is located nearer to the viewer and is more visually prominent.</p> <p>A <i>small</i> magnitude of change will arise to this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Thwaite Hall - Registered Park (16.5 km north west of the site).
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Burton Constable - Registered Park (16 km north of the site)
<p>The proposal will not be visible from within this park or indeed the landscape in the immediate vicinity of this park.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
People's Park Grimsby - Registered Park (12.5 km south east of the site)
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
East Park, Hull - Registered Park (12 km north west of the site)
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Pearson Park - Registered Park (12.5 km north west of the site)
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Brocklesby Park - Registered Park (5 km south of the site)
<p>The proposal will not be visible within the open areas of farmland inside this registered park. The proposal will be seen from very few locations in the landscape</p>

Landscape Features
<p>outside the park. Views of the proposal will be gained in conjunction with the existing Lindsey Oil Refinery in the foreground. The viewer's appreciation of the setting of the park woodland is not considered to be seriously affected.</p> <p>A <i>small</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>minor</i> impact.</p>
Risby Hall - Registered Park (22 km north west of the site)
<p>The proposal will not be visible from within this park or the immediate vicinity. This is demonstrated in the ZTV.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Water's Edge - Country Park (13 km north west of the site)
<p>The proposal will not be visible from within this park or the immediate vicinity owing to visual screening by intervening vegetation and structures. Apart from this, the viewing area in the park is directed north out over the Humber Estuary away from the site for the proposal.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>
Cleethorpes - Country Park (16 km south east of the site)
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact</p>
Humber Bridge - Country Park (15 km north west of the site)
<p>The park viewing area commands views out over the Humber Estuary towards the south bank. The proposed wind turbines will be temporarily visible as small elements and the outline of the proposed quayside may be just visible at these distances. Cranes and shipping associated with the proposal will be seen as relatively small elements.</p> <p>A <i>small</i> magnitude of change will arise to this landscape of <i>medium</i> sensitivity resulting in a <i>minor</i> impact.</p>
Burton Constable - Country Park (16 km north of the site)
<p>The assessment of impact on this site is detailed above under Registered Parks Designation.</p>
Normanby Hall - Country Park (26 km west of the site)
<p>The proposal will not be visible from within or near this park as it is in a built up area.</p> <p>An <i>imperceptible</i> magnitude of change will arise to this landscape of <i>low</i> sensitivity resulting in a <i>not significant</i> impact.</p>

Table 20.17 Summary of Landscape Impacts – Landscape Features

Landscape Feature	Sensitivity to the proposed change	Magnitude of change	Significance of Impact
Lincolnshire Wolds Area Of Outstanding Natural beauty (AONB)	High	Imperceptible - Small	Not Significant - Minor
Sunk Island Landscape Conservation Area	Medium	Small - Medium	Minor - Moderate
Spurn Heritage Coast	Medium	Small	Minor
Thwaite Hall	Low	Imperceptible	Not Significant
Burton Constable	Low	Imperceptible	Not Significant
People's Park Grimsby	Low	Imperceptible	Not Significant
East Park, Hull	Low	Imperceptible	Not Significant
Pearson Park	Low	Imperceptible	Not Significant
Brocklesby Park	Low	Small	Minor
Risby Hall	Low	Imperceptible	Not Significant
Water's Edge - Country Park	Low	Imperceptible	Not Significant
Cleethorpes - Country Park	Low	Imperceptible	Not Significant
Humber Bridge - Country Park	Medium	Small	Minor
Normanby Hall - Country Park	Low	Imperceptible	Not Significant

Long Term Impacts on Visual Amenity.

20.8.9 The introduction of new structures and activity around the site will have impacts upon the quality of views experienced by people living, working or visiting in the surrounding area. The AMEP will be seen from fixed locations and as people move through the area on roads or along footpaths. *Table 20.18* identifies the principal viewpoints selected to represent the range of opportunities which people will have to see the development from different types of location, distances and directions.

20.8.10 The proposed AMEP will be located within a site that is already surrounded by industrial development on the landward or south side. Thus the character of the local landscape is already industrialised as a result of the presence of the Lindsey Oil Refinery, Immingham Port and Killingholme Power Station all of which lie close to and adjacent to the site for the proposal. Further east along the shoreline of the South Bank, various industrial developments are located including the South Humber bank power station. The densely built up areas of Grimsby and Cleethorpes are also present. These are relatively large scale developments which are visible from the surrounding area and the landscape of the North Humber bank.

The extent of theoretical visibility of the proposals is illustrated in *Figures 20.3a and b: Zone of Theoretical Visibility and Viewpoint Locations*. These map figures illustrate the theoretical visibility of the AMEP buildings and the wind turbines which will be temporarily present on the quayside storage area.

- 20.8.11 The receiving landscape on both the South and North Humber Bank is predominantly flat. Whilst the ZTV predicts widespread theoretical visibility of the proposal over the local landscape out to a 10 km radius, the reality is that the visibility of the proposal will be less than that indicated because of the screening effect of intervening vegetation and structures. In many cases, in reality, the proposal will be partly visible, often seen in the context of other industrial facilities. In the landscape of Lincolnshire, the proposal will often be seen with the Lindsey Oil Refinery in the foreground or indeed Immingham Port. In the landscape of East Yorkshire, the proposal will often be seen in the context of linear development along the South Bank of the Humber Estuary extending from Grimsby toward the west.
- 20.8.12 In general, the upper portions of the wind turbines will be temporarily visible as these await despatch out to sea. Some of the taller structures such as the crawler cranes will also be visible. The large buildings associated with the core development areas will be almost fully screened from view from most of the surrounding landscape. The screening will be provided by existing features such as intervening vegetation and tall structures such as the oil refinery and other infrastructure.
- 20.8.13 The wind turbines, complete with towers, nacelle and blades will be present only on a temporary basis on the quayside as these await despatch out to sea. These will be the tallest elements of the proposal which will be temporarily visible from the south and the east. These will be seen in the context of an industrial developed landscape.
- 20.8.14 Viewers located in the landscape of East Yorkshire located to the north-east of the Humber Estuary will be affected mainly by the new quayside which will appear visually prominent as it protrudes out onto the water and will have berthed vessels of considerable scale. On occasions where vessels are absent, clear views of the completed wind turbines and the wind turbine towers behind will be available particularly to users of the coastal footpath. These will only be visible on a temporary basis as these await despatch out to sea.

- 20.8.15 In the wider landscape located between 10 and 30 km from the site, the proposed wind turbines will be temporarily visible as these await despatch out to sea and some of the taller structures such as the jibs of the crawler cranes.
- 20.8.16 A very limited part of the landscape to the west of the site will be affected and this is due to the elevated topography in this area. This is illustrated in the ZTV which illustrates the limit of visibility as a very pronounced line extending from the north west to the south east. This broadly coincides with the steep and visually striking escarpment that overlooks the Ancholme Valley.
- 20.8.17 The main viewer types and areas which will be affected by the temporary presence of the wind turbines and other structures are:
- residents of dwellings located near to or adjacent to the site;
 - residents at the edges of settlements located south west of the site such as East Halton, North Killingholme, South Killingholme and Immingham;
 - residents at the edges of the settlements of Goxhill, Thornton Curtis and Wootton;
 - users of the coastal footpaths along the South Banks of the Humber River;
 - road users on the A 1077 and the A180 travelling east;
 - residents and visitors to isolated small patches of landscape in the vicinity of Brocklesby;
 - recreational users of the the seafront pier at Cleethorpes may gain views of the quayside and related activities;
 - visitors to isolated elevated areas of the Lincolnshire Wolds AONB;
 - road users and pedestrians crossing the Humber Bridge travelling in in a south easterly direction;
 - recreational users at the viewing point in the settlement of Paull;

- recreational users of the Trans Pennine Trail at Kingston Upon Hull docks;
- recreational users of the riverside footpath on the North Bank of the Humber River;
- residents of isolated dwellings and recreational visitors in the relatively flat farmed landscape around Cherry Cobb Sands and Sunk Island Conservation Area;
- residents in the vicinity of Hedon, Burstwick, Keyingham and Patrington; and
- visitors to Spurn Point and the designated Heritage Coast.

Residual Visual Impacts at Fixed Locations

- 20.8.18 The impact of the AMEP on receptors at each of the representative 18 viewpoints is outlined in *Table 20.18*. Impacts were assessed as being either not significant, minor, moderate or major. This took into account the sensitivity of the receptors, represented by the viewpoint, together with the quality of the existing view and the magnitude of change in the view, in order to evaluate the resulting significance of impact.
- 20.8.19 The viewpoints are described in terms of their elevation and distance from the AMEP and the viewer type and number each represents. The existing view towards the site is described and an assessment made of the change in view with the AMEP in place. The sensitivity of each viewpoint and the magnitude of change are identified and the significance of resulting visual impact defined.
- 20.8.20 The assessment was assisted by the preparation of photomontages of the development from six viewpoint locations. Photomontage images of the development were prepared alongside baseline photographs for the the viewpoints and these were selected to illustrate the appearance of the scheme from locations at varying distances from the proposed scheme and in different directions. The selection of viewpoints for illustration also took account of the consultation responses presented in Section XX of the ES.
- 20.8.21 The photomontages are presented in *Figures 20.4a – 20.4f*. The illustrations do not provide an exact replication of future views, but the wind turbines and structures are shown to scale to give an idea of the size of the proposal and its effect on the view. In assessing the visual

impact in each case, consideration is also given to the effect of light and weather conditions on visibility.

