CONTENTS

13 SEASCAPE AND VISUAL ASSESSMENT

13.1 Introduction

This section describes the impact of the offshore elements of the Thanet Offshore Wind Farm (Thanet) project on the existing landscape and seascape environment, its characteristic features and on the people who view it. The purpose of the assessment is to determine the level and significance of any change in the character and value of the landscape / seascape area, as well as the potential change in views, within the overall Zone of Visual Influence.

The assessment of all onshore elements associated with the proposed wind farm and the respective impacts upon the landscape, its character and constituent features and the level of visual impact has been dealt with separately and is detailed in **Section 21, Landscape and Visual Character**.

13.2 Assessment Methodology

13.2.1 Introduction

The methodology follows relevant standards and guidance principally set out in the recognised Maritime Ireland/Wales Interreg 1994-1999 guidance document 'Guide to Best Practice in Seascape Assessment', (GSA), published in March 2001. This sets out a clear methodology for undertaking seascape characterisation and for the subsequent evaluation of impacts.

The assessment also draws upon the established Countryside Agency methodology (Landscape Character Assessment Guidance, 2002) and other recognised guidelines, in particular the Institute of Environmental Assessment and the Landscape Institute's Guidelines for Landscape and Visual Impact Assessment, second edition 2002 and the Visual Assessment of Windfarms Best Practice – SNH (2002). For detailed information on methodology guidance, refer to **Appendix 13.1**.

13.2.2 Scope of work

As stated in **Section 2, Project Details**, a number of wind farm layout options have been considered for the Thanet project. The Seascape and Visual Impact Assessment has assumed a worst case scenario based on the 60 turbine layout, as this would comprise turbines of the greatest height and is the worst case scenario in terms of extent of visual exposure or influence within the study area. A further detailed assessment has also been carried out to assess the potential landscape and visual impact for the wind farm layout utilising the maximum number of turbines i.e. 100 smaller turbines. This scenario has greater visual impact significance in certain cases from some of the agreed representative receptors. This assessment has been summarised in this section and is included in full within **Appendix 13.6**.

The 60 turbines would be nominally arranged in a grid of five rows comprising 10 to 14 turbines and broadly aligned in a north-westerly to south-easterly direction. The turbines would be located at distances from the nearest point at the shore varying between 11.3km to 15.0km. The turbine towers would nominally rise to a maximum height of

approximately 90m above mean sea level (AMSL), with a maximum rotor diameter of 120m, giving a maximum blade tip height of up to 150m AMSL.

In order to undertake the full impact assessment, a number of clear stages were identified and addressed in accordance with the prescribed methodology including:

- A desktop review of current statutory and non-statutory documents;
- A desktop review of existing landscape characterisation material;
- A seascape assessment of all areas falling within a 35km radius of the Thanet project;
- A desktop resume of the existing meteorological context;
- Identification of the range of visual receptor groups and tourism base, within the study area;
- The identification of a theoretical Zone of Visual Influence (ZVI) for the Thanet project;
- The identification and agreement, through consultation, upon the number and location of various representative viewpoints within the study area;
- A description of the Thanet project including all onshore elements and cable routes;
- The preparation of computer generated wireframes showing the Thanet project from the agreed representative viewpoints;
- An assessment of the magnitude and significance of impacts upon the seascape character and visual environment during the construction, operational and decommissioning stages of the Thanet project;
- An assessment of any mitigation measures that would be incorporated within the proposals to help reduce identified potential seascape and visual impacts; and
- The production of ten photomontages from agreed viewpoints showing the anticipated view following construction of the Thanet project.

13.2.3 The study area

It is accepted practice within landscape and visual assessment work that the visual envelope, or the theoretical Zone of Visual Influence (ZVI), arising from the development broadly defines the extent of the study area.

The extent of visibility of a development within the ZVI then depends upon a variety of factors including the scale of development, the relationship between the viewpoint and the development itself, the context within which the development is seen and the prevailing meteorological and weather conditions existing at any one time. The study area for extends to a 35km radius around the offshore wind farm development to cover all the potentially significant landscape and visual impacts in line with relevant guidance as detailed below.

13.2.4 Consultation

The following organisations have been consulted with respect to seascape and visual issues:

- Kent County Council;
- Thanet District Council;
- Dover District Council; and
- Countryside Agency.

The final list of ten representative viewpoints was agreed with the first three consultees. The Countryside Agency advised that the Thanet project was beyond their general area of responsibility and had no real concern with the proposed level of assessment.

13.2.5 Existing published Landscape Character Assessment work

A variety of Landscape Character Assessment work, relevant to the wider study area of the Thanet project has previously been carried out by different agencies. These include the Countryside Agency's Character of England Map and English Nature's equivalent Natural Areas Map and the Thanet District Landscape Character Assessment. They provide a broad overview and context for the existing Landscape Character of the study area.

Appendix 13.2, provides a more detailed summary of key aspects of The Character of England Map Areas.

13.2.6 Existing Seascape Assessment

The existing Landscape Character Assessments provide a general consensus with respect to the number and extent of different Landscape Character Areas that fall within the study area. However, none of them include coverage of the adjoining sea within their assessment where the Landscape Character Areas are contiguous with the coastline.

This gap in existing assessment work is recognised by the Guide to Best Practice in Seascape Assessment (GSA - see below), which defines Seascape Units as including three key components, namely:

- The marine component;
- The hinterland component; and
- The coastal component.

Identified Seascape Areas would thus embrace views from land to sea, views from sea to land, views along the coastline and, the effect on landscape of the conjunction of sea and land. For details of the GSA methodology and information on the national Seascape Units that cover the area, refer to **Appendix 13.1**.

The four identified Regional Seascape Units that fall within the study area (see **Figure 13.1**) include:

- Wantsum Channel;
- Isle of Thanet;
- Stour Estuary; and
- South Foreland Regional Units.

13.2.7 Cumulative Assessment

The purpose of the cumulative assessment is to consider the potential landscape and visual impacts in relation to existing wind farm developments and other known proposed wind farm developments in the area. It raises questions over thresholds of acceptable change and combination of effects and includes an assessment of Landscape Capacity.

The Guidelines for Landscape and Visual Impact Assessment (2nd edition, 2002) advises that *"cumulative landscape and visual effects (impacts) result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future"*.

The Cumulative Effects Report for the Thames Estuary developers, as referenced below, indicates that only those projects in the Thames Estuary Strategic Environmental Assessment (SEA) area identified as having 'high' potential for causing cumulative seascape and visual impacts need to be assessed. As a consequence, only those proposed and consented wind farm projects whose ZVIs overlap the study area i.e. hinterland, are considered likely to contribute to cumulative visual effects. These projects include the Kentish Flats and the London Array projects.

13.2.8 Source documents

In defining the existing baseline environment the following documents have been reviewed:

General Guidance:

- Planning Policy Guidance 20: Coastal Planning (HMSO, Sept 1992);
- Planning Policy Statement 22: Renewable Energy (HMSO, Dec 2004); and
- Wind Energy Development and the Landscape (CCP 357, 1991).

Kent County Council:

- Kent and Medway Structure Plan (Deposit Plan, Sept 2003).

Thanet District Council:

- Thanet District Local Plan (Revised Deposit Draft, March 2003).

Dover District Council

- Dover District Local Plan (Adopted 2002).

Seascape and Landscape Assessment:

- Guide to Best Practice in Seascape Assessment (Irish Marine Institute, March 2001);
- Guidelines for Landscape and Visual Impact Assessment (Institute of Environmental Management and Assessment / Landscape Institute, 2002);
- The Countryside Agency's Character Map Character Areas - 113 /119. (1999);
- Thanet District Landscape Character Assessment (November 2001);
- Areas of Outstanding Natural Beauty: A Policy Statement (CCP 356, 1991);
- Heritage Coasts in England: Policies and Priorities (CCP 397, 1992);
- Natural Areas in the East of England Region (Maritime Areas 67 and 105) (English Nature, 1999);
- Studies to Inform Advice on Offshore Renewable Energy Development: Visual Perception versus Photomontage (CCW, March 2004); and
- Seascape and Visual Impact Assessment Guidance for Offshore Wind Farm Developers – Draft Report (Enviros, 2005).

Meteorological Data:

- Dover Strait Pilot (NP 28) (2004-2005).

Cumulative Assessment:

- Round 2 Offshore Wind Farms – Thames Estuary – Proposed Cumulative Effects Assessment (PMSS, June 2004);
- Cumulative Effects of Wind Turbines (ETSU / DTI, 2000);
- Cumulative Effects Report for all Thames Offshore Developers' Sites;
- Thanet Offshore Wind Farm – Environmental Scoping Report (Royal Haskoning, July 2004);
- Environmental Report: Offshore Wind SEA (BMT Cordah, July 2003); and
- London Array Environmental Statement (LAL, 2005).

13.2.9 Policy Background

Introduction

Although the Thanet project is located within offshore coastal waters, its potential impact upon both seascape character and the visual environment potentially extends over a wide area of the landscape of the Thames Estuary and the Kent coastline. This section identifies the statutory and non-statutory designations and classifications that apply to this landscape where these are specifically relevant to wind farm development and

landscape/seascape and visual issues. Refer to **Figure 13.1**, for further details of areas of landscape designation. **Appendix 13.4** provides further details of the Planning Policy Context, including relevant Planning Policy Guidance documents (PPG) and the replacement Planning Policy Statements (PPS).

Structure and Local Plan policies

As part of establishing the existing baseline environment, the assessment also reviewed and considered a range of relevant policies from the Kent Structure Plan and the Local Plans for Thanet District Council and Dover District Council. See **Appendix 13.4** for Structure and Local Plan Policies covered by the study area.

Landscape designations

With the exception of limited areas around Ramsgate and Broadstairs Harbours, the entire Thanet coastline is recognised, both nationally and internationally, for its nature conservation and scientific value, as noted above, and it, therefore, requires particularly strong protection in this regard. It is noted that these designations physically incorporate extensive areas of the seascape as well as the adjoining landscape. Away from the coast, the North Downs Area of Outstanding Natural Beauty (AONB) also lies within the periphery of the study area.

The Local and Structure Plans also identify a number of areas and features of local or regional landscape significance. Although the unspoilt scenic quality of much of the undeveloped coast of Kent, and the adjoining countryside is of national significance, there are three separate lengths of coast, which have remained substantially undeveloped and are recognised as such by the Kent Structure Plan. These are located at Pegwell Bay, North Foreland/Palm Bay and Minnis Bay/Plum Pudding Island.

The Local and Structure Plans also recognise that the coastline and sea considerably enhance the value of the district's landscape and is recognised by its partial designation as part of the Pegwell Bay Special Landscape Area. Furthermore, the open landscape and system of dykes to drain marshlands, which typifies the area between Stourmouth at the mouth of the River Stour, and Richborough, known locally as the Ash Levels, is unique within the district and recognised as the Ash Levels Area of Local Landscape Significance (ALLS). These landscapes extend across the neighbouring districts of Canterbury, Thanet and Dover, where Local Plan protection is given.

Summary

The National and Development Plan policy framework recognises the importance of renewable energy, but also requires that due consideration be given to areas of Heritage Coast, AONB and other areas of recognised landscape value. The development of renewable energy sources in general is positively encouraged, but needs to be without significant adverse or detrimental impact upon the existing landscape resource and visual environment.

International/National Designations

- Ancient woodland
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- RAMSAR
- Area of Outstanding Natural Beauty (AONB)
- Heritage Coast (HCST)
- Conservation Area

Local Designations

- Undeveloped coast
- Urban coast
- Ash Levels - Area of Local Landscape Significance
- Special Landscape Area (SLA)

FIGURE 13.1

REV.	DESCRIPTION	APP.	DATE

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THANET OFFSHORE WIND FARM

LANDSCAPE POLICY CONTEXT

DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	NTS
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/001

13.3 The Existing Seascape Environment

13.3.1 Introduction: The site and its setting

Kent's environment is a major national asset with a varied landscape, much of which is nationally protected with over half being classified as an Area of Outstanding Natural Beauty e.g. Kent Downs AONB and the High Weald AONB. The coast also contains a rich variety of natural habitats, wildlife and historic and archaeological features and areas, which are protected both nationally and internationally, and contributes significantly to the overall value of the Kent landscape. Although the Thanet site is located at least 11.3km offshore, the development would still potentially be visible over a wide area of the east Kent landscape. Refer to **Figure 13.1** for details of the landscape constraints.

The identified study area embraces a long stretch of coastline extending from the Thames Estuary, eastwards to the Isle of Thanet and southwards to the Heritage coast at Dover, embracing both Sandwich Bay and Pegwell Bay. This coastline is dynamic and varied in its form, being characterised by chalk cliffs, resort beaches, estuarine marshes and mudflats, coastal lowlands and sand dune systems. Extensive areas are heavily urbanised and interspersed with an undeveloped coastline with open recreational areas such as Pegwell Bay Country Park. Each is subject to its individual set of natural processes and has its own special qualities as an environmental, economic and recreational resource.

13.3.2 Landscape / seascape character

Given the geographical extent of the study area, a variety of existing landscape characterisation work already exists and, whilst only dealing with landscape character, this still provides useful material in defining the existing character of the study area and assists with the assessment of seascape elements and units.

13.3.3 Landscape context

The landscape character context is identified at different levels, with the Countryside Character Initiative (CCI) and English Nature's Natural Areas providing the broader framework to determine the character of the British countryside at a national level. Within the CCI Character Map, the study area intersects two areas:

- Area 113 - North Kent Plain; and
- Area 119 - North Downs.

The Natural Area 107 East Kent Coast also provides additional information about the coastal zone. The key characteristics of these are detailed in **Appendix 13.2**.

13.3.4 Thanet District Landscape Character Assessment

Thanet District Council has undertaken its own Landscape Character Assessment, which provides a more detailed tier of Landscape Character Assessment that is relevant to the study area. This assessment has identified six landscape character areas at the local level to assist with the detailed landscape policy for the district, namely:

- Pegwell Bay;
- The Former Wantsum Channel;
- The Former Wantsum North Shore;
- The Central Chalk Plateau;
- Quex Park; and
- The Urban Coast.

The assessment recognises that the District possesses "*a gently undulating landscape, with few dominant natural features, shaped largely by arable farming, combined with a historical lack of tree cover*".

However, the assessment goes on to recognise that there are features and areas within the District, which provide a high level of landscape value and public amenity, including Pegwell Bay and the former Wantsum Channel, where uninterrupted long views of the sea, the marshes and the attractive and undeveloped coastline exist towards Sandwich, the Ash Levels and Reculver.

The assessment also indicates that the seascape "*forms a particularly important factor*" in the quality of the Landscape Character *"as the sea often forms the backdrop to other landscape areas or features and a contrasting edge to the open countryside and the built environment and an element of wildscape in an otherwise managed landscape. This is enhanced by the flatness of the landscape, which permits long views of the sea from some elevated flat inland parts of the District"*.

13.3.5 Dover District Council

Dover District Council (DDC) assess the character within their Local Plan, as that identified by the CCI, which divides the District in two with the southern two thirds of the District lying within the North Downs (Area 119) and the northern third within the North Kent Plain (Area 113).

13.3.6 Seascape Context

Whilst the above Landscape Assessments provide useful baseline detail, the information is insufficient to appraise the Seascape Character Areas in full, as they do not include coverage of the adjoining sea within their assessment. This supplementary information has, therefore, been obtained through additional desktop and site survey work, following recognised methodological guidance as detailed in **Appendix 13.1**.

In order to assess this seascape context, three key components have been defined, namely:

- The marine component;
- The hinterland component; and
- The coastal component.

These assisted with identifying Seascape Character Units, which straddle segments of the coastline with their character being defined by both seaward and landward elements

and thus embraced, views from land to sea, views from sea to land, views along the coastline and indicated the effect on landscape of the conjunction of sea and land.

At a regional scale, four Seascape Character Units have been identified within the 35km study area. As stated above, these include:

- Wantsum Channel;
- Isle of Thanet;
- Stour Estuary; and
- Sandwich Bay and South Foreland.

The key characteristics of each of these units are considered below, as well as the key elements that combine to make the overall character of each unit distinctive from adjoining seascapes. **Figure 13.2** illustrates the approximate extent of the four identified Regional Seascape Units, which fall within the study area. Further detailed information is also given in **Appendix 13.3**.

13.3.7 Wantsum Channel Regional Seascape Unit

This Regional Seascape Unit occupies the north Kent coastline, extending westwards from Birchington towards Herne Bay and embracing a stretch of undeveloped coastline wedged between two heavily urbanised and more elevated stretches of coastline. The coastline is generally flat, low lying and typically unvegetated. It has an east to west alignment, with a straight to gently convex shape, and is characterised by a soft foreshore of shingle, sand and mudflats of national and international nature conservation value and is considered to be generally of *medium* quality with isolated elements of low quality. The low lying open and undeveloped character will also create a *low* to *medium* level of sensitivity to change in light of its limited intervisibility with the sea component. Further details are given in **Appendix 13.3**.

13.3.8 Isle of Thanet Regional Seascape Unit

This is a clearly defined Regional Seascape Unit extending between Birchington and Ramsgate for approximately 21km, embracing the urban areas of Margate and Broadstairs and standing remote from the other surrounding areas. The stretch of coastline is characterised by chalk cliffs and resort beaches, with an almost continuous conurbation along the coast and a well vegetated Green Wedge between settlements at the north easterly point of the Isle of Thanet providing an important gap. These urban coastal strip areas are further characterised by the presence of traditional seaside architecture, active harbour areas and beaches and some extensive public open cliff top areas. The varied coastline and pattern of bays and headlands also provides a high degree of intervisibility along the coast with long sweeping views and secluded intimate views typically being extending north or west. The area remains distinct, diverse and balanced and is considered to be of *medium* to *high* quality and generally a *medium* level of sensitivity to change with isolated areas of *high* sensitivity.

Notes on the definition and extent of the Regional Seascape Units

1. The Guide to the Best Practice in Seascape Assessment (GSA) proposes the identification of National, Regional and Local Seascape Units as part of a Seascape Characterisation process.

