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Date : 23 April 2014

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Our Ref: P/2014/00465
Your Ref: JRH/PA
(please quote this reference on all correspondence with us)

Stafford Borough Council
Civic Centre
Riverside
Stafford
ST16 3AQ

Dear Sir/Madam

**Re: Scoping opinion relating to a proposed wind farm, Knightley Hall
Stafford**

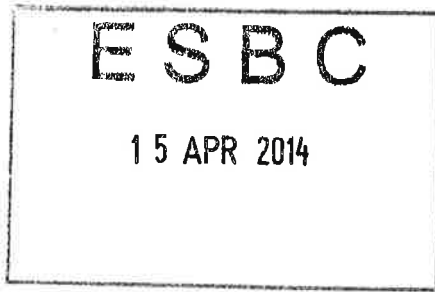
I am writing to you in connection with your consultation relating to the above development received on 15/04/2014.

It appears that the Scoping Report broadly identifies the significant environmental impacts likely to arise as a result of the development and it is therefore considered an appropriate basis for undertaking an Environmental Statement.

Yours faithfully

Jonathan Imber

Jonathan Imber
Planner
Development Control



consultation exempt AS

East Staffordshire Borough Council
Midland Grain Warehouse
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Contact
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JRH/PA/
14 April 2014

Dear Sir or Madam,

P/ 14 / 00465

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT)
(ENGLAND AND WALES) REGULATIONS 2011

PART 4 PREPARATION OF ENVIRONMENTAL STATEMENTS

SCOPING OPINIONS OF THE LOCAL PLANNING AUTHORITY

PROPOSED WIND FARM AT KNIGHTLEY HALL, STAFFORD, STAFFORDSHIRE

The Council, in its role as the local planning authority, has received a request from Land Use Consultants who act on behalf of REG Windpower to provide a formal opinion as to the scope of an environmental statement in respect of the above titled development. The accompanying scoping report does not constitute the environment statement which will accompany any planning application that may be submitted in the future.

The purpose of the scoping opinion process is to identify agreement on what the main or significant environmental impacts of the proposed development are likely to be with a view to identifying and focusing on the topics the environmental statement should concentrate on. Accordingly, the process also aims to avoid the carrying out of unnecessary environmental investigation. The process is an open, participatory exercise.

Prior to adopting a scoping opinion it is necessary for the Council to consult the relevant Environmental Impact Assessment (EIA) consultation bodies. The Council has identified you as a consultation body and accordingly invite you to submit written comments in respect of the accompanying scoping report which sets out the developers' views as to what the main issues are.

The Council will inform the developer of the names and addresses of the consultation bodies. I would be grateful to receive your full written response on the scoping report within 21 days of the date of this letter.

Planning and Regeneration

In responding to this letter I respectfully remind you of your obligation to make available any relevant information already in your possession, save for information which is capable of being treated as confidential under the Environmental Information Regulations 1992.

Your response will be taken into consideration as part of the Council's adoption of a scoping opinion that will be conveyed to the developer. I would also point out that the Council's adopted scoping opinion on the content of the Environmental Statement will be kept available for public inspection on the planning register for a period of 2 years.

Clearly, any response you decide to make at this stage will not preclude or prejudice your ability to make further comments or possibly objecting at a later stage in the EIA process.

Please feel free to reply via email quoting the above ref to planning@staffordbc.gov.uk. We can provide an email receipt upon request.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'J R Holmes', with a stylized flourish extending to the right.

J R Holmes
Development Manager



www.landuse.co.uk

Knightley Hall Wind Farm

Environmental Impact Assessment: Scoping Report

Prepared by LUC in association with Hoare Lea, Avian Ecology, Oxford Archaeological Associates and SLR
December 2013

P/ 14 / 00465

Project Title: Knightley Hall Wind Farm Environmental Impact Assessment Scoping Report

Client: REG Windpower

Version	Date	Version Details	Prepared by	Checked by	Approved by Principal
