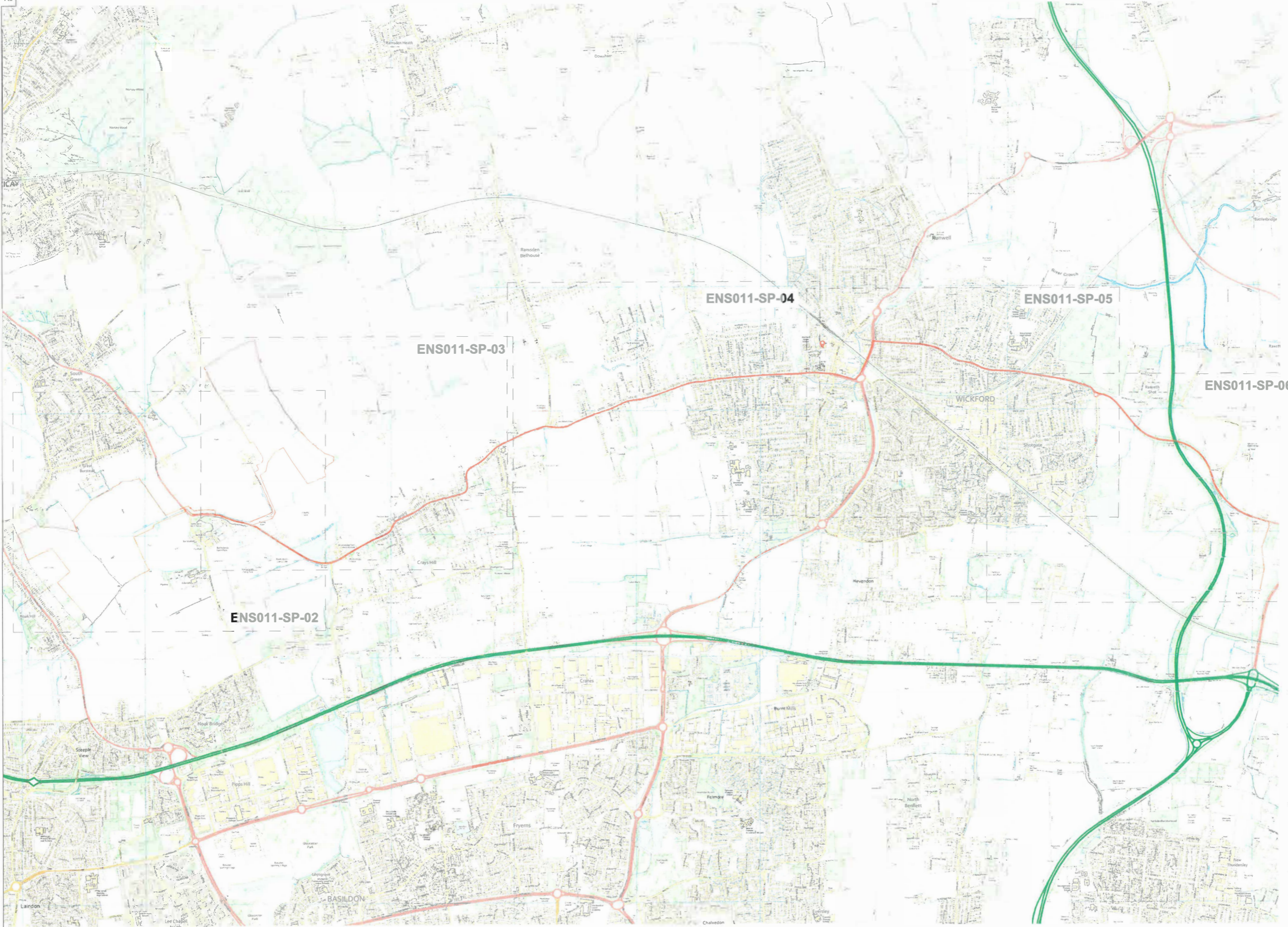


# 11. Appendices

## **Appendix 1 - Site Location Plan**





Revisions:

Rev	Date	Description	By	Check
01	14.02.2022	Issue for Planning	AK	OH

LEGEND:

APPLICATION SITE



Project:  
**Burstead Solar Farm**



Status:  
**PLANNING**

Drawing Title:  
**Site Location Plan Sheet Overall**

Drawn:	Checked:	First Issued:
AK	OH	14.02.2022
Project Code:	Drawing Number:	
ENS011	SP-01	
Sheet Size:	Scale:	Revision:
A0	1:10000	03

**1 BURSTEAD SOLAR FARM SITE LOCATION PLAN OVERALL**

Scale: 1:10000@A0





## **Appendix 2 - Detailed Methodology**

## **DETAILED METHODOLOGY**

### **Introduction**

1. This Landscape and Visual Appraisal (LVA) has been undertaken with reference to best practice, as outlined in the following published guidance:
  - Guidelines for Landscape and Visual Impact Assessment (3rd edition) - Landscape Institute/ Institute of Environmental Management and Assessment (2013)
  - GLVIA3 Statement of Clarification 1/13
  - An Approach to Landscape Character Assessment – Natural England (2014)
  - Technical Guidance Note 02/21 – Assessing landscape value outside national designations – The Landscape Institute
2. The proposed scheme is assessed for the purposes of the landscape and visual analysis.
3. As outlined in paragraph 1.11 of GLVIA3, though the processes used to undertake them are very similar, the term Landscape and Visual Appraisal has been used to distinguish this standalone report from a Landscape and Visual Impact Assessment which normally constitutes part of a larger, formal, EIA document.

### **Study Area**

4. The initial study area for the LVA is taken to be a 5km radius from the site. Unless otherwise stated, the main focus of the assessment is taken as a radius of 2km from the site as it is considered that beyond this distance, even with good visibility, the proposed development would not be perceptible in the composite landscape.
5. The effects on settings of heritage assets or ecological/environmental assets are not considered within this LVA.

### **Nature of Effects**

6. An impact is an action e.g. building a wall. An effect is the consequence of a particular action on the integrity of the landscape, feature or view.
7. The nature of any effect will be adverse beneficial or neutral and are summarised as:
  - Adverse - where on balance there is a negative effect on the quality, integrity or key characteristics of the landscape or visual receptor

- Beneficial - where on balance there is a positive effect on the quality, integrity or key characteristics of the landscape or visual receptor
- Neutral – where on balance the effect would maintain the quality, integrity or key characteristics of the landscape or visual receptor or where the change is different but represents neither a deterioration nor enhancement

8. Unless expressly noted, effects are deemed to be adverse in nature.

### **Landscape Elements and Character Assessment Methodology**

9. A baseline landscape assessment is carried out to determine the current elements and character of the landscape within and surrounding the site. This involved an initial desktop study of but not necessarily limited to:

- Ordnance survey maps at 1:50,000, 1:25,000 scales
- Aerial photographs of the site and surrounding area
- Datasets for rural designations from the MAGIC website (Multi Agency Geographic Information for the Countryside)
- Relevant planning policy
- National and local scale landscape character assessments

### **Visual Assessment Methodology**

10. The assessment of visual effects is undertaken on the basis of viewpoint analysis as recommended in best practice guidelines. The viewpoints which are in different directions from the site and are at varying distances and locations were selected to represent a range of views and visual receptor types.

11. The viewpoints are representational and not exhaustive. They are taken from publicly accessible land and not from any third party, private, land.

12. The viewpoints were used as the basis for determining the effects of visual receptors within the entire study area. The viewpoints were photographed at 1.6 metres above ground level.

### Sensitivity of Landscape Elements and Features

13. The sensitivity attributed to a landscape element or feature is determined by a combination of the value that is attached to a particular landscape element feature and the susceptibility of the landscape element/feature to changes that would arise as a result of the Proposed Development as outlined in pages 88-90 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.

