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The Droves Solar Farm

EIA Scoping Report Appendices - Appendix 6

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LDĀDESIGN

The Droves Solar Farm

Appendices to Scoping Request Report Chapter 6: Landscape and Visual
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Appendix 6.1
Technical Chapter Glossary

Appendix 6.1 Technical Chapter Glossary

Cumulative effects. The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together.

Illustrative Viewpoint. A viewpoint chosen specifically to demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations.

Landscape Character Areas These are single unique areas which are the discrete geographical areas of a particular landscape type.

Landscape Character Type. These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, and historical land use, and settlement pattern, and perceptual and aesthetic attributes.

Landscape effects. Effects on the landscape as a resource in its own right.

Landscape character. A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.

Landscape quality (or condition). A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.

Landscape receptors. Defined aspects of the landscape resource that have the potential to be affected by a proposal.

Landscape value. The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.

Magnitude (of effect). A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration.

Mitigation. Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects).

Representative Viewpoint. A viewpoint selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included individually and where the significant effects are unlikely to differ.

Sensitivity. A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.

Specific Viewpoint. A viewpoint because it is key and sometimes a promoted viewpoint within the landscape, including for example specific local visitor attractions, viewpoints in areas of particularly noteworthy visual and/or recreational amenity such as landscapes with statutory landscape designations, or viewpoints with particular cultural landscape associations.

Susceptibility. The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.

Visual amenity. The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area.

Visual effect. Effects on specific views and on the general visual amenity experienced by people.

Visual receptor. Individuals and/or defined groups of people who have the potential to be affected by a proposal.

Zone of Theoretical Visibility (ZTV). A map, usually digitally produced, showing areas of land within which a development is theoretically visible.

Definitions from *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Landscape Institute with the Institute of Environmental Management and Assessment, 2013

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Appendix 6.2
Assessment Methodology

Appendix 6.2 Assessment Methodology

Introduction

This appendix contains additional detail regarding the assessment methodology, supplementing the information provided within the LVIA text. This appendix sets out a standard approach – specific matters in terms of the scope of assessment, study area and modifications to the standard approach for this assessment are set out within the LVIA.

The methodology has the following key stages, which are described in more detail in subsequent sections, as follows:

- Baseline – includes the gathering of documented information; agreement of the scope of the assessment with the EIA co-ordinator and local planning authority; site visits and initial reports to the EIAA co-ordinator of issues that may need to be addressed within the design.
- Design – input into the design / review of initial design / layout / options and mitigation options.
- Assessment – includes an assessment of the landscape and visual effects of the scheme, requiring site based work and the completion of a full report and supporting graphics.
- Cumulative Assessment – assesses the effects of the proposal in combination with other developments, where required.

Baseline

The baseline study establishes the planning policy context, the scope of the assessment and the key receptors. It typically includes the following key activities:

- A desk study of relevant current national and local planning policy, in respect of landscape and visual matters, for the site and surrounding areas.
- Agreement of the main study area radius with the local planning authority.
- A desk study of nationally and locally designated landscapes for the site and surrounding areas.
- A desk study of existing landscape character assessments and capacity and sensitivity studies for the site and surrounding areas.
- A desk study of historic landscape character assessments (where available) and other information sources required to gain an understanding of the contribution of heritage assets to the present day landscape.
- Collation and evaluation of other indicators of local landscape value such as references in landscape character studies or parish plans, tourist information, local walking & cycling guides, references in art and literature.
- The identification of valued character types, landscape elements and features which may be affected by the proposal, including rare landscape types.
- Exchanging information with other consultants working on other assessment topics for the development as required to inform the assessment.

- Draft Zone of Theoretical Visibility (ZTV) studies to assist in identifying potential viewpoints and indicate the potential visibility of the proposed development, and therefore scope of receptors likely to be affected. The methodology used in the preparation of ZTV studies is described within Appendix 12.4.
- The identification of and agreement upon, through consultation, the scope of assessment for cumulative effects.
- The identification of and agreement upon, through consultation, the number and location of representative and specific viewpoints within the study area.
- The identification of the range of other visual receptors (e.g. people travelling along routes, or within open access land, settlements and residential properties) within the study area.
- Site visits to become familiar with the site and surrounding landscape; verify documented baseline; and to identify viewpoints and receptors.
- Input to the design process.

The information gathered during the baseline assessment is drawn together and summarised in the baseline section of the report and reasoned judgements are made as to which receptors are likely to be significantly affected. Only these receptors are then taken forward for the detailed assessment of effects (ref. GLVIA 3rd edition, 2013, para 3.19).

Design

The design and assessment stages are necessarily iterative, with stages overlapping in parts. Details of any mitigation measures incorporated within the proposals to help reduce identified potential landscape and visual effects are set out within the LVIA.

Assessment

The assessment of effects includes further desk and site based work, covering the following key activities:

- The preparation of a ZTV based on the finalised design for the development.
- An assessment, based on both desk study and site visits, of the sensitivity of receptors to the proposed development.
- An assessment, based on both desk study and site visits, of the magnitude and significance of effects upon the landscape character, designated and recreational landscape and the existing visual environment arising from the proposed development.
- An informed professional judgements as to whether each identified effect is positive, neutral or adverse.
- A clear description of the effects identified, with supporting information setting out the rationale for judgements.
- Identification of which effects are judged to be significant based on the significance thresholds set out within the LVIA
- The production of photomontages from a selection of the agreed viewpoints showing the anticipated view following construction of the proposed development.

Site

The effect of physical changes to the site are assessed in terms of the effects on the landscape fabric.

Landscape and Townscape Character Considerations

The European Landscape Convention (2000) provides the following definition:

"Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors."

And notes also in Article 2 that landscape includes *"natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas".*

An Approach to Landscape Character Assessment (Natural England, 2014) defines landscape character as:

"a distinct and recognisable pattern of elements, or characteristics, in the landscape that make one landscape different from another, rather than better or worse."

The susceptibility of landscape character areas is judged based on both the attributes of the receiving environment and the characteristics of the proposed development as discussed under 'susceptibility' within the methodology section of the LVIA. Thus, the key characteristics of the landscape character types/areas are considered, along with scale, openness, topography; the absence of, or presence, nature and patterns of development, settlement, landcover, the contribution of heritage assets and historic landscape elements and patterns, and land uses in forming the character. The condition of the receiving landscape, i.e. the intactness of the existing character will also be relevant in determining susceptibility. The likelihood of material effects on the landscape character areas can be judged based on the scale and layout of the proposal and how this relates to the characteristics of the receiving landscape.

The introduction of any development into a landscape adds a new feature which can affect the 'sense of place' in its near vicinity, but with distance, the existing characteristics reassert themselves.

The baseline is informed by desk study of published landscape character assessments and field survey. It is specifically noted within An Approach to Landscape Character Assessment (Natural England, 2014) that:

"Our landscapes have evolved over time and they will continue to evolve – change is a constant but outcomes vary. The management of change is essential to ensure that we achieve sustainable outcomes – social, environmental and economic. Decision makers need to understand the baseline and the implications of their decisions for that baseline."

At page 51 it describes the function of Key Characteristics in landscape assessment, as follows:

"*Key characteristics are those combinations of elements which help to give an area its distinctive sense of place. If these characteristics change, or are lost, there would be significant consequences for the current character of the landscape. Key characteristics are particularly important in the development of planning and management policies. They are important for monitoring change and can provide a useful reference point against which landscape change can be assessed. They can be*

used as indicators to inform thinking about whether and how the landscape is changing and whether, or not, particular policies – for example - are effective and having the desired effect on landscape character."

It follows from the above that in order to assess whether landscape character is significantly affected by a development, it should be determined how each of the key characteristics would be affected. The judgement of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals.

Landscape value - considerations

Paragraph 5.19 of GLVIA states that "*A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape- such as trees, buildings or hedgerows -may also have value. All need to be considered where relevant*."

Paragraph 5.20 of GLVIA indicates information which might indicate landscape value, including:

- Information about areas recognised by statute such as National Parks, Areas of Outstanding Natural Beauty;
- Information about Heritage Coasts, where relevant;
- Local planning documents for local landscape designations;
- Information on features such as Conservation Areas, listed buildings, historic or cultural sites;
- Art and literature, identifying value attached to particular areas or views; and
- Material on landscapes of local or community interest, such as local green spaces, village greens or allotments.

An assessment of landscape value is made based on the following factors outlined in Table 1 of the Landscape Institute's '*Technical Guidance Notes 02-21: Assessing landscape value outside national designations'*: natural heritage; cultural heritage; landscape condition; associations; distinctiveness; recreational; perceptual (scenic); perceptual (wildness and tranquillity); and functional.