2. Regional Seascape Units are stated as being the most appropriate scale of Seascape Characterisation for substantial coastal developments (including offshore wind farms).

3. The Regional Seascape Units identified 'nest' within the National Unit for the area which extends between the Thames Estuary and Selsey Bill.

4. The GSA advises that the identified Regional Seascape Units can extend for up to 15km offshore, and for a maximum length of 30kms along the coast.

5. The 15km offshore limit is comparable to views to the sea surface from 6m above sea level.

6. The Regional Seascape Units can extend for up to 10kms inland and may include areas of visually dead ground i.e. areas of land that are not visible from the sea component of the unit.

7. Landform, coastal alignment and intervisibility are all considerations in defining Regional Seascape Units through their coastal, marine and hinterland components.

FIGURE 13.2

REV.	DESCRIPTION	APP.	DATE

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T 01865 887050

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THANET OFFSHORE WIND FARM

REGIONAL SEASCAPE CHARACTER UNITS

DRAWN	SMC	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	1:150,000
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/003

13.3.9 Stour Estuary Regional Seascape Unit

The Stour Estuary Regional Seascape Unit runs for approximately 16km between the two settlements of Cliffs End and Kingsdown, embracing Pegwell Bay, Sandwich Bay, the Ash Levels and the urban areas of Sandwich and Deal. Comprising a low lying, relatively undeveloped coastal hinterland, indented by the mouth of the Stour Estuary to the north, the coastline is characterised by a distinctively open and relatively unspoilt intertidal zone, dominated by soft sediments, which form extensive areas of open, mixed coastal habitats including saltmarsh, mudflats, coastal scrub and coastal dune grassland. The area possesses a sense of remoteness and wildness despite the relative proximity of the conspicuous but isolated development surrounding Sandwich and the major detracting influence of the cooling towers and chimney at the disused Richborough Power Station. The openness of this landscape provides wide and long views of the former Wantsum Channel area and Pegwell Bay and is of *medium* quality and of *medium* sensitivity to change.

13.3.10 South Foreland Regional Seascape Unit

The unique landscape of the North Downs and Heritage Coast distinguish this Regional Seascape Unit, which stretches to approximately 10km from Deal through to Dover. It then continues beyond the study area to Folkestone for another 10km. This elevated coastline is recognised internationally for its ecological and aesthetic value and is characterised by the exposed 'White Cliffs of Dover' Heritage Coast, where the downland meets the coast. This creates a dramatic elevated cliff top landscape with a variety of strong natural elements and broad sweeping views across undulating landform, along the coast with extensive panoramic views out to sea. This combination of features provides a *high* quality landscape, which has a *high* sensitivity to change.

13.3.11 Summary

Table 13.1 summarises the quality of the four Regional Seascape Unit falling within the study area and records their perceived sensitivity to change. These judgements have been made on the basis of site work undertaken in accordance with the GSA guidelines. They also incorporate the findings of the various existing Landscape Character Assessments applicable to the study area, as detailed above.

Table 13.1 Regional Seascape Unit Baseline

Regional Seascape Unit	Distance of coastline from nearest turbine	Quality of Seascape Units	Sensitivity to change
A - Wantsum Channel	23km	Medium	Low to Medium
B - Isle of Thanet	11.3km	Medium to High	Medium to High
C - Stour Estuary	21km	Medium	Medium
D - South Foreland	28km	High	High

13.3.12 Meteorological Context

The degree, extent and likelihood of visual impact arising from the Thanet project is an amalgam of a variety of different factors, not least the prevailing weather conditions that occur in the vicinity at any one time, which can determine changes in character and visibility with varied wind, light, tidal movements and the clarity or otherwise of the atmosphere.

The Kent coastline is subject to particular climatic characteristics and daily variations arising from changes in the prevailing weather systems. In order to define the existing baseline meteorological context, the Meteorological Office in Bracknell was consulted for appropriate, relevant background information. The Dover Strait Pilot Report (2004-2005), as referenced in **Appendix 13.5** provided details.

The meteorological and climatic information referred to in **Appendix 13.5** has been sourced from the Dover Strait Pilot (NP28), which covers the Dover Strait and Thames Estuary area extending from Bognor Regis and Southwold in Suffolk to the northwest coast of Europe, including Cap d'Antifer and Scheveningen. The Pilot gives a summary of general maritime conditions including details on currents, tidal streams, flow, sea level and tidal surges, sea swell and sea surface temperature. All of these will interact with air conditions, particularly temperature, to produce localised weather conditions, which will intermittently determine coastal visibility within the vicinity of the Thanet site.

13.4 The Existing Visual Environment

13.4.1 Introduction

The inherent visibility of this type of development, assuming a maximum blade tip height of 150m AMSL, and the consequential impact on the visual environment is often cited as a concern for local residents and visitors alike. The purpose of this Visual Assessment is to determine the Zone of Visual Influence (ZVI) of the development i.e. the area of land / sea within which it maybe possible to see any part of the Thanet project, and to determine how visible the development would be from sensitive viewpoints or receptors, within the ZVI.

Furthermore, the essence of any coastal environment is that it is an edge or interface between two fundamentally different environments. This coastal edge is an environment of great diversity and interest in visual, landscape / seascape character and scientific terms, often forming a remote natural area and an important tourism resource.

13.4.2 Zone of visual influence

The computer generated ZVI **Figures 13.3** and **13.4** identify key stretches of the coastline and hinterland from which the Thanet project may theoretically be visible. The ZVIs extend over a 35km radius from the centre of the wind farm and, therefore, exceed the 15km range that the Guide to Best Practice in Seascape Assessment (GSA) suggests as the maximum limit of visual significance along the coast. Moreover, it is commonly accepted practice that, for onshore wind farms, an outer study boundary of 30km for the plotting of a theoretical ZVI is sufficient. **Figures 13.5** and **13.6** then identify the key stretches of the coastline where the additional cumulative effects of the

Kentish Flats wind farm and London Array wind farm may theoretically be visible within the same study area.

Theoretical ZVIs generally make no allowance for the screening effects of existing vegetation or existing built development. As a result, they give an exaggerated impression of the potential degree of visual exposure of a proposed development and, therefore, present an extreme worst case scenario. To limit this exaggerated impression, significant existing settlements and vegetation have been mapped into the terrain model to provide a more realistic impression of likely visibility. However, the real extent of the ZVI would be reduced further still as a result of existing vegetation, buildings and other vertical structures. The generated ZVIs have also allowed for the curvature of the earth's surface.

13.4.3 Key visual receptors

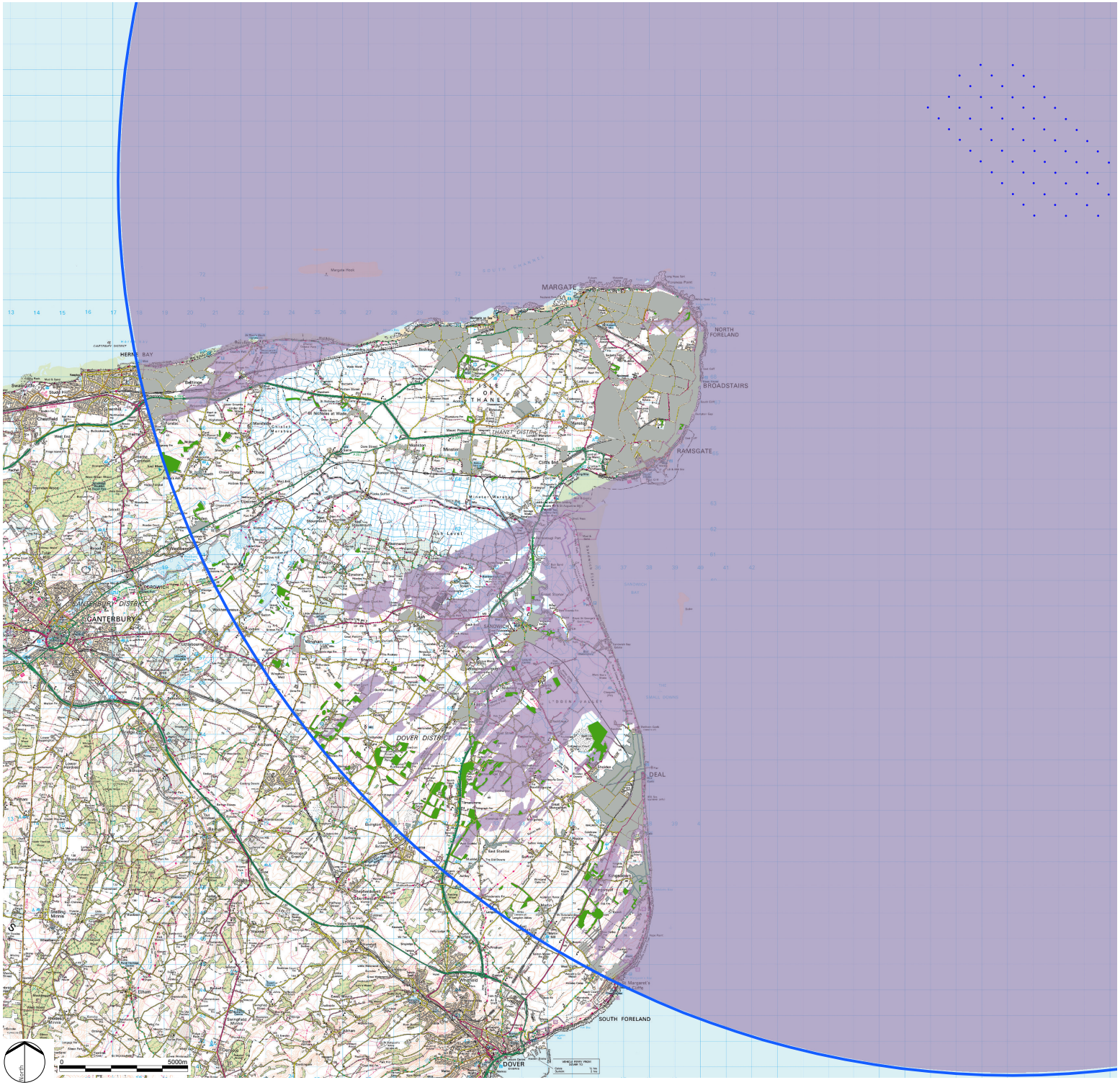
A wide variety of visual receptors can be expected to be affected by the Thanet project. These receptors would vary considerably depending on the intricacies of the coast and would include not only local people, but also those travelling through the area or those visiting the area for recreational and amenity purposes. The three main receptor groups, therefore, include local residents, the travelling public and visitors to the area.

Local residents

Local residents are judged to generally have a high level of sensitivity to changes in their landscape/seascape and visual environment, where views from their own homes are judged to be the most sensitive, as such views are consistently available. The theoretical ZVIs indicate that residents along the coastal areas of the principal settlements of Margate, Broadstairs, Ramsgate, Sandwich and Deal are most likely to have views of the Thanet project. Views out to sea and thus of the development, would generally be restricted to the immediate seafront edge. For those buildings and visual receptors behind the seafront, views towards the development would generally be obscured. Further inland views would be generally restricted either by landform, vegetation or other settlement, but isolated views may be gained from localised higher ground to the southwest of the study area.

The travelling public

This category of visual receptor groups embraces both residents and those who come to travel to or through the area. The group includes the users of the Kent coastal railway and travellers along the main 'A' roads including the A299, A28, A256, A258, A257 and the A2. It is, considered however, that this group has only a low to medium level of sensitivity to change on account of the transitory nature of views in any one direction. In contrast, for those with roads leading straight towards the development and with clear consistent views towards the Thanet site there is likely to be a *medium* level of sensitivity to change.



Site location

Zone of Visual Influenc (35Km radius from site)

Principal woodland blocks - Modelled at 15m

Principal areas of settlement - Modelled at 7.5m

Notes:

This drawing is based upon computer generated Zone of Visual Influence (ZVI) studies. The areas shown are the maximum theoretical visibility, taking into account topography, curvature of the earth and principal woodlands and settlements, which have been included in the model with the heights indicated. The model does not take into account localised features such as hedgerows, groups of trees and individual buildings, and thus gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan.

FIGURE 13.3

REV.	DESCRIPTION	APP.	DATE

Oxford
T 01865 887050

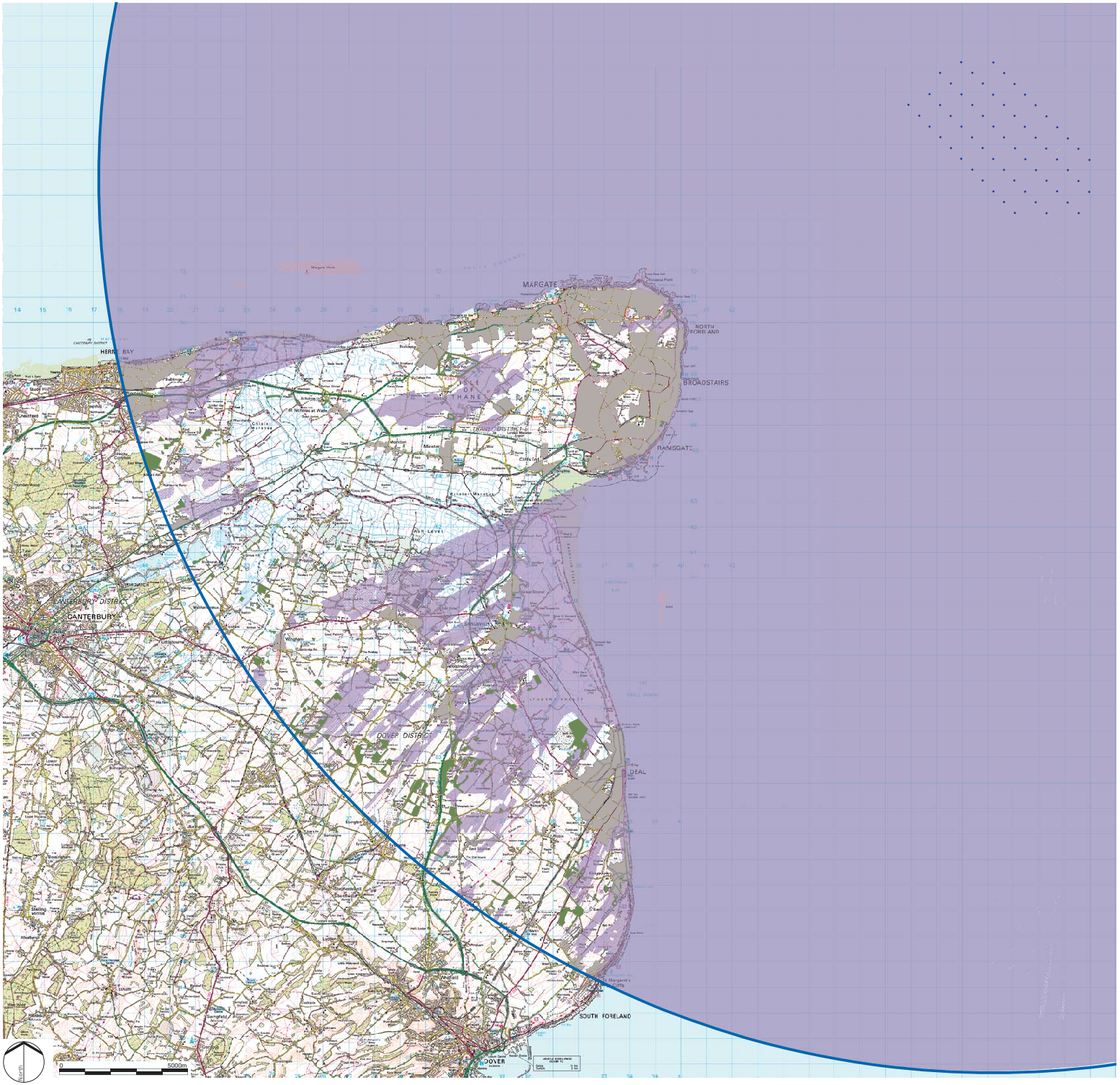
LDADESIGN

THANET OFFSHORE WIND FARM

THEORETICAL ZONE OF VISUAL INFLUENCE
90M NACELLE

DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	150,000
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/004



Site location

Zone of Visual Influenc (35Km radius from site)

Principal woodland blocks - Modelled at 15m

Principal areas of settlement - Modelled at 7.5m

Notes:
This drawing is based upon computer generated Zone of Visual Influence (ZVI) studies. The areas shown are the maximum theoretical visibility, taking into account topography, curva ture of the earth and principal woodlands and settlements, which have been included in the model with the heights indicated. The model does not take into account localised features such as hedgerows, groups of trees and individual buildings, and thus gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan.