**Table 1: Value of Landscape Elements and Features**

Low	<p>Ones that:</p> <ul style="list-style-type: none"> <li>• have no or little rarity and/or,</li> <li>• make no and/or make only a limited contribution to the character and local visual and amenity value and/or</li> <li>• are of such poor condition that the element/feature has lost its ability to contribute effectively to the character of the landscape</li> </ul>
Medium	<p>Ones that:</p> <ul style="list-style-type: none"> <li>• are notable in the landscape, with some visual and/or amenity interest but,</li> <li>• do not make a particularly strong or important contribution to the character of the landscape and/or,</li> <li>• ones that are an intrinsic element of landscape but in poor condition</li> </ul>
High	<p>Ones that:</p> <ul style="list-style-type: none"> <li>• make an important contribution to the character of the landscape and/or</li> <li>• have particular historical or cultural reference and/or</li> <li>• are distinctive or rare and typically of good condition</li> </ul>

**Table 2: Susceptibility of Landscape Elements and Features**

<b>Susceptibility to change</b>	<b>Criteria</b>
<b>High</b>	A very limited ability of the landscape element of feature to accommodate the type of development being proposed – a particular susceptibility. Few opportunities for mitigation and enhancement.
<b>Medium</b>	A moderate ability of the landscape element of feature to accommodate the type of development being proposed – some susceptibility. Some opportunities for mitigation and enhancement .
<b>Low</b>	A well-defined ability of the landscape element of feature to accommodate the type of development being proposed – little susceptibility. Good opportunities for mitigation and enhancement .

**Susceptibility of Landscape Elements and Features**

14. The susceptibility criteria of landscape elements and features is given in Table 2 but a judgement has been made by linking back to the evidence gathered at the baseline stage.

**Table 3: Sensitivity of Landscape Elements and Features**

	<b>VALUE</b>			
		<b>HIGH</b>	<b>MEDIUM</b>	<b>LOW</b>
<b>SUSCEPTIBILITY</b>	<b>HIGH</b>	High	High	Medium
	<b>MEDIUM</b>	High	Medium	Low
	<b>LOW</b>	Medium	Low	Low

**Magnitude of Change on Landscape Elements and Features**

15. Professional judgement, using the criteria given in Table 4 , and also considering geographic extent and the duration and reversibility of the effect, has been used to determine the magnitude of direct physical impacts on individual existing landscape elements and features



**Table 4: Criteria for magnitude of change for landscape elements and features**

**NB Alterations may include the addition of new elements and features**

Negligible	No loss or very minor alteration to part of an existing landscape element and/or feature
Low	Minor loss or alteration to part of an existing landscape element and or feature
Medium	Some loss or alteration to part of an existing landscape element and/or feature
High	Total/major loss or alteration of an existing landscape element and/or feature

### Sensitivity of Landscape Character

16. Sensitivity is determined by a combination of the value that is attached to a landscape and the susceptibility of the landscape to changes that would arise as a result of the Proposed Development as outlined in pages 88-90 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.
17. Table 5 below provides a series of criteria by which the ‘value’ of the landscape is assessed. Such criteria are based upon Box 5.1 on page 84 of GLVIA3.

**Table 5: Value of Landscape Character**

Low	An area that is in a recognisably poor condition/quality and/or with a weak strength of character that typically has a clear indication of being damaged and/or contains a high number of detractors, and/or is of limited visual cohesion; rare or distinctive elements and features are not a notable component that contribute to the character of the area. No known associations with cultural/historic people.
Medium	An area is recognisable as being in reasonable condition/quality and/or with a strength of character but likely to exhibit some damage or deterioration and/or some visual cohesion and interest; rare or distinctive elements and features make some contribution to the character of the area. Possible or limited associations with cultural/historic people.
High	Areas with international or national landscape designations, i.e. National Parks and Areas of Outstanding Natural Beauty or occasionally landscapes non-designated landscape in particularly good condition/quality and/or strong strength of character or of particular local value and/or with few visual detractors; rare or distinctive elements and features are likely to be a key component that contribute to the character of the area. Recorded associations with cultural/historic people may be present.

**Table 6: Susceptibility of Landscape Character**

Susceptibility to change	Criteria
<b>High</b>	A very limited ability of the landscape to accommodate the type of development being proposed – a particular susceptibility. Few opportunities for mitigation and enhancement.
<b>Medium</b>	A moderate ability of the landscape to accommodate the type of development being proposed – some susceptibility. Some opportunities for mitigation and enhancement .
<b>Low</b>	A well-defined ability of the landscape to accommodate the type of development being proposed – little susceptibility. Good opportunities for mitigation and enhancement .

### Susceptibility of Landscape Elements and Features

18. The susceptibility criteria of landscape elements and features is given in Table 6 but a judgement has been made by linking back to the evidence gathered at the baseline stage.

**Table 7: Sensitivity of Landscape Character**

SUSCEPTIBILITY	VALUE			
		HIGH	MEDIUM	LOW
HIGH		High	High	Medium
MEDIUM		High	Medium	Low
LOW		Medium	Low	Low

### Magnitude of Change on Landscape Character

19. Professional judgement using Table 8, and also considering geographic extent and the duration and reversibility of the effect, has been used to determine the magnitude change on landscape character

**Table 8: Criteria for magnitude of change for landscape character**

Negligible	No notable introduction of new elements into the landscape or change to the scale, landform, land cover or pattern of landscape
Low	Introduction of minor new elements into the landscape or some minor change to the scale, landform, land cover or pattern of landscape
Medium	Introduction of some notable elements into the landscape or some notable change to the scale, landform, land cover or pattern of landscape

High	Introduction of major elements into the landscape or some major change to the scale, landform, land cover or pattern of landscape
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### Sensitivity of Visual Receptors

20. Sensitivity is determined by a combination of the value that is attached to a view and the susceptibility of the receptor to changes in that view that would arise as a result of the Proposed Development as outlined in pages 113-114 of GLVIA3. Both value and susceptibility are assessed as high, medium or low.

21. GLVIA3 says a judgement should be made as to the value of a particular view being experienced. In making a professional judgement as to the value attached to a view, the following criteria have helped guide the process. Not all the criteria have to apply to a particular view and the criteria are not in a hierarchy.

**Table 9: Criteria for judging levels of visual value**

Low	<ul style="list-style-type: none"> <li>• Views from within or towards undesignated landscapes and/or features of either importance to the site only or of no importance</li> <li>• View has little aesthetic merit e.g. has numerous visual detractors, is badly degraded etc.</li> <li>• View makes a limited contribution to the understanding of the function or wider pattern of the landscape</li> <li>• Views with no known social, cultural or historic associations</li> <li>• Views from locations that are not necessarily destination points or that are infrequently visited</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Views from within or towards undesignated landscapes and/or features of local importance</li> <li>• View with some limited aesthetic appeal</li> <li>• View makes a reasonable contribution to the understanding of the</li> </ul>

	<p>function or wider pattern of the landscape</p> <ul style="list-style-type: none"> <li>• Views with some known local social, cultural or historic associations</li> <li>• Views from locations that are locally popular destination points or that are frequently visited by locals but not necessarily by visitors from further afield</li> </ul>
High	<ul style="list-style-type: none"> <li>• Views from within or towards designated landscapes and/or features of importance at district level and above</li> <li>• View with great aesthetic appeal</li> <li>• View makes an important contribution to the understanding of the function or wider pattern of the landscape</li> <li>• Views with some known national or international social, cultural or historic associations especially to art and literature</li> <li>• Views from locations that are popular regional, national or international destination points or that are frequently visited by large numbers of visitors from further afield</li> </ul>

### Susceptibility of Visual Receptors

22. GLIVA3 advises (on page 113) that susceptibility of a particular visual receptor (observer) to change in a view is mainly a function of the nature of the activity or occupation of the person or people experiencing a view at a particular location and the extent to which their interest or attention is drawn to the view.