In addition to the above list, consideration is given to any evidence that indicates whether the landscape has particular value to people that would suggest that it is of greater than 'Community' value.

Viewpoints and Visual Receptors – considerations

A wide variety of visual receptors can reasonably be anticipated to be affected by the proposed development. Within the baseline assessment, the ZTV study and site visits are used to determine which visual receptors are likely to be significantly affected and therefore merit detailed assessment. In line with guidance (GLVIA, 3rd Edition, 2013); both representative and specific viewpoints may be identified to inform the assessment. In general, the majority of viewpoints will be representative – representing the visual receptors at the distance and direction in which they are located and of the type(s) that

would be present at that location. The representative viewpoints have generally been selected in locations where significant effects would be anticipated; though some may be selected outside of that zone – either to demonstrate the reduction of effects with distance; or to specifically ensure the representation of a particularly sensitive receptor.

- The types of visual receptors likely to be included with the assessment are:
- Users of walking routes or accessible landscapes including Public Rights of Way, National and Regional Trails and other long distance routes, Common Land, Open Access Land, permissive paths, land held in trust (e.g. Woodland Trust, National Trust) offering free public access, and other regularly used, permitted walking routes;
- Visitors to and residents of settlements;
- Visitors to specific valued viewpoints;
- Visitors to attractions or heritage assets for which landscape and views contribute to the experience; and
- Users of roads or identified scenic routes.

Visual receptors are grouped for assessment into areas which include all of the routes, public spaces and homes within that area. Groups are selected as follows:

- Based around settlements in order to describe effects on that that community – e.g. a settlement and routes radiating from that settlement; or
- An area of open countryside encompassing a number of routes, accessible spaces and individual dwellings; or
- An area of accessible landscape and the routes within and around it e.g. a country park; and
- such that effects within a single visual receptor group are similar enough to be readily described and assessed.

With the exception of specific viewpoints, each route, settlement or location will encompass a range of possible views, which might vary from no view of the development to very clear, close views. Therefore, effects are described in such a way as to identify where views towards the development are likely to arise and what the scale, duration and extent of those views are likely to be. In some cases, this will be further informed by a nearby viewpoint and in others it will be informed with reference to the ZTV, aerial photography and site visits. Each of these individual effects are then considered together in order to reach a judgement of the effects on the visual receptors along that route, or in that place.

The representative viewpoints are used as 'samples' on which to base judgements of the scale of effects on visual receptors. The viewpoints represent multiple visual receptors, and duration and extent are judged when assessing impacts on the visual receptors.

For specific viewpoints (key and sometimes promoted viewpoints within the landscape), duration and extent are assessed, with extent reflecting the extent to which the development affects the valued qualities of the view from the specific viewpoint.

Visual Receptor Sensitivity – typical examples

	High	Medium	Low
National/International	1	4	8
Local/District	2	5	8
Community	3	6	9
Limited		7	10

1) Visitors to valued viewpoints or routes which people might visit purely to experience the view, e.g. promoted or well-known viewpoints, routes from which views that form part of the special qualities of a designated landscape can be well appreciated; key designed views; panoramic viewpoints marked on maps.
2) People in locations where they are likely to pause to appreciate the view, such as from local waypoints such as benches; or at key views to/from local landmarks. Visitors to local attractions, heritage assets or public parks where views are an important contributor to the experience, or key views into/out of Conservation Areas.
3) People in the streets around their home, or using public rights of way, navigable waterways or accessible open space (public parks, open access land).
4) Users of promoted scenic rail routes.
5) Users of promoted scenic local road routes.
6) Users of cycle routes, local roads and railways.
7) Outdoor workers.
8) Users of A-roads which are nationally or locally promoted scenic routes.
9) Users of sports facilities such as cricket grounds and golf courses.
10) Users of Motorways and A-roads; shoppers at retail parks, people at their (indoor) places of work.

Preparation and use of Visuals

The ZTVs are used to inform the field study assessment work, providing additional detail and accuracy to observations made on site. Photomontages may also be produced in order to assist readers of the assessment in visualising the proposals, but are not used in reaching judgements of effect. The preparation of the ZTVs (and photomontages where applicable) is informed by the Landscape Institute's Technical Guidance Note 06/19 'Visual Representation of development proposals' and SNH 'Visual Representation of Wind Farms Best Practice Guidance' (both the 2007 and 2017 editions).

The following points should be borne in mind in respect of the ZTV study:

- Areas shown as having potential visibility may have visibility of the development obscured by local features such as trees, hedgerows, embankments or buildings.

A detailed description of the methods by which ZTVs and visualisations are prepared is included in **Appendix 4**.

In addition to the main visualisations, illustrative views are used as appropriate to illustrate particular points made within the assessment. These are not prepared to the same standard as they simply depict existing views, character or features rather than forming the basis for visualisations.

Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development. A search area from the proposal site (typically of a similar scale to the study area) is agreed with the planning authority. For each of the identified cumulative schemes agreement is reached with the Planning Authority as to whether and how they should be included in the assessment.

Developments that are subject to a valid planning application are included where specific circumstances indicate there is potential for cumulative effects to occur, with progressively decreasing emphasis placed on those which are less certain to proceed. Typically, operational and consented developments are treated as being part of the landscape and visual baseline. i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed.

The cumulative assessment examines the same groups of landscape and visual receptors as the assessment for the main scheme, though different viewpoints may be used in order to better represent the likely range of effects arising from the combination of schemes. The assessment is informed by cumulative ZTVs as necessary, showing the extent of visual effects of the schemes in different colours to illustrate where visibility of more than one development is likely to arise. Cumulative wirelines or photomontages may also be prepared.

In addition, the effects on users of routes through the area, from which developments may be sequentially visible as one passes through the landscape are also considered, if appropriate. This assessment is based on the desk study of ZTVs and aerial photography, and site visits to travel along the routes being assessed.

In relation to landscape and visual cumulative assessment, it is important to note the following:

- For each assessed receptor, combined cumulative effects may be the same as for the application scheme, or greater (where the influence of multiple schemes would increase effects, or where schemes in planning other than the application scheme would have the predominant effects).
- For each assessed receptor, incremental cumulative effects may be the same as for the application scheme, or reduced (where the influence of other schemes in planning would be such that were they consented and considered to be part of the baseline, the incremental change arising from the addition of the application scheme would be less).
- Subject to the distance and degree of intervening landform, vegetation and structures there may be no cumulative effects.

The way in which the assessment is described and presented is varied depending on the number and nature of scenarios which may arise. This variation is needed in order to convey to the reader the key points of each assessment. For example, the three different cumulative combinations that may arise for an assessment in which there are two existing undetermined applications each can be assessed individually. A situation in which there are 10 applications cannot reasonably be assessed in this way and the developments may need to be grouped for analysis.

Residential Amenity

Paragraph 6.17 of GLVIA, 3rd edition notes that:

"*In some instances it may also be appropriate to consider private viewpoints, mainly from residential properties…. Effects of development in private property are frequently dealt with mainly through 'residential amenity assessments'. These are separate from LVIA although visual effects assessment may sometimes be carried out as part of a residential amenity assessment, in which case this will supplement and form part of the LVIA for a project. Some of the principles set out here for dealing with visual effects may help in such assessments but there are specific requirements in residential amenity assessment"*

The guidance also notes that:

"In respect of private views and visual amenity, it is widely known that, no one has 'a right to a view.' This includes situations where a residential property's outlook / visual amenity is judged to be 'significantly' affected by a proposed development, a matter which has been confirmed in a number of appeal / public inquiry decisions."

It is important to note:

"Judgements formed in respect of Residential Visual Amenity should not be confused with the judgement regarding Residential Amenity because the latter is a planning matter. Nor should the judgment therefore be seen as a 'test' with a simple 'pass' or 'fail'.

… The final judgement regarding effect on Residential Amenity … requires weighing all factors and likely effects (positive as well as negative) in the 'planning balance'."

The guidance notes that many appeal decisions in which residential visual amenity is considered relate to wind farms. Wind farms are unusually tall developments with a greater chance that they could have such an effect. Most forms of development are unlikely to cause effects of such a high magnitude to render a property an unattractive place in which to live unless in very close to the property and occupying a large proportion of views.

Residential properties closest to the site are viewed on site and from aerial photography to consider whether a residential amenity assessment is required. Where such an assessment is required, it is provided as an appendix to the LVIA and in accordance with the guidance provided in LI TGN 02/2019.