FIGURE 13.4

REV.	DESCRIPTION	APP.	DATE

Oxford
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LDADESIGN

THANET OFFSHORE WIND FARM

THEORETICAL ZONE OF VISUAL INFLUENCE 150M BLADE TIP

DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	150,000
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/005

Site location

8 Photomontage viewpoint location

FIGURE 13.5

REV.	DESCRIPTION	APP.	DATE

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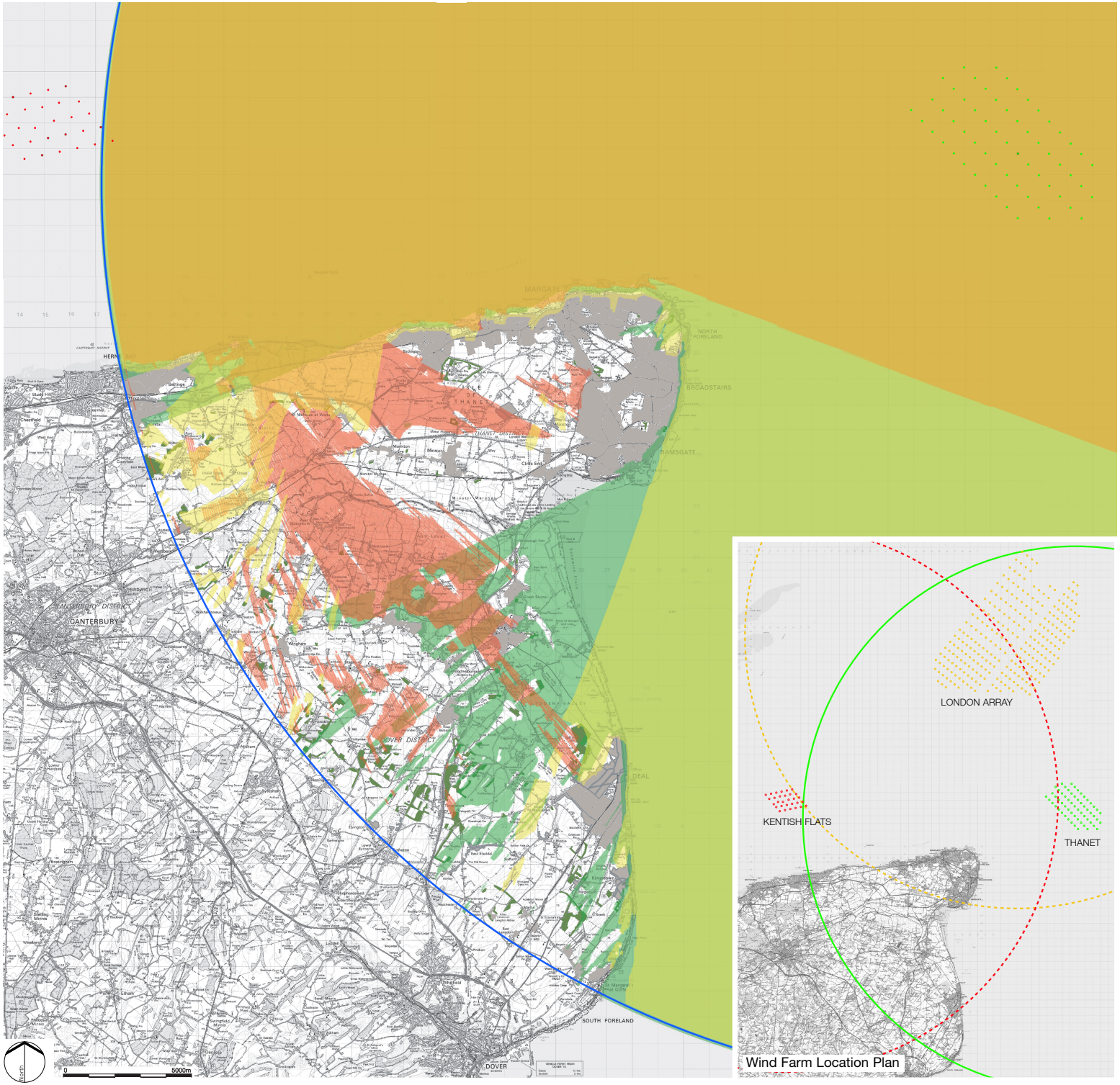
THANET OFFSHORE WIND FARM

VIEWPOINT LOCATION PLAN

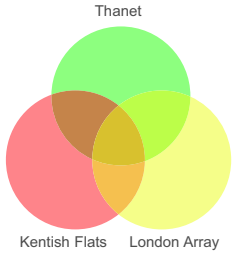
DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	1:150,000
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/006



Principal woodland blocks - Modelled at 15m

Principal areas of settlement - Modelled at 7.5m



Notes:
This drawing is based upon computer generated Zone of Visual Influence (ZVI) studies calculated within the 35Km radius from the centre of the proposed Thanet Wind Farm. The study used the proposed blade tip height of 150m for Thanet Wind Farm, 115m for Kentish Flats Wind Farm and 155m,165m and 180m for the four phases of London Array Wind Farm. The areas shown are the maximum theoretical visibility, taking into account topography, curvature of the earth and principal woodlands and settlements, which have been included in the model with the heights indicated. The model does not take into account localised features such as hedgerows, groups of trees and individual buildings, and thus gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan.

FIGURE 13.6

REV.	DESCRIPTION	APP.	DATE

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THANET OFFSHORE WIND FARM

THEORETICAL ZONE OF VISUAL INFLUENCE
CUMULATIVE STUDY: BLADE TIP

DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	NTS
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/007

Visitors and the tourism / amenity resource

This visual receptor category embraces a wide variety of individual visual receptor groups whose principal preoccupation is with the enjoyment of the outdoor environment, the open countryside and the tourism / amenity resource the coastline offers. These visual receptor groups would have different objectives, and thus levels of sensitivity although they are generally *high*, as the open seascape is valued for its remoteness, tranquillity and connection with the natural environment, to any change in the fabric or the character of the Seascape Units and visual impact arising from the development.

Tourism is recognised as an important element in the local and regional economy. In particular, it is in part, dependant upon high quality coastlines and seascapes as these are highly valued as a recreational resource and constitute some of our most beautiful and valued visual amenities.

The effects of each of these receptor groups would be considered as part of the representative viewpoint assessment process but generally they include:

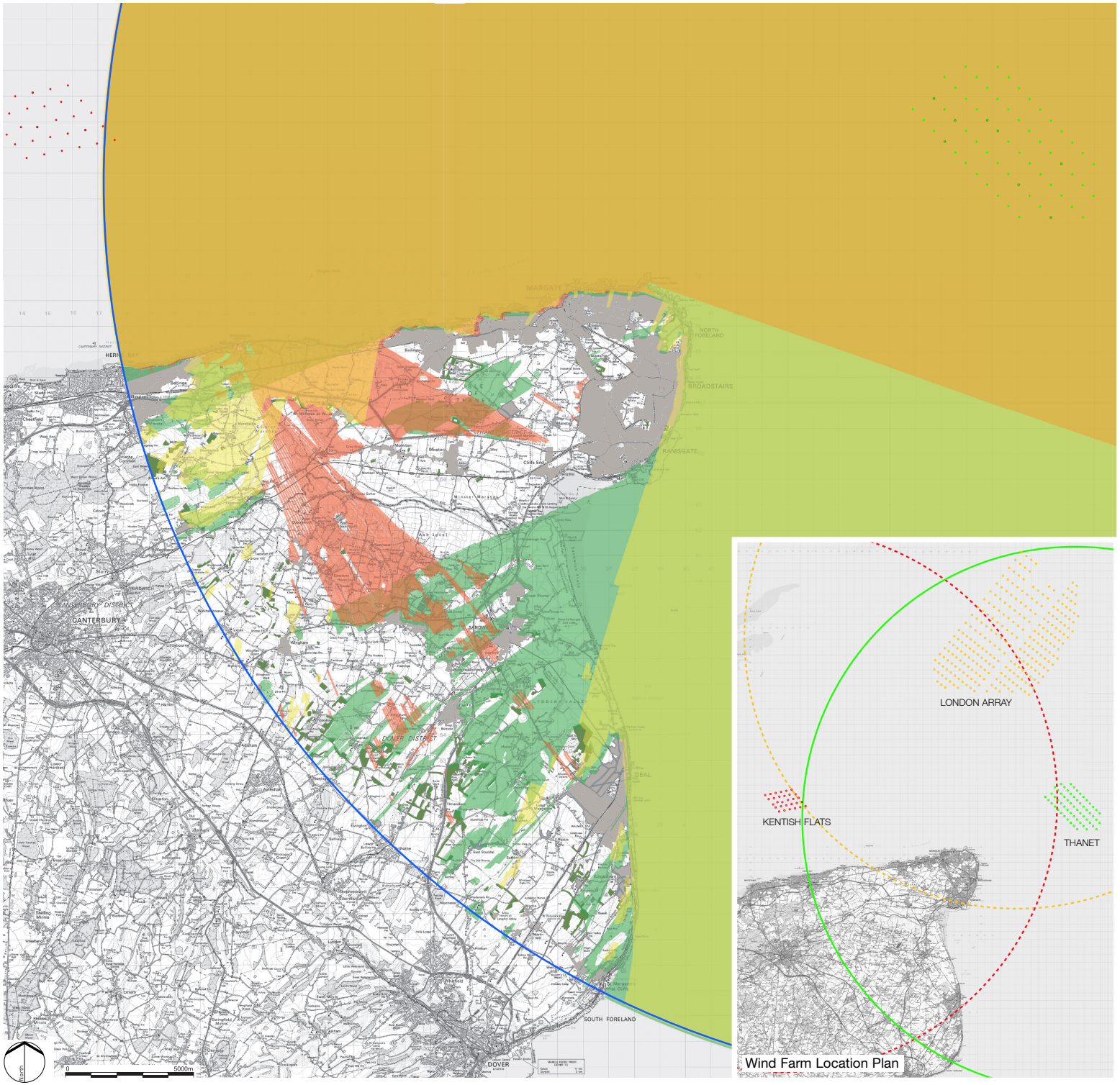
- Visitors;
- Users of footways and cycleways, particularly cliff top footways and national trails;
- Resort facilities and beaches, promenades and piers;
- Accommodation including hotels caravan and camp sites;
- Car parking;
- Watersports access points;
- Surfing;
- Angling; and
- Country parks and National Trust Properties.

13.4.4 Viewpoint appraisal

To help define the existing baseline environment, it is accepted practice to select and agree upon a number of representative viewpoints from which the assessment, both of the existing baseline conditions and of the impacts arising from the development, would then be assessed. **Figure 13.7** identifies the locations of the ten agreed viewpoints. The viewpoints where agreed through consultation with Thanet District Council, Dover District Council and Kent County Council.

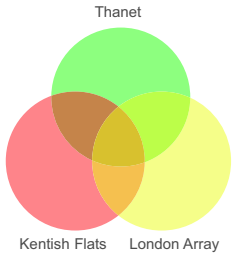
The character, quality, and sensitivity to change of each of the agreed representative viewpoints are considered below. Key visual receptor groups represented by the various viewpoint locations are also identified.

Table 13.2 provides a summary of the baseline with respect to the ten representative viewpoints.



Principal woodland blocks - Modelled at 15m

Principal areas of settlement - Modelled at 7.5m



Notes:
This drawing is based upon computer generated Zone of Visual Influence (ZVI) studies calculated within the 35Km radius from the centre of the proposed Thanet Wind Farm. The study used the proposed nacelle height of 90m for Thanet Wind Farm, 70m for Kentish Flats Wind Farm and 90m,95m and 105m for the four phases of London Array Wind Farm. The areas shown are the maximum theoretical visibility, taking into account topography, curvature of the earth and principal woodlands and settlements, which have been included in the model with the heights indicated. The model does not take into account localised features such as hedgerows, groups of trees and individual buildings, and thus gives an exaggerated impression of the extent of visibility. The actual visibility on the ground will be noticeably less than that suggested by this plan.

FIGURE 13.7

REV.	DESCRIPTION	APP.	DATE

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THANET OFFSHORE WIND FARM

THEORETICAL ZONE OF VISUAL INFLUENCE
CUMULATIVE STUDY: NACELLE

DRAWN	SD	DATE	OCTOBER 2005
CHECKED	AJ	SCALE	NTS
APPROVED	WW	STATUS	FINAL

DRAWING NO. 2099LO/008

13.4.5 Viewpoint 1: St Mary's Church, Reculver

This viewpoint is taken from the north side of St Mary's Church, close to the cliff edge and the Roman Fort within Reculver Country Park, a popular visitor attraction and scheduled ancient monument, and is shown on **Figure 13.8**. A car park, coastal path / national trail and caravan park are all located close to the viewpoint and have easy access to the seafront and a small beach. The viewpoint lies approximately 28km to the west of the Thanet site.

The existing view extends along the flat low lying, unvegetated and gently rounded foreshore of the Wantsum Channel Seascape Character Unit in an easterly direction towards the elevated and urban skyline of the Isle of Thanet peninsula.

A wide panorama is available from this viewpoint both across the seascape and landscape and, whilst the historical ruins provide strong vertical elements in the immediate foreground, the varied coastal edge with assorted sea defences, shingle beaches, groynes and the inland water bodies provide a fragmented view. Also, in clearer visibility, numerous vertical features and activity on the sea horizon, including the Kentish Flats project, draws the eye and provides an isolated focus and detraction in the view.

The overall quality of the viewed seascape is considered to be of *medium* quality with isolated elements of *low* quality, as it is predominantly a simple visual composition made up of very few distinctive natural elements and a number of disparate built features in a wide open landscape. Local, unattractive shore based elements compromise the view and as a consequence, the viewpoint has a *low* to *medium* sensitivity to change.

Visual receptor groups represented by this viewpoint include residents, pedestrians and cyclists, day visitors to the Country Park and tourists to the caravan park.

13.4.6 Viewpoint 2: Westbrook Public Open Space

This viewpoint is located on the coastal path within the elevated public open space area, which runs between St Mildred's Bay and Westbrook Bay and the Westbrook residential area of Margate and is shown on **Figure 13.9**. It is approximately 17.5km to the west of the Thanet site.

The existing view to the seascape horizon line is obscured to the east and south, by the built up areas of Margate Old Town and Harbour and the residential areas of Westbrook. The linear strip of grass and the isolated vegetation of the sunken gardens dominate the view in the foreground. Other prominent elements defining the view include the coastal edge mix of natural vegetated cliffs, formal sea defences with ramped access points, the wide esplanade and thereafter by the beach, the shingle and rocky outcrops and by the expanse of sea. Behind the viewpoint lies Westgate on Sea and Birchington, which largely consist of residential seafront housing areas broken by occasional blocks of flats and hotels.

The seafront itself is relatively harmonious and the overall quality is judged to be *medium* to *high* with a *medium* sensitivity to change, with the open space providing a simple composition and a good scale of buffer between the settlement and the expanse of sea and the urban skyline providing a level of enclosure. In addition, the vegetated

sloping cliffs that rise to no more than 6m above Ordnance Datum (AOD) and the natural areas of shingle and rock provide high quality natural features in an otherwise urban environment. The main elements that detract from the view are the predominance of vehicles along the lower esplanade and the conspicuous tower block standing prominent on the urban peninsula.

It is noted that proposals are also planned for a Turner Art Gallery, which will be located adjacent to the harbour wall at Margate. Once constructed, this will also form another conspicuous element in the view and will be a key visual feature in the existing baseline.

Visual receptors represented by this viewpoint include limited sections of residential seafront areas along the northern Thanet coastline, including those at Minnis Bay, Westgate Bay and Birchington. They also include tourists to the western sections of the beach at Margate, the promenade and travellers using the Royal Esplanade.

13.4.7 Viewpoint 3: Margate Harbour Wall

This viewpoint is taken from the end of the first stretch of the raised section of Margate pier, approximately 20m to the west of Droit House, and is shown on **Figure 13.10**. It is a locally elevated area that protrudes out from Margate Bay and also marks the most northerly point within the central tourist area and seafront. The viewpoint is approximately 15.4km from the Thanet site and is also taken from where the proposed Turner Art Gallery would be.

Extended views can be gained from this viewpoint across a varied, active and balanced urban coastline with views of both the flat lower level urban skyline to the west and the elevated cliff top seafront areas to the east. In common, a range of traditional seaside architecture provides the setting to an open seafront with a mix of natural cliffs and formal sea defences important elements in the view. Within this general view, Droit House, which is out of the panorama, provides a significant landmark, whilst informal activity and usage including car parking and boat yards provide isolated detraction in the view.

Views to the east from this viewpoint are supported by the simple unadorned linear structure of the pier walls and enclosed to the south by the elevated topography of the cliffs and further by the urban architecture of the Margate seafront. Occasional shipping activity and offshore way markers enliven the seaward view between these elements.

Although views in all directions are framed by the urbanised coastal edge, the quality of the viewed seascape is considered to be *medium* to *high* quality, with a good level of visual interest and a balanced mix of natural and built elements, which gives rise to a *medium* sensitivity to change.

This viewpoint is representative of a range of visual receptors of generally high significance including Droit House, Margate Old Town Conservation Area, the seafront residential areas and public open spaces at Cliftonville, day trippers and visitors and the travelling public on the B2051.

13.4.8 Viewpoint 4: Kingsgate / North Foreland

This viewpoint is taken from the elevated footway to the east side of the B2052 at the top of the cliff edge, which also forms part of the Thanet coastal path and national trail and is shown on **Figure 13.11**. This point also forms the nearest, significant point from which the Thanet site would be visible. Located approximately 12.3km from the development, the viewpoint is positioned within a Conservation Area and Green Wedge that lies on the undeveloped coast and also embraces a site of nature conservation importance.

The existing view east, across Kingsgate Bay, has a very harmonious aspect with high levels of visual interest, movement and containment through an intimate secluded gap in the wider, predominantly urban, coastline. Key elements in defining this view include the dramatic sweep of chalk cliffs to the north and the cliff top apartments with combined natural cliffs and formal defences and an open vegetated setting to the south. The overall view is further balanced with a second building, the Captain Digby Public House, similar in architectural style to the apartments lying to the northern promontory of the bay, which is out of the panorama. There are also no significant detractors within the view, other than a more modern hotel of traditional seaside architectural style. The overall quality of the viewed seascape is, therefore, considered to be *high*, with a corresponding *high* sensitivity to change.

Visual receptors represented by this viewpoint include the apartments, pedestrian and cyclists using the Coastal path / National Trail, travellers on the B2052, visitors to the hotel and beach area and recreational facility / golf course, as well as residents of Kingsgate and North Foreland.

13.4.9 Viewpoint 5: Broadstairs Promenade

This viewpoint is located on the elevated seafront promenade, within the public gardens and at the top of the southern stepped entrance to the beach and is shown on **Figure 13.12**. It also lies within the Broadstairs Conservation Area and designated public open space and is approximately 14.2km from the Thanet site. An intimate vista is available from this elevated location across the beach and seafront area in a north easterly direction, where existing views have a high degree of visual interest and movement both around the bay and out to sea. Key elements that define this view include the natural and fashioned cliff faces, which provide topographical variance. The harbour wall and urbanised promontory to the north enclose the beach area, providing intimacy, and the area to the west is enclosed by the unified and decorative architecture of the seafront buildings.

The overall quality of this view is considered to be *high*, with a unified view over an important assemblage of built and natural elements providing good containment and intimacy, with no notable detracting elements and a very limited influence from traffic movement. The existing view is partially obscured however by the cliff faces to the south, which block views of the seaward skyline. Also the pier and harbour walls obscure any clear uninterrupted views of the sea and provide a built element within a good proportion of the view. The sensitivity of the view is, therefore, considered to be *medium* to *high*, with a lot of important elements and visual richness available.