23. In general, it is considered that occupiers of residential properties and people using public rights of way (where enjoyment is primarily drawn from the view) have a high susceptibility to change. Users of roads, railways and open space or engaged in an activity where an appreciation of the view forms a part of the experience are considered to be of medium susceptibility. People engaged in formal sport or occupiers of commercial premises or in areas of employment, where the view has limited importance to the activity being undertaken, are considered to be of low susceptibility to change.



**Table 10: Sensitivity of Visual Receptors**

SUSCEPTIBILITY	VALUE			
		HIGH	MEDIUM	LOW
	HIGH	High	High	Medium
	MEDIUM	High	Medium	Low
	LOW	Medium	Low	Low

**Magnitude of Change on Visual Amenity**

24. Professional judgement has been used to determine the magnitude change on landscape character based upon the criteria outline in Table 11 but also considering the size and scale of change (including the loss or addition of features, changes in visual composition etc.) , the geographic influence of the change (orientation and angle of view in relation to the visual receptor, distance of the viewpoint from the main development, extent of area over which change would occur etc.) and, the duration and potential reversibility of any change (short term 0-5 years, medium term 5-10 years, long term 20 years +, temporary, permanent, intermittent, continuous and whether the views will be full, partial or glimpsed).

**Table 11: Criteria for magnitude of change for visual receptors**

Negligible	No notable change in the view
Low	Some change in the view that is not prominent / few visual receptors affected
Medium	Some change in the view that is clearly visible and forms an important but not defining element in the view
High	Major change in the view that has a defining influence on the overall view / many visual receptors affected

**Scale of Effects**

25. The scale of the landscape and visual effects is determined by cross referencing the sensitivity of the landscape feature, landscape character or view with the magnitude of change. The scale of effects is described as major, moderate, minor or negligible.

**Table 12: Scale of effect thresholds for landscape character, landscape elements/features and visual receptors**

		<b>Magnitude of Change</b>			
		<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Negligible</b>
<b>Sensitivity</b>	<b>High</b>	Major	Major	Moderate	Minor
	<b>Medium</b>	Major	Moderate	Minor	Negligible
	<b>Low</b>	Moderate	Minor	Negligible	Negligible

## **Appendix 3 – Context Views of the Site**





Photoview 1 - View looking north across the field 2 (parcel A) of the site



Photoview 2 - View looking east across field 2 (parcel A)





Photoview 3 - View looking south across the site (parcel A)



Photoview 4 - View looking north from the site (parcel A) towards Great Burstead church





Photoview 5 - View looking north-west across the site (parcel A)



Photoview 6 - View looking east across Field 3 of the site (parcel A)





Photoview 7 - View looking north-west across the site (parcel B)



Photoview 8 - View looking south-east across the site (parcel B)



## **Appendix 4 – Landscape Features Plan**





Based upon Google Earth aerial imagery



 The site



DRAWING Landscape Features Plan			
PROJECT Burstead Solar Farm			
CLIENT Enso Green Holdings J Ltd			
SCALE NTS	DATE 11/2021	DRAWN SW	
DRAWING NUMBER BLA095-001		REVISION A	



## **Appendix 5 – Designations**

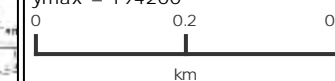




Legend

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Map produced by MAGIC on 5 December, 2021.  
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

## **Appendix 6 – Extract from NCA 111 Northern Thames Basin**





## Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper<sup>1</sup>, Biodiversity 2020<sup>2</sup> and the European Landscape Convention<sup>3</sup>, we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

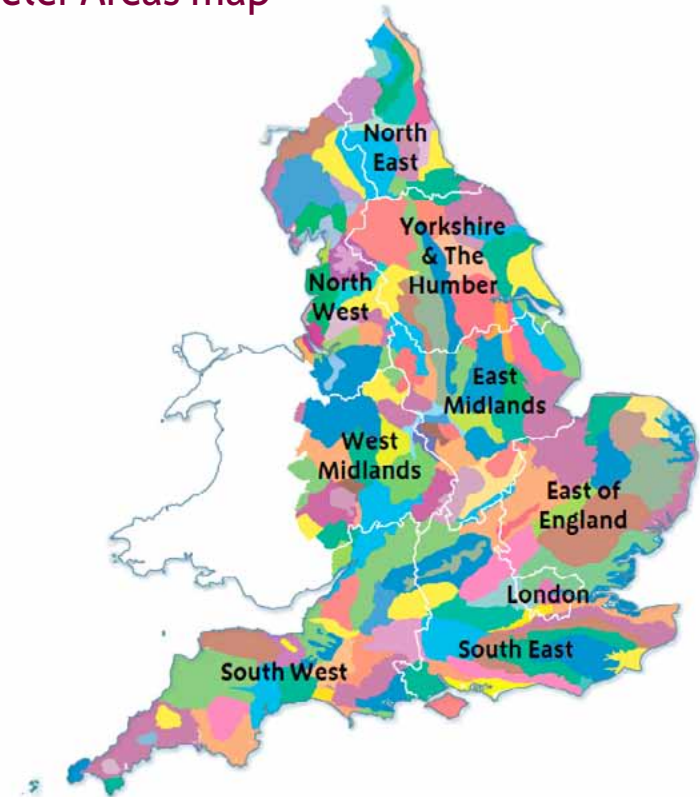
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing [ncaprofiles@naturalengland.org.uk](mailto:ncaprofiles@naturalengland.org.uk)

## National Character Areas map



<sup>1</sup> The Natural Choice: Securing the Value of Nature, Defra (2011; URL: [www.official-documents.gov.uk/document/cm80/8082/8082.pdf](http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf))

<sup>2</sup> Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: [www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf](http://www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf))

<sup>3</sup> European Landscape Convention, Council of Europe (2000; URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>)



## Summary

The Northern Thames Basin is a diverse area which extends from Hertfordshire in the west to the Essex coast in the east. It is separated from the North Sea and Thames Estuary by a narrow band of land that makes up the Greater Thames Estuary National Character Area (NCA). Included within this NCA are the suburbs of North London and also historic towns and cities including St. Albans and Colchester, as well as new and planned towns such as Welwyn Garden City, Hatfield and Basildon. Although arable agriculture is a large industry in the area the soil quality ranges from good to poor quality. The London Clay provides a poor quality soil that becomes waterlogged in winter and cracks and shrinks in summer. Better quality soil is found in areas that contain alluvial deposits from the Thames and other rivers in the area as they formed and changed position over time.

The Northern Thames Basin is an area rich in geodiversity, archaeology and history and diverse landscapes ranging from the wooded Hertfordshire plateaux and river valleys, to the open landscape and predominantly arable area of the Essex heathlands, with areas of urbanisation mixed in throughout. Urban expansion has been a feature of this area since the 16th century when wealthy merchants who were conducting business in London built homes on its outskirts, mainly in the Hertfordshire area. This trend increased dramatically from the mid-19th century as infrastructure improved and people could travel to work in London from the surrounding areas in an hour or less. This has put increased pressure on the area in terms of extra housing developments, schools and other necessities for expanding populations, with a consequential reduction in tranquillity. Tranquil areas can still be found in parts of Hertfordshire and Essex in areas that have a more dispersed settlement pattern broken up by arable land and semi-natural habitats.

There are a wide variety of semi-natural habitats in the area and these support many important species. However, the habitats have become fragmented over time and a landscape-scale approach is needed to connect them so that they can be sustained and provide beneficial functions including; increasing pollinating insects, acting as flood defences and water storage areas, preventing soil erosion and helping to improve soil and water quality as well as maintaining the area's sense of place and history. This NCA includes many internationally and nationally designated sites including 72 Sites of Special Scientific Interest (20 of which are designated wholly or in part for their national geological importance), 6 Ramsar sites, 6 Special Protection Areas, 3 Special Areas of Conservation and 2 National Nature Reserves. The majority of these sites are estuaries and woodlands. The estuaries support migrating and overwintering birds as well as rare or locally important plants and invertebrates. The selected woodlands are ancient and have a long history of management through coppicing and pollarding, which has allowed rich ground flora to develop and also supports rare mosses and deadwood invertebrates.