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Appendix 6.3
Visualisations and ZTV Studies

Appendix 6.3 Visualisations and ZTV Studies

ZTV Studies

ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and settlements, which have been included in the model with the heights obtained from Nextmap 25. It should be noted that in some areas woodlands included within the ZTV may comprise active forestry, resulting in the felling and replanting of some areas modelled in the ZTV study. The ZTV study reflects this pattern at a specific point in time, as it is based on real height information. Whilst the felling cycle will alter the heights of different areas of forestry over time, altering localised visual effects, the wider pattern will remain relatively constant.

The model does not take into account any localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on Nextmap 25 terrain data and has a 25m2 resolution.

The model is also designed to take into account both the curvature of the earth and light refraction, informed by the SNH guidance. LDA Design undertake all ZTV studies with observer heights of 2m.

The ZTV analysis begins at 1m from the observation feature and will work outwards in a grid of the set resolution until it reaches the end of the terrain map for the project.

For all plan production LDA Design will produce a ZTV that has a base and overlay of the 1:50,000 Ordnance Survey Raster mapping or better. The ZTV will be reproduced at a suitable scale on an A3 template to encompass the study area.

Ground model accuracy

Depending on the project and level of detail required, different height datasets may be used. Below is listed the different data products and their specifications:

Product	Distance Between Points	Vertical RMSE Error
LiDAR	50cm – 2m	up to +/- 5cm
Photogrammetrically Derived Heights	2m – 5m	up to +/- 1.5m
Ordnance Survey OS terrain 5	5 m	up to +/- 2.5m
NextMap25 DTM	25 m	+/- 2.06m
Ordnance Survey OS terrain 50	50 m	+/- 4m

Site-specific topographical survey data may also be used where available.

Photomontages and Photowires

Verified / verifiable photomontages are produced in seven stages. Photowires are produced using the same overall approach, but only require some of the steps outlined below.

1) Photography is undertaken using a full frame digital SLR camera and 50mm lens. A tripod is used to take overlapping photographs which are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to enable correct sizing when reproduced in the final images. The photographer also notes the GPS location of the viewpoint and takes bearings to visible landmarks whilst at the viewpoint.

2) Creation of a ground model and 3D mesh to illustrate that model. This is created using NextMap25 DTM point data (or occasionally other terrain datasets where required, such as site-specific topographical data or Photogrammetrically Derived Heights) and ground modelling software.

3) The addition of the proposed development to the 3D model. The main components of the proposed development are accurately modelled in CAD and are then inserted into the 3D model at the proposed locations and elevations.

4) Wireline generation – The viewpoints are added within the 3D CAD model with each observer point being inserted at 1.5m above the modelled ground plane. The location of the landmarks identified by the photographer may also be included in the model. The view from the viewpoint is then is then replicated using virtual cameras to create a series of single frame images, which also include bearing markers. As with the photographs, these single frame images are joined together using an industry standard application to create a single panoramic image for each viewpoint. These are then saved at a fixed height and resolution to ensure that they are the same size as the photographs.

5) Wireline matching – The photographs are matched to the wirelines using a combination of the visible topography, bearing markers and the landmarks that have been included in the 3D model.

6) For the photomontage, an industry standard 3D rendering application is used to produce a rendered 3D view of the proposed development from the viewpoint. The rendering uses materials to match the intended surface finishes of the development and lighting conditions according to the date and time of the viewpoint photograph.

7) The rendered development is then added to the photograph in the position identified by the wireline (using an image processing application) to ensure accuracy. The images are then layered to ensure that the development appears in front of and behind the correct elements visible within the photograph. Where vegetation is proposed as part of the development, this is then added to the final photomontage.

In accordance with the guidance provided in Landscape Institute Technical Guidance Note 06/19 (Ref. 6), visualisations will be been prepared to the technical methodology set out in below. The photowires and photomontages prepared in support of the LVIA will adhere to the Type 3 visualisation specification as surveyed locational accuracy is not generally necessary but image enlargement, to illustrate perceived scale, would be appropriate.

Technical Methodology

Information	Technical Response
Photography	
Method used to establish the camera location	Aerial photography in ESRI ArcGIS along with GPS reading taken on site
Likely level of accuracy of location	Better than 1m
If lenses other than 50mm have been used, explain why a different lens is appropriate	N/A
Written description of procedures for image capture and processing	See Photomontages and Photowires point 1 above
Make and type of Panoramic head and equipment used to level head	Manfrotto Levelling Head 338 and Manfrotto Panoramic Head MH057A5
If working outside the UK, geographic co-ordinate system (GCS) used	N/A
3D Model/Visualisation	
Source of topographic height data and its resolution	TBC
How have the model and the camera locations been placed in the software?	Georeferenced model supplied by engineers/architects Camera locations taken from photography viewpoint locations
Elements in the view used as target points to check the horizontal alignment	Existing buildings, infrastructure/road alignments, telegraph poles/street lighting/signage, field boundaries, DSM
Elements in the view used as target points to check the vertical alignment	Topography, existing buildings
3D Modelling / Rendering Software	Civil 3D / AutoCAD / 3DS Max / Rhino / V-Ray

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Appendix 6.4
National and Local Planning Policy

Appendix 6.4 National and Local Planning Policy

National Planning Policy

Overarching National Policy Statement EN-1

The Overarching National Policy Statement (NPS) EN-1 2023 sets out the Government's policy for delivery of major energy infrastructure and will be the primary basis for decision making. Section 5.10 is relevant to landscape and visual matters.

Para 5.10.4 states that: *"Landscape effects arise not only from the sensitivity of the landscape but also the nature and magnitude of change proposed by the development, whose specific siting and design make the assessment a case-by-case judgement". This statement also clarifies that "virtually all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation."*

Furthermore, the statement acknowledges in para 5.10.13 *"all proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites."*

With reference to LVIA, para 5.10.16 states "*the applicant should carry out a landscape and visual impact assessment and report it in the ES"* and that "t*he landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project"*

In regard to mitigation measures, para 5.10.26 states *"adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within its development site and wider setting. The careful consideration of colours and materials will support the delivery of a well-designed scheme, as will sympathetic landscaping and management of its immediate surroundings."*

National Policy Statement for Renewable Energy Infrastructure (EN-3)

NPS for Renewable Energy Infrastructure (EN-3), together with EN-1, is the primary decision-making policy document for the Secretary of State on nationally significant onshore renewable electricity generating stations in England and Wales and nationally significant offshore renewable electricity generating stations in waters in or adjacent to England. Paragraphs 2.10.40 - 2.10.45 and 2.10.93 – 2.10.101 are most relevant to landscape and visual matters.

Section 2.5 'Consideration of good design for energy infrastructure' states *"proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity".*

Section 2.10 focusses on 'Solar Photovoltaic Generation' and outlines the key factors influencing Site selection and design of proposals, particularly with regard to proximity to existing residential dwellings and public rights of way (PRoW), stating *"applicants are encouraged where possible to minimise the visual outlook from existing public rights of way, considering the impacts this may have on any other visual amenities in the surrounding landscape".*

With regard to potential impacts of solar schemes, para 2.10.97 outlines that *"Applicants should carry out a landscape and visual assessment and report it in the ES. Visualisations may be required to demonstrate the effects of a proposed solar farm on the setting of heritage assets and any nearby residential areas or viewpoints."*

With regard to mitigating potential impacts, para 3.10.131 states that *"applicants should consider the potential to mitigate landscape and visual impacts through, for example, screening with native hedges, trees and woodlands."*

Para 3.10.157 outlines the need for consideration of potential cumulative effects, stating that the *"Secretary of State will consider the landscape and visual impact of any proposed solar PV farm, taking account of any sensitive visual receptors, and the effect of the development on landscape character, together with the possible cumulative effect with any existing or Scheme."*

National Policy Statement for Electricity Networks Infrastructure (EN-5)

NPS for Electricity Networks Infrastructure (EN-5) is relevant policy for energy transmission. Paragraphs 2.9.7 – 2.9.25 are most relevant to landscape and visual matters.