Visual receptors represented by this viewpoint include residents of the seafront housing, as well as those along the coastal areas between North Foreland and Ramsgate, visitors to the bay including day visitors to the beach and harbour side for various land and water based activities including pedestrians and cyclists on the National Trail / coastal path and those staying in the seafront hotel accommodation.

13.4.10 Viewpoint 6: Wellington Crescent, Ramsgate

This viewpoint is located on the elevated seafront promenade at Ramsgate within the Conservation Area and to the south side of the public open space associated with the prominent seafront area of Wellington Crescent and is shown on **Figure 13.13**. The viewpoint is located approximately 16.6km from the Thanet site.

From this view, a wide panorama is available to the east and south across the low lying coastal areas including Ramsgate Sands, the Royal Harbour area of Ramsgate and further to the distant coastal areas of Sandwich Bay and the elevated headland of South Foreland. The key elements that define this view include the East Pier of the harbour area and the Royal Victoria Pavilion, the linear sandy beach area including the adjoining arbitrary, derelict linear spaces, the significant sea defences and the wide promenade, rising landform, public open space and architectural form associated with Wellington Crescent, which combine with the sea defences to restrict views in a north eastern direction.

The overall quality of the collective viewed seascape is considered to be *medium* to *high* in the light of the important built environment of Ramsgate seafront. Its quality however, is compromised slightly by the disorganised and disproportioned seafront, including the dominant barrier of the sea defences and unoccupied seafront spaces, which contrast with the scale of the more intricate areas of housing along the elevated promenade. As a result of the change in scale, with limited features, the sensitivity to change is judged to be *medium*.

Visual receptors represented by this viewpoint include residents along the elevated seafront, travellers using the B2054 and the north eastern edge of the port area, visitors to the beach area, harbour side and hotel accommodation, Registered Park and Garden at the end of Wellington Crescent and the Public Open Space.

13.4.11 Viewpoint 7: Richborough Castle

This viewpoint is located to the northeast corner of the Richborough Castle ruins, a site of historical importance, which is recognised by its designation as a scheduled ancient monument and is shown on **Figure 13.14**. The viewpoint is located on an elevated landform, which rises up as a gentle undulation above the surrounding flat low lying landscape and, therefore, has good levels of intervisibility with views to the east and north as evidenced by the existing panorama. The viewpoint is located approximately 24.5km from the Thanet site.

The isolated and elevated position permits occasional views within a wide panorama, across the low lying landscape, to the Isle of Thanet peninsula, which is visible in the distance. The sea forms a virtually indiscernible linear element within this panorama in the middle of the view. Other elements in the view include the locally significant vegetation associated with the elevated ground and the major detracting features of the

cooling towers and chimney at the disused Richborough Power Station and the North and Great Stonar Works. The urban areas and Port of Ramsgate also form distant detractors, whilst the new development associated with the A256 Sandwich Road corridor stands prominent in foreground views to the east. The overall quality of the view is *medium* to *low*, as built elements gain prominence in a generally flat open landscape, providing visual connection in the view. As a result, this also reduces the level of sensitivity to change to *medium* to *low*.

Visual receptors represented by this viewpoint include occasional sequential views from the A256 / A258 when travelling north, the A257 travelling east, from Richborough Road and residents within the isolated farmsteads, as well as residents to the north and east side of Ash, Marshborough, Eastry and Staple that lie on the lower slopes of the North Downs.

13.4.12 Viewpoint 8: Kings Avenue, Sandwich Bay

This viewpoint is located on the shingle ridge on the seafront side of the junction of Princes Drive and Kings Avenue on the Sandwich Bay Estate, an isolated area of exclusive housing, to the east of Sandwich. The viewpoint is located approximately 23.5km from the Thanet site and is shown on **Figure 13.15**.

An expansive panorama is available from this view across a simple, uniform foreshore to the Isle of Thanet peninsula, which extends across a good proportion of the view, forming a flat elevated section on the horizon line. The constituent elements defining the simple uniform view include the pebbled beach, the coastal dunes of the recreational areas, the open expanse of the beach and the sea, all of which combine to provide a horizontal landscape of significant open scale with no natural vertical features. As a result, this enhances the prominence of the cooling towers and chimney at the disused Richborough Power Station, which is out of panorama and form major visual detractors within the view across the hinterland. These are also the only features to break the flat skyline and add a different scale in the view. The low lying open foreshore remains a prominent element in any view of the seascape and is of *medium* overall quality on account of the simple uniform character and degree of remoteness and tranquillity. As a result, the sensitivity to change is considered to be *medium*.

Visual receptors represented by this viewpoint include residents of the Sandwich Bay Estate to the north side of Kings Avenue and along Princes Drive, as well as residents to the northern edge of Deal. Other representative receptors include visitors to the open recreational areas within Pegwell Bay, including the beach areas, those travelling along Princes Drive and walkers and cyclists along the White Cliffs Country Trail, the Saxon Shore Way and the Stour Valley Walk through to Pegwell Bay National Nature Reserve and Country Park.

13.4.13 Viewpoint 9: Deal Pier

This viewpoint is taken from the north side of the elevated entrance foyer to Deal Pier and is shown on **Figure 13.16**. The pier provides a tourist attraction and is a focus of interest within the simple, linear and open seafront. It is an open modern and simple structure allowing views beneath it. Views extend from this location in a northern direction along the extensive linear beach towards the Isle of Thanet peninsula in the far distance. The viewpoint is approximately 25.60km from the Thanet site.

This vista is framed on either side by urban elements, which define and enclose the view. These include the three / four storey seafront buildings of Deal to the west of the view and by the pier itself, which frames views directly to the east, partially obscuring views to the seascape skyline. The foreshore remains open, simple and uncluttered between these two prominent elements with a large shingle beach that leads views towards the Isle of Thanet peninsula. The Isle of Thanet peninsula extends from this location across a small proportion of the distant horizon, the scale of which appears detached from the immediate view given the break in the perspective and the continuity of the view.

The overall quality of the viewed seascape is *medium*, with the built form providing some enclosure and intimacy and the Isle of Thanet providing distant visual interest. Although the view is framed by the two built elements, the sensitivity of the view is *medium* given that the rest of the seafront is open and the focus of the view is out to sea.

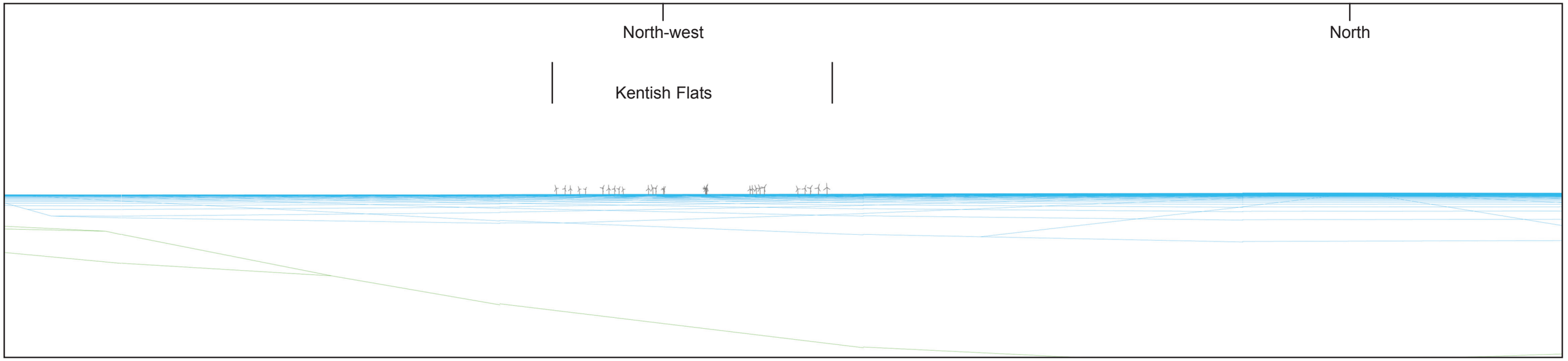
Visual receptors represented by this viewpoint include residents along Deal seafront, day visitors to the coastal resort and beach area and those staying in hotel accommodation. Others include those travelling along the seafront promenade, the seafront sections of the A258, visitors to Deal Castle and those using the coastal trails.

13.4.14 Viewpoint 10: Coastguard Memorial, St Margaret's at Cliffe

This viewpoint is located at the northeast corner of the Coastguard's Memorial that is sited on the cliff top, to the northeast of the town of St Margaret's at Cliffe. It is shown on **Figure 13.17**. It is a viewpoint that is at the southern most extremity of the study area and is located within a small isolated area of the North Downs AONB. The AONB extends from Dover and Kingsdown towards to the undeveloped Heritage Coast and White Cliffs of Dover. The viewpoint is approximately 33km from the Thanet site.

The existing view to the northeast is across the open arable landscape of the immediate AONB with isolated vertical features and very little built influence or detractors to compromise the view. The view also extends along the undulating and gently descending Kentish coastline. This varied coastline topography provides a high degree of intervisibility with the seascape and frames occasional views. To the north, the Thanet peninsula is visible across the undulating landscape. Views of the detracting influence of the cooling towers and chimney at the disused Richborough Power Station, which break the skyline are also available. Views of the Isle of Thanet peninsula are broken by the local undulations of the AONB, which also break the skyline, thereby providing a good sense of depth and perspective to the view. The view is, therefore, judged to be of *high* quality with a similarly *high* sensitivity to change.

The open, exposed and elevated nature of the landscape suggests that the wind farm would be visible. The undulating landscape however, combined with the distance from the site restrict views to the east of the Isle of Thanet peninsula. Other visual receptors represented by this viewpoint include Kingsdown Golf Club and travellers along the A2 / A258, as well as visitors to the coastal path and National Trail.



Viewpoint 1: Wireframe View (left)

Viewpoint 1: Existing View (left)

Grid reference:	622757E,169375N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.35m	
Distance to nearest turbine:	27.7km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:15	
Weather:	Cloudy	

THANET OFFSHORE WIND FARM

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SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 1 - Wireframe

Reculver Country Park, Thanet Coastal Path

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FIGURE 13.8A

DWG. NO 2099LO/WF001

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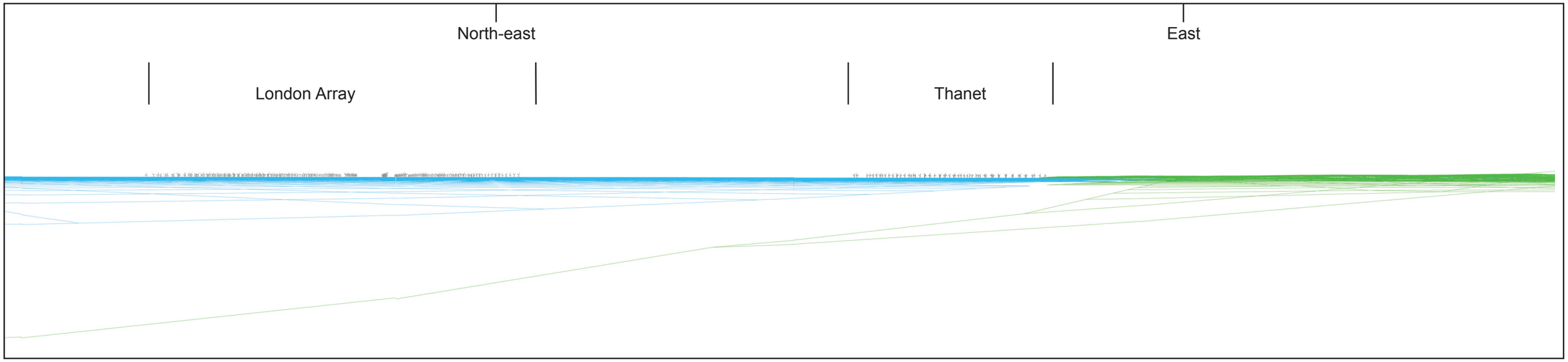

Viewpoint 1: Wireframe View (right)

Viewpoint 1: Existing View (right)

Grid reference:	622757E,169375N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.35m	
Distance to nearest turbine:	27.7km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:15	
Weather:	Cloudy	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 1 - Wireframe

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FIGURE 13.8B

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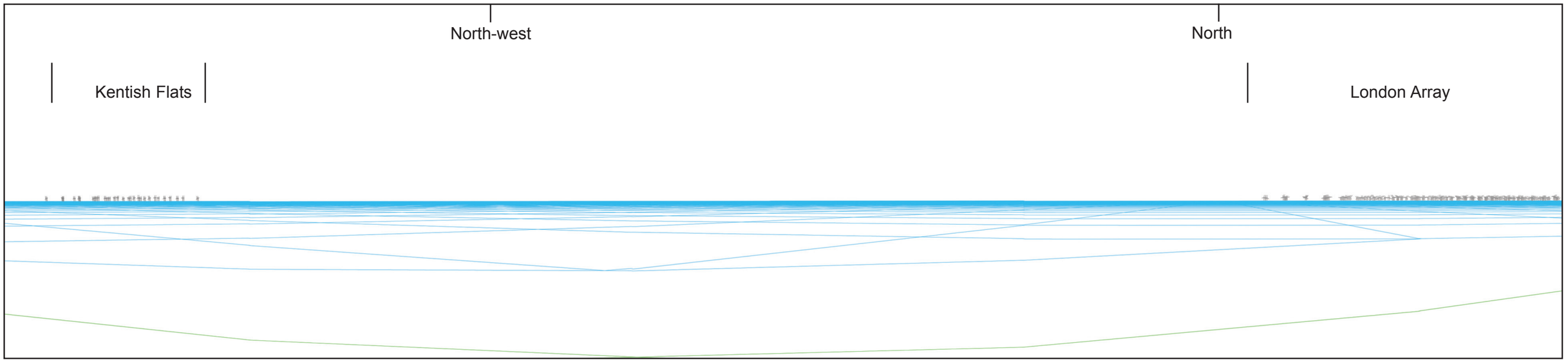
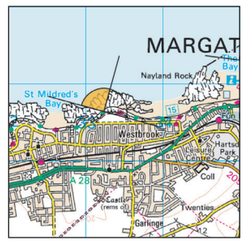


Viewpoint 2: Wireframe View (left)

Viewpoint 2: Existing View (left)

Grid reference:	633261E, 170622N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.8m	
Distance to nearest turbine:	17.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15.50	
Weather:	Sunny/partly cloudy	



THANET OFFSHORE WIND FARM

Viewpoint 2 - Wireframe

West Brook Public Open Space / Thanet Coastal Path

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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FIGURE 13.9A

DWG. NO 2099LO/WF001

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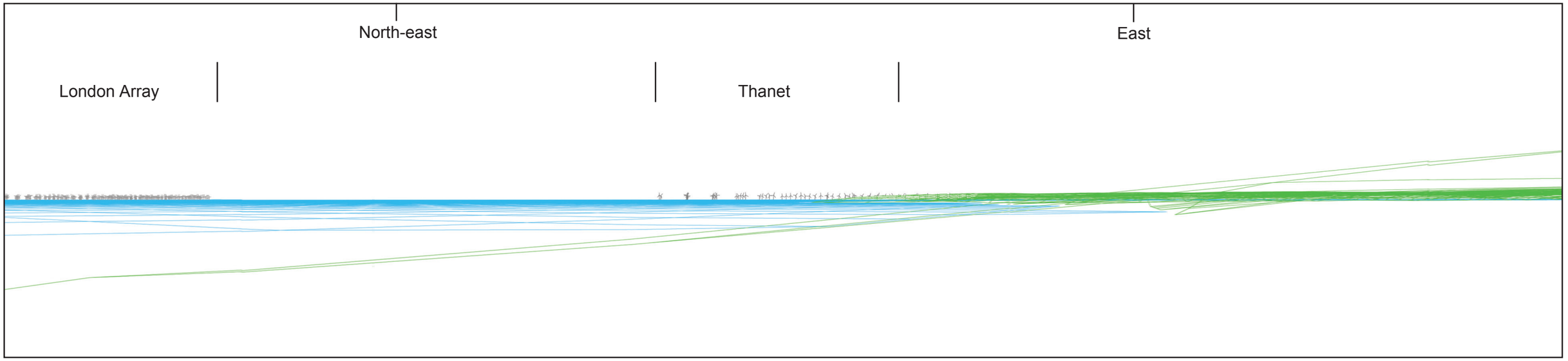
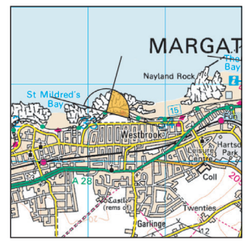


Viewpoint 2: Wireframe View (right)

Viewpoint 2: Existing View (right)

Grid reference:	633261E, 170622N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.8m	
Distance to nearest turbine:	17.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15.50	
Weather:	Sunny/	



THANET OFFSHORE WIND FARM

Viewpoint 2 - Wireframe

West Brook Public Open Space/ Thanet Coastal Path

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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FIGURE 13.9B

DWG. NO 2099LO/WF001

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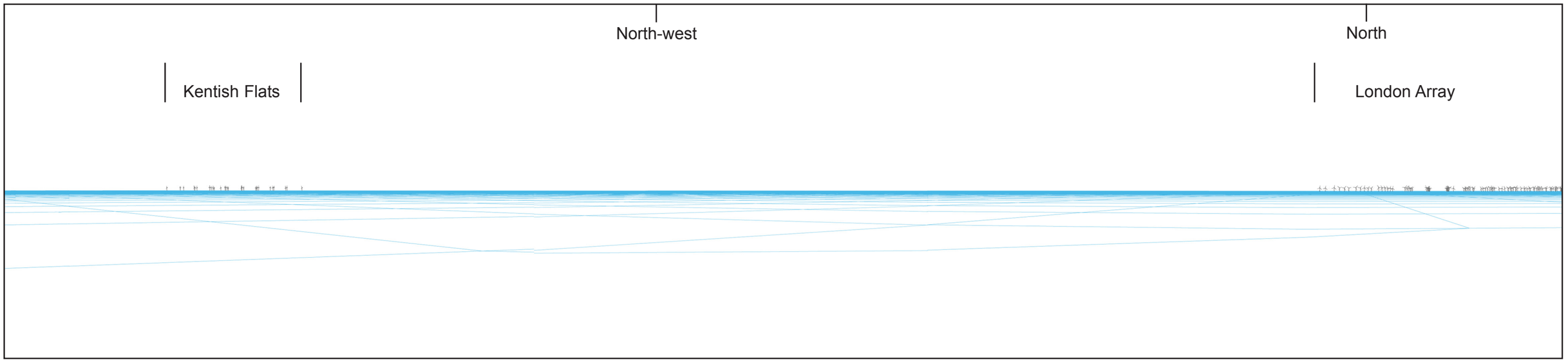