[Click map to enlarge; click again to reduce.](#)

The main changes to the area have resulted from increased construction and commercial-scale farming. Both of these have increased pressures on water availability, water flow, soil quality, biodiversity and sense of place. Although housing, other construction and agriculture are significant for the area it is important that these are developed in a sustainable way so that predicted changes in climate and the effects on the area's character are considered and sense of place and history are preserved.

The main opportunities available to this area are the continuation of the agricultural tradition, but within this land management should consider methods that are more sustainable in terms of water use and soil quality in order for it to continue to be a viable industry in the future. The areas of various semi-natural habitats also present opportunities to improve water storage and soil quality for surrounding agricultural land as well as to increase advantageous species that will aid pollination and reduce pest species. In addition to this the woodlands in the area could be an important resource to supply timber and fuel to the local area if they were managed effectively.



Farmland next to the River Colne in Essex.



## Statements of Environmental Opportunity

**SEO 1:** Manage rivers and river valleys to protect and improve water quality and help to alleviate flooding in the downstream urban areas, while also helping to improve aquifer recharge and provide a sufficient store of water to meet future need, especially with predicted climatic changes. Conserve the riparian landscapes and habitats, for their recreational and educational amenity for their internationally significant ecological value.

**SEO 2:** Manage the agricultural landscape and diverse range of soils which allow the Northern Thames Basin to be a major food provider, using methods and crops that retain and improve soil quality, water availability and biodiversity.

**SEO 3:** Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for habitat restoration and sustainable development, ensuring high design standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits.

**SEO 4:** Manage and expand the significant areas of broadleaf woodland and wood pasture, and increase tree cover within urban areas, for the green infrastructure links and important habitats that they provide, for the sense of tranquillity they bring, their ability to screen urban influences and their role in reducing heat island effect and sequestering and storing carbon.



Ancient woodland at Pound Wood in Benfleet, Essex.

## Description

### Physical and functional links to other National Character Areas

The Northern Thames Basin forms the rising land above the low-lying marshy landscapes adjoining the coast and estuaries of the Greater Thames Estuary and the Suffolk Coast and Heaths National Character Areas (NCAs) to its east and south-east extent and enjoys associated views of these areas. Chalk geology commonly underpins this NCA and the neighbouring Chilterns and South Suffolk and North Essex Claylands NCAs to the west and north; The Chilterns, a formation of chalk hills and plateaux with a prominent escarpment, offers views across to this similarly elevated NCA. To the south-west the Thames Valley NCA forms a wedge-shaped area containing the open Thames flood plain surrounded by rolling clay farmland. Directly south is the Inner London NCA on the banks of the Thames where the river valley widens out into a broad flood plain.

The London Basin Chalk aquifer, which underlies much of the western section of the Northern Thames Basin NCA, is the principal aquifer supplying water to Inner London. The Chalk is confined in the basin by the overlying Tertiary formations of London Clay, which means recharge largely occurs in the extensive Chalk outcrop of the Northern Thames Basin and into the Chilterns NCA to the north and the North Downs to the south.

A small part of the Dedham Vale Area of Outstanding Natural Beauty (AONB) straddles the eastern edge of this NCA, the more northerly South Suffolk and North Essex Claylands and the south-western tip of the Suffolk Coast and



Major transport links include the M25 motorway.

Heaths NCA. The urban character in the south of the Northern Thames Basin continues into the Thames Valley and Greater Thames Estuary NCAs.

The landscape becomes extensively urbanised towards the Inner London NCA and includes major transport links from outside the area such as the East Coast mainline railway, M11 which connects to London and Cambridgeshire, the M1 which passes north-west through the Chilterns to the Midlands beyond, and



the M25 which provides circular access to all parts of London and the south. Important A roads providing wide physical links include the A12 and A120 and the A1(M), which has a similar route to the M1 but diverts towards the East Anglian Chalk and Bedfordshire Claylands NCAs.

Many watercourses feed in or flow from surrounding areas, often along courses incised into boulder clays or tills, for instance the Blackwater and Colne flowing from the South Suffolk and North Essex Claylands and the Ver and Lea from the westerly Chilterns NCA which flow into Hertfordshire before joining the Thames in inner London. These, along with others, form a series of river valleys draining south to the Thames and east to the North Sea and Thames Estuary, including the Roding, Wid, Chelmer, Roach and Crouch. Also notable is the Grand Union Canal, which runs from here through several other NCAs northwards to Birmingham.

## Distinct areas

- Hertfordshire plateaux and river valleys
- Essex wooded hills and ridges
- London Clay lowlands
- Essex heathlands



River Mimram valley flood plain, Hertfordshire.

## Key characteristics

- The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the 'Bagshot Hills' are notable to the north-west and extensive tracts of flat land are found in the south.
- Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland.
- Areas capped by glacial sands and gravels have resulted in nutrient-poor, free-draining soils which support remnant lowland heathlands, although these are now small. Areas that have alluvial deposits present are well drained and fertile.
- The water bearing underlying Chalk beds are a main source of recharge for the principal London Basin Chalk aquifer.
- A diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area
- The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.
- The field pattern is very varied across the basin reflecting historical activity. Informal patterns of 18th-century or earlier enclosure reflect medieval colonisation of the heaths. Regular planned enclosures dating from the Romano-British period are a subtle but nationally important feature on the flat land to the south-east of the area. In the Essex heathlands 18th- and 19th-century enclosure of heathlands and commons followed by extensive 20th-century field enlargement is dominant.
- Mixed farming, with arable land predominating in the Hertfordshire plateaux, parts of the London Clay lowlands and Essex heathlands. Grasslands are characteristic of the river valleys throughout. Horticulture and market gardening are found on the light, sandy soils of former heaths in Essex, particularly around Colchester, along with orchards, meadow pasture and leys following numerous narrow rivers and streams.
- The diverse range of semi-natural habitats include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter.
- Rich archaeology including sites related to Roman occupation, with the Roman capital at Colchester and City of St Albans (Verulamium) and links to London. Landscape parklands surrounding 16th- and 17th-century rural estates and country houses built for London merchants are a particular feature in Hertfordshire.
- The medieval pattern of small villages and dispersed farming settlement remains central to the character of parts of Hertfordshire and Essex. Market towns have expanded over time as have the London suburbs and commuter settlements, with the creation of new settlements such as the pioneering garden city at Welwyn and the planned town at Basildon.
- Brick-built dwellings are characteristic from the late 17th century onwards. Prior to this dwellings and farm buildings tended to be timber built with weatherboarding, now mainly painted white but traditionally black or tarred, and whitewashed plaster walls.

## Northern Thames Basin today

The Northern Thames Basin is a large and diverse landscape with a similar overarching character of agricultural land, interspersed with woodland, dissected by rivers and influenced by the urban areas of North London. It falls naturally into several distinct areas, shaped by their geology, topography and land use which are called: Hertfordshire plateaux and river valleys, Essex wooded hills and ridges, London Clay lowlands and the Essex heathlands

The Hertfordshire plateaux and river valleys to the north-west of the NCA are high, broad arable plateaux divided by wooded and pastured valleys which have a mainly rural feel with, on the whole, small developments. Rivers that drain the plateaux are the Colne, Ver and Lea and the soils are mainly underlain with London Clay, resulting in heavy, acidic, nutrient-poor soils with poor drainage; however, in the river valleys alluvial deposits provide fertile and well-drained soils. The area is underlain by extensive Chalk beds of the principal London Basin chalk aquifer, which provides the main source of water for London. Recharge of the aquifer largely occurs from the Chalk as water flows underground to London from the Chilterns, and water quality and availability within the aquifer are largely dependent on land management practices in the area.