- 20.8.22 The assessment, included in full below, indicates that there will be visual impacts of major significance at two of the viewpoints identified in *Table 20.18*. The major visual impacts will be confined to viewpoint locations adjacent to or very near to the site. A moderate to major visual impact will arise at one viewpoint location. Visual impacts of a moderate significance will arise at three viewpoint locations. Visual impacts of a minor to moderate significance will arise at four viewpoint locations. In the case of many of the viewpoints, the AMEP will be seen along with other industrial developments in the area. Viewers located south of the Humber in Lincolnshire will often see the proposal along with existing industrial infrastructure such as the Lindsey Oil Refinery whilst viewers in the north, in the East Riding of Yorkshire will see the proposal along with other existing industrial and built up areas that line the south bank of the River Humber.
- 20.8.23 Visual impacts at the remaining viewpoint locations will be in the range of minor to not significant.
- 20.8.24 The visual impact of the proposed lighting associated with the scheme on nearby visual receptors is covered in *Chapter 19, Light*.
- 20.8.25 Full detailed analysis and descriptions of the visual impacts at all 18 viewpoint locations are presented in *Table 20.18*.

Table 20.18 *Assessment of Visual Impacts at Selected Viewpoints*

Key

- Viewer type: H = housing (residential); R = recreational; T = road users; W = workers.
- Viewer numbers: Residential and Recreational: Many >50; Mod 15-50 ; Few 0-14 , Road users and Workers: Many >1000, Mod >500, few 0- 500
- Viewer sensitivity: High, Medium, Low
- Magnitude of Change: Large, Medium, Small, Imperceptible
- Significance of Impact: NS = Not Significant, Minor, Moderate, Major.
- Viewpoints illustrated in photomontage are highlighted in orange

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
1	Public Footpath on South Humber Bank	515547	421495	2.0	R	Humber Estuary. Ferry terminal jetty and passenger ferry vessel berthed. Footpath. Deciduous vegetation. Open areas of marsh. Chimney associated with power station. Wind turbine. Lindsey Oil refinery structures in the distance including emissions.	The proposed quayside, wind turbines, wind turbine foundations ,and infrastructure associated with the shipment of the wind turbines will be visible. The extent of visibility will vary depending on whether the passenger ferry is berthed. The buildings associated with the core development areas will be mostly screened from view behind vegetation in the foreground. The proposal will be seen in the context of a view which features a range of industrial developments.	Medium - Although recreational users are usually of high sensitivity to change, the quality of the view available to them is affected by the quality of the existing view which includes visible infrastructure.	Large	Moderate to Major
2	North Killingholme Haven Pits	516456	419936	0.3	R	Hedgerow vegetation in the foreground. Open areas of wet marshy farmland. Waterbodies associated with North Killingholme Haven pits. Stacks and other tall structures associated with Lindsey Oil Refinery in the distance.	The proposed wind turbines will be temporarily visible on the quayside as these await shipment out to sea. Various types of wind turbine components such as foundations and sections of towers will be visible, arranged in tightly packed groups. Some of the buildings associated with the core development areas will be partly visible from this location. The AMEP will be seen in the context of the Killingholme Marshes with vegetation in the foreground.	High (the viewer type considered is a recreational users of the footpath. The view comprises mostly open farmland and the existing industrial structures occupy a very small proportion of a view which is otherwise free of industrial development).	Large	Major

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
3	Coastal Footpath North Humber Bank	523474	418855	5.2	R	Large expanse of water associated with the Humber Estuary. Cherry Cobb sands in the foreground. Distant view of the south Humber Bank including much industrial development visible on the banks. The docks at Grimsby are visually prominent (not included in the photomontage). The vertical structures associated with the Lindsey Oil refinery are visible as small elements in the distance on clear weather days. Also Immingham Port and Killingholme power station are discernable features on the horizon.	The proposed wind turbines will be temporarily visible on the quayside as these await shipment out to sea. Various types of wind turbine components such as foundations and sections of towers will be visible, arranged in tightly packed groups. Vessels will be visible from time to time as these are associated with the transport of the wind turbines. Some of the buildings associated with the core development areas will be partly visible from this location. The proposal will be more prominent than other industrial elements on the south bank owing to their scale and the fact that they are in proximity to the Estuary.	Medium - Whilst the recreational viewer type is usually highly sensitive to change, the quality of existing view at this location is adversely affected by the visibility of existing infrastructure.	Medium	Moderate
4	Viewing point and parking area at Paull	516769	425745	6.2	R	Large expanse of water associated with the Humber Estuary. Passenger and commercial sea vessel traffic. Shoreline associated with the south Humber Bank. Industrial developments present on the shoreline, east of the viewer including Killingholme Power Station, Immingham Dock and Lindsey Oil Refinery. These are visible as relatively small elements on the horizon towards the eastern end of this panoramic view.	The proposed wind turbines will be the main visible element of the proposal. These will be seen to occupy a small portion of the eastern part of this panoramic view. These will be temporarily visible on the quayside as these await shipment out to sea. These will be visible as small elements in this panoramic estuarine landscape setting. The proposal may be more prominent than other industrial elements on the south bank owing to their scale and the fact that they protrude out into the river. However these will be associated with the other existing industrial elements.	Medium (Whilst the recreational viewer type is usually highly sensitive to the proposed change, the quality of existing view is adversely affected by visible infrastructure)	Small	Minor

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
5	Humber Bridge	502393	424581	14.6	R T	Viewers crossing Humber Bridge will have expansive views of the estuarine landscape from an elevated location. The industrial developments on the south bank will be clearly seen as relatively small elements in a landscape of this scale. Given the elevated location of the viewer, it is possible to see the extent and layout of some of these industrial facilities in a way that cannot be experienced from ground level.	The proposed quayside will be visible. The profile, shape and length of it will be seen from this elevated location and the viewer will see the extent of estuary reclaimed as hard surfaced area in the form of the quayside and storage area. This will be seen to protrude out onto the estuary and will deviate from the profile of the rest of the south river bank margin. The proposed wind turbines will be temporarily visible as small but prominent elements compared with other developments in the view as these await despatch out to sea.	High (expansive panoramic elevated view is of unique quality in spite of the visible presence of distant infrastructure. Viewer types represented include commuters, tourists and visitors including pedestrians and cyclists who are likely to have an interest in these views)	Small	Minor to Moderate
6	Edge of Kingston on Hull – King Georges Dock – Trans Pennine Trail	513180	428666	9.6	R W	Quayside and ferry terminal in the foreground near the viewer. Large expanse of the Humber Estuary. Landscape and the south bank beyond. Tall structures associated with industrial developments including the Lindsey Oil Refinery on the south bank visible as small elements on the horizon. The visibility of these elements is frequently restricted by weather conditions.	The proposed quayside will be barely perceptible at this distance. The proposed wind turbines will be visible on clear weather days on temporary basis on the quayside awaiting despatch. These will be seen as small elements in the view along with other existing industrial structures visible as small elements in the view.	Medium (Viewer type is recreational user and is usually highly sensitive to change however the quality of existing view is reduced by visible infrastructure in the foreground associated with King George Dock)	Imperceptible – Small. (In poor weather conditions, the magnitude of change will be imperceptible. In weather conditions that favour long range visibility, the magnitude of change will be small.	Not Significant - Minor

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
7	Humber Bridge Country Park	502817	425374	14.5	R	Large expanse of the Humber Estuary. South bank and some industrial developments visible as small elements on the horizon. The site of the existing Lindsey oil refinery is barely visible as a very small element in the eastern portion of this panoramic expansive view.	The proposed infrastructure associated with the AMEP including the quayside will be scarcely visible from this location. The proposed wind turbines will be temporarily visible as these await despatch. There will be many occasions throughout the year where the proposal will not be visible from this location owing to weather and distance.	High (The recreational viewer type is represented here at this viewing point in the public park which is of interest because of the expansive views out over the estuary)	Imperceptible – Small (magnitude of change will vary with visibility in different weather conditions)	Not Significant - Minor
8	Resident at Marsh Lane	517288	417292	0.8	H	Open areas of Flat farmland. Lighthouse at Killingholme Marshes. Killingholme High lighthouse. Hedgerow vegetation.	Some of the buildings associated with the core development areas will be clearly visible at short range. The buildings associated with the production of the wind turbine nacelles and towers will be visible together with external storage areas in the foreground.	High (resident viewer type considered here. these are usually of high sensitivity to change because of their proprietary interest in their surroundings).	Large	Major
9	Homestead Lake Public Park and Play Area, Immingham	517855	415499	2.6	R	Open space and hedgerow vegetation. Tall structures associated with the Lindsey Oil Refinery in the distance including flare stacks. These are partly visible and partly screened from view by existing mature woodland.	Some of the taller structures associated with the AMEP will be partly visible in the distance. The proposed wind turbines on the quayside will be temporarily visible as these await despatch.	Medium (Recreational users of the park will be of high sensitivity to the proposed change. The quality of the existing parkland view is compromised by the visibility of existing industrial infrastructure)	Medium	Moderate