Viewpoint 3: Wireframe View (left)

Viewpoint 3: Existing View (left)

Grid reference:	635280E, 171245N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 1.0m	
Distance to nearest turbine:	15.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	14.35	
Weather:	Sunny/partly cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 3 - Wireframe

Margate Harbour Wall

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Oxford
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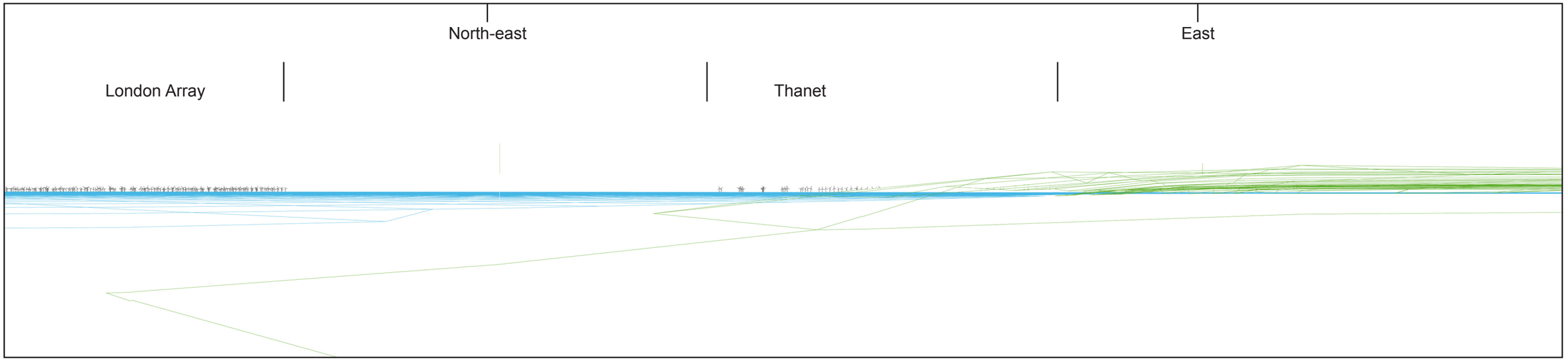
ENVIRONMENT
ECOLOGY

FIGURE 13.10A

DWG. NO 2099LO/WF001



Viewpoint 3: Wireframe View (right)

Viewpoint 3: Existing View (right)

Grid reference:	635280E, 171245N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 1.0m	
Distance to nearest turbine:	15.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	14.35	
Weather:	Sunny/partly cloudy	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 3 - Wireframe
Margate Harbour Wall

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ECOLOGY

FIGURE 13.10B

DWG. NO 2099LO/WF001

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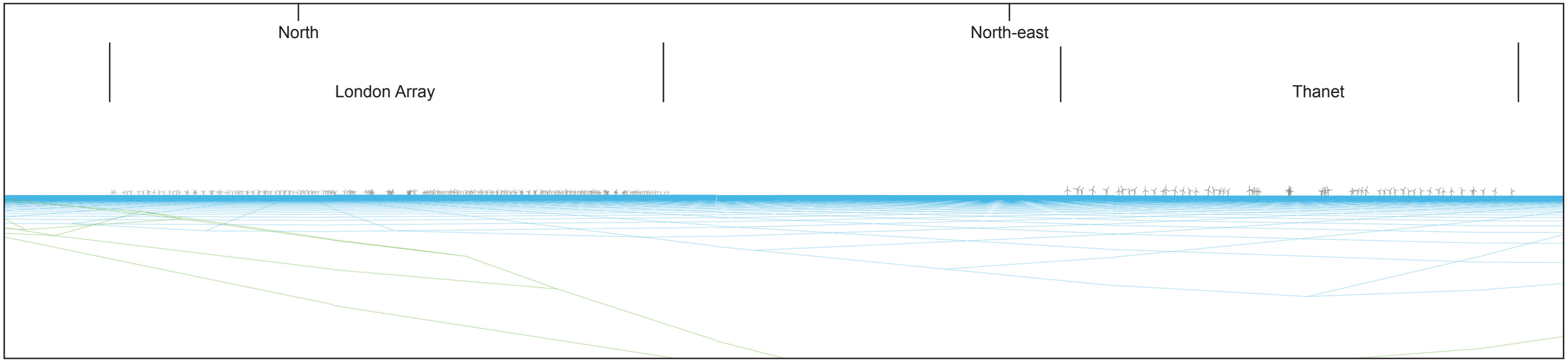
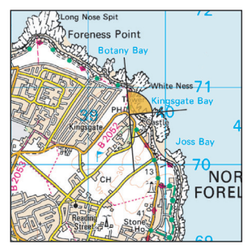


Viewpoint 4: Wireframe View (left)

Viewpoint 4: Existing View (left)

Grid reference:	636550E, 170626N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 13.10m	
Distance to nearest turbine:	12.3km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	For viewpoint location please refer to document: ? & ?: Existing Viewpoint Panoramas and Wireframes
Time:	12.20	
Weather:	Clear and sunny	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 4 - Wireframe

Kingsgate / North Foreland, Coastal Path

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URBAN
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ECOLOGY

FIGURE 13.11A

DWG. NO 2099LO/WF001

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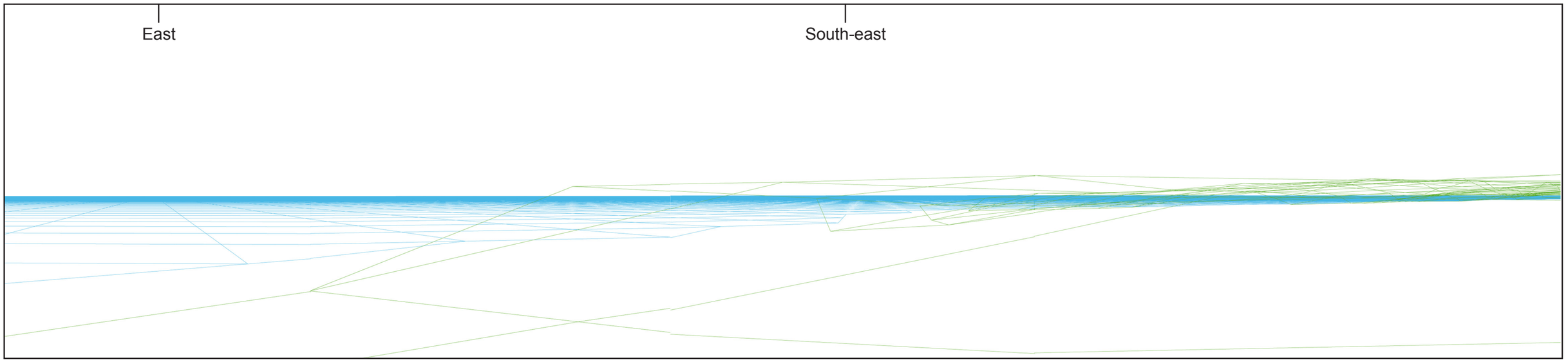
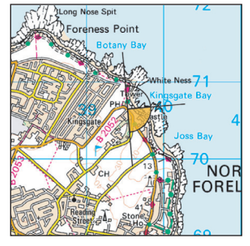


Viewpoint 4: Wireframe View (right)

Viewpoint 4: Existing View (right)

Grid reference:	636550E, 170626N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 13.10m	
Distance to nearest turbine:	12.3km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	12.20	
Weather:	Clear and sunny	



THANET OFFSHORE WIND FARM

Viewpoint 4 - Wireframe

Kingsgate / North Foreland, Coastal Path

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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ECOLOGY

FIGURE 13.11B

DWG. NO 2099LO/WF001

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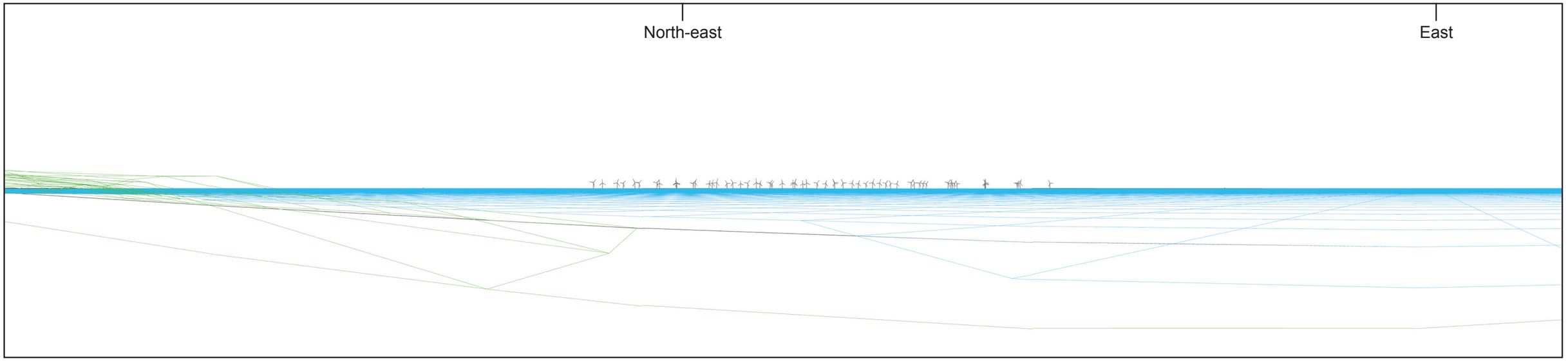

Viewpoint 5: Wireframe View

Viewpoint 5: Existing View

Grid reference:	639755E, 167632N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 12.6m	
Distance to nearest turbine:	14.2km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	12.45	
Weather:	Clear and sunny	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 5 - Wireframe
Broadstairs Promenade

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ECOLOGY

FIGURE 13.12

DWG. NO 2099LO/WF001

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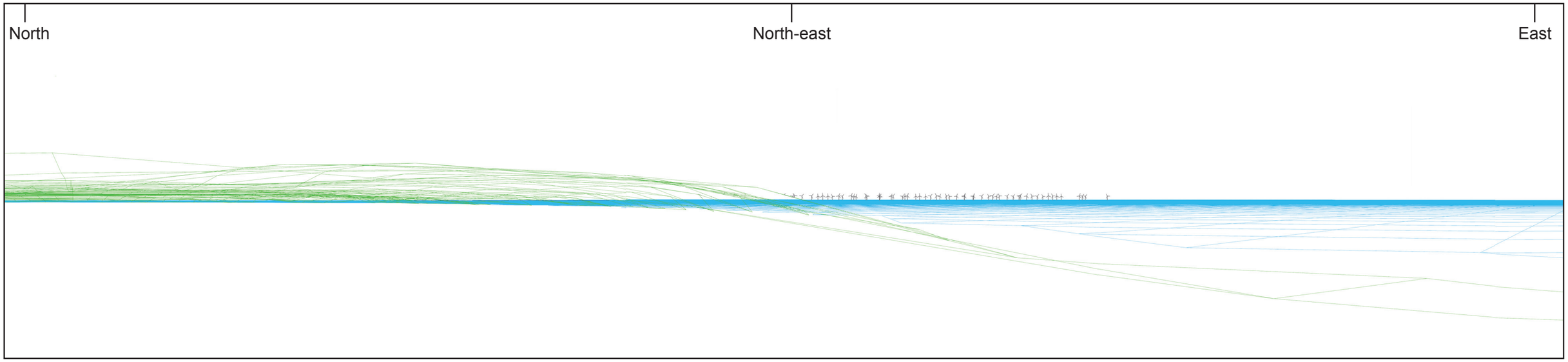

Viewpoint 6: Wireframe View

Viewpoint 6: Existing View

Grid reference:	638603E, 164867N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 15.50m	
Distance to nearest turbine:	16.9km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	11.55	
Weather:	Clear and sunny	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 6 - Wireframe

Wellington Crescent, Ramsgate

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ENVIRONMENT
ECOLOGY

FIGURE 13.13

DWG. NO 2099LO/WF001

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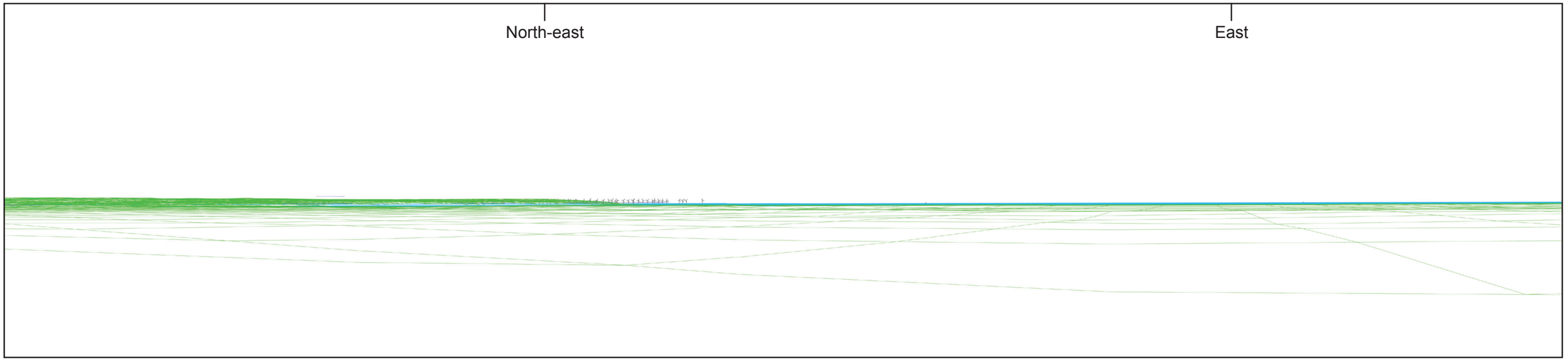
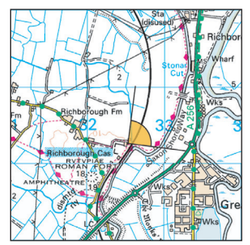


Viewpoint 7: Wireframe View

Viewpoint 7: Existing View

Grid reference:	632510E, 160234N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 8.1m	
Distance to nearest turbine:	24.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:30	
Weather:	Overcast	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viepoint 7 - Wireframe
Richborough Castle

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ECOLOGY

FIGURE 13.14

DWG. NO 2099LO/WF001

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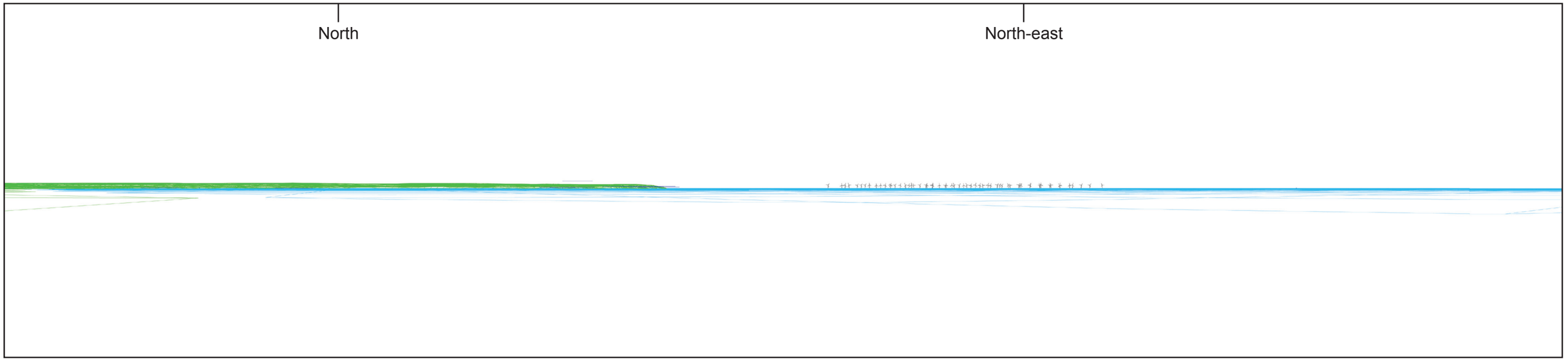

Viewpoint 8: Wireframe View

Viewpoint 8: Existing View

Grid reference:	636321E, 157780N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 0.8m	
Distance to nearest turbine:	23.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	16:45	
Weather:	Overcast and cloudy	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 8 - Wireframe

Kings Avenue/Princess Drive Sandwich Bay

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ECOLOGY

FIGURE 13.15

DWG. NO 2099LO/WF001

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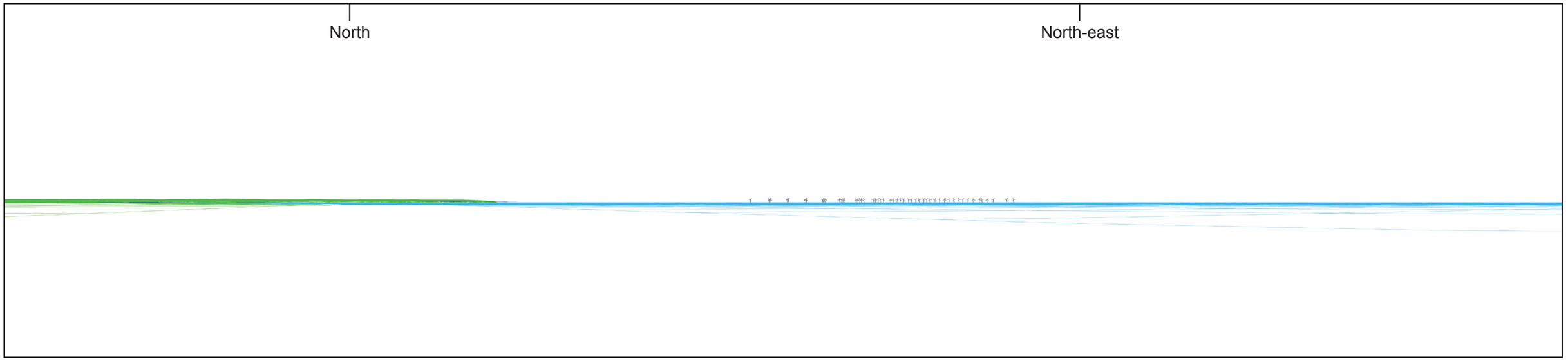