NPS EN-5, Section 2.2, Factors influencing site selection and design, para 2.2.8 states *"There will usually be a degree of flexibility in the location of the development's associated substations, and applicants should consider carefully their placement in the local landscape, as well as their design."*

NPS EN-5, Section 2.2, Factors influencing site selection and design, para 2.2.9 states *"In particular, the applicant should consider such characteristics as the local topography, the possibilities for screening of the infrastructure and/or other options to mitigate any impacts. (See Section 2.10 below and Section 5.10 in EN1.)"*

NPS EN-5, Section 2.2, Factors influencing site selection and design, para 2.2.10 states *"As well as having duties under Section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and …do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."*

NPS EN-5, Section 2.9, Landscape and Visual Impacts, para 2.9.9 states *"New substations, sealing end compounds (including terminal towers), and other above-ground installations that serve as connection, switching, and voltage transformation points on the electricity network may also give rise to adverse landscape and visual impacts."*

NPS EN-5, Section 2.9, Landscape and Visual Impacts, para 2.9.12 states *"Landscape and visual benefits may arise through the reconfiguration, rationalisation, or undergrounding of existing electricity network infrastructure. Though mitigation of the landscape and visual impacts arising from overhead lines and their associated infrastructure is usually possible, it may not always be so, and the impossibility of full mitigation in these cases does not countermand the need for overhead lines."*

NPS EN-5, Section 2.9, Landscape and Visual Impacts, para 2.9.18 states *"The Horlock Rules – guidelines for the design and siting of substations – were established by National Grid in 2009 in pursuance of its duties under Schedule 9 to the Electricity Act 1989. These principles should be embodied in applicants' proposals for the infrastructure associated with new overhead lines."*

NPS EN-5, Section 2.9, Landscape and Visual Impacts, para 2.9.19 continues *"In brief, the Horlock Rules state that applicants should:*

- *Consider environmental issues from the earliest stage to balance the technical benefits and capital cost requirements for new developments against the consequential environmental effects in order to keep adverse effects to a reasonably practicable minimum.*
- *Seek to avoid altogether internationally and nationally designated areas of the highest amenity, cultural or scientific value by the overall planning of the system connections.*
- *Protect as far as reasonably practicable areas of local amenity value, important existing habitats and landscape features including ancient woodland, historic hedgerows, surface and ground water sources and nature conservation areas.*
- *Take advantage of the screening provided by land form and existing features and the potential use of site layout and levels to keep intrusion into surrounding areas to a reasonably practicable minimum.*
- *Keep the visual, noise and other environmental effects to a reasonably practicable minimum.*
- *Consider the land use effects of the proposal when planning the siting of substations or extensions.*
- *Consider the options available for terminal towers, equipment, buildings and ancillary development appropriate to individual locations, seeking to keep effects to a reasonably practicable minimum.*
- *Use space effectively to limit the area required for development consistent with appropriate mitigation measures and to minimise the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation.*
- *Make the design of access roads, perimeter fencing, earth-shaping, planting and ancillary development an integral part of the site layout and design, so as to fit in with the surroundings.*
- *In open landscape especially, high voltage line entries should be kept, as far as possible, visually separate from low voltage lines and other overhead lines so as to avoid a confusing appearance.*
- *Study the inter-relationship between towers and substation structures and background and foreground features so as to reduce the prominence of structures from main viewpoints. Where practicable the exposure of terminal towers on prominent ridges should be minimised by siting towers against a background of trees rather than open skylines."*

NPS EN-5, Section 2.10, Landscape and Visual, para 2.10.5 states *"In addition to good design in accordance with the Holford and Horlock rules (please see paragraphs 2.9.16 - 2.9.19), and the consideration of undergrounding or rerouting the line where possible, the principal opportunities for mitigating adverse landscape and visual impacts of electricity networks infrastructure are:*

- *Consideration of network reinforcement options (where alternatives exist) which may allow improvements and/or extensions to an existing line rather than the building of an entirely new line;*
- *Selection of the most suitable type and design of support structure in order to minimise the overall visual impact on the landscape. In particular, ensuring that towers are of the smallest possible footprint and internal volume; and*
- *The rationalisation, reconfiguration, and/or undergrounding of existing electricity networks infrastructure in the vicinity of the proposed development."*

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF, updated December 2023) makes clear that the purpose of planning is to help achieve sustainable development (Section 2), and that well-designed and beautiful places (Section 12) and conserving and enhancing the natural environment (Section 15) are important components of this.

Paragraph 11 sets out that in determining applications for development this means that developments which accord with an up-to-date development plan should be approved. Where there are no relevant development plan policies or where the policies are out-of-date, paragraph 11 directs that the permission should be granted unless *"any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole"* or "*the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for refusing the development proposed*". The areas or assets of particular importance in respect of landscape and visual matters referred to within the associated footnote 7 are:

- Area of Outstanding Natural Beauty (renamed National Landscapes on 22 November 2023);
- National Parks including the Norfolk Broads;
- Heritage Coast.

The list also includes important habitats sites, irreplaceable habitats and / or designated as Sites of Special Scientific Interest; land designated as Green Belt or Local Green Space; designated heritage assets or heritage assets of archaeological interest; and areas at risk of flooding or coastal change.

Section 11 sets out considerations in relation to 'Making Effective Use of Land' and notes in paragraph 128 that in respect of development density the considerations should include whether a place is well-designed and *"the desirability of maintaining an area's prevailing character and setting … or of promoting regeneration and change"*. Paragraph 128 also notes "*the importance of securing well-designed and beautiful, attractive and healthy places."* Paragraph 129 of the NPPF also advises that *"Area-based character assessments…can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places."*

Section 12 sets out consideration in relation to 'Achieving well-designed and beautiful places' and indicates in paragraph 135 that planning policies and decisions should ensure that developments:

"a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);

d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;

e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) …"

Section 12, paragraph 136 also advises that *"Trees make an important contribution to the character and quality of the urban environment, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined* [see NPPF footnote 53: unless justifiable and compelling reasons are provided] and *"opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards)…"*

Section 15 of the NPPF 'Conserving and enhancing the natural environment' covers both ecological and landscape matters. Paragraph 180 requires that decisions should contribute by:

"a) protecting and enhancing valued landscapes, … (in a manner commensurate with their statutory status or identified quality in the development plan);

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

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

In respect of valued landscapes, paragraph 181 notes that planning policy and decisions should *"distinguish between the hierarchy of international, national and locally designated sites".* Paragraphs 182 – 184 require that:

"182. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads[63]. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

183. When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development[64] other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;

b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and

c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

184. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 182), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character."

Footnote 64 notes that *"whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined".*

Paragraph 191 requires decisions to ensure that *"…new development is appropriate for its location…"* including by limiting the impact of light pollution on local amenity and *"intrinsically dark landscapes".*

National Planning Guidance

Planning Practice Guidance for Natural Environment, July 2019

This document is intended to explain the key issues in implementing policy to protect biodiversity, enhance green infrastructure and also contains a section on landscape. This section reiterates the policy set out in the NPPF, highlights the importance of identifying the special characteristics of locally valued landscapes and recommends the use of landscape character assessments.

With regards to National Parks, the Broads and AONBs, the guidance states that:

"Section 11A(2) of the National Parks and Access to the Countryside Act 1949, section 17A of the Norfolk and Suffolk Broads Act 1988 and section 85 of the Countryside and Rights of Way Act 2000 require that 'in exercising or performing any functions in relation to, or so as to affect, land' in National Parks and Areas of Outstanding Natural Beauty, relevant authorities 'shall have regard' to their purposes for which these areas are designated" (para 039). The same paragraph also requires consideration of the effects of development on the setting of AONBs.

The guidance also highlights that Natural England has published advice on Heritage Coasts. This guidance indicates that heritage coasts are *"managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors"* (para 043).

This document also provides guidance on green infrastructure, highlighting types of green infrastructure (para 004) and the benefits which they provide (005), including achieving well-designed places as "green infrastructure exists within a wider landscape context and can reinforce and enhance local landscape character, contributing to a sense of place and natural beauty" (para 006).

Planning Practice Guidance for Design: process and tools, October 2019

The guidance should be read alongside the National Design Guide and sets out the characteristics of well-designed places and demonstrates what good design means in practice. The guidance indicates that good design relates to 10 characteristics:

- context
- identity
- built form
- movement
- nature
- public spaces
- uses

- homes and buildings
- resources
- lifespan

In respect of the determining applications and the relationship between a proposal and the surrounding context, the guidance notes that:

"permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions …"

National Design Guide, January 2021

The guidance sets out characteristics of '*beautiful, enduring and successful places'* that reflect the *'Government's priorities and a common overarching framework'* and provides cross references to the National Planning Policy Framework.

The guidance indicates that *'context, history and the cultural characteristics of a site, neighbourhood and region influences the location, siting and design of new developments'*.

In respect of context, the guidance indicates a positive sense of place and further notes that well-designed places are:

- based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design
- integrated into their surroundings so they relate well to them
- influenced by and influence their context positively; and
- responsive to local history, culture and heritage.