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
10	Keyingham	525621	424978	10.2	H	Expansive panoramic view of gently rolling farmed landscape. Hedgerows and occasional treelines and shelter belts. Distant views of built and industrial developments on the south bank of the Humber Estuary. Of these, the residential tower blocks at Grimsby are just visible as are the stacks and tall structures associated with the Lindsey Oil Refinery. These elements are only visible when weather conditions afford clear visibility. Often, this long range visibility is not available.	The proposed wind turbines associated with the AMEP will be temporarily visible as these await despatch. These will be seen along with the tall structures associated with the Lindsey Oil Refinery as barely perceptible elements only on days where weather conditions that afford clear long range views prevail.	High (the viewpoint represents residents of the settlement of Keyingham who generally have a view out over the conservation farmed landscape of Sunk Island).	Imperceptible – Small (magnitude of change will vary with visibility in different weather conditions)	Not Significant - Minor
11	Residents of South Killingholme	515147	416417	2.2	H	Open farmland with hedge boundary vegetation. Structures (buildings and stacks) associated with the oil refinery and other infrastructure clearly visible in the foreground together with emissions.	The proposed wind turbines and crane infrastructure will be partly visible above the line of the structures associated with the oil refinery. The wind turbines will be temporarily visible as these await despatch.	Low (quality of existing view is greatly reduced by visible prominence of the Lindsey Oil Refinery)	Medium	Minor
12	Residents of North Killingholme	514798	417330	1.9	H	Open farmland and local road. Hedgerow vegetation. large structures (buildings and stacks) associated with the Lindsey oil refinery located near to the viewer.	The proposed wind turbines and some of the AMEP infrastructure will be partly visible behind the line of the structures in the oil refinery. The proposed wind turbines will be temporarily visible as these await despatch.	Low (quality of existing view is greatly reduced by visible prominence of oil refinery)	Medium	Minor

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
13	Residents of East Halton	514358	419339	1.5	H	Open farmland. Mature hedgerow vegetation at field boundary with occasional trees. Stacks associated with two power stations in North Killingholme .	The proposed wind turbines will be temporarily visible as these await despatch. Only the upper portions of these will be visible above the line of existing hedgerow vegetation together with the upper sections or jibs of some cranes. The buildings associated with the AMEP supply chain will be screened from view by the hedgerows near to the viewer.	Medium (the residential viewer type represented is usually highly sensitive to change however in this case, the quality of the existing view is adversely affected by the existing visually prominent infrastructure)	Medium	Moderate
14	South End	510784	419792	5.2	H	Expansive panoramic views of gently undulating farmland with hedgerow vegetation. Groups of mature woodland in the distance. The stacks of the power stations at North Killingholme and the tall structures (stacks and flares) associated with the Lindsey Oil refinery are clearly visible as small elements on the horizon.	The proposed wind turbines will be temporarily visible as these await despatch. These will be partly visible above the line of existing vegetation in association with the tall structures and stacks of the Lindsey Oil Refinery. Visibility will vary according to the weather conditions.	High. (The viewer types represented are residents of dwellings in the settlement of South End.)	Small	Minor to Moderate
15	Brocklesby	513894	411927	6.7	H	Farmland. Clumps of mature wooded vegetation. Tall structures including stacks and flares associated with the Lindsey Oil Refinery.	The wind turbines associated with the AMEP will be temporarily visible as small elements in association with the oil refinery.	High. (The viewer type represented is residents of dwellings in the wooded scenic environs of Brocklesby.)	Small	Minor to Moderate
16	Sunk Island East of Church	526462	420025	9.0	H, R	Flat expansive farmed landscape associated with the reclaimed land of Sunk Island. Few Scattered dwellings. Woodland clumps. Humber Estuary. Industrial infrastructure on the south bank of the Humber Estuary. Infrastructure includes the Lindsey Oil refinery and powerstations at Killingholme which are visible as small elements.	The proposal, mainly the proposed wind turbines awaiting despatch on the quayside will be temporarily visible as very small elements in the view. These will not be visible for many days in the year owing to weather conditions which often restrict long range views in this area.	High (The viewer's focus will be on the nearby rural landscape including farmland and woodland groups. Residents of dwellings are generally of high sensitivity to the proposed change).	Small	Minor to Moderate

Viewpoint No.	Description of Viewpoint	Grid Ref Easting	Grid Ref Northing	Distance in km	Viewer Type and Number	Components in Existing View	Proposed View	Viewpoint Sensitivity	Magnitude of Change	Significance of Impact
17	Lincolnshire Wolds AONB	522279	402710	16.0	R	Rolling farmed landscape associated with the Lincolnshire Wolds in the foreground. Abundant woodland groups in the distance. Settlements and scattered dwellings, powerline and poles. Industrial structures including that associated with the Lindsey Oil refinery barely perceptible in the distance.	The proposed wind turbines associated with the AMEP will be visible as small elements on a temporary basis as these await despatch. Wind turbine components such as foundations and some of the buildings associated with the core development areas will be partly visible. The AMEP will be seen as a very small element in the distance only in weather conditions that afford clear visibility. On many occasions, these will not be visible owing to the prevailing weather conditions in the area which can restrict long range views.	Medium (the road user is the viewer type represented here. Usually road users are of low sensitivity to the proposed change. The quality of the existing view is high and takes account of the AONB status that applies here. Combining these two factors, an overall medium sensitivity applies to this viewpoint.	Imperceptible – Small (magnitude of change will vary with visibility in different weather conditions)	Not Significant
18	Spurn Head Car Park	540153	411101	23.2	R	Expansive views out over the Humber Estuary. Jetty associated with Spurn Point. Tall structures associated with the Lindsey Oil refinery barely visible in the distance. Out Newton wind farm visible towards the north.	The wind turbines will be visible as small elements on the horizon under weather conditions that afford clear visibility. These will be temporarily visible as they await despatch. The buildings, structures and quayside associated with the AMEP will be difficult to see at this distance. On many occasions, these will not be visible owing to the prevailing weather conditions in the area which can restrict long range views.	High (The recreational viewer is represented here and is usually of high sensitivity to change. The overall high quality of the existing view from this Heritage Coast is also taken into account)	Imperceptible – Small (magnitude of change will vary with visibility in different weather conditions)	Not Significant - Minor

20.9 CUMULATIVE IMPACTS

Introduction

- 20.9.1 The preceding sections have addressed the impact of the AMEP on landscape and visual amenity in isolation. Legislation requires EIA to also address the cumulative impacts of a proposal together with other projects present, as well as under development or planned in the area.
- 20.9.2 In regard to cumulative effects, Able has consulted with the planning authorities to agree on a list of other developments to be considered in the cumulative assessment across all topics in the ES.
- 20.9.3 The schemes considered in the cumulative landscape and visual assessment were selected from this list provided by Able for their physical and visible presence in the landscape together with the similar characteristics these schemes are likely to share with the elements proposed in the AMEP. These are listed in table 20.19 below.

Scope of the Cumulative Landscape and Visual Assessment

- 20.9.4 The cumulative landscape and visual assessment addresses the elements of the proposed AMEP that will be present continuously and permanently on the site at Killingholme Marshes. In this regard, the wind turbines, which will be present temporarily on the quayside until shipped to an offshore scheme location, are not considered in the cumulative assessment as operational wind turbines. These are considered as freight with a temporary presence on the quayside. As the wind turbines are not permanent features, other wind farm developments in the surrounding area are excluded from the cumulative assessment. In addition, it is recognised that the AMEP wind turbines will be shipped to an offshore wind farm and will therefore be considered for their contribution to cumulative impact when operational in the destination offshore wind farm.
- 20.9.5 In terms of cumulative effects, the developments with the closest separation distances to the site for the proposal are usually of greatest relevance to the cumulative assessment. In the case of the AMEP, a number of existing large scale industrial developments almost surround the site on the landward side.
- 20.9.6 In addition, further existing and proposed industrial developments that overlook the estuary between Immingham and Grimsby are likely to be

of greater relevance to the cumulative assessment than those located further inland. This is because these are likely to be seen alongside the AMEP when viewed from the north.