Viewpoint 9: Wireframe View

Viewpoint 9: Existing View

Grid reference:	637835E, 152700N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 0.6m	
Distance to nearest turbine:	26.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	16:10	
Weather:	Overcast and cloudy	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 9 - Wireframe
Deal Pier/Promenade

Oxford
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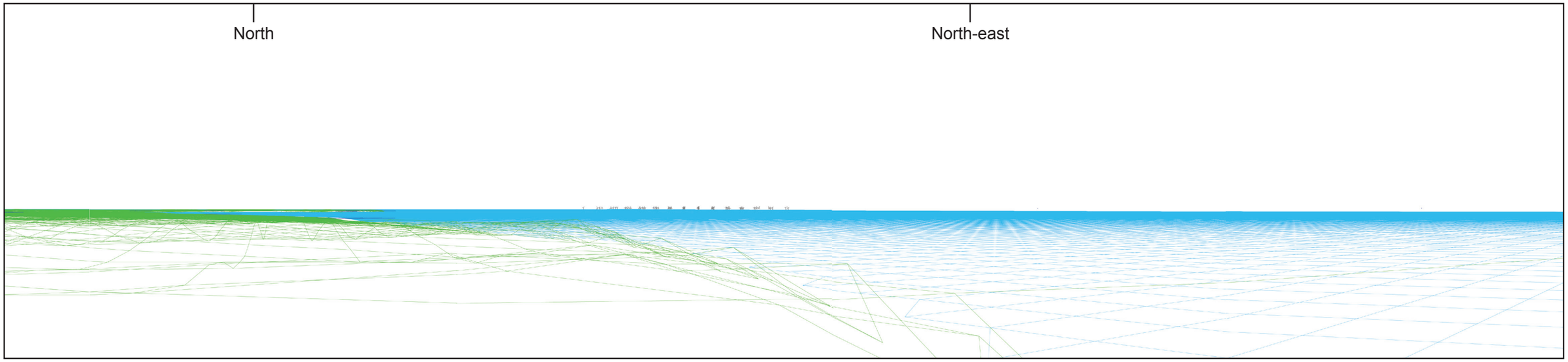
ECOLOGY

FIGURE 13.16
DWG. NO 2099LO/WF001

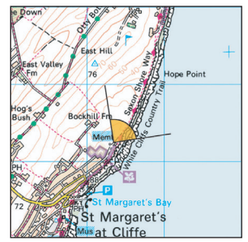
X:\GRAPHICS\2099_THANET\PD\DWGS-NONE\2099_WF-001.QXP



Viewpoint 10: Wireframe View

Viewpoint 10: Existing View

Grid reference:	637329E, 145222N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	87.3m	
Distance to nearest turbine:	33.0km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Wireframe does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15:35	
Weather:	Cloudy	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 10 - Wireframe

St Margaret's at Cliffe (Coastguard Memorial)

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ECOLOGY

FIGURE 13.17

DWG. NO 2099LO/WF001

X:\GRAPHICS\2099_THANET\WP\DWGS-nNONE\099_WF-001.QXP

Table 13.2 Representative Viewpoint Baseline

	Location	Grid Ref	Distance to Nearest Turbine	Character Area	Key Receptors	Quality of View	Sensitivity to change
1	Reculver Country Park, Thanet Coastal Path	E622757 N169375	27.7km	Wantsum Channel	Walkers, visitors to country park and Caravan Park	Medium	Low to Medium
2	West Brook POS/ Thanet Coastal Path	E633261 N170622	17.5km	Isle of Thanet	Residents and tourists, walkers, Major beach Attraction	Medium to High	Medium
3	Margate Harbour Wall (Turner Art Gallery)	E6353, N1712	15.4km	Isle of Thanet	Residents and tourists to Turner Art Gallery, Old Town area	Medium to High	Medium
4	Kingsgate / North Foreland, Coastal Path	E639549 N170627	12.3km	Isle of Thanet	Walkers on coastal path and visitors to beach / castle	High	High
5	Broadstairs Promenade	E639781 N167663	14.2km	Isle of Thanet	Walkers on coastal path, Residents / tourists to beach	High	Medium to High
6	Wellington Crescent, Ramsgate	E638600 N164861	16.6km	Isle of Thanet	Residents / tourists to beach area, walkers	Medium to High	Medium
7	Richborough Castle	E632510 N160234	24.5km	Stour Estuary	Local residents and farmers, A256/ A258	Medium to Low	Medium to Low
8	Kings Avenue / Princes Drive, Sandwich Bay Estate	E636321 N157780	23.5km	Stour Estuary	Residents and Walkers on coastal paths	Medium	Medium
9	Deal Pier / Promenade	E637831 N152700	25.6km	Stour Estuary	Residents and Tourists to beach and seafront	Medium	Medium
10	St Margaret's at Cliffe (Coastguard Memorial	E637329 N145222	33km	South Foreland	Walkers on coastal path, local farmers and residents A258	High	High

13.5 Seascape Effects

13.5.1 Introduction

The magnitude and significance of any effects arising from the Thanet project upon the existing seascape resource is related to the capacity of the Regional Seascape Unit, to accommodate change. This is assessed using the recognised Landscape Institute / Institute of Environmental Management and Assessment evaluation process, which looks at the physical form, the quality, the value and the range of visual receptor groups of the individual seascape units. The assessment methodology is summarised in **Appendix 13.1**.

13.5.2 Wantsum Channel Regional Seascape Unit

This Regional Seascape Unit is one of the furthest units from the Thanet site, at 23km from its nearest point. It occupies the undeveloped coastline between two heavily urbanised and more elevated stretches of the North Kent coastline

As the ZVIs indicate (**Figures 13.3** and **13.4**), the theoretical extent of visual exposure along the north coast of Kent is intermittent, being largely restricted to the northern promontories. However, as part of this Regional Seascape Unit extends slightly to the northeast, the northwestern quarter of this area may gain some views of the development in good visibility conditions. Elsewhere, the elevated Isle of Thanet screens the majority of views. Therefore, although some views are likely from small sections of the coastal area, it would only be towards approximately 25% of the wind farm. When combined with the distance and nature of area, with a few built influences, the magnitude of impact is considered to be generally *negligible* with isolated areas of *low* magnitude along the coast. Since the sensitivity of the area is *low* to *medium*, the significance of impact from this Regional Seascape Unit is assessed to be **negligible** to **minor adverse**.

Although the cumulative ZVIs indicate there would be a greater extent of visual exposure from both Kentish Flats and London Array within this Regional Seascape Unit, the extent of cumulative coverage within the area is again restricted to the intermittent sections along the coast with occasional views to two wind farms broken by stretches with views to all three. The effects of which are detailed within **Section 13.6**.

13.5.3 Isle of Thanet Regional Seascape Unit

This clearly defined urban and varied Regional Seascape Unit, extending between Birchington and Ramsgate, is the nearest seascape unit to the Thanet site at 12.3km from its nearest significant viewpoint.

As the ZVIs indicate (**Figures 13.3** and **13.4**), the theoretical extent of visual exposure in good visibility conditions through this area is largely restricted to the immediate seafront edge of the principal settlements of Margate, Broadstairs and Ramsgate and is further restricted to intermittent north eastern promontories, particularly along the northern stretches of the coastline. Behind those settlements, views would generally be restricted either by landform, vegetation or other settlement with isolated coverage from remote higher ground to the southwest of the Regional Seascape Unit. However, where coverage is available, the magnitude of impact would be *medium* to *high* in light of the

relative proximity and the quality of the seascape character. As the level of sensitivity to change of this seascape character is *medium* to *high*, the resultant significance of impact on this seascape character area is assessed to be **moderate adverse**.

Although the cumulative ZVIs (**Figures 13.5** and **13.6**) indicate there would be some visual exposure from Kentish Flats to the north coast and London Array to the north and east coastal areas within this Regional Seascape Unit, the extent of cumulative coverage is again restricted to occasional immediate seafront areas. The effects of which are detailed within **Section 13.6**.

13.5.4 Stour Estuary Regional Seascape Unit

This Regional Seascape Unit embraces the relatively undeveloped, coastal hinterland of Sandwich Bay and the fairly unspoilt intertidal zone of the Stour Estuary, with conspicuous but isolated developments at Richborough and north of Sandwich. The flat, open character of the area provides expansive views both inland and out to sea and as a consequence, the theoretical extent of visual exposure in good visibility conditions, as indicated on **Figures 13.3** and **13.4**, is widespread along the coastal areas and more intermittent inland, being restricted to higher ground to the south and west. The extent of visual exposure is restricted to the north with the landform of the Isle of Thanet providing a definite cut off along a northeast to southwest alignment. As a result, the magnitude of impact is considered to be *medium* along the coastal areas and only *negligible* elsewhere, giving rise to a combined *low* magnitude. Since the sensitivity to change of this area is *medium*, the consequential significance is assessed to be **minor adverse**.

Although the cumulative ZVIs (**Figures 13.5** and **13.6**) indicate some visual exposure with London Array to the south and to minor isolated areas inland with Kentish Flats the distance, combined with intervening built and natural features reduce the visual exposure to negligible.

13.5.5 South Foreland Regional Seascape Unit

This Regional Seascape Unit is the furthest unit from the Thanet site, at approximately 28km from its nearest point. It occupies the distinctive high quality landscape of the North Downs AONB and Heritage Coast. Although this elevated landscape provides occasional sweeping views across and along the coast from intermittent higher open ground, the combination of distance, variation in topography and a strong vegetated structure would limit the theoretical extent of visual exposure towards the wind farm. This is indicated within the ZVIs (**Figures 13.3** and **13.4**). As a result, the magnitude of impact is considered to be generally *negligible* with isolated areas of *low* magnitude along the coastal edge. As the sensitivity of this Regional Seascape Unit is considered to be *high*, this produces an impact significance of **minor adverse**.

Although the cumulative ZVIs **(Figures 13.5** and **13.6)** indicate isolated areas of visual exposure with London Array along the coastal edge the distance combined with intervening built and natural features reduce the visual exposure to **negligible**.

Table 13.3 summaries the seascape effects on each Regional Seascape Unit.

Table 13.3 Regional Seascape Unit – impact significance

Regional Seascape Unit	Quality of Seascape Units	Sensitivity to change	Magnitude of effect	Significance level
A - Wantsum Channel	Medium	Low to Medium	Low to Negligible	Negligible to Minor
B - Isle of Thanet	Medium to High	Medium to High	Medium to High	Moderate
C - Stour Estuary	Medium	Medium	Low	Minor
D - South Foreland	High	High	Negligible to Low	Minor

13.5.6 Effects on designated landscapes

The vast majority of the Thanet coastline is recognised, both nationally and internationally, for its nature conservation, scientific and aesthetic value with a number of overlapping designations (**Figure 13.1**). Although these designations physically incorporate extensive intertidal areas, as well as the adjoining landscape, there would be minor isolated disturbance underground from the export cabling route through Pegwell Bay, the combined significance is judged to be **minor adverse**. This is a result of the vast majority of the coastline having a minor impact and although there are isolated areas of major impact, these are restricted to the remote undeveloped coastal areas of the east Thanet coastline. Elsewhere, these areas largely co-exist within the active, urban coastline with a range of built elements forming part of their integral seascape character and thus reducing the overall significance.

Further away to the periphery of the study area lies the Heritage Coast of the White Cliffs of Dover. As this designation lies a minimum of 30km from the Thanet site and the undulating landscape restricts views, it is considered that there is **no significant** impact. Away from the coast, the North Downs AONB also lies within the periphery of the study area. However, it is also at a distance of 30km from the wind farm and the effected area is an isolated area of AONB, as indicated on **Figure 13.1**. Although there are some minor views available from isolated areas, the impact on its general character and quality is also **negligible**.

13.5.7 Duration of seascape effects

Section 2 identifies the key offshore elements associated with the Thanet project. The sources of potential impacts arising from these are identified as being the turbines, the anemometry mast, offshore substation and the temporary seascape impact of laying cables, which would give rise to impacts upon the seascape environment. The anticipated nature of these impacts is identified below according the stage of the proposed development.

13.5.8 Impacts during construction

The effect of construction vessels and the progressive construction of the wind turbines, offshore substation and meteorological mast, would form the main impact during the construction phase. However, it is anticipated that there would be no significant impact on any seascape character until the later stages of construction, but this would become increasingly significant until the end of the construction period. The additional impacts arising from marine vessel activity associated with cargo barges and transportation materials including land based or harbour construction activity, are also considered to be relatively insignificant, as there is an existing baseline of marine activity in the area. It is anticipated that the offshore elements of the wind farm would be constructed within one or two seasons with a typical duration of around six to eight months per season.

13.5.9 Impacts during operation

It is noted that of the three different stages, it is the operational phase that is of the longest duration, given that the project has an anticipated lifespan of up to 40 years. It is also noted that this period would have the most significant impact of the three. The main elements of impact during this operational period would include the visual influence of the turbines on the respective Seascape Character Areas.

The magnitude and subsequent significance of any seascape impact arising from the Thanet project is directly related to the capacity of the seascape to accommodate change. The ability of the seascape area, to accommodate an identified change has been established through a recognised evaluation process and is detailed within this chapter.

13.5.10 Impacts during decommissioning

There would be visual impacts associated with decommissioning activity, which would be similar to that of the construction phase and relatively insignificant, as there is an existing baseline of marine activity in the area. As the anticipated length of decommissioning would be slightly less than for the construction phase, these impacts would be more temporary than for the construction period.

13.6 Visual Effects

13.6.1 Introduction

The purpose of the Visual Assessment is to first determine the Zone of Visual Influence (ZVI) of the development and then to determine how visible it would be from sensitive viewpoints within the visual envelope, the methodology for which is detailed within **Appendix 13.1**. The theoretical ZVIs (**Figures 13.3** and **13.4** and **Figures 13.5** and **13.6**) indicate a worst case scenario in the extent of visual exposure and that in reality, the extent of visual effect would be greatly reduced due to subtleties of intervening landform including for example, the sea defence walls, built form e.g. all settlements, and localised vegetation including hedgerows and other blocks of woodland.

The potential areas of greatest visual exposure are primarily located within 1-2km of the coastline, except from the flat open landscape of the Stour Estuary and from remote elevated ground and northeast facing slopes further inland. The key landscape feature

of the Isle of Thanet Peninsula ridgeline positively assists in restricting the visual envelope of the Thanet project to a large extent of the study area.

The following analysis refers to the ten agreed representative viewpoints referred to in the baseline conditions. See the relevant wireframes (**Figures 13.8** to **13.17**) and photomontages (**Figures 13.18** to **13.27**), which illustrate the view for each viewpoint and considers the impact of the 60 turbine option.

This is then summarised in **Table 13.4**.

13.6.2 Viewpoint 1: St Mary's Church, Reculver

From this viewpoint, at approximately 28km from the wind farm, the turbines would be seen to occupy approximately 12º of the 180º panoramic view to the east, across the expansive, open, low lying foreshore. The wireframe (**Figure 13.8**) and photomontage (**Figure 13.18**) indicate that the towers and rotors of all 60 turbines would be visible in good visibility conditions, extending from the heavily urbanised peninsula of the Isle of Thanet and at a comparable height with the elevated topography. Sitting on the horizon line, the turbines would have an informal, tight cluster arrangement with a slight visual separation of two turbines to the north and would be discernable as a horizontal element.

With this expansive open view across a seascape of disparate built features, the wind farm would be seen to have a visual connection with the existing landform of the urban peninsula with a comparable vertical and horizontal scale. Also, the combination of the distance to the wind farm, combined with the wide open horizontal foreground with contrasting elements and additional activity at sea including the offshore wind farm at Kentish Flats, would produce a *low* magnitude of impact from this point. When combined with a *low* to *medium* sensitivity to change, the significance of this potential impact is assessed as **minor adverse**.

Cumulative effect from viewpoint

The wireframe and photomontage indicate that all 30 turbines of the Kentish Flats offshore wind farm (Kentish Flats) would be visible. At an approximate distance of 14km from this viewpoint, they would be more prominent in the view than the turbines at Thanet. The intervisibility however, of the two wind farms is limited, even though they are seen within the same 180º panorama. Each wind farm would be seen within a different visual context and along different sections of the foreshore.

The wireframe and photomontage further indicate that the proposed London Array offshore wind farm (London Array) would also be visible from this viewpoint, appearing as a small distant element within the view, at approximately 28km distance. Although the visual impact of London Array is anticipated to be minor, its orientation within this view indicates that it would be seen within the same context and view as Thanet. It would also provide greater visual connectivity with Kentish Flats, resulting in a series of views of distant wind farms.

On balance, the magnitude of cumulative impact is judged to be *low* with Kentish Flats and the cumulative significance **minor adverse** as a result. Overall, with London Array,

the magnitude is *medium* and impact significance is **minor** to **moderate adverse** with a strong built influence over a wide area of the seascape horizon.

13.6.3 Viewpoint 2: Westbrook Public Open Space

From this viewpoint, the turbines would occupy approximately 10º of the total available view, which extends through 180º across an uncomplicated flat, open and horizontal space with a consistent form of built enclosure to the east and south in the mid distance. The wireframe (**Figure 13.9**) and photomontage (**Figure 13.19**) indicate that within this viewed seascape, the towers and rotors of 27 turbines would be visible in the view in good visibility conditions, sitting on the horizon and just below it to the north of Margate harbour wall.