The guidance indicates that identity *'or character of a place comes from the way that buildings, streets and spaces, landscape and infrastructure combine together… Local character makes places distinctive.'*

In respect of identity, the guidance further notes that well-designed places, buildings and spaces:

- have a positive and coherent identity that everyone can identify with…;
- have a character that suits the context, its history…;
- are visually attractive…

The guidance indicates that nature *'contributes to the quality of a place, and to people's quality of life, and it is a critical component of well-designed places.'* Natural features include *'natural and designed landscapes, high quality public open spaces, street trees, and other trees, grass, planting and water'*.

In respect of nature, the guidance further notes that well-designed places:

- integrate existing and incorporate new natural features into a multifunctional network that supports quality of place.
- prioritise nature so that diverse ecosystems can flourish to ensure a healthy natural environment that supports and enhances biodiversity.
- provide attractive open spaces in locations that are easy to access.

Local Planning Policy

Breckland Local Plan (2023)

The Breckland District Council adopted planning policy documents set the strategic context for development in the District. These include governing the decisions made on planning applications and which types of development are suitable for each area. The Breckland Local Plan was adopted on 21 September 2023. It is a key document that guides development in the District over the next 20 years.

Policy ENV 01 - Green Infrastructure states that:

"The network of green infrastructure in the District, including water bodies and the strategic green infrastructure corridors shown on the Policies Map, should be safeguarded, retained and, where opportunities arise, enhanced. Enhancement of the green infrastructure network will be sought through the promotion of positive action, and the development management process.

New developments will be expected to exploit opportunities to incorporate green infrastructure and enhance existing connectivity; recognising the intrinsic value of the green infrastructure network and ensuring that the functionality of the network is not undermined as a result of development.

Through its layout and design, new development should respond to the location of existing green infrastructure and support appropriate uses and functions. Where it is considered that the development will have a detrimental effect on the quantity or function of existing green infrastructure, compensatory provision will be required in the form of new and/or enhancements to the existing green infrastructure."

Policy ENV 05 - Protection and Enhancement of the Landscape states that:

"Development proposals will be expected to contribute to and where possible enhance the local environment by recognising the intrinsic character and beauty of the countryside. Development should have particular regard to maintaining the aesthetic and biodiversity qualities of natural and man-made features within the landscape, including a consideration of individual or groups of natural features such as trees, hedges and woodland or rivers, streams or other topographical features.

Development proposals will have regard to the findings of the Council's Landscape Character Assessment (LCA) and Settlement Fringe Landscape Assessment. Development should also be designed to be sympathetic to landscape character.

High protection will be given to The Brecks landscape, reflecting its role as a regionally significant green infrastructure asset. Proposals within The Brecks Landscape Character Areas will not be permitted where these would result in harm to key visual features of the landscape type, other valued components of the landscape, or where proposals would result in an unacceptable change in the landscape character.

High protection will also be given to the river valleys and chalk rivers in Breckland as identified in the Landscape Character Assessment, recognising their defining natural features, rich biodiversity and the undeveloped character of their shallow valleys."

Policy ENV 06 – Trees, hedgerows and Development states that:

"Trees and significant hedge and shrub masses form part of the green infrastructure network and should be retained as an integral part of the design of development except where their long-term survival would be compromised by their age or physical condition, or there are exceptional and overriding benefits in accepting their loss.

Where the loss of such features is demonstrably unavoidable, adequate replacement provision, preferably by native species will be sought (MM130). Where the loss of a tree is accepted in these circumstances, developers will be required to ensure the loss is suitably compensated for, taking into account the size and condition of the tree.

Where a Scheme retains existing trees and hedgerows on-site, or where development occurs within a tree root protection area, provision must be made for their care and protection throughout the duration of the development with mitigation measures being put in place to ensure that development works do not have a harmful impact on existing trees. To ensure that tree cover and habitat is retained, it is important that both the short term and long term impacts that a development may have on trees is evaluated at the earliest opportunity. Accordingly the Council may require that a Tree Survey, Arboricultural Impact Assessment, Tree Protection Plan and Method Statement be undertaken by a suitably qualified professional in accordance with BS5837:2012."

Policy ENV 10 – Renewable Energy Development states that:

"Proposals will be considered having regard to the extent to which there are:

i. adverse impacts on the local landscape, townscape or designated and non-designated heritage assets assessed in line with Policies ENV 05, ENV 07 and ENV 08 in the plan;

ii. adverse effects on residential amenity by virtue of outlook / overbearing impact, traffic generation, noise, vibration, overshadowing, glare or any other associated detrimental emissions, during construction, operation and decommissioning;

iii. an irreversible loss of the highest quality agricultural land;

iv. cumulative impacts of renewable energy development on an area; and

v. adverse impacts upon designated wildlife sites; nature conservation interests; and biodiversity, assessed in line with Policies ENV 02 and ENV 03 in the plan.

Proposals will be permitted where the impact is, or can be made, acceptable. Applications will be expected to demonstrate that any adverse impacts can be mitigated. Proposals for renewable energy development including the landward infrastructure for offshore renewable schemes requiring planning permission will be assessed to determine whether the benefits they bring in terms of the amount and usability of energy generated outweigh any adverse impacts. When attributing weight to any harm, in addition to other relevant policies in the Local Plan, regard will be given to national policy and guidance, statutory duty and legislation which seeks protection and enhancement of the landscape; designated and non-statutory heritage assets.

Where appropriate the authority will consider the need for planning conditions requiring the decommissioning and removal of all plant and ancillary equipment, and if necessary the restoration of land, on the cessation of use."

With direct reference to solar energy development, the policy also states that *"the effective use of land by focusing large scale solar farms on previously developed and non-agricultural land, will be encouraged provided that it is not of high environmental value. Particular factors that the Council will need to consider where a proposal involves greenfield land include:*

- *the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land, where possible; and*
- *that the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays."*

Policy COM 03 – Protection of Amenity states that:

"For all new development consideration will need to be given to general amenity impact issues, especially residential amenity. Development will not be permitted which causes unacceptable effects on the residential amenity of neighbouring occupants, or does not provide for adequate levels of amenity for future occupants. In assessing the impact of development on the living conditions of occupants, regard will be had to the following amenity considerations:

1.The protection of adequate areas of usable and scheduled private amenity space for the occupiers of existing dwellings;

2.The provision of adequate areas of usable and secluded private amenity space for the occupiers of proposed dwellings, in keeping with the character of the immediate surrounding areas;

3. Overlooking of windows of habitable rooms and private amenity space;

4. Overbearing impact/visual dominance;

5. Overshadowing of private amenity space;

6. Loss of daylight and/or sunlight to existing windows of habitable rooms;

7. Odour, noise, vibration or other forms of nuisance such as artificial light pollution, insects and vermin; and

8. Other forms of pollution (including contaminated land, dust, air pollution, for example the emission of particulates etc)."

Swaffham Neighbourhood Plan (2019)

The neighbourhood plan policies relevant to this scoping chapter are outlined below.

Policy ENV4: Important public local views and vistas states that:

"Development proposals within or which would affect an Important public local view and vista should ensure that they respect and take account of the view concerned. Developments, which would have an unacceptable adverse impact on the landscape or character of the view or vista concerned, will not be supported. To connect to the countryside, views and vistas along streets and/or open spaces to the surrounding Brecks landscape should be maintained and created within new development where there are opportunities to do so."

Policy ENV5: Dark skies states that:

"All street lighting and the lighting of residential dwellings or businesses should be environmentally efficient, sympathetic in design (for example, down lighting) and limited where adjacent to the countryside."