While the plateaux are predominantly in arable use, the valleys by contrast contain areas of pasture and have a more intimate character, although some have been heavily modified by reservoirs, gravel workings, landfill sites and river realignments. The valleys contain all the main settlements within the area. Field boundaries are dominated by informal enclosure patterns of the 18th century, with thorn hedges relating to rationalisation and amalgamation of this pattern in the 18th and 19th centuries. It is a well-wooded landscape, especially to the east, with a number of ancient broadleaved woodlands including oak



Grazing marsh at Kings Meads Valley Meadowlands alongside the urban landscape of Hertford.

and hornbeam coppice. Isolated areas of remnant heathland survive within commons. The area retains a substantial legacy of funerary monuments and settlement sites associated with the prehistoric period and was intensively settled in the Roman times, with a number of major and minor towns (including St Albans and Welwyn) having a Roman origin. Today, a medieval pattern of small villages and dispersed farming settlement is central to the area's character and there is good survival of medieval timber-framed houses and barns, moated sites and small medieval castles. The 16th and 17th centuries saw the growth of rural estates and country houses for London merchants and the landscape parklands surrounding these houses are a particular feature of the



area today. The area merges with the outer London suburbs of Enfield, Barnet, Harrow, Hillingdon and Hounslow. It also contains many large towns including Watford, Hatfield, Hertford and St Albans which have developed as commuter settlements as well as the pioneering and influential garden cities of Ebenezer Howard at later Welwyn. Road and rail routes plus utility infrastructure are now dominant features of some parts of the area. To the far south the area is heavily urbanised as it becomes part of London, where housing, industrial areas and shops dominate. Green areas are restricted to city parks, grassed areas in front of housing developments and residents' gardens.

The Lea Valley within the area has been exploited for supplying London with water and for generating power for a wide range of industries, together with extraction of sand and gravel. This historic use has underpinned its current importance for wildlife. The Lower Lea valley, which lies in the south of the area and in the adjacent Inner London NCA, was heavily regenerated for the 2012 London Olympics, bringing ecological landscape, recreational and economic benefit.

The designations afforded to this area are Ramsar, which is an international designation for wetland habitats, and Special Protection Area (SPA), which is a European designation; also, within the Lea Valley and the surrounding areas there are many Sites of Special Scientific Interest (SSSI). The main reasons for the designations within the Lea Valley area are its importance as a wetland site; wetlands and reservoirs occupy a large part of the valley and support many important overwintering waterfowl. The species of particular importance are bittern, which over-winter in the reedbeds in the area which at peak times can support around 6 per cent of the UK's population, as well as gadwall and shoveler which also over-winter here (representing almost 2 per cent of their overwintering European population). There are also two important woodland

complexes within the area: Wormley and Hoddesdon Park Wood, which is a Special Area of Conservation (SAC) and Broxbourne Wood, which is a National Nature Reserve (NNR). Wormley and Hoddesdon Park Wood is an almost exclusively hornbeam woodland which has been managed through coppicing with oak standards. The ground flora supports bluebells and great wood-rush as well as important mosses. Broxbourne Wood is an ancient woodland which supports the rare butterfly purple emperor and also has historical value as the area has been managed since Roman and medieval times as a source of wood

The Essex wooded hills and ridges lie to the east of the Hertfordshire plateaux and river valleys to the north of the NCA. This area has several ridges where the soils are acidic and stony and have low fertility but are easily cultivated. This and the wet soils at the base of the Bagshot Beds limit the agricultural potential for the hill slopes, but farmland can be found in the lower-lying areas. The ridges of Epping Forest, Brentwood to High Wood, Thorndon to Billericay and Danbury to Wickham Bishops are dissected by the river valleys of the Roding, Wid and Chelmer. The Ter, Brain and Blackwater also contribute to the drainage of the area and Hanningfield Reservoir provides an area of open water.

This area is in the central part of the NCA, and extends roughly from Epping Forest in the west to Danbury in the east. It is a transitional landscape between the London Clay lowlands and the South Suffolk and North Essex Claylands NCA. It is formed by a series of hills and ridges created by the resistant Bagshot Sands which rise up above the clay lowland as at Epping Forest, Brentwood to High Wood, Thorndon to Billericay and Danbury to Tiptree. These well-wooded hills contain extensive areas of ancient woodland, remnant wood pasture and secondary woodland on commons as well as more recent plantations. These include the substantial wooded areas of Hainault Forest and Epping Forest, formerly Royal Forests, now managed for conservation and recreation.



Historically, settlement was sparse with scattered villages associated with the commons and areas of wood pasture. Today, settlement is dominated by large, 20th-century urban areas. The A12, the former Roman road connecting London with Colchester, is a major commuter route through the area.

Within this area Epping Forest is an important site for wildlife and as such has been designated as an SAC. The main reason that this site is important is the beech forests found here and the rare species that these support – rare mosses and also fungi and deadwood invertebrates owing to the high number of veteran trees present. Also found here are significant populations of stag beetle.

The London Clay lowlands lie south and east of the Essex wooded hills and ridges and are characterised by the heavy, acidic soils associated with this area, which is the dominant feature of the London Basin, although lighter soils can be found on some footslopes. The heavy soils are difficult to drain and easily become waterlogged. The area is drained by numerous rivers such as the Roach, Crouch and Blackwater, which merge to create the flat marshes to the east. The large expanse of open water at Abberton Reservoir, formed by the damming of the Layer Brook on its way to the Roman River, is a notable feature.

This area embraces the outer east London suburbs at Grays and Thurrock and extends eastwards to the Dengie Peninsula. It includes the town of Basildon.

This area is essentially a flat to gently undulating lowland landscape. Local variation is created by the Laindon and Hockley Hills, formed of the more resistant sandy Bagshot Beds which cap the clay.

The east of the area is characterised by a planned Roman landscape with a rectilinear pattern of fields which is a nationally important but subtle feature



**Wet heathland, acid grassland and coppiced ancient woodland at Bricket Wood Common, Hertfordshire.**

of the landscape today. The heavy clays were difficult to work and remained in pasture; however, during the 1950s and 1960s the land was improved so that arable is now also a dominant land use. By contrast, the hills around Laindon, Hockley and Rayleigh are relatively well wooded. In addition, 19th- and 20th-century plantations and regenerated, formerly urbanised plotland landscapes add a further wooded aspect to parts of the area. The landscape today has an urban character, including the expanded resort of Southend, the 1950s planned

town of Basildon and extensive 20th-century commuter settlements such as at Laindon and Rayleigh. Large areas of recreational land including parkland, golf courses and horse paddocks serve the urban population.

This area has many important wetland sites including Abberton Reservoir (designated as a Ramsar site and SPA) and also two reservoir areas recognised as SPA, the Crouch and Roach Estuary and Blackwater Estuary: however, only a small proportion of the two estuaries is found in this NCA with the majority falling within the Greater Thames Estuary. Abberton Reservoir is a significant site as it supports many important overwintering waterfowl such as golden plover, gadwall, shoveler and teal, as well as breeding cormorant, and also qualifies as a wetland of importance as it supports more than 20,000 waterfowl. The Crouch and Roach Estuary is an important site for overwintering dark-bellied Brent goose and the Blackwater Estuary (which is also an NNR) is important for overwintering avocet, golden plover, hen harrier, dark-bellied Brent goose, redshank and breeding little tern: it too is recognised as a wetland of international importance because it supports more than 20,000 waterfowl.