These turbines would have a regular arrangement of five defined rows to the north, with some visual separation, becoming more clustered and unified towards the harbour wall. As the rotors of the turbines are broadly level with the elevated topography of the peninsula, these turbines would be seen to extend from the hard landform by roughly the same extent, however it also suggests that the blade tips of seven turbines would be visible, sitting behind the urban landform. With the potential addition of the Turner Art Gallery, this would be reduced, as the building would block views. As a result, the anticipated magnitude of impact is judged to be *medium* and when combined with a *medium* sensitivity to change in the view, the resultant significance of impact is assessed to be **moderate adverse**.

Cumulative effect from viewpoint

The wireframe and photomontage also indicate that London Array would be visible at approximately 23km distance, appearing as a minor distant horizontal element beyond the horizon line. It would contribute to a temporal change in the overall characteristics of the viewed seascape with high levels of visual connectivity with Thanet. London Array would also result in a strong built presence over a wide area of the panorama. As a result, the magnitude of cumulative impact is considered to be *medium* and the cumulative impact significance **moderate adverse**.

Kentish Flats would also be visible from this viewpoint. The visual connectivity, however, between this wind farm and those at Thanet and London Array is fairly limited, as Kentish Flats lies within a different sector of the available view. As the Kentish Flats turbines are 18km distant, they appear as very minor distant elements within the view. Foreground elements along the coast and other shipping activity at sea gain more prominence in the view. London Array would, however, positively draw the eye across the seascape and provide some connectivity between the views of Thanet and Kentish Flats. As a result, the magnitude of cumulative impact is considered to be *medium*, which would give rise to an overall cumulative significance of **moderate adverse**.

13.6.4 Viewpoint 3: Margate Harbour Wall

The wireframe (**Figure 13.10**) and photomontage (**Figure 13.20**) indicate that from this viewpoint at a distance of approximately 15.4km from the Thanet site, the towers and rotors of 17 turbines would be visible within 7º of the total available view in good visibility conditions, which extends considerably to the north and northwest, across a very simple aspect including the linear harbour wall and the sea with occasional shipping activity.

The turbines in this view are clearly defined in five rows providing a degree of symmetry and visual separation, with a decreasing spread in each row towards the tight cluster and overlap of turbines within the central row assisting with filtering views and providing a comfortable arrangement.

Although the turbines are clear in the view, they do form a relatively small section of the view and the elevated topography and built forms of the foreground to the east and south, obscure the greater proportion of the turbines. Also the scale of the foreground gives more visual significance to the immediate context, with individual vertical features strongly defining the view. As a result, the prominence of the turbines is reduced, with a vertical perspective scale, which is comparable to the railings within the view and consequently the magnitude of impact is judged to be **low**. When combined with a *medium* sensitivity to change the overall significance of impact is assessed to be **minor adverse**. The view from this point represents the potential views gained from the Turner Art Gallery, however, most of the views from the new building would face directly north and away from the Thanet site and would, therefore, not create any significant additional impact.

Cumulative effect from viewpoint

The wireframe and photomontage also indicate that London Array would be visible. At approximately 24km distance, they would be seen as a minor distant element beyond the horizon line. London Array would provide a change in the temporal characteristics of the viewed seascape with high levels of visual connectivity with Thanet, forming a strong presence over a wide area in the view. As a result, the magnitude of cumulative impact is considered to be *medium* and the cumulative impact significance **moderate adverse**. It is noted, however, that for the majority of the receptors represented by this viewpoint, the harbour wall and elevated landform would wholly obscure views to both wind farms.

Whilst Kentish Flats would also be visible from this viewpoint, the degree of visual connectivity between this wind farm and those at Thanet and London Array is limited. Kentish Flats clearly lies within a different sector of view and, at an approximate distance of 23km, the turbines would appear as minor distant elements within a wide panorama, where the foreground elements hold more prominence within the view. As a result, the magnitude of cumulative impact is considered to be *low* to *negligible*, which would give rise to a **minor adverse** cumulative Impact with Kentish Flats. Overall the cumulative impact significance is, therefore, judged to be **minor** to **moderate adverse** from this point.

13.6.5 Viewpoint 4: Kingsgate / North Foreland, coastal path

From this viewpoint, which is the nearest to the Thanet site, at a distance of approximately 12.3km, all 60 of the turbines would be visible in good visibility conditions in the middle background. As the wireframe (**Figure 13.11**) and photomontage (**Figure 13.21**) indicate, the turbines would occupy a 28º field of view within the centre of this highly sensitive viewpoint, i.e. approximately a quarter of the overall view out to sea.

From this elevated view and relatively close proximity to the wind farm, the turbines would be seen to lie both on the horizon line and extend below giving a degree of perspective in the view. Above the horizon line, the blade tips would appear at a comparable height to the top of the cliff face to the north, which stands proud of the

horizon line. The layout, when viewed from this point would also appear to have a regular symmetrical composition where the outer rows on either side would appear as a loose cluster, with more discernable rows becoming visible towards the centre, which is marked with a tight clusters. This arrangement provides a degree of balance in its symmetry, which works with the framing symmetry and enclosure in the view. However, as there are no other references to detract views, the turbines would be dominant in this undeveloped section of coastline and would have a *medium* to *high* magnitude of impact. Since this view has been judged to have a *high* sensitivity to change the significance of impact is assessed to be **moderate adverse**.

Cumulative effect from viewpoint

The wireframe and photomontage also indicate that London Array would be visible in oblique views that extend from the steep cliff face to the north. These turbines would appear as small distant horizontal elements beyond the horizon line but across a significant section of this enclosed view. This would provide another significant element within this natural viewed seascape with high levels of visual connectivity with Thanet and contributing to a strong presence over an extended area. London Array would also add a sense of perspective and depth within this framed view. As a result, the magnitude of cumulative impact is considered to be *medium* and the resultant cumulative impact significance **moderate adverse**.

13.6.6 Viewpoint 5: Broadstairs Promenade

From this viewpoint, at approximately 14.2km from the Thanet site, the turbines would occupy approximately 28º or just over a quarter of this enclosed, diverse view to the northeast, over the assemblage of built and natural elements that form the intimate seafront area.

The wireframe (**Figure 13.12**) and photomontage (**Figure 13.22**) indicate that all 60 turbines would be visible from this elevated viewpoint and would appear to sit both on the horizon and below it, giving a sense of perspective of the wind farm. The layout when viewed from this point is fairly irregular with isolated turbines and a couple of tight discernable rows and some visual separation to the east of the view, after which, the composition leads to a compact cluster of turbines with a number overlapping and filtering views into a focal point. Further to the north, the rows become visible again, but quickly spread out with a regular spacing and continuity for a good proportion of the view. To the north, the turbines then become unbalanced with a couple of clusters and intermittent spacing providing an even spread.

Although the turbines are clearly visible in the view, their perceived scale is reduced by the prominence and array of foreground elements, which stretch across a good proportion of the view providing strong focus, visual movement and connection. Views to the sea horizon are then seen to be separate from these views, with the main focus to the sea view being further to the east where no interruption is available. As a result, this has the effect of restricting the impact that the turbines would have and even through they spread across a quarter of the view, they are a separate, distant elements within the view and of a *medium* to *high* magnitude of impact. Since the sensitivity of this viewpoint is also of *medium* to *high* the impact significance is assessed to be **moderate adverse**.

13.6.7 Viewpoint 6: Wellington Crescent, Ramsgate

From this viewpoint, the turbines would occupy approximately 21º of the total available view, which extends through 180º across the rising landform and considerable sea defences and the beach, with the main focus of view straight out to sea to the east and over the active harbour area to the south.

The wireframe (**Figure 13.13**) and photomontage (**Figure 13.23**) indicate that the towers and rotors of 47 turbines would be visible in good visibility conditions, extending out from the considerable, elevated sea defences and promenade of the Ramsgate seafront, with the blade tips at a comparable height with the level of the elevated seafront, which then obscures views to the rest of the Thanet site. Sitting on the horizon line, the turbines would have a fairly regular and consistent arrangement with some visual separation to a defined row and to one singular turbine to the south.

Although the Thanet site is fairly prominent in views to the north, the views are oblique and peripheral to the main focus of the view. In addition, the locally rising ground, buildings and considerable sea defences enhance the visual focus to the south, whilst providing significant foreground elements, which combine to produce a *low* to *medium* magnitude of impact from this viewpoint. When this is combined with the *medium* sensitivity to change, the significance of this potential impact is assessed to be **minor** to **moderate adverse**.

13.6.8 Viewpoint 7: Richborough Castle

From this viewpoint, at approximately 24.5km from the Thanet site, the turbines would be seen to occupy approximately 6º of the available panoramic view to the northeast across the flat low lying landscape.

The wireframe (**Figure 13.14**) and photomontage (**Figure 13.24**) indicate that only the rotors and blades of ten turbines and the blade tips of 11 others would be theoretically visible in good visibility conditions above the surrounding landscape and built elements. These would be seen extending from the hard peninsula of the Isle of Thanet at a comparable height with the elevated topography. However, the combination of foreground elements, two major detracting features of the cooling towers at chimney at the disused power station at Richborough and the North and Great Stonar Works would detract from the visual focus. Furthermore, although this isolated and elevated position has good levels of intervisibility with views to the east and north, across the low lying landscape, to the Isle of Thanet peninsula, views of the sea are barely visible. The turbine rotors and blade tips are visible sitting as a tight cluster within this small segment of the view but would only be visible in good visibility conditions. The magnitude from this point is, therefore, judged to be *negligible* and since the sensitivity to change in view is *medium* to *low*, the resultant significance of impact from this point is assessed to be **negligible**.

13.6.9 Viewpoint 8: Kings Avenue, Sandwich Bay Estate

From this viewpoint, at a distance of approximately 23.5km from the Thanet site, the towers and rotors of all 60 turbines would be visible in good visibility conditions within 18º of the total available view, which extends considerably to the north and northwest,

across the simple uniform foreshore to the Isle of Thanet peninsula, which then extends across a good proportion of the view.

As the wireframe (**Figure 13.15**) and photomontage (**Figure 13.25**) indicate, the turbines in this view are more obviously defined in a continuous cluster with limited visual separation and isolated overlapping of turbines. This defined cluster provides a horizontal element that sits within the overall view comfortably with a comparable scale to the rest of the open simple character and although it is a significant isolated feature on the sea horizon, it extends for the equivalent of half of the Isle of Thanet peninsula and the blade tips are fairly comparable to the height of the elevated landform of the peninsula. The magnitude is, therefore, judged to be to *medium* to *low* and when combined with the *medium* sensitivity to change in the view the resultant significance is assessed to be **moderate** to **minor adverse**.

13.6.10 Viewpoint 9: Deal Pier

From this viewpoint, at a distance of approximately 26.4km from the Thanet site, the towers and rotors of all 60 turbines would be visible within 16º of the total available view, between the pier and the seafront, across the open, simple and uncluttered foreshore. The view then extends to the Isle of Thanet, which runs across a similar extent of the horizon line as the wind farm.

As the wireframe (**Figure 13.16**) and photomontage (**Figure 13.26**) indicate, the turbines in this view are partially defined in a continuous loose cluster with limited visual separation and isolated overlapping of turbines to the south. This cluster then gradually fades out to form more distinctive rows, which become tighter to the north with increased visual separation within the overall view of the Thanet site. Although the wind farm would form a significant isolated feature within a relatively large section on the sea horizon, it would be perceived as a block and a horizontal element rather than individual vertical elements. It is also comparable in scale to the rest of the open simple character of the foreground and the height and width bears good similarity to the extent of the Isle of Thanet peninsula within the view. This would reduce the magnitude to *medium* to *low*. Since the sensitivity to change is *medium*, the consequential significance is assessed to be **moderate** to **minor adverse**.

13.6.11 Viewpoint 10: Coastguard Memorial, St Margaret's at Cliffe

From this viewpoint, at a distance of 33km from the Thanet site, the turbines would occupy approximately 13º of the available panorama view, which extends to the northeast over the high quality, open and undulating landscape of the AONB with few built influences.

The wireframe (**Figure 13.17**) and photomontage (**Figure 13.27**) indicate that all 60 turbines would be visible in good visibility conditions from this elevated viewpoint and would appear to sit in the far distance beyond the horizon line, within one of a sequence of available views of the sea. The layout when viewed from this distant viewpoint is fairly regular and symmetrical with views to a series of distinct rows with a fairy uniform visual separation between each row. Towards the centre of the layout the rows become tighter, which appears to concentrate and filter the view into the centre. This regular separation between rows contributes to the presence of the wind farm, as it is viewed as a series of slightly separate elements rather than a uniform block.

Although all the turbines are visible in the view with a degree of separation in the layout, the distance to the wind farm, combined with the significant undulating landscape that draws the eye through the foreground landscape, assists with reducing the magnitude of the wind farm to *low* to *negligible*. Furthermore, the distance would mean that the Thanet site would only be visible in good weather conditions. Since the sensitivity of this viewpoint is considered to be *high*, the impact significance is assessed to be **negligible** to **minor adverse**.

13.6.12 Summary of impacts

Table 13.4 summarises the impacts discussed in this section.

Table 13.4 Representative viewpoints - impact significance with 60 turbines

	Representative Viewpoint Location	Quality of View	Sensitivity to change	Magnitude of Operational Visual Effect	Impact Significance
1	Reculver Country Park, Thanet Coastal Path	Medium	Low to Medium	Low	Minor
2	West Brook POS / Thanet Coastal Path	Medium to High	Medium	Medium	Moderate
3	Margate Harbour Wall (Turner Art Gallery)	Medium to High	Medium	Low	Minor
4	Kingsgate / North Foreland, Coastal Path	High	High	Medium to High	Moderate
5	Broadstairs Promenade	High	Medium to High	Medium to High	Moderate
6	Wellington Crescent, Ramsgate	Medium to High	Medium	Low to Medium	Moderate to Minor
7	Richborough Castle	Medium to Low	Medium to Low	Negligible	Negligible
8	Kings Avenue/ Princes Drive Sandwich Bay Estate	Medium	Medium	Medium to Low	Moderate to Minor
9	Deal Pier / Promenade	Medium	Medium	Medium to Low	Moderate to Minor
10	St Margaret's at Cliffe (Coastguard Memorial	High	High	Low to Negligible	Negligible to Minor

The assessment has also considered the impact, utilising the maximum number of turbines (100) to test the landscape and visual significance. This has been included in **Table 13.5**. For details of the full impact assessment for the 100 turbine option, refer to **Appendix 13.6**.

Viewpoint 1: Existing View (left)

Viewpoint 1: Proposed View (left)

Grid reference:	622757E,169375N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.35m	
Distance to nearest turbine:	27.7km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:15	
Weather:	Broken Cloud	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 1 - Photomontage

Reculver Country Park, Thanet Coastal Path

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ECOLOGY

FIGURE 13.18A

DWG. NO 2099LO/PM001

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Viewpoint 1: Existing View (right)

Viewpoint 1: Proposed View (right)

Grid reference:	622757E,169375N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.35m	
Distance to nearest turbine:	27.7km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:15	
Weather:	Cloudy	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 1 - Photomontage

Reculver Country Park, Thanet Coastal Path

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FIGURE 13.18B

DWG. NO 2099LO/PM001

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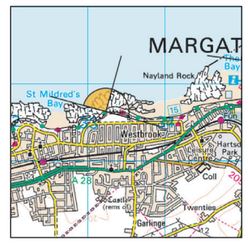
Viewpoint 2: Existing View (left)

Viewpoint 2: Proposed View (left)

Grid reference:	633261E, 170622N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.8m	
Distance to nearest turbine:	17.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15.50	
Weather:	Sunny/partly cloudy	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 2 - Photomontage

West Brook Public Open Space / Thanet Coastal Path

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FIGURE 13.19A

DWG. NO **2099LO/PM001**

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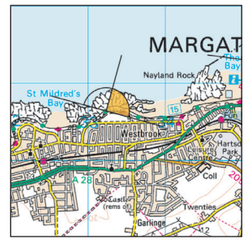
Viewpoint 2: Existing View (right)

Viewpoint 2: Proposed View (right)

Grid reference:	633261E, 170622N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 5.8m	
Distance to nearest turbine:	17.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15.50	
Weather:	Sunny/partly cloudy	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 2 - Photomontage

West Brook Public Open Space / Thanet Coastal Path

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FIGURE 13.19B

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Viewpoint 3: Existing View (left)

Viewpoint 3: Proposed View (left)

Grid reference:	635280E, 171245N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 1.0m	
Distance to nearest turbine:	15.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	14.35	
Weather:	Sunny/partly cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 3 - Photomontage

Margate Harbour Wall

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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FIGURE 13.20A

DWG. NO 2099LO/PM001

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Viewpoint 3: Existing View (right)

Viewpoint 3: Proposed View (right)

Grid reference:	635280E, 171245N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 1.0m	
Distance to nearest turbine:	15.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	14.35	
Weather:	Sunny/partly cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 3 - Photomontage

Margate Harbour Wall

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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LANDSCAPE
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ECOLOGY

FIGURE 13.20B

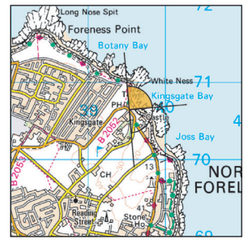
DWG. NO 2099LO/PM001

X:\GRAPHICS\2099_THANET\WP\DWGS

Viewpoint 4: Existing View (left)

Viewpoint 4: Proposed View (left)

Grid reference:	636550E, 170626N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 13.10m	
Distance to nearest turbine:	12.3km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	12.20	
Weather:	Clear and sunny	



THANET OFFSHORE WIND FARM

Viewpoint 4 - Photomontage

Kingsgate / North Foreland, Coastal Path

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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FIGURE 13.21A

DWG. NO 2099LO/PM001

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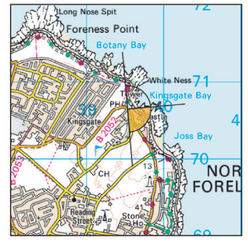
Viewpoint 4: Existing View (right)