- 20.9.7 Taking into account the extent of existing and proposed industrial developments located close to the proposal, it is considered that significant cumulative impacts will be confined to a 10 km radius from the centre of the proposal.
- 20.9.8 The schemes to be considered for cumulative assessment are presented below in *Table 20.19*. These are also illustrated in Figure A 2.6 in *Annex 2.3*. Of these, some are excluded from the cumulative landscape and visual assessment and details and rationale for their exclusion are provided in the table. In regard to the schemes included in the cumulative landscape and visual assessment, the table gives details of the schemes in terms of features likely to be visible in the landscape and the approximate distance to the proposed AMEP. The cumulative assessment assumes that these will be present in the landscape along with the proposed AMEP and other existing industrial developments present in the area.
- 20.9.9 In regard to existing industrial developments, there are a range of industrial, energy and freight related developments located close to the proposal. These existing developments feature large scale structures, buildings and vessels many of which are clearly visible from the surrounding area.
- 20.9.10 The existing Immingham Port occupies a large site immediately south of the site for the proposal. The Immingham bulk coal import facility is located adjacent to this port. The existing Lindsey Oil Refinery occupies a large site immediately west of the proposed site. The refinery is a large scale industrial development featuring tall structures, stacks and flares which are brightly lit at night. The existing Killingholme Power Station is located north west of the site and the Humber Sea Terminal is located adjacent to and north of the site.
- 20.9.11 These existing industrial developments generally surround the site for the proposal. They occupy a large footprint in terms of area and feature large scale structures which are visible in the local landscape. Further existing industrial developments are located in the landscape between Immingham and Grimsby. These overlook the estuary and include an industrial estate and business park facilities, industrial works and a power station. The town of Grimsby features industrial developments along its western edge together with a large port

Table 20.19 Schemes included in Cumulative Landscape and Visual Assessment

Name	Features which may be visible.	Location and approximate Distance from AMEP
North Lincolnshire		
Able Northern Area	Logistics park featuring office and warehouse buildings.	0.5 km North
Able Area F	Port related storage facility featuring office buildings external storage areas lit by 30m high lighting columns.	0.5 km West
Bioethanol Plant, South Humber Bank	Permanent Plant in the form of tall structures and buildings associated with biofuel production	0.5 - 1 km north west
Heron Renewable Energy Plant	Plant and fuel storage area including 100m high stack and buildings of up to 68m height	Adjacent to the AMEP. South East boundary
Ursa Glass Wool Factory	Industrial structures buildings and warehouses.	0.5 km North West
IGCC Power Station	Power plant buildings and structures including tall stacks.	0.5-1 km North
North East Lincolnshire		
Magna Holdings Industrial Park	Buildings associated with Business park use	4 km South East
Bioethanol Plant, Abengoa Energy	Permanent Plant in the form of tall structures and buildings associated with biofuel production	6 km South East
Bio Power/fuel, Helius	Large scale structures and buildings associated with a 65 MW biomass power plant, biomass processing facility and biodiesel refinery.	6.5 km South East
Bioethanol Plant, Vireol PLC.	Permanent Plant in the form of tall structures and buildings associated with biofuel production	8.5 km South East
Europarc, Wykeland Group	Office buildings/ accommodation.	10 km South East
East Riding of Yorkshire		
Humber Gateway onshore grid connection.	Buried cable as grid connection to offshore wind farm.	Excluded. Scheme underground and no aboveground visible structures
Kingston Upon Hull		
Hull Riverside Bulk Terminal	Improvements to existing dock including Jetty and cranes.	9 km North
Energy from Waste Facility near Hull docks	Buildings and structures associated with Energy from waste power plant	9.5 km North

Name	Features which may be visible.	Location and approximate Distance from AMEP
Bioethanol Facility, Vivergo Fuels	Large scale structures and buildings associated with production of Bioethanol	9 km North

Methodology

20.9.12 Cumulative landscape and visual impacts may result from additional changes to the baseline landscape or visual amenity caused by the proposal in combination with other industrial developments present in the receiving landscape.

20.9.13 The assessment identifies the additional contribution of the AMEP to the magnitude of change experienced as a result of the existing and proposed industrial developments referred to above. The magnitude of cumulative change arising from the proposal is assessed as large, medium, small or imperceptible, based on an interpretation of the following (largely quantifiable) parameters, to take account of cumulative change:

- number of existing and proposed industrial developments visible;
- distance to existing and proposed industrial developments;
- direction and distribution of existing and proposed industrial developments;
- landscape setting, context and degree of visual coalescence of existing and proposed industrial developments; and
- proportion of developed/undeveloped skyline occupied by existing and proposed industrial developments.

20.9.14 The principle of magnitude of cumulative change makes it possible for the proposed AMEP to have a major visual effect on a close receptor while having only a minor cumulative effect from the same viewpoint. For example, a major visual impact may be experienced at a viewpoint located close to the AMEP where the development is seen as a large elements in the view however if, for example, there is another industrial development present in the landscape visible from this same viewpoint and it is located closer to the viewer than AMEP and is a bigger development, then AMEP may be seen to contribute a small amount to an already developed skyline. Thus a small magnitude of cumulative change would be assessed to arise on a viewpoint of high sensitivity thereby resulting in a minor to moderate cumulative effect.

- 20.9.15 The significance of any identified cumulative landscape or visual effect has been assessed as major, moderate, minor or not significant in relation to the sensitivity of the receptor and the predicted magnitude of cumulative change as outlined above.
- Major - substantial additional change in conjunction with other developments affecting the character or views of the landscape or the elements within.
 - Moderate - additional change in conjunction with other developments affecting the character or views of the landscape or the elements within.
 - Minor - slight change in conjunction with other developments affecting the character or views of the landscape or the specific elements within.
 - Not significant – no or minimal perceptible additional change in conjunction with other developments affecting the character or views of the landscape or the specific elements within.
- 20.9.16 The residual cumulative impact of the AMEP is outlined below. This is presented in the context of the local landscape character areas with reference to some of the key viewpoints within each of these areas.

Limitations

- 20.9.17 The cumulative landscape and visual impact assessment has been prepared with reference to the above methodology albeit with some limitations as follows:
- The assessment was prepared without cumulative zones of theoretical visibility mapping showing the shared visibility between the AMEP and other developments included in the assessment;
 - The assessment was based on outline descriptions of the physical elements associated with each of the developments as tabulated above; and
 - Cumulative photowirelines or photomontages were not available for this assessment.

- 20.9.18 Notwithstanding the above limitations, this assessment has drawn upon knowledge of the site, local topography and general visibility to reach conclusions regarding cumulative landscape and visual impacts

The Proposed AMEP Residual Cumulative Impacts on landscape and visual amenity in Lincolnshire and West Lindsey (south of the Humber Estuary)

North Lincolnshire – Humber Estuary Landscape Character Area

- 20.9.19 The site for the proposed AMEP is located within the southern part of this landscape character area. If all the projects included in the cumulative assessment are built, the AMEP will be seen from various locations in this flat farmland in very close association with a range of developments which will surround it. The proposed developments include the Bioethanol Plant, an IGCC power station and Able Northern Area Logistics Park. The proposal will be seen with these projects and existing industrial developments such as the Lindsey Oil refinery and the Killingholme Power Plant.
- 20.9.20 Other existing industrial developments included in the cumulative assessment which are located further afield may not be visible in particular from the north.
- 20.9.21 A small magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor cumulative impact.
- 20.9.22 Whilst the cumulative impact over this landscape is generally considered to be minor, there may be locations where the cumulative impact, viewed from a specific point, is greater. An example of this is at viewpoint 1. If the proposed IGCC power plant and the Able Northern Area are constructed, these will be visible in the foreground. The extended quayside, with the new large buildings to the rear, and freight (wind turbines arranged in clusters) awaiting despatch will be partly and clearly visible as this part of the development extends out to sea. At this medium sensitivity viewpoint, a small to medium magnitude of cumulative change may arise resulting in a minor to moderate cumulative impact.

North Lincolnshire – Lincolnshire drift Landscape Character Area

- 20.9.23 The proposed AMEP will usually be seen from locations within this landscape positioned behind and in close association with the existing Lindsey Oil Refinery. The existing Killingholme Power Plant is also likely to be visible along with some of the nearby proposed industrial

developments. The proposal will be visible albeit behind the existing oil refinery and will be seen to contribute to a small extent to this already industrialised landscape. This cumulative visual effect will be experienced by viewers in the settlements of North and South Killingholme (viewpoints 11 and 12).

- 20.9.24 A small magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor cumulative impact.

North East Lincolnshire – Humber Estuary Landscape Character Area A

- 20.9.25 The proposed AMEP will be seen from locations within this landscape with the existing oil refinery and a range of existing and proposed industrial developments in the foreground in the vicinity of Immingham as represented by viewpoint 9. Whilst the scale of the proposal is large, it will be seen in close association with a heavily industrialised area in the vicinity of Immingham. From many locations, the AMEP will be visible in association with the Oil Refinery, Immingham Docks including the bulk coal import facility. Other areas within this landscape will afford views of the proposal near to the oil refinery and docks along with some of the proposed developments including up to two Bioethanol Plants and other commercial developments (Magna Holdings and Europark) all of which will be present in this landscape.