THE DROVES
SOLAR FARM

Appendix 6.5
Extracts from Relevant Local Landscape Character Assessments

Appendix 6.5 Extracts from Relevant Local Landscape Character Assessments

LANDSCAPE TYPE D: THE BRECKS – HEATHLAND WITH PLANTATIONS

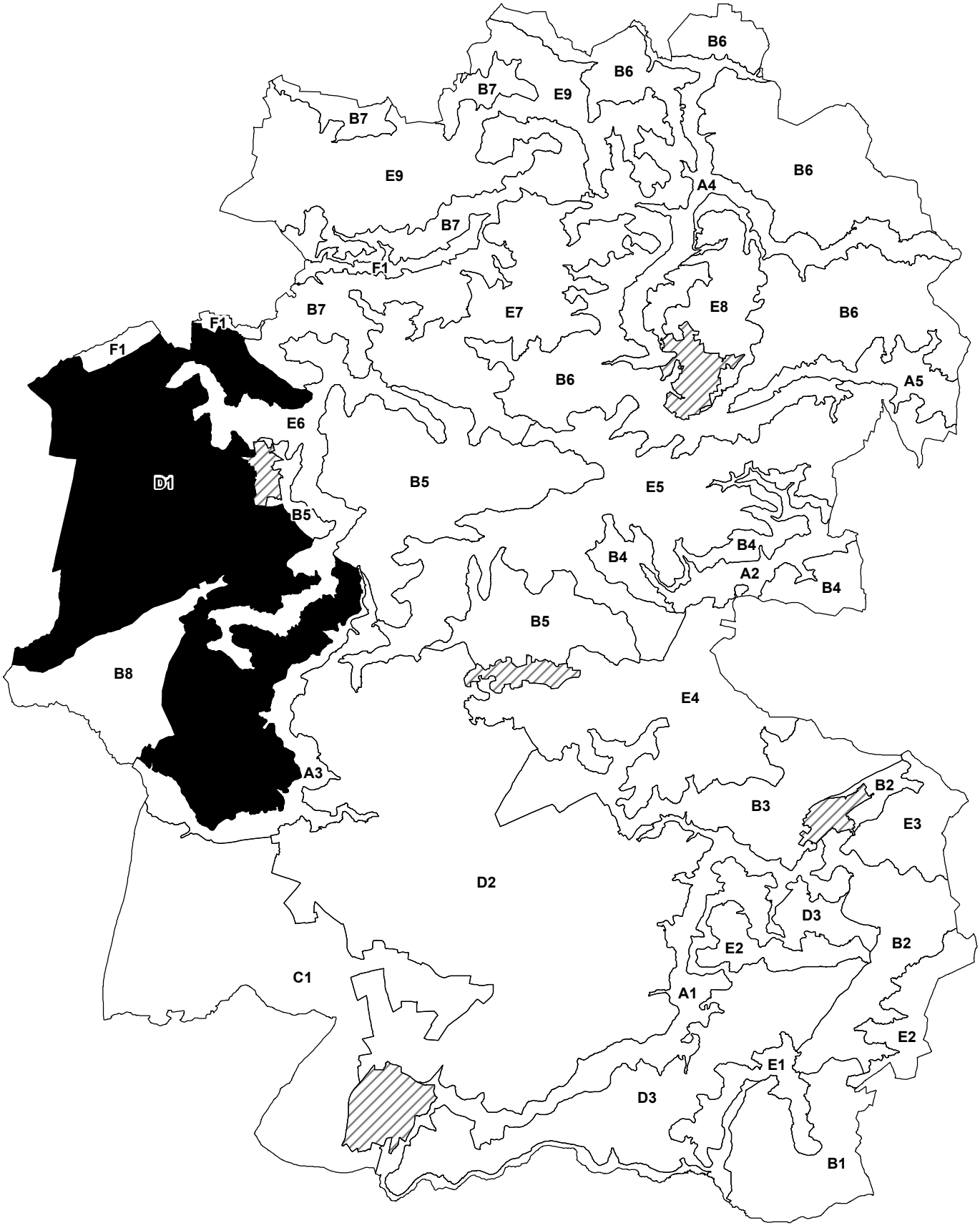
D1 This landscape type is defined primarily by the historic heathland land cover (now frequently replaced with arable fields), interspersed with small-medium scale blocks of mixed plantation woodland. The landscape type accommodates a range of land uses and has a less unified character than the *Brecks: Plantations* landscape type in view of this and the more open character created by the sparse, more varied woodland cover.

Key Characteristics

- A medium to large scale landscape characterised by areas of open farmland and heath and large coniferous plantations – changing perspectives from open to enclosed.
- River valleys cut through the Middle and Upper Chalk strata and plateaux rise to the north, creating a gently undulating landform with subtle slopes.
- Land cover is variable, ranging from intensively farmed arable fields, heathland and areas of coniferous plantation.
- Belts of twisted Scots pine, marking field boundaries and aligning roads, are sculptural features and points of focus.
- Settlement is dispersed and of low density but the urban edges of Swaffham and Thetford have an influence on the landscape.
- The skyline is prominent and for the most part wooded, defined by the solid lines of the coniferous blocks and shelter belt planting.
- Warrens, e.g. Beachamwell Warren and Gooderstone Warren are a distinctive feature.
- Views are often broken by tree cover allowing only glimpsed views into adjacent landscapes.
- Movement is variable –A roads and secondary routes bring a strong sense of movement to the landscape but away from these transport corridors, the area remains still and peaceful.
- Some large open, remote areas with few metalled roads or dwellings.

Landscape Type D: The Brecks – Heathland with Plantations
Character Area
D1 Swaffham Health
D2 Stanta Heath
D3 Harling Heathlands

D1: SWAFFHAM HEATH



D1: SWAFFHAM HEATH

Location and Boundaries

D1.1 A large area of the *Breckland Heathland with Plantation* landscape type located to the north-west, west and south west of Swaffham, with character defined primarily by the land use of arable farmland, historic parklands and plantation woodland and distinctive Scot's pine belts. To the north the character area boundary is marked by the adjacent *River Nar* character area and to the west by the district boundary and a change in character to a more settled area of farmland and plantations. To the south and east the landform falls towards the River Wissey.

Key Characteristics

- Drift deposits of sand, clay and gravel create a gently undulating landscape, with topography ranging from 10-70m AOD across the character area.
- Free draining sandy soils support the functional land cover of arable cultivation, pig farming and plantation woodland.
- Ancient, contorted scots pine shelterbelts and screening belts of trees provide shelter to the easily eroded brown soils and are a prominent landscape feature.
- At Cockleycley Heath and Swaffham Heath, the woodland plantation blocks create a visually prominent feature in the landscape.
- The large scale arable fields are delineated by hedgerows in variable condition from occasional species rich intact hedgerows with hedgerow trees, thorn hedges and pine lines.
- Breckland Farmland SSSI covers a large part of the character area – the cultivated land proving a habitat for stone curlew. A smaller area of Breckland Forest SSSI also covers part of the area.
- A large scale landscape, with an open, windswept character, quiet and seemingly remote in places.
- Historic parklands and parkland features such as lodge houses, rides/long vistas and parkland species are evident in the landscape.
- Sparsely populated - the settlement pattern is characterised by scattered Halls, farm buildings and a small number of nucleated villages and hamlets. Churches are often isolated.
- Distinctive building materials of knapped flint, clunch and brick
- The areas of open access land associated with plantations at Swaffham Heath and Coldharbour Wood provide opportunities for recreation.

LANDSCAPE CHARACTER DESCRIPTION

Physical/Natural

D1.2 The character area has an underlying solid chalk geology and a gently undulating plateau landform covered by a thin layer of glacial drift deposits including boulder clay and sands and gravels. The covering of drift deposits is shallower than in adjacent landscape character areas resulting in complex soils typically sandy free draining mixes of chalk, sand, silt, clay and flints.

D1.3 The light, droughty soils are prone to wind erosion. The geology and soils are reflected in the species composition of the woodland blocks, with pine being the main species. The blocks of plantation woodland and coniferous shelter belts have protected the soil from erosion and has allowed much of the landscape to be given over to arable production. In addition to arable cultivation, a number of areas are used for outdoor pig raising.

D1.4 Significant areas of the character area are covered by nature conservation designations, representing its ecological value. Large blocks of the character area are designated as part of Breckland Farmland SSSI (SPA), with the arable farmland notable for supporting almost half the stone curlews in Britain, nesting in the cultivated land favouring the areas of bare ground and very short vegetation. The majority of the Breckland Forest SSSI (SPA) lies outside of the character area, but plantation woodland at Cockleycley Heath and Swaffham Heath are parts of the SSSI. Gooderstone Warren is designated as a SPA.

D1.5 Field enclosure is provided by hedgerows of various condition and species composition. Historic, contorted scots pine wind breaks form a strong vertical feature in the flat landscape, as are localised areas of hedges of fast growing coniferous species. The grassy banks and field edges are very important to the conservation of the remnant Breckland grass-heath habitats.

D1.6 The entire character area falls within the 'Core Area' as defined by the Ecological Mapping Project for Norfolk. Core areas represent significant concentrations of high quality extant habitat. The high quality habitat represented within character area D1 is Breckland Forest and area of remnant heath.