The Essex heathlands lie north-east of the London Clay lowlands and Essex wooded hills and ridges, in the north-east of the NCA. The geology of the area is predominantly sands and gravels, which were deposited by the Thames as it changed its course over time to its present location. Around the Tendring area deposits of wind-borne silty loam overlie the sands and gravels but overall the soils are light and free draining. The area is relatively flat with contrast provided by the steep-sided slopes of the Stour, Colne and Roman river valleys which, along with their tributaries, drain the plateau and are eventually discharged into the North Sea.

The east of this area is broadly bounded by the Stour Estuary to the north and the Thames Estuary to the south and east, and covers the land around

Colchester and the Tendring plain. It is separated from the North Sea and Thames Estuary by a narrow strip of coastal marshes which form part of the Greater Thames Estuary.

The area consists of a broad, sandy plateau created by ancient river deposits from the Thames. Historically it was dominated by extensive heaths and commons, although these are now restricted to isolated fragments of heath and scrub within an intensively farmed and largely arable agricultural landscape. Agriculture includes improved grassland and arable fields as well as distinctive areas of horticulture and market gardening associated with the light, sandy soils of former heaths. Orchards are a feature around Colchester.

A pattern of small but intricate creeks and valleys breaks up the plateau edges where the land falls to the Thames Estuary along the coast and extends the coastal influence inland. The narrow river valleys which incise the plateau also create areas of contrasting enclosed landscape, with abundant woodland and meadows, some with wider flood plains and wetland vegetation. Much of the woodland is ancient; however, in general the plateau has an open, treeless character owing to the loss of field boundaries.

Vernacular buildings are constructed of timber, with either weatherboarding or whitewashed plaster. The principal settlement is Colchester, the walled Roman capital and England's oldest town, dating from 49 AD.

Within this area is Hamford Water, designated as a Ramsar site as well as an SPA and SSSI owing to the important waterfowl that use it. Many species over-winter here, including avocet, golden plover, ruff, black-tailed godwit, grey plover, ringed plover and teal – up to 25 per cent of the UK population of overwintering avocet has been recorded here. In addition, little tern use it



as a breeding site and the area is considered to be a wetland of international importance as it supports more than 20,000 waterfowl. Part of the Colne Estuary is in this area (although the majority of it falls within the Greater Thames Estuary NCA); this is also a Ramsar site and SPA, and of national importance for geology. Similar species are found here to those found in Hamford Water, and in addition overwintering hen harrier, dark-bellied Brent goose and redshank. This area is also considered a wetland of international importance and includes a small part of the predominantly pastoral character of the Dedham Vale AONB. St Osyth marsh is an important site for salt marsh morphology dating back around 4,000 years, while geological exposures at East Mersea show important deposits beneath gravels which are attributed to the Thames and Medway system and are of considerable importance in Pleistocene studies.

The whole area is a combination of countryside mixed in with urban areas, with important habitats and species, especially woodland and wetland habitats and associated species. The rural area acts as a recreational opportunity for those living in the surrounding towns and cities and the urban areas offer work and recreation opportunities for those living in more isolated villages and settlements in the rural environment. There is strong historical association throughout the area owing to its close proximity to London and the Roman occupation of Colchester and the links that this creates within the area as a whole. Dedham Vale is strongly associated with the artist John Constable whose paintings were inspired by the landscape.

## The landscape through time

The NCA is the northern part of the London Basin, a broad, concave fold which opens out towards the East Coast. This structure means that the oldest rock strata are at the periphery, with younger deposits towards the centre. Chalk deposited in the tropical seas of the Cretaceous Period (65–95 million years ago) underlies the area and forms the bedrock of adjacent NCAs, extending beneath London and providing the major aquifer for the capital. The folded structure, a syncline, developed some 20–40 million years ago during the Tertiary Era (2–64 million years ago) at the time that the Alps were being formed in southern Europe. During this period of uplift, the area became dry land and rivers developed, including the proto-Thames along a course to the north of its present location. Overlying the chalk is a series of sands and mudstones (Reading Beds) deposited during the Tertiary Era by ancient river systems that drained into the basin. The thick layer of London Clay which characterises this NCA today was laid down as a sequence of fossiliferous, shallow marine sediments under semi-tropical seas some 55 million years ago. Overlying the London Clay are sands and clays of the Bagshot, Barton and Bracklesham Beds.

The diverse geology has considerable influence on the landscape. The London Clays are heavy and typically difficult to work, resulting in the retention of pasture and considerable areas of ancient woodland. The lighter, sandy soils of the Bagshot Beds are likely to have remained relatively open and unwooded since prehistoric times and areas of remnant heath are a feature, particularly within the Essex heathlands and wooded hills. In Essex, the harder rocks of Bagshot Beds deposits form distinctive features, creating low hills and ridges such as at Danbury Hill, rising to a high point of 116 m.

The Quaternary deposits which overlie the clay provide an insight into Britain's most recent geological past. The Anglian ice sheet which reached

the outskirts of London approximately 500,000 years ago (evidenced at Hornchurch SSSI) advanced to the rim of the basin, leaving a series of glacial sands, gravels and clays and moving the course of the Thames southwards to its present location. Quaternary deposits have yielded artefacts illustrating early human presence (approximately 300,000 years ago) in the Thames Basin and more recently the evolution of prehistoric society. By the time that Britain was cut off as an island during the Holocene, humans had settled along the margins of the Thames and its tributaries. The light, sandy soils of the Essex heathlands to the east are particularly rich in buried archaeological remains associated with prehistoric and Roman occupation. Funerary monuments and settlement sites visible as cropmarks and earthworks are also a feature of the Hertfordshire plateaux and valleys and were extensively cleared and occupied in the prehistoric period. Here, the limited survival of coaxial field systems potentially of bronze-age origin is highly significant.

Roman occupation has left a significant impact on the area. A major road, now the A12, connected the Roman capital at Colchester to London. Other major and minor Roman towns and cities include St Albans and Welwyn and there are extensive villa estates, notably in the west of the area (in Hertfordshire). Also in Hertfordshire, the distinctive settlement pattern of 'homestead moats' aligned with the grid pattern is thought to be influenced by Roman estate management techniques. The London Clay lowlands are also characterised by planned landscapes created during the Roman period, forming a still distinct rectilinear pattern of enclosure on the Dengie Peninsula and in the area between Thurrock and Wickford. By comparison, the central part of the NCA (the Essex wooded hills) was relatively sparsely settled. Orchards were established around Colchester, as well as a significant area of meadow pasture and leys following the numerous narrow rivers and streams.



Traditional medieval timber-framed houses in Colchester, Essex.

Throughout the Northern Thames Basin, settlement is essentially based on a pattern of dispersed nucleated villages and farming settlements established in the medieval period. Post-Roman decline in Hertfordshire is evident in the number of medieval place names and settlement patterns which imply re-colonisation and clearance of a wooded landscape and late-medieval timber-framed houses and moated sites are a distinctive feature. In the Essex heathlands the dispersed settlement pattern was established within extensive tracts of heathland. In the London Clay lowlands some larger villages and small towns developed in the medieval period associated with local centres of civil



or religious authority. The exception to this dispersed pattern is in the Essex wooded hills where settlement remained sparse in the medieval period and was associated with the extensive commons or management of wood pasture and other resources belonging to medieval monastic houses.

The 16th, 17th and 18th centuries saw the growing influence of London, particularly in Hertfordshire, with the growth of market towns and rural estates and country houses for London merchants. Profitable farming conditions saw the demise of much medieval parkland in the 17th and 18th centuries, alongside the growth of substantial farming estates for the London merchants, rising nobility and gentry. The remaining associated parkland landscapes form a distinctive feature of the area today, particularly within the Hertfordshire plateaux area.