- 20.9.26 A small magnitude of cumulative change is predicted to arise in this landscape of low sensitivity to the proposed change thereby resulting in a not significant cumulative impact.

North East Lincolnshire – Lincolnshire Coast and Marshes Landscape Character Area B

- 20.9.27 The proposed AMEP will usually be seen from locations within this landscape positioned behind and in close association with the existing Lindsey Oil Refinery. The existing large scale industrial activities and Immingham Port will usually be seen in the foreground. Some of the proposed Bioethanol Plants and commercial developments may not be visible from this area owing to intervening tree cover.

- 20.9.28 A small magnitude of cumulative change is predicted to arise in this landscape of low sensitivity to the proposed change thereby resulting in a not significant cumulative impact.

West Lindsey – Wolds Estates Landscape Character Area

- 20.9.29 There will be very limited opportunities to view the proposal owing to intervening woodland screens. Therefore limited opportunities for cumulative impacts will arise and hence cumulative impacts will be not significant.

The Proposed AMEP Residual Cumulative Impacts on landscape and visual amenity in East Yorkshire (north of the Humber Estuary)

East Riding of Yorkshire – Sunk Island Landscape Character Area

- 20.9.30 The proposal will be visible on the edge of the Humber Estuary with the existing Lindsey Oil Refinery in the background. The AMEP will present as a large scale industrial development which will contribute to industrial development on the shoreline as seen from this landscape. The scale of the proposal is much greater when compared to the other existing industrial developments which are visible from this landscape and indeed some of those proposed as listed in Table 20.19.

- 20.9.31 Whilst the proposed AMEP will be noticeable as an additional industrial development, it is unlikely to result in significant changes to landscape character as perceived from the landscape of Sunk Island, which currently affords views to the developed landscape of the South Humber Bank. However given that the development features some elements which will be taller or larger than other industrial developments in the area. A small - medium magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor – moderate cumulative impact. A moderate level of cumulative impact will be experienced, for example, by viewers at viewpoint 3.

East Riding of Yorkshire – South Patrington, Ottringham and Keyingham Farmland Landscape Character Area

- 20.9.32 The AMEP will be partly visible from this landscape, mainly the upper portions of taller elements associated with the proposal. The upper portions of the taller elements associated with the existing Lindsey Oil Refinery will be barely visible. It is expected that other existing and proposed developments on the south side of the Humber Estuary included in this cumulative assessment will be scarcely visible or not visible at all. The western end of this landscape commands views towards the industrialised edge of Hull and opportunities to view the proposed Bioethanol facility and terminal facilities at the docks may be gained from some locations. The industrial mass associated with the edge of Kingston Upon Hull will be much more noticeable to the

viewer than the proposed AMEP because the proposed AMEP will be partly visible as a small element in the distance. The proposal will therefore be seen to contribute little by way of additional industrial development when viewed from the western end of this landscape.

- 20.9.33 A small magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor cumulative impact.

East Riding of Yorkshire – Burstwick to Withernsea Farmland Landscape Character Area

- 20.9.34 This landscape offers similar viewing opportunities of the proposal and surrounding existing and proposed industrial development as the South Patrington, Ottringham and Keyingham Farmland Landscape Character Area.

- 20.9.35 A small magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor cumulative impact.

East Riding of Yorkshire – Paull Farmland Landscape Character Area

- 20.9.36 The proposed AMEP will be partly visible (upper portions of taller structures) from most of this landscape. It will be seen in association with the existing Oil Refinery in the background. The existing and proposed industrial developments at the edge of Hull will be more visually prominent to the viewer due to proximity of this landscape to this large urban area. In the case of proposed developments, the Bioethanol Facility (Vivergo fuels) may be quite visually prominent from parts of this landscape. In this regard the proposal is likely to contribute little by way of additional visible industrial development as seen from this landscape when compared with existing and proposed industrial developments in nearby Kingston Upon Hull.

- 20.9.37 A small magnitude of cumulative change is predicted to arise in this landscape of medium sensitivity to the proposed change thereby resulting in a minor cumulative impact.

Kingston Upon Hull

- 20.9.38 The proposed AMEP will only be visible from the part of this city that directly overlooks the Humber Estuary. The affected area comprises mainly docklands and proposals for further cargo terminals are included in the cumulative assessment as referenced above. Whilst the proposed AMEP will be visible as a small element on the south side of

the estuary, it will not be seen to be associated with or contribute further industrial development to the dockland area of Kingston Upon Hull.

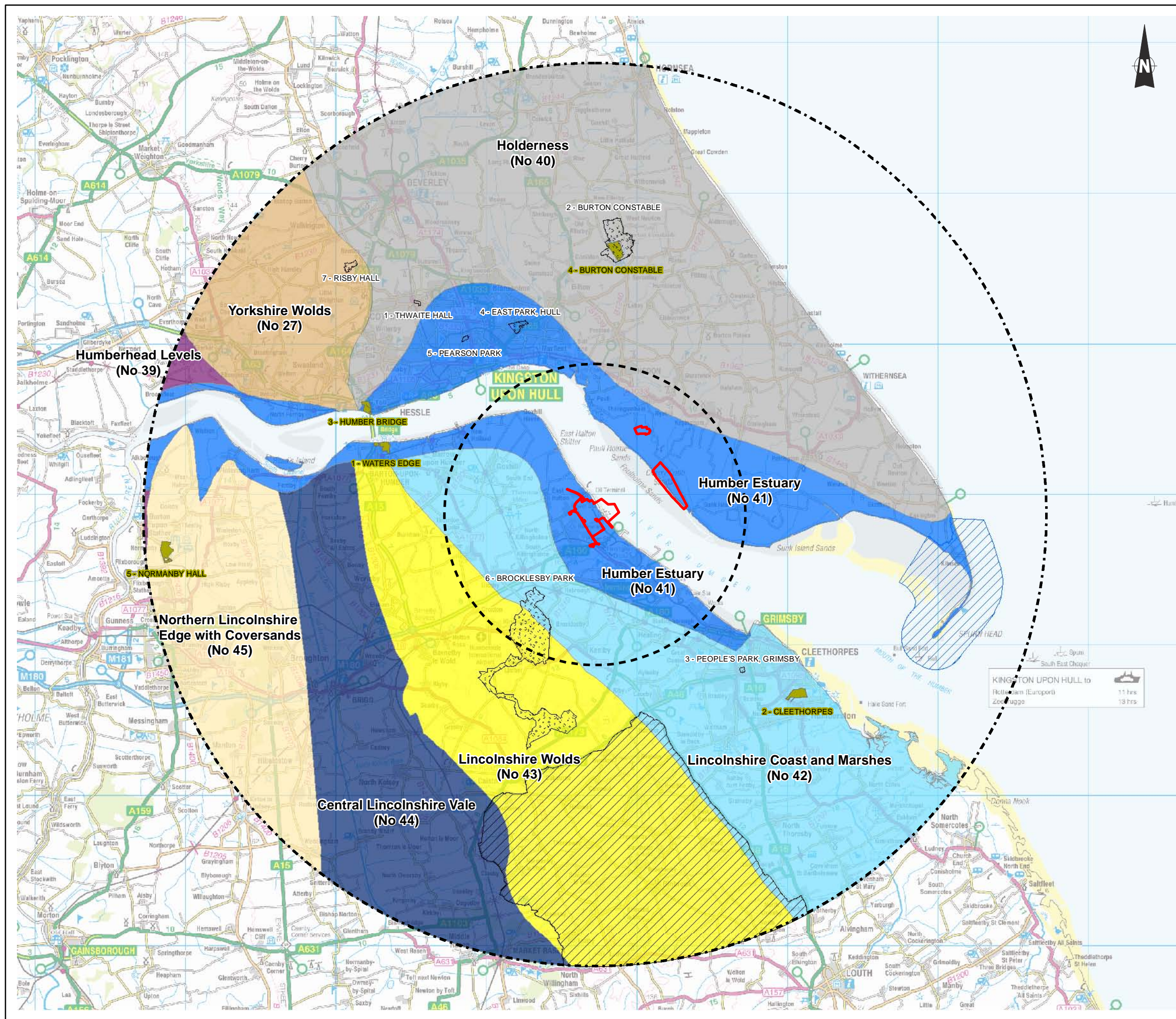
- 20.9.39 A small magnitude of cumulative change is predicted to arise in this landscape of low sensitivity to the proposed change thereby resulting in a not significant cumulative impact.
- 20.9.40 In the case of all of the local landscape character areas, the proposed AMEP will cause a magnitude of cumulative change in the range of minor to not significant on these landscapes which range in sensitivity from medium to low. This will result in cumulative impacts in the range from minor to not significant.