Historic Character

D1.7 Faden's 1797 Map of Norfolk identifies extensive areas of heathland and common within the character area, including Beachamwell Warren and Swaffham Heath. At this time it was an exposed open landscape. These areas have now largely been planted for commercial forestry and partly absorbed within arable cultivation. The HLC data (which is partially complete for the area) shows that the three most significant influences to be piecemeal parliamentary enclosure, 18th-20th century plantation woodland, and 20th century enclosure, some with resultant boundary loss. The landscape today, is one of medium to large sized fields often being bounded by 'gappy' and degraded hedgerows.

D1.8 Plantations form significant blocks in two areas at Cockleycley Heath and Swaffham Heath. Conifer planting began in 1922 on areas of heath, and unstable sand dunes and marginal agriculture. The majority of the initial plantings reached the end of

their first rotation in the mid 1970s. Since then the harvesting of these and subsequent plantings has created a continuous supply of clear-felled areas and young plantations.

D1.9 A number of parklands both extant and remnant signify the past wealth of this part of Breckland, notably the Historic Park and Garden at Pickenham Hall and the former estate of the now destroyed Didlington Hall. Various parkland elements are visible within the character area, such as the vista to Cockleycley Hall.

Settlement and Built Character

D1.10 This is a sparsely settled landscape with a remote 'empty' quality in places. Settlement is characterised by a small number of nucleated villages generally located in proximity to and drawing on the resources of the intervening river valleys, as at Narborough (River Nar), Hilborough (River Wissey) and Cockley Cley (Gadder). In addition, there is a general pattern of dispersed farmsteads across the character area. The local vernacular is red/yellow brick and flint with occasional colour rendered buildings.

Perceptual/Visual

D1.11 This is a large scale landscape with a strong geometry – with large regular fields defined by straight rows of Scot's pine or thorn hedges, interspersed with areas of conifer plantation. In places this creates a very open, exposed and windswept landscape. There is a relatively low density of woodland blocks, although where they do exist, they are large in scale and create a notable feature within the landscape.

D1.12 Views both within the character area and to adjacent character areas are variable. In places views are distant, to the wooded skylines, to the elevated *North Pickenham Plateau* and to the *Wissey Valley*. However in other locations views are framed or contained by woodland blocks.

D1.13 The low population density and the large swathes of farmland and woodland create a peaceful, even remote landscape. Views to the wind turbines north of Swaffham in the *North Pickenham Plateau* character area add a sense of movement and activity. Some noise disturbance from RAF Marham (within the adjoining Borough of Kings Lynn and West Norfolk) is apparent.

EVALUATION

Positive Landscape Features of Significance and Inherent Landscape Sensitivities

- The historic boundary features - distinctive scots pine windbreaks and hedgerows;
- Remnant parkland features such as vistas to Cockleycley Hall, flint estate walls and lodge houses which provide a sense of historical integrity;
- The varied landcover mosaic created by the plantation woodland and farmland;
- Sparse settlement and rural character of the hamlets and villages;

- The narrow, often unmarked rural lanes and tracks;
- The ecological value of the arable farmland for birds, notably stone curlew;
- Areas of remnant heathland character.

Visual Sensitivities

D1.14 A predominantly an open large scale landscape with long, open views. Within the more enclosed wooded areas vistas which were designed into the landscape as parkland features, have in places been retained. These views create surprise historical markers within the landscape and would be sensitive to unsympathetic woodland management.

D1.15 The woodland blocks create an important focus to the landscape, particularly where views are across arable fields to woodland blocks on the skyline.

Current State of the Landscape

D1.16 This is a functional managed landscape with an eroding character in places due to loss of characteristic elements, notably heathland, degraded field boundaries, and changes in farming. The arable farmland provides a valuable habitat for farmland birds.

Landscape Change

Past Change

- Agricultural enclosure and loss of heathland, plus further loss of heathland with decline in grazing;
- Conversion of parkland and heath/commons to plantation woodland;
- Declining condition of remaining areas of parkland;
- Agricultural changes including outdoor pig raising and development of water storage reservoirs on agricultural land.
- Decline of distinctive Scot's pine hedgerows;
- An increasing influence of traffic upon the landscape character with the inclusion and widening of the A47, A1122 and A1065.

Future Change

D1.17 Potential future landscape change may result from the implementation of agri-environment schemes and management to enhance ecological value. Changes in Forestry Enterprise Strategy, including heathland restoration and renewal may also have a positive effect on landscape character.

LANDSCAPE STRATEGY

The landscape strategy should be to conserve the remote, open, sparsely settled character of the *Heathland with Plantation* landscape– restoring and enhancing the heathland character where appropriate and managing the arable farmland to enhance its ecological value, particularly for farmland birds.

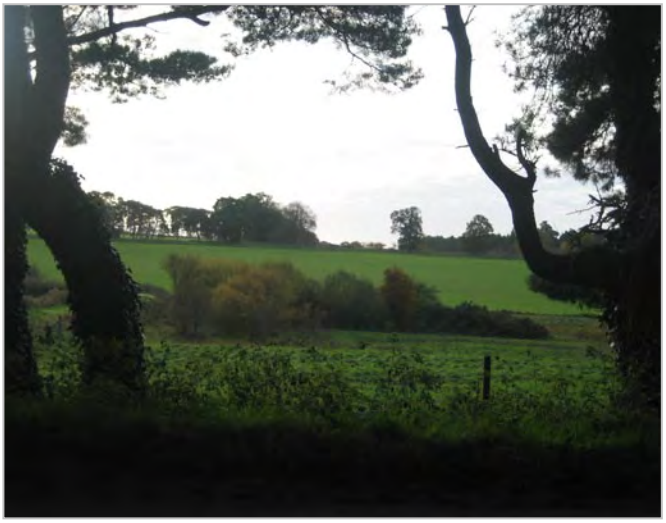
Guidelines

Landscape Management

- Encourage take up of agri-environment schemes to improve the ecological value of arable farmland and to create habitat connectivity;
- Conserve and enhance the historic contorted pine wind break hedgerows through appropriate a management;
- Consider opportunities for heathland creation on areas where it has been lost, for example areas of plantation woodland;
- Ensure that any further recreation provision does not conflict with the sensitive species and habitats within the Breckland Farmland and Breckland Forest SSSI;
- Conserve the rides within parklands and plantations which provide attractive vistas to historic features, including those designated as Historic Parks and Gardens.

Development Guidelines

- Conserve the sparse settlement pattern of small villages associated with the edges of river valley and scattered farms;
- Ensure that any new built development fits with the local built vernacular, including use of materials (brick and flint);
- Conserve the existing rural road network, resisting traffic pressures and traffic calming measures which could have an urbanising influence;
- Consider the effect of tall or vertical structures within this very open, exposed landscape.



E6: NORTH PICKENHAM PLATEAU

Location and Boundaries

E6.1 *North Pickenham Plateau* encircles Swaffham from the northwest to the south, creating an elevated, arable plateau backdrop to the settlement. This largely flat, open landscape contrasts with the more undulating *Wissey Settled tributary farmland* and more wooded *Swaffham Heath* character areas that bound it.

Key Characteristics

- Thick Lowestoft Till glacial deposits underlie the character area creating its elevated position.
- A largely flat landscape defined by 70-75m contours.
- Due to the elevated position affords views across the adjacent Settled tributary farmland and Heathland with Plantation landscape types are possible. Church towers within adjacent character areas are distinctive and prominent in views across the character area.
- The turbines on the ridge directly north of Swaffham are visually prominent vertical structures.
- Predominantly arable agricultural land cover, with some areas of mature mixed plantation woodland in the southern part of the character area.
- Geometric/rectilinear field pattern, of large scale, defined by low, flailed hedges, with more extensively treed hedges to the network of lanes traversing the character area.
- Former marl pits are a feature of the plateau.
- Occasional osier beds are interspersed with the field network.
- Remote character with little evidence of settlement, other than isolated farms and network of semi enclosed and enclosed rural roads and lanes.
- The character area is defined by muted colour and is strongly rural. The landscape of the character area is relatively remote and peaceful, with little movement.
- Runways, disturbed ground and industrial premises associated with the former North Pickenham Airfield are apparent in the southern part of the character area.
- The historic way marked route of the Peddars Way bisects the character area in the east, together with other waymarked routes such as Procession Lane. There is a network of footpaths and bridleways across the character area.

LANDSCAPE CHARACTER DESCRIPTION

E6.2 The Character Area displays broadly consistent, gently undulating topography, and a large scale, rural landscape and land cover pattern.

Physical/Natural

E6.3 The physical geology of the character area is defined by glacial drift deposits of clay, silt, gravel and diamicton, which is reflected in the gently undulating, domed landform. Topography is defined by the 70-75 metre AOD contour.