Viewpoint 4: Proposed View (right)

Grid reference:	636550E, 170626N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 13.10m	
Distance to nearest turbine:	12.3km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	12.20	
Weather:	Clear and sunny	



THANET OFFSHORE WIND FARM

Viewpoint 4 - Photomontage

Kingsgate / North Foreland, Coastal Path

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

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FIGURE 13.21B

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Viewpoint 5: Existing View

Viewpoint 5: Proposed View

Grid reference:	639755E, 167632N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 12.6m	
Distance to nearest turbine:	14.2km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	12.45	
Weather:	Clear and sunny	

THANET OFFSHORE WIND FARM

Viewpoint 5 - Photomontage
Broadstairs Promenade

DATE	October 2005	DRAWN	SD/RC
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FIGURE 13.22

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Viewpoint 6: Existing View

Viewpoint 6: Proposed View

Grid reference:	638603E, 164867N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 15.50m	
Distance to nearest turbine:	16.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	27/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	11.55	
Weather:	Clear and sunny	

THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 6 - Photomontage

Wellington Crescent, Ramsgate

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FIGURE 13.23

DWG. NO 2099LO/PM001

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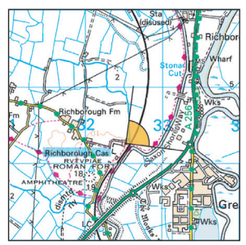
Viewpoint 7: Existing View

Thanet Offshore Wind Farm

Viewpoint 7: Proposed View

Grid reference:	632510E, 160234N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 8.1m	
Distance to nearest turbine:	24.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	17:30	
Weather:	Overcast	



THANET OFFSHORE WIND FARM

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

Viewpoint 7 - Photomontage

Richborough Castle

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FIGURE 13.24

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Viewpoint 8: Existing View

Viewpoint 8: Proposed View

Grid reference:	636321E, 157780N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 0.8m	
Distance to nearest turbine:	23.5km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	16:45	
Weather:	Overcast and cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 8 - Photomontage

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DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

FIGURE 13.25

DWG. NO 2099LO/PM001

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Viewpoint 9: Existing View

Viewpoint 9: Proposed View

Grid reference:	637835E, 152700N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	c. 0.6m	
Distance to nearest turbine:	26.4km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	16:10	
Weather:	Overcast and cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 9 - Photomontage

Deal Pier/Promenade

DATE	October 2005	DRAWN	SD/RC
SCALE	NTS	CHECKED	AJ
STATUS	Final	APPROVED	WW

FIGURE 13.26

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Viewpoint 10: Existing View

Viewpoint 10: Proposed View

Grid reference:	637329E, 145222N	Each A3 photomontage sheet has an angle of view of 90º. This is approximately the same as 2.5 prints from a 35mm film with a 50mm lens. The vertical and horizontal scales do not change across their width. For correct monocular perspective the wireframes should be viewed from a distance of 250 mm, curved through 90º.
Elevation AOD:	87.3m	
Distance to nearest turbine:	33.0km	
Height to turbine blade tip:	150m	
Height to nacelle:	90m	
Height of camera above ground:	c. 1.6m	
Lens focal length (35mm format):	50mm	
Date:	28/04/05	The Photomontage does not allow for the earths curvature therefore proposals are shown as worst case scenario.
Time:	15:35	
Weather:	Cloudy	

THANET OFFSHORE WIND FARM

Viewpoint 10 - Photomontage

St Margaret's at Cliffe (Coastguard Memorial)

DATE	October 2005	DRAWN	SD/RC
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FIGURE 13.27

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Table 13.5 Representative viewpoints - impact significance with 100 turbines

	Representative Viewpoint Location	Quality of View	Sensitivity to change	Magnitude of Operational Visual Effect	Impact Significance
1	Reculver Country Park, Thanet Coastal Path	Medium	Low to Medium	Low	Minor
2	West Brook POS/ Thanet Coastal Path	Medium to High	Medium	Medium	Moderate
3	Margate Harbour Wall (Turner Art Gallery)	Medium to High	Medium	Low	Minor
4	Kingsgate / North Foreland, Coastal Path	High	High	Medium to High	Moderate
5	Broadstairs Promenade	High	Medium to High	Medium to High	Moderate
6	Wellington Crescent, Ramsgate	Medium to High	Medium	Medium to Low	Minor to Moderate
7	Richborough Castle	Medium to Low	Medium to Low	Negligible	Negligible
8	Kings Avenue/ Princes Drive Sandwich Bay Estate	Medium	Medium	Low to Medium	Minor to Moderate
9	Deal Pier / Promenade	Medium	Medium	Low to Medium	Minor to Moderate
10	St Margaret's at Cliffe (Coastguard Memorial	High	High	Low to Negligible	Minor

13.6.13 Visual effects upon visual receptor groups

Section 13.4 provides an outline of the range of visual receptor groups that could reasonably be anticipated to be affected by the Thanet project, the impacts on which are summarised below:

Residents

Residents are the most significant receptor group and are most frequently impacted on within the identified visual envelope. They would, at times, double up as the travelling public, workers and recreational users of the outdoor environment. Residents are most represented by viewpoints 2, 3, 5, 6, 8 and 9.

The range of residents, all with an assumed high level of sensitivity to change within their visual environment, include the town dwellers of Margate, Broadstairs, Ramsgate and Deal and the residents of the smaller coastal settlements such as Birchington, Sandwich, Kingsdown and St Margaret's at Cliffe and, the rural dwellers of the dispersed villages and hamlets across the hinterland of the four Regional Seascape Units. However, within these settlements, only the small minority would be affected by the Thanet project, as identified on **Figures 13.3** and **13.4**.

The magnitude of impact upon the resident visual receptor group would primarily depend upon distance from the development, the orientation of main views from their properties and the existence or otherwise of intervening built forms and/or vegetation. Visual impacts are likely to be greatest along the coastline, where properties have views overlooking the sea. Likewise, both the magnitude and significance of the impacts are anticipated to be higher in the more rural and less developed areas, where there is less activity to detract the eye and where, it is presumed, the residents are more sensitive to the rural landscape/seascape qualities of their environment. Refer to the representative viewpoint assessment above for further details of specific impacts.

The travelling public

Key viewpoints representative of members of the travelling public include viewpoints 3, 6 and 9, which identify impacts from the local coastal roads, and viewpoints 7 and 10, which are representative of sequential views from isolated areas of the main arterial routes within the study area. Reference should again be made to the two ZVI plans from which it can be seen that the number of main communication routes falling within the theoretical ZVI of the Thanet project is relatively limited.

Generally this visual receptor group is judged to be less sensitive to change within their visual environment. The transient nature of the view means that views would be brief and temporal. The magnitude and significance of impact on this receptor group is, therefore, considered to be lower than that of the other representative receptors within each view.

Visitors and the tourism / amenity resource

This receptor group is a broad category with different objectives, and thus levels of sensitivity. All of the selected viewpoint locations can be said to be representative of various members of this varied category and particularly the coastal viewpoints.

Coastal visitors, and those whose principal preoccupation is the enjoyment of the outdoor environment and scenery, including recreational walkers, cyclists etc. would have the highest level of sensitivity to change. The ZVI plans (**Figures 13.3** and **13.4**) confirm that the Thanet site would be visible from both cliff top and beach locations within the study area although, inevitably, its visual prominence would clearly decrease in direct relation to distance from the site. This is clearly illustrated by the various representative viewpoints and the ten photomontages (refer to **Figures 13.8** to **13.17** and **Figures 13.18** to **13.27**). Beach users tend to be more preoccupied with their immediate surroundings, and the enjoyment of the sun, and are thus judged to be less effected by the development. In contrast, coastal footpath walkers would be more preoccupied with the enjoyment of views and they are anticipated to be most significantly affected by the Thanet project.

Other visitors within the study area include those whose enjoyment is more directly focused upon the hinterland and sea views are judged to be of less importance to them in their pursuit of other outdoor activities, such as horse riding, cultural pursuits, bird watching, cycling etc. Where these visual receptor groups actively seek out distant seaward views, there would be an effect upon them when the Thanet site falls into their field of view.

Other visual receptor groups who would be affected by the development would include sailors, ornithologists, fishermen, sea anglers, wind surfers etc. All of these receptor groups would be focused on their particular activity of interest, which would thus reduce the significance of the magnitude of effect upon them of the Thanet project.

13.6.14 Visual effects at night

The wind farm would be marked to be conspicuous by day and by night, given prevailing visibility conditions and would be lit in accordance with the recommended International Association of Lighthouse Authorities (IALA) guidelines. For aviation purposes it is proposed that turbines would be lit in accordance with CAA requirements. Night time visual effects would not be available, as the lighting only has a visible range of 5nm and should not be visible from the landfall at any point. Marine based receptors, however, within this distance are likely to be affected at night by the proposed lighting but not to any significant degree.

13.6.15 Summary

Although the Thanet site is located 11.3km offshore, most of the views within the study area are influenced by the prominent urban peninsula of the Isle of Thanet, which positively assists in restricting the visual envelope of the project to a large extent of the study area. From the Isle of Thanet coastline itself, views are largely restricted to the immediate seafront where the significance is generally **moderate adverse** in light of the *high* quality and sensitivity of the coastline.

Elsewhere the peninsula acts as a buffer to the wind farm. The visibility coverage along the north coast of Thanet District is only intermittent and restricted to the northern most promontories, with a large extent of the main tourist areas and attractions such as Margate Bay, Minnis Bay and Westgate Bay lying outside the visible area. In addition, the majority of the Thanet site is located beyond the northeastern headland of Thanet's urban coastline at a distance where views would only be partial and fairly indistinct with the wind farm forming an extension to the wider view of urban coastline. As a result, the impact significance is only considered to be **minor adverse** with isolated areas of **moderate adverse** impact.

Although there is a high coverage of visibility to the south of the Isle of Thanet, the extent of visibility from the flat low lying areas would only be of the blade tips, as local landform variations, vegetation and built influences would screen the majority of the turbine structures. Inland, therefore, the impact is considered to be generally **negligible** with more **moderate** to **minor adverse** impacts along the coast.

13.6.16 Duration of visual effects

Section 2 identifies the key offshore elements associated with the Thanet project. The sources of potential impacts arising from these are identified as being the turbines, the anemometry mast and offshore substation, which would give rise to impacts upon the seascape and visual environment. The anticipated nature of these impacts is identified below according the stage of the development.

13.6.17 Impacts during construction

The effect of construction vessels during the construction phase and the progressive construction of the wind turbines, offshore substation and anemometer mast, would form the main impact. However it is anticipated that there would be no significant impact on any seascape character until the later stages of construction, but this would become increasingly significant until the end of the construction period. The additional impacts arising from marine vessel activity associated with cargo barges and transportation materials including land based or harbour construction activity, are also considered to be **negligible** as there is an existing baseline of marine activity in the area. It is anticipated that the offshore elements of the Thanet project would be constructed within one or two seasons each with duration of six to eight months.

13.6.18 Impacts during operation

It is noted that of the three different stages it is the operational phase that is of the longest duration, given that the project has an anticipated lifespan of up to 40 years. It is also noted that this period would have the most significant impact of the three. The main elements of impact during this operational period would include the visual impact of the turbines.

The magnitude and subsequent significance of any seascape impact arising from the Thanet project is directly related to the capacity of the seascape to accommodate change. The ability of the seascape area, to accommodate an identified change has been established through a recognised evaluation process and is detailed within this chapter.

13.6.19 Impacts during decommissioning

There would be visual impacts associated with decommissioning activity, which would be similar to that of the construction phase and **insignificant**, as there is an existing baseline of marine activity in the area. As the anticipated length of decommissioning would be slightly less than for the construction phase, these impacts would be more temporary than for the construction period.

13.7 Mitigation

13.7.1 Mitigation of offshore elements

The inherent characteristics of the Thanet project suggest that there are very limited opportunities for incorporating mitigation measures within the development. The size and generating capacity of the turbines has to be sufficient to ensure that the project remains commercially viable and the actual siting of the turbines has been developed

taking into account a wide range of factors including visual impact and navigational safety, the latter precluding the siting of the turbines further offshore.

As for onshore wind turbines, careful consideration is given to the colour of the structures in order to ensure that they remain moderately recessive, visually. However, this conflicts to a degree with existing standard requirements for structures out at sea, which clearly have to remain visible, and identifiable to shipping. Thus, the need to paint the lower sections of the turbine columns yellow, in accordance with Trinity House Lighthouse Service requirements, is unavoidable. Whilst this assists with improving visibility at sea, it should make little difference to visibility from land, given that the turbines are to be seen at a minimum distance of 11.3km.

It should also be noted that the above assessment assumes ideal visibility conditions and does not take into account meteorological effects such as sea haze, fog and rain, which would help reduce visibility of the wind farm for much of the time.

There is greater scope for incorporation of mitigation measures within the design of the Thanet project for the accompanying onshore elements. This has been identified in **Section 21**, where careful consideration has been given to the landfall arrangements of the cable in order to ensure that there is a minimal lasting visible effect upon the seascape unit and landscape.

13.8 Summary

A seascape and visual impact assessment was undertaken of the offshore elements of the Thanet project on the existing landscape and seascape environment, its characteristic features and on the people who view it. The purpose of the assessment was to determine the level and significance of any change in the character and value of the landscape/seascape area, as well as the potential change in views, within the overall Zone of Visual Influence.

Effects on the seascape

Given the scale and extent of the Thanet project, it is inevitable that effects upon the surrounding seascape would be incurred, even though it is located a minimum of 11.3km offshore from the nearest landfall. The primary source point of the effects would be the array of 60 wind turbines.

The turbine columns are unquestionably substantial structures, but they retain an inherent repose in their appearance and form and, equally significantly, being sited out at sea, are being placed within a receiving environment that has both the scale and simplicity of form to, not only accommodate the development, but provide it with an appropriate contextual setting. Thus, although the turbine constructions are in themselves of a substantial scale, aesthetics and the nature of the receiving environment dictate that they are not inappropriate to offshore locations, even though there is a limited opportunity to incorporate mitigation measures to reduce their impact.

Visual effects

The proposed turbines have an assumed maximum height of approximately 90m above mean sea level (AMSL) to nacelle with a rotor diameter of 120m giving a maximum blade tip height not exceeding 150m AMSL. Inevitably they would be seen, both

individually and collectively, as substantial visual elements set within a very plain setting, comprised predominantly of sea and sky. However, the turbines would also be seen, admittedly by a far fewer number of visual receptor groups, in views from the sea where they would be seen against the backdrop of the north east Kent coastline.

The general simplicity and open scale of the seascape, typically with an absence of visual reference points in land to sea views means that, in most cases, the Thanet project would not be seen to sit uncomfortably within its setting, even though it remains conspicuous from the closest viewpoints. In contrast, depending upon the distance between the viewer/sea vessel and the wind farm, views from sea to land of the Thanet site may be more uncomfortable, as the backdrop of the coastline would provide a clear visual reference, and thus sense of scale, against which the turbine grouping would be seen.

The visual effects arising from the turbines would be greatest from the eastern coastline of the Isle of Thanet peninsula, but ease significantly with distance from the site both to the south and west, where the Isle of Thanet peninsula positively assists in restricting the visual envelope of the Thanet site to a large extent of the study area. It also acts further from coastal areas with visibility as a buffer to the wind farm.

The magnitude and significance of visual effects is also reduced as the wind farm is seen to shift from being a main focus of view from the coast, as at viewpoints 3 (Margate harbour wall), 4 (Kingsgate/North Foreland), and 5 (Broadstairs Promenade), to occupying a more peripheral position within the field of view from more distant viewpoints e.g. viewpoints 1 (St Mary's Church, Reculver), 7 (Richborough Castle) and 10 (Coastguard Memorial, St Margaret's at Cliffe). Upon evaluation, the visual effects arising from the Thanet project have not been found to be inappropriate, nor unacceptable. The turbine group would be discernable for distances of up to approximately 30km in good visibility conditions and would thus provide an intermittent focal point and visual reference within the maritime setting.

Cumulative

The Thanet project would generally be visible in the middle/back ground in seaward views from the eastern shore of the Isle of Thanet and would have a significant effect on the seascape and visual resources of the area. From North Foreland, London Array would appear as a very small element in the distant background beyond the horizon and is likely to cause **moderate** cumulative visual impacts in this isolated vicinity. Elsewhere, along the north coast there would be a range of cumulative impacts ranging from **minor** to **moderate** with the addition of London Array and Kentish Flats. These effects have been dealt with under the representative viewpoints. Furthermore, due to the coastal geometry and the oblique nature of the view towards the wind farms, they would not be visible in any coastal views from Broadstairs/Ramsgate to the south. In practice, except in very good visibility, it would be difficult to discern London Array from Foreness Point, the closest landfall to the site.

Overall Summary

The assessment process has sought to set down the full extent of the likely seascape and visual effects arising from the Thanet project at all stages of the project. Whilst effects upon the identified Regional Seascape Units would inevitably occur, ranging from **minor** to **moderate adverse**, it is noted that the main impacts are isolated to the Isle of

Thanet Regional Seascape Unit and elsewhere they are more **minor** to **moderate** giving a collective seascape significance of **moderate adverse**.

The visual effects would be more noticeable than effects upon the seascape resource itself. However, whilst the wind farm would be seen at distances of up to approximately 30km under the right atmospheric and weather conditions, the magnitude and significance of the collective effect is similarly judged to be no more than **moderate adverse**, even though the Thanet project represents the introduction of a new element into the visual environment and there would be localised areas of **moderate adverse** impact to the east coastline of the Isle of Thanet peninsula and a **moderate adverse** impact at the isolated nearest point at Kingsgate.

The nature of the development however, with its offshore siting, the scale and relative simplicity of the marine components, the focusing of interest upon the coastal foreshore and of the Regional Seascape Units, all combine to make the Thanet project more acceptable in both visual and seascape terms. Moreover, the inevitable effects arising from the project are substantially reversible and, in the medium to longer term, are anticipated to leave **no net residual effect** upon either the seascape resource or the visual environment.