Summary

- 20.9.41 The scale of the structures associated with the AMEP and the area footprint occupied by the development is large relative to the other existing and proposed developments located in the vicinity. However, in the case of many of the above landscape character areas, the proposed AMEP will be visible within a landscape context which is much industrialised. Whilst the AMEP will be noticeable as an additional industrial development in this area, it is not likely to contribute to such an extent that the overall character of much of the receiving landscape in the 10 km area studied will be altered to a significantly adverse extent.
- 20.9.42 The cumulative impact on landscape character areas is assessed to be in the range of not significant to minor. One exception is Sunk Island, where the cumulative impact is expected to be in the range of minor to moderate. This reflects the proximity of the project to this receptor.

Table 20.20 Summary of Cumulative Landscape Impacts –Local Landscape Character Areas

Local Landscape Character Area	Sensitivity to the proposed change	Magnitude of cumulative change	Significance of Cumulative Impact
<i>North Lincolnshire</i>			
Humber Estuary	Medium	Small	Minor
Lincolnshire Drift	Medium	Small	Minor
<i>North East Lincolnshire</i>			
Landscape Character Area A – Humber Estuary	Low	Small	Not Significant
Landscape Character Area B – Lincolnshire Coast and Marshes	Low	Small	Not Significant
<i>West Lindsey</i>			
Wolds Estates	Low	Imperceptible - Small	Not Significant
<i>East Riding of Yorkshire</i>			
Low Lying Drained Farmland of the Humber Estuary – Sunk Island	Medium	Small - Medium	Minor - Moderate
Low Lying Drained Farmland of the Humber Estuary – South Patrington, Ottringham and Keyingham Farmland	Medium	Small	Minor
Low Lying Drained Farmland of the Humber Estuary – Paull Farmland	Medium	Small	Minor
Open Farmland of Holderness – Burstwick to Withernsea Farmland	Medium	Small	Not Significant - Minor
Kingston Upon Hull	Low	Small	Not Significant.



Key

Application Boundaries

10km Buffer

30km Buffer

Lincolnshire Wolds AONB

Spurn Heritage Coast

Parks and Gardens

1 - Thwaite hall

2 - Burton Constable

3 - People's Park, Grimsby

4 - East Park, Hull

5 - Pearson Park

6 - Brocklesby Park

7 - Risby Hall

Country Parks

1- Waters Edge

2 - Cleethorpes

3 - Humber Bridge

4 - Burton Constable

5 - Normanby Hall

National Landscape Character Areas

Holderness - (No 40)

Yorkshire Wolds - (No 27)

Humberhead Levels - (No 39)

Humber Estuary - (No 41)

Northern Lincolnshire Edge with Coversands - (No 45)

Central Lincolnshire Vale - (No 44)

Lincolnshire Wolds - (No 43)

Lincolnshire Coast and Marshes - (No 42)

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PROJECTION: British National Grid

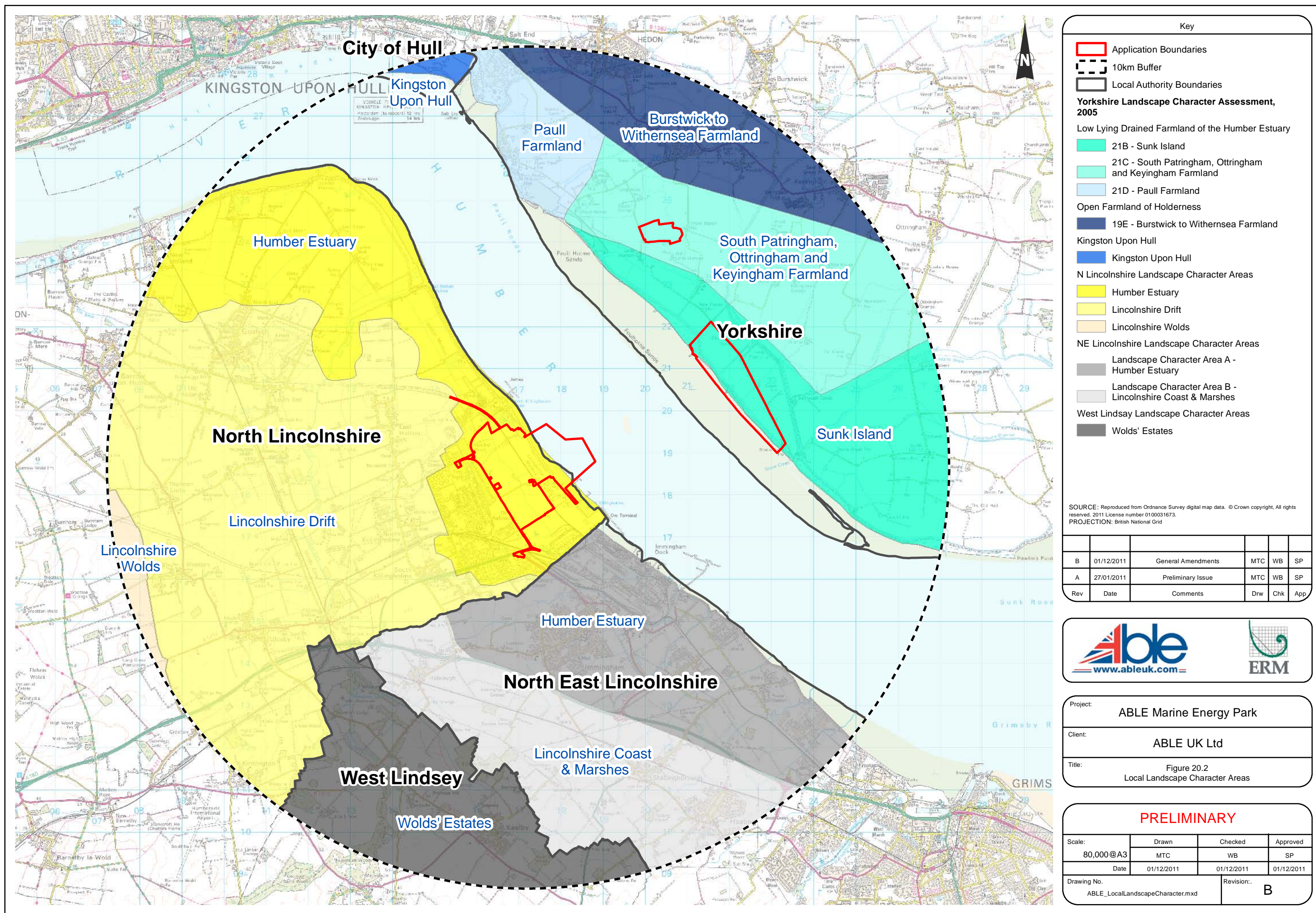
C	01/12/2011	General Amendments	MTC	WB	SP
B	27/01/2011	General Amendments	MTC	WB	SP
A	27/01/2011	Preliminary Issue	MTC	WB	SP
Rev	Date	Comments	Drw	Chk	App