E6.4 Landform is gently undulating or domed, and defined primarily by the 70-75 metre contour, and landuse is predominantly arable agriculture, defined by a large scaled field pattern with low, managed hedgerows often with drainage ditches.

E6.5 Whilst localised enclosure is provided by the hedged lanes and small scale blocks of oak-ash dominated woodland, in addition to historic scots pine dominated windbreaks the landscape is relatively open and exposed in view of the relatively sparse, large scale field pattern.

E6.6 The northern part of the character area lies within the one of the Ecological Network Mapping Project's Enhancement Area for heathland, grassland and woodland restoration, whilst the southern part of the character area, including and to the south of North Pickenham Airfield, falls within a Core Area. This is in view of the land designated as Breckland Farmland SSSI, in addition to an area of predominantly coniferous plantation woodland designated as part of Breckland Forest SSSI Forest SSSI. Breckland Farmland SSSI, which is also a SPA, is designated as such in view of the fact that it provides a breeding ground for Stone Curlew. Breckland Forest SSSI (SPA) is designated due to the fact that it provides a breeding ground for woodlark and nightjar and supports an important assemblage of nationally rare vascular plant species and a rich invertebrate fauna.

Historic Character

E6.7 Whilst the Historic Landscape Characterisation (HLC) has only been completed for the southern part of the character area, this has identified a number of historic landscape processes and pressures which have informed the present character of the landscape. These include heathland, 20th Century Enclosure and military land uses around North Pickenham Airfield.

E6.8 Faden's 1797 Map of Norfolk illustrates that the southern part of the character area was defined by common land and heathland at the end of the 18th Century, although this has subsequently been absorbed into both the arable field network and the plantations to the south of Swaffham which lie partly within this character area. The area was generally sparsely wooded in the late 18th Century. A more complex network of minor lanes, associated with isolated dwellings, is illustrated on the map, although these have largely been lost or otherwise absorbed into the agricultural landscape, sometimes surviving as tracks along field boundaries.

E6.9 The landscape of the character area is a post enclosure agricultural landscape, with a predominantly geometric field pattern defined by low, managed mixed hedgerows. This has evolved into a large scale field pattern, due to agricultural intensification.

E6.10 Localised areas of historic character and landcover survive, as at Grange Farm, with blocks of farm woodland containing veteran trees, together with densely wooded enclosed lanes. There are however few areas of designated Ancient Woodland, with the exception of a small parcel in the north eastern part of the character area.

E6.11 The line of the former Dereham branch of the Mid Norfolk Railway, built in 1882, lies in cutting, following a north-east to south-west arc across the central part of the character area, and is perceived generally by the presence of scrub vegetation and the remaining road bridges across it.

Settlement and Built Character

E6.12 There is little visual or physical evidence of historic settlement within this plateau landscape and it remains predominantly unsettled today, with occasional isolated farms and associated, relatively large modern farm buildings, notably Grange Farm, and a small, nucleated area of settlement at the cross roads at Edwin Farm, to the northern end of Sporle, which is largely outside the character area. The site of the former medieval village and associated moats of Great Palgrave adjoins the western edge of the character area.

E6.13 Sporle, whilst lying largely outside the character area, displays some use of local vernacular, with red brick and clay tiles.

E6.14 The other principal area of development within this character area are the runways and the brick built industrial premises associated with the former RAF North Pickenham Airfield.

Perceptual/Visual

E6.15 Opportunities are created for extensive and panoramic views across the plateau due to the openness of the landscape, and intervisibility with other landscape character areas is high.

E6.16 The character area as a whole is a generally simple landscape with a muted palette of colours, due to the predominantly arable agricultural land use, although with considerable seasonal variation depending on the crops planted. It is an essentially tamed rural landscape and is generally tranquil. It is remote in character due to its isolated settlement pattern.

E6.17 In terms of visual unity and perceptual/visual character, this is interrupted, with overhead power lines and pylons apparent, in addition to road noise and light glare from the A47. The wind turbines adjacent to Swaffham are prominent vertical structures in views across the south of this character area.

E6.18 In terms of use, much of the character area is a productive, working agricultural landscape. Opportunities for recreational access are however provided by a network of rights of way.

EVALUATION

Positive Landscape Features of Significance and Inherent Landscape Sensitivities

E6.19 The following are judged to be the key inherent landscape sensitivities which are fundamental to the character of the landscape.

- Dense, well treed hedgerows concentrated on the network of rural roads and lanes, in addition to localised enclosed lanes and hedgebanks with veteran trees, which impart an historic character to these parts of the landscape and provide evidence of the former landcover pattern;
- Mature trees (predominantly oak/ash) within isolated woodland blocks on the plateau are of significant landscape, biodiversity and amenity value;
- The sparse isolated settlement pattern and associated remote character, which would be compromised by further new development;
- The gently undulating landform and marl pits/clay ponds which dot the plateau;
- Localised areas of historic character associated with historic way marked routes such as Peddars Way and Procession Lane, in addition to more intact areas of Enclosure landscape;
- Presence of occasional osier beds interspersed within the field network providing local variation;
- Pine wind breaks – outgrown former hedgerows composed of Scots Pine are a locally occurring feature across the plateau and impart a sense of place and historic landcover pattern.

Visual Sensitivities

E6.20 The key visual sensitivities of this landscape relate to its elevated position and gently domed plateau landform. The landscape is exposed, due to its scale and comparatively sparse land cover. There is high intervisibility between settlements and between this and other character areas, with church towers forming a prominent element in views. Overhead power lines also form a prominent element in views, as do the wind turbines adjacent to Swaffham and the turbines and mast tower at North Pickenham.

Current State of the Landscape

E6.21 The landscape of the character area is that of a working arable agricultural landscape, and as such its visual intactness has been affected by agricultural intensification in the early and mid 20th Century and the associated removal of field boundary hedgerows. In terms of ecology the character area is, as a whole, relatively weak, with the exception of localised woodland blocks and the ancient hedgerows to the lane network. The character area is in a generally good, managed condition.

Landscape Change

Past Change

E6.22 The primary historic force for change within this character area are as follows:

- Early-mid 20th Century agricultural intensification, with the resultant loss of field boundaries and hedgerows;
- Loss of areas of common/heathland to plantations to the south of Swaffham.
- The creation of the RAF Airfield at North Pickenham in 1943-1944 further disturbed the historic field pattern.
- The turbines on North Pickenham Airfield have had a significant visual impact on the plateau landscape.

Future Change

E6.23 Potential future change may arise from further development of tall structures which could interrupt the open character of the landscape. In addition there may be the potential for expansion of residential /industrial development, e.g. associated with Swaffham or along the A47.

LANDSCAPE STRATEGY

The overall management objective should be to conserve the peaceful and rural character of the plateau and to support opportunities to recover semi natural habitats such as heathland. Key features that should be conserved include the veteran trees and the historic scots pine shelterbelts. Enhancement opportunities predominantly relate to succession planting of new hedgerow trees and reinforcement of field boundary hedgerows, which, with appropriate landscape management, would improve the integrity of the landscape and strengthen its character. There are also opportunities to restore elements that have been lost such as areas of heathland.

Guidelines

Landscape Management

- Conserve and enhance existing network of hedgerows and mature/over mature hedgerow trees, with appropriate additional and new native planting to ensure continuity of existing tree cover where it exists;
- Create new areas of set asides to field boundaries, to enhance biodiversity of cereal field margins, subject to the provisions of agri-environment schemes;
- Consider the creation of new areas of broadleaf woodland to reinforce existing farm woodlands, providing continuity of tree cover and habitat connectivity;
- Where possible, create new areas of heathland to satisfy the requirements of the EcoNet Project, by restoring some areas of farmland or plantation to this landscape type, when plantations have reached the end of their productive life;

Development Considerations

- Maintain the historically sparse development pattern and unsettled character of the plateau;
- Monitor the expansion of the few areas of settlement, to conserve individual identity and prevent gradual urban sprawl;
- Avoid the use of bunding and dense woodland screen planting, which would be uncharacteristic elements within this landscape, in proposals for screening development;
- Maintain characteristic dark night skies and consider appropriate lighting requirements for industrial premises within the area;
- Consider the effects of further tall structures on the remote character and simple uninterrupted views;
- In planning for future change, consider the scale of potential development and its effects on long views, skylines and intervisibility with surrounding character areas;
- Retain the rural character of narrow lanes and resist traffic pressures for road widening schemes/traffic calming measures, in addition to maintaining current level of low key road signage.

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