Industries based on agricultural produce (such as malting and brewing, paper making, hat making and tanneries) contributed to the prosperity of the market towns and developed further in the 19th century, aided by the growth in communications. This also stimulated the development of commuter settlements in the 19th and 20th centuries, and the urbanisation and expansion of existing towns and villages. The creation of new settlements is a particular feature, with the pioneering garden city at Welwyn and the planned 1950s town of Basildon. The edge of London has also expanded outwards with suburbs now embracing former villages. Communication routes – motorways (the M1, A1(M) and M11), main roads and railways running north–south connecting to London, plus the M25 radial route – are dominant features.

In the 1970s Dutch elm disease transformed many parts of the landscape, with the loss of tree and woodland cover, and the area continues to change with pressure for housing and industrial growth associated with, for instance,



Mixed coppice ancient woodland at Norsey Wood near Billericay, Essex.

the Thames Gateway, Haven Gateway and other strategic growth points such as Chelmsford, identified in the East of England Improvement Plan, the Lea Valley regeneration area (including the Olympics legacy) and changes in the agricultural landscape.

## Ecosystem services

The Northern Thames Basin NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Northern Thames Basin NCA is contained in the 'Analysis' section of this document.

### Provisioning services (food, fibre and water supply)

- **Food provision:** This is a predominantly arable landscape with arable crops covering 53 per cent of the area – primarily wheat and oilseed rape. The area also includes a sizeable sheep flock (approximately 18,800 breeding ewes in 2007) but relatively few cattle (only approximately 2,600 breeding dairy cattle and 3,200 breeding beef cattle), all of which have declined in number since 2000.
- **Timber provision:** The area only has 6 per cent woodland cover. This resource is unevenly distributed and some parts of the NCA have a relatively high woodland cover. The main areas of commercial timber are the coniferous plantations situated on former lime tree woods in the river valleys of Hertfordshire; these cover some 0.7 per cent of the total area of the NCA.
- **Genetic diversity:** Remnant traditional orchards provide a genetic stock of old apple varieties, many of which are no longer commercial. There are also rare animal breeds associated with the area including the British Saddleback Pig (which is partially bred from the Essex Pig), White Park Cattle, Red Poll Cattle, Jacob Sheep, Bagot Goat, Hackney Horse, Hackney Pony, shire horses and British Percheron Horse.

### Regulating services (water purification, air quality maintenance and climate regulation)

- **Climate regulation:** Soils, woodland and hedgerows are likely to be significant stores of organic carbon across this area.
- **Water availability:** The Chalk which underlies the west of the area is extensively abstracted for drinking water in the NCA and provides a main source of recharge for the principal aquifer supplying Inner London.
- **Regulating soil erosion:** The sandy soils of the Essex heathlands and hills and ridges are susceptible to erosion if high risk crops are cultivated on sloping ground and in dry summers will become increasingly prone to wind erosion if they are left exposed. The restoration of hedgerows across the landscape can reduce the scale of wind erosion.



The River Lee near Hertford.



- **Regulating soil quality:** This NCA has a range of soil types and the condition of these soils varies significantly. Within the area as a whole more than 50 per cent of the land is classified as excellent to good/moderate quality, which supports a wide range of agricultural and horticultural crops.
- **Regulating water quality:** The rivers flowing south and east from the chalk strata into the Thames and to the coast are of variable ecological quality. While most are considered to be of moderate quality, parts of the Lea are of poor quality as are some of the smaller rivers, such as the Rib. These classifications are based on results from the Environment Agency within their work under the European Water Framework Directive. Land management practices within the NCA will have a major impact on water quality in the underlying aquifer.
- **Pollination:** The areas of semi-natural habitat – heathlands, grasslands and woodland edges in parts of Essex and Hertfordshire – provide important habitats for pollinating insects. The extensive agricultural lands can provide habitats in the form of hedgerows, edges of farm tracks and ‘set aside’ areas. This in turn will be beneficial for food production through pollination of food crops, particularly oilseed rape, through pollinating invertebrates.
- **Pest regulation:** The presence of semi-natural habitats such as grasslands, woodlands, road-side verges and uncut farm tracks can provide overwintering habitats for beneficial predatory invertebrates which will help to control populations of many pest species. An example of this is the Carabidae family of beetles which feed on a number of pest species. Careful management of land to encourage such species can reduce the need for chemical control measures.

## Cultural services (inspiration, education and wellbeing)

- **Sense of history:** A strong sense of history is captured in the ancient

woodlands and trees of the area – the Broxbourne Woods and Epping Forest – and also the built environment, including significant estates.

- **Recreation:** There is a strong appreciation of the local landscape as a ‘green lung’, offering opportunities for active and passive recreation away from the Greater London conurbation, and a ready recognition of the coast as offering a nearby visitor destination. The easy accessibility of the countryside and coast is a very important aspect of the lives of local residents.
- **Biodiversity:** The diverse range of semi-natural habitats present in the NCA, which includes 3 SAC and 3 SPAs, include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter. The area is also important for wetland birds, especially the Ramsar wetland sites of Lee Valley, Hamford Water and Abberton Reservoir.
- **Geodiversity:** The area has a clear identity created by the geodiversity underpinning the diverse landscape. The underlying sediments themselves contain a record of ancient landscapes and climates. There are 20 geological SSSI in the area and 3 Local Geological Sites which are of local and national importance. These sites preserve important deposits of chalk stratigraphy and evidence for the formation of the London Clay as well as conserving several key geomorphological features. The majority of sites within this NCA, however, preserve evidence for past glaciations and the evolution of the Thames during the Quaternary. These sedimentary deposits and the fossils contained within them represent significant records of climate and environmental change that provide an important context for our understanding of and insights into the potential impacts of future climate change on our landscapes. Several sites also preserve important evidence for early human occupation of the area dating back around 300,000 years.