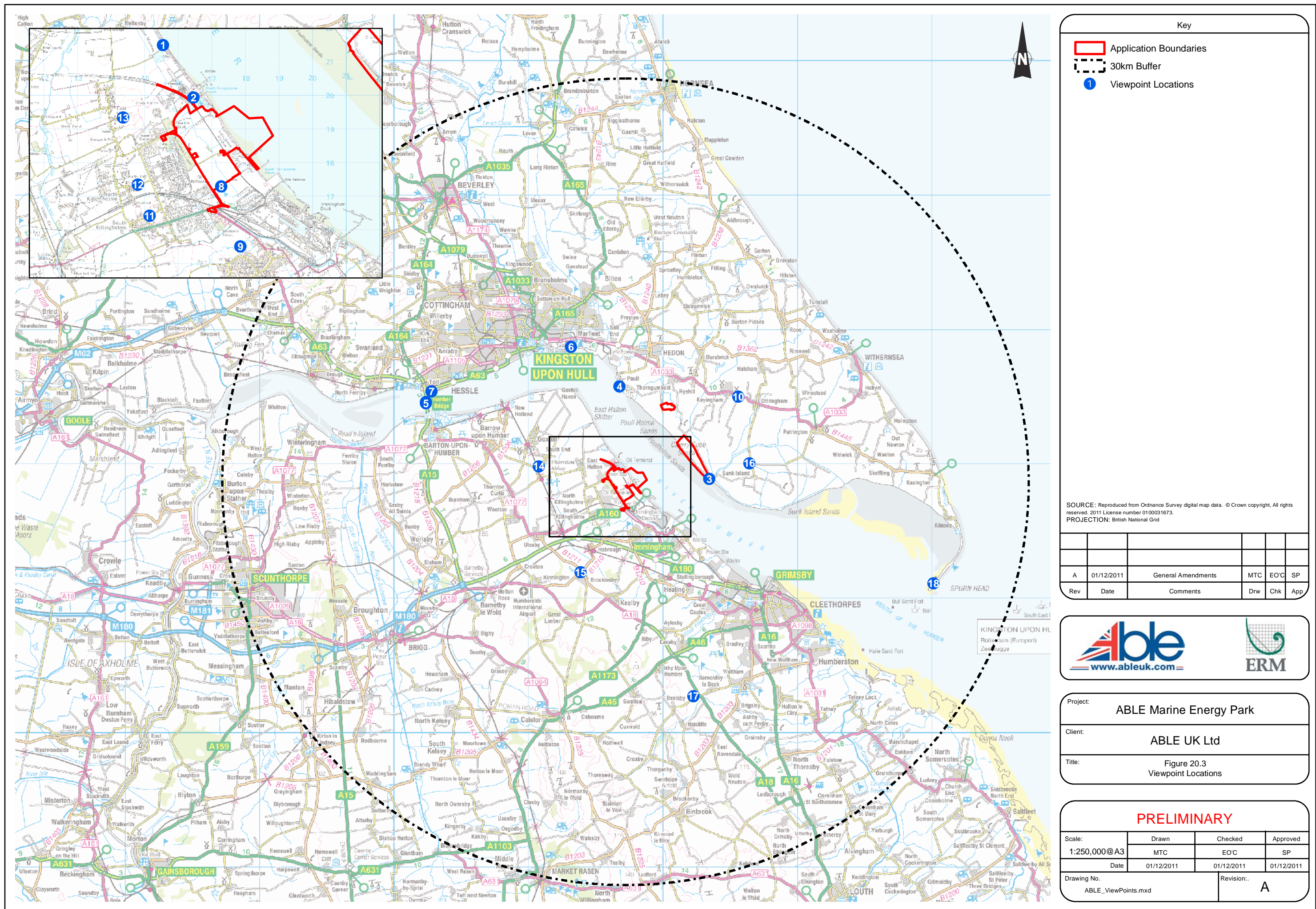


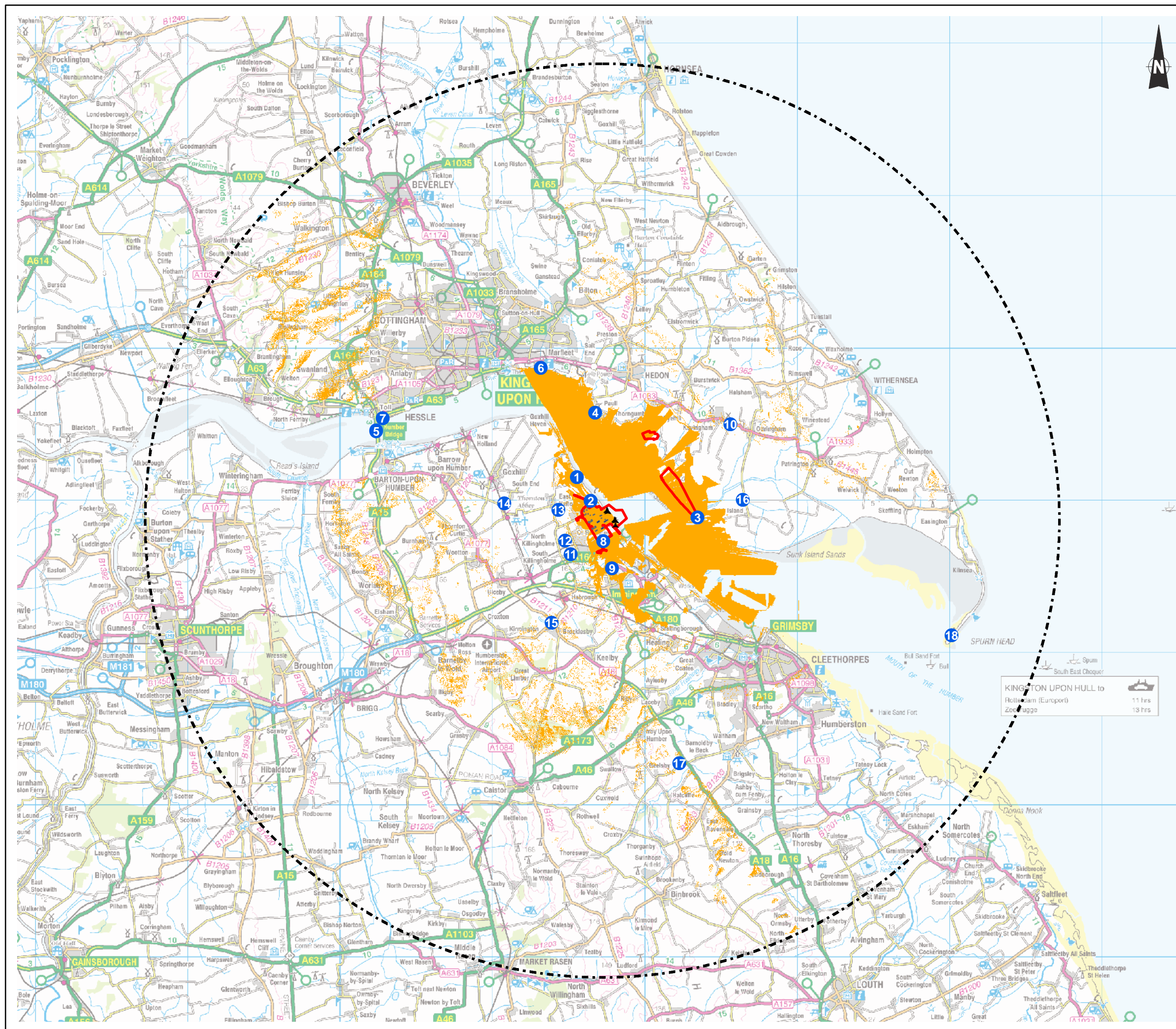
Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Figure 20.1 National Landscape Character Areas and Landscape Features

PRELIMINARY

Scale:	Drawn	Checked	Approved
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Date	01/12/2011	01/12/2011	01/12/2011
Drawing No.	Revision: C		
ABLE_NatLandscapeCharacter.mxd			







Key

Application Boundaries

30km Buffer

Turbine Locations

Building Visibility

Buildings


1

Viewpoint Locations


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PROJECTION: British National Grid

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Rev	Date	Comments	Drw	Chk	App



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Client:

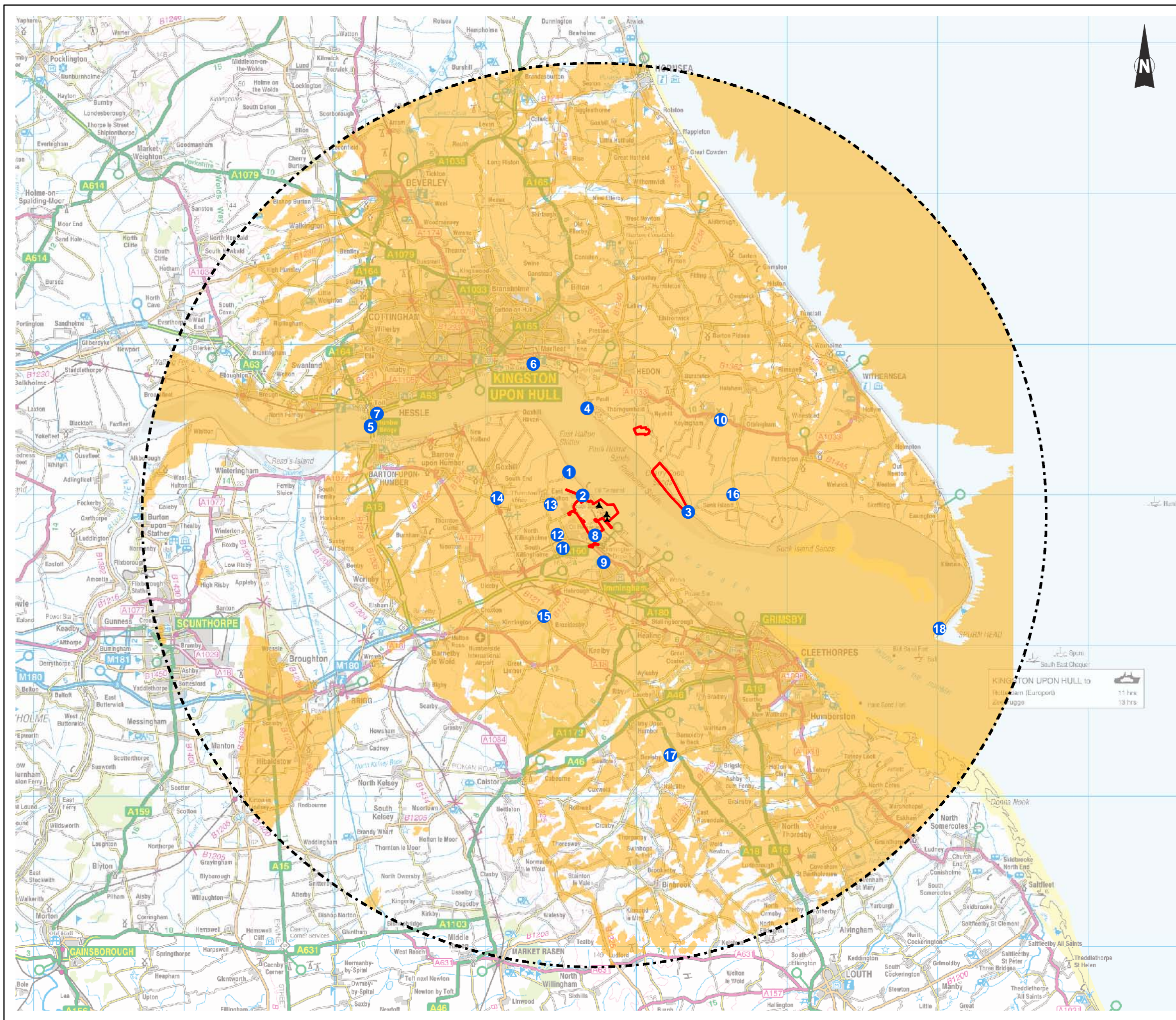
ABLE UK Ltd

Title:

Figure 20.3b
Zone of Theoretical Visibility and Viewpoint Locations

PRELIMINARY

Scale:	Drawn:	Checked:	Approved:
250,000@A3	MTC	EOC	SP
Date:	01/12/2011	01/12/2011	01/12/2011
Drawing No.	Revision:		
ABLE_ZTV_Buildings.mxd	A		



Key

Application Boundaries

30km Buffer

Turbine Locations

Turbine Visibility


1


Viewpoint Locations

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PROJECTION: British National Grid

A	01/12/2011	Preliminary Issue	MTC	EOC	SP
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Client:

ABLE UK Ltd

Title:

Figure 20.3a
Zone of Theoretical Visibility and Viewpoint Locations

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Scale:	Drawn:	Checked:	Approved:
250,000@A3	MTC	EOC	SP
Date:	01/12/2011	01/12/2011	01/12/2011

Drawing No.

ABLE_ZTV_Turbines.mxd

Revision:

A



Existing



GR: 515547 E 421495 N
Distance to site: 2.0Km
Direction from site: NNW
Viewpoint level: 3.8m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Rev	Date	Description	By	Chk	App

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Date	24/11/2011	24/11/2011	24/11/2011
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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4a Photomontage - Viewpoint 1
Public Footpath, South Humber Bank



Proposed



GR: 515547 E 421495 N
Distance to site: 2.0Km
Direction from site: NNW
Viewpoint level: 3.8m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4a Photomontage - Viewpoint 1
Public Footpath, South Humber Bank



Existing



Proposed



GR: 516463 E 419943 N
Distance to site: 0.3Km
Direction from site: NW
Viewpoint level: 5.6m AOD
Photo taken: 27/4/11

Horizontal field of view: 72.5°

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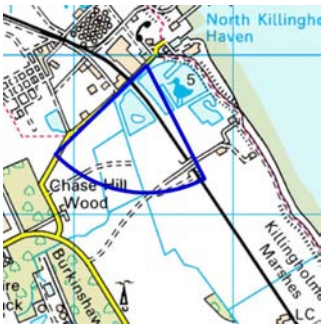
Title: Figure 20.4b1 Photomontage - Viewpoint 2 (left hand side) - North Killingholme Haven Pits



Existing



Proposed



GR: 516463 E 419943 N
Distance to site: 0.3Km
Direction from site: NW
Viewpoint level: 5.6m AOD
Photo taken: 27/4/11

Horizontal field of view: 72.5°

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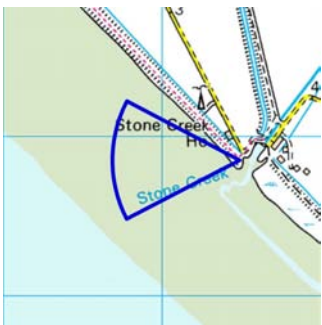


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Project: ABLE Marine Energy Park
Client: ABLE UK Ltd
Title: Figure 20.4b2 Photomontage - Viewpoint 2
(right hand side) - North Killingholme Haven Pits



Existing



GR: 523488 E 418853 N
Distance to site: 5.2Km
Direction from site: E
Viewpoint level: 6.0m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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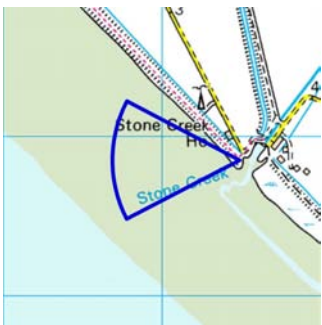
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4c Photomontage - Viewpoint 3
Coastal Footpath, North Humber Bank



Proposed



GR: 523488 E 418853 N
Distance to site: 5.2Km
Direction from site: E
Viewpoint level: 6.0m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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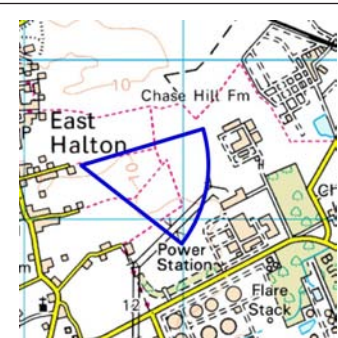
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4c Photomontage - Viewpoint 3
Coastal Footpath, North Humber Bank



Existing



GR: 514358 E 419339 N
Distance to site: 1.5Km
Direction from site: WNW
Viewpoint level: 10.8m AOD
Photo taken: 18/12/10

Horizontal field of view: 55°

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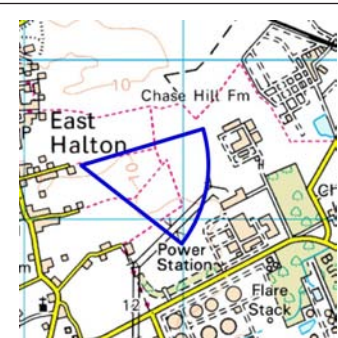
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4d Photomontage Viewpoint 13
Residents of East Halton



Proposed



GR: 514358 E 419339 N
Distance to site: 1.5Km
Direction from site: WNW
Viewpoint level: 10.8m AOD
Photo taken: 18/12/10

Horizontal field of view: 55°

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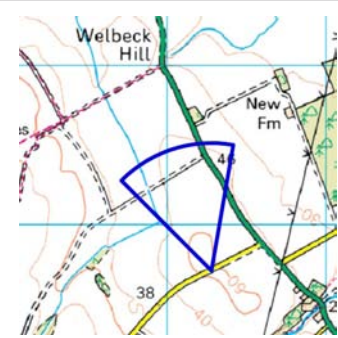
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4d Photomontage Viewpoint 13
Residents of East Halton



Existing



GR: 522279 E 402710 N
Distance to site: 16.0Km
Direction from site: SSE
Viewpoint level: 50.5m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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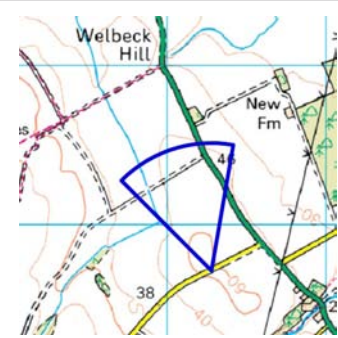
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4e Photomontage - Viewpoint 17
Lincolnshire Wolds AONB



Proposed



GR: 522279 E 402710 N
Distance to site: 16.0Km
Direction from site: SSE
Viewpoint level: 50.5m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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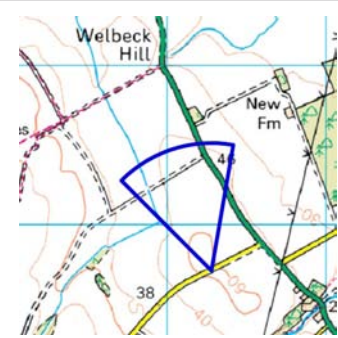
Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4e Photomontage - Viewpoint 17
Lincolnshire Wolds AONB



Outline



GR: 522279 E 402710 N
Distance to site: 16.0Km
Direction from site: SSE
Viewpoint level: 50.5m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4e Photomontage - Viewpoint 17
Lincolnshire Wolds AONB



Existing



GR: 540175 E 411138 N
Distance to site: 23.2Km
Direction from site: ESE
Viewpoint level: 5.0m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4f Photomontage - Viewpoint 18
Spurn Head, Car Park and Vewing Area



Proposed



GR: 540175 E 411138 N
Distance to site: 23.2Km
Direction from site: ESE
Viewpoint level: 5.0m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4f Photomontage - Viewpoint 18
Spurn Head, Car Park and Vewing Area



Outline



GR: 540175 E 411138 N
Distance to site: 23.2Km
Direction from site: ESE
Viewpoint level: 5.0m AOD
Photo taken: 27/4/11

Horizontal field of view: 55°

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Project: ABLE Marine Energy Park

Client: ABLE UK Ltd

Title: Figure 20.4f Photomontage - Viewpoint 18
Spurn Head, Car Park and Vewing Area