## **Appendix 7 – South Essex Farmland (E1)**



#### 4.6.5 *South Essex Farmlands (E1)*



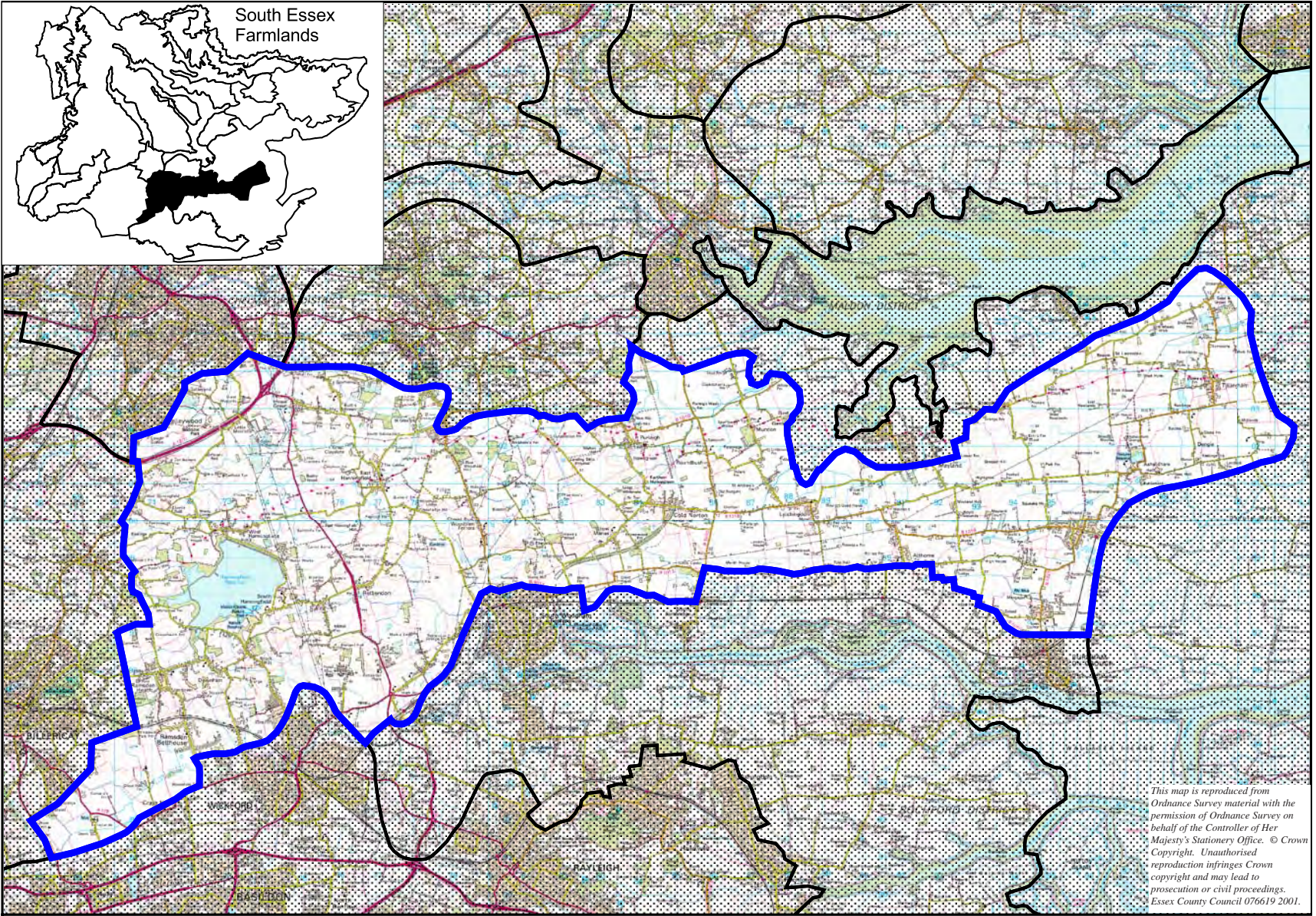
##### *Key Characteristics*

- Gently undulating landform, locally strongly rolling.
- Rectilinear field pattern with tall thick hedgerow boundaries.
- Occasional small woods and copses.
- Sense of enclosure
- Striking large open water expanse of Hanningfield Reservoir surrounded by dense tree belts is a distinctive feature in the west.
- Pylons are a frequent presence.

##### *Overall Character*

The South Essex Farmlands have a simple pattern of small to medium size rectangular arable and pasture fields. Distinctive long hedgerow boundaries running on parallel axes are a common feature, thought to be the result of ancient planned enclosure and extend over gently to strongly undulating landform. Despite the large scale loss of elm in the area, the tall thick hedges contribute an enclosed character to the landscape. In the west the large Hanningfield Reservoir and its surrounding mixed treebelts are a dramatic contrast to the surrounding farmland. Overhead pylons and some major roads visually interrupt the landscape.







## ***Character Profile***

### *Geology*

- Mainly London Clay, some Claygate and Bagshot Beds and Sands and Gravels

### *Soils*

- Slowly permeable clayey soils, small areas of fine or coarse loamy and silty soils.

### *Landform*

- Varied landform.
- Large parts are gently undulating.
- More strongly rolling topography associated with rounded, moderate to steep sided hills/small escarpments between Ramsheath and Woodham Ferrers, extending north to Cold Norton and Purleigh.
- Low broad ridge extends on the Dengie Peninsula.

### *Semi-natural vegetation*

- Oak-hornbeam woodland.
- Neutral meadows.

### *Pattern of field enclosure*

- Predominantly small and medium rectilinear fields, often with long co-axial field boundaries (ancient planned field system).
- A few areas with large fields where field pattern has been lost, e.g. east of Rettendon.
- Predominantly thick hedgerow boundaries.

### *Farming pattern*

- Mix of arable and pasture farmland, arable more dominant in the east.
- Occasional orchards, e.g. near Chelmsford.

### *Woodland/tree cover*

- Scattered small woods and copses in the west, more widely dispersed in the east towards the Dengie Peninsula.
- Mixed tree belts around Hanningfield Reservoir.
- Scattered hedgerow oak trees. Elm was previously the dominant hedgerow tree.

### *Settlement pattern and built form*

- Dispersed settlement pattern.
- Small villages and hamlets generally of strong linear form.
- Farmsteads, cottages and more recent suburban houses along lanes.
- Isolated farmsteads and barns within the farmland.
- Local vernacular of weatherboarding (painted black or white) and brick.

### *Communications*

- Minor roads are quite straight and follow strong north to south, east to west patterns, sometimes with distinctive right angled bends. Narrow grass verges.
- Main A130 runs through the centre of the area and the A12(T) bisects the north west corner.

### *Other landscape features*

- Hanningfield Reservoir - very large expanse of open water.
- Pylon routes running north to south and east to west, interrupt the landscape.
- Masts at Bushy Hill.
- A few sand and gravel pits on the Dengie Peninsula.

### *Landscape Condition*

- In parts, especially in the east of the area, there has been loss of hedgerows due to field rationalisation, or fragmentation due to lack of management.
- The condition of some settlements is poor due to out of character 1960's and 1970's development.

### *Past, Present and Future Trends for Change*

- Traditionally the landscape was dominated by pasture but extensive areas have been converted to arable.
- Future trends for change may include pressure for urban development, masts on high ground and recreational uses given the proximity to urban areas in the east.



**SOUTH ESSEX FARMLAND (E1)  
SENSITIVITY EVALUATION**

<b>TYPE/SCALE OF DEVELOPMENT/CHANGE</b>	<b>KEY LANDSCAPE SENSITIVITY AND ACCOMMODATION OF CHANGE ISSUES</b>	<b>LANDSCAPE SENSITIVITY LEVEL</b>
1. Major urban extensions (>5 ha) and new settlements	<ul style="list-style-type: none"> <li>• Integrity of hedgerow field pattern</li> <li>• Low to moderate intervisibility.</li> <li>• Visual exposure of some ridge/hillsides.</li> </ul>	M
2. Small urban extensions (<5 ha)	<ul style="list-style-type: none"> <li>• Low to moderate intervisibility.</li> </ul> <p><i>Possible opportunities to improve existing urban edges.</i></p>	L
3. Major transportation developments/improvements	<ul style="list-style-type: none"> <li>• Integrity of hedgerow field pattern.</li> <li>• Low to moderate intervisibility.</li> </ul>	M
4. Commercial/warehouse estate/port development	<ul style="list-style-type: none"> <li>• Low to moderate intervisibility.</li> <li>• Visual exposure of some ridge/hillsides.</li> <li>• Landform character.</li> </ul> <p><i>Siting, massing, form and colour are critical.</i></p>	M
5. Developments with individual large/bulky buildings	<ul style="list-style-type: none"> <li>• Low to moderate intervisibility.</li> <li>• Visual exposure of some ridge/hillsides.</li> <li>• Landform character.</li> </ul> <p><i>Siting, massing, form and colour are critical.</i></p>	M
6. Large scale 'open uses'	<ul style="list-style-type: none"> <li>• Integrity of hedgerow field pattern.</li> <li>• Visual exposure of some ridge/hillsides.</li> </ul> <p><i>Possible opportunities for landscape enhancement ion some parts.</i></p>	M
7. Mineral extraction/waste disposal	<ul style="list-style-type: none"> <li>• Integrity of hedgerow field pattern.</li> </ul>	M
8. Incremental small scale developments	<ul style="list-style-type: none"> <li>• Condition of hedgerows.</li> <li>• Character of settlements.</li> </ul>	M
9. Utilities development, i.e. masts, pylons	<ul style="list-style-type: none"> <li>• Low to moderate intervisibility.</li> <li>• Limited capacity for further change.</li> </ul>	M
10. Decline in traditional countryside management	<ul style="list-style-type: none"> <li>• Condition of hedgerow field pattern.</li> </ul>	M

Table to be read in conjunction with paragraphs 1.4.15 – 1.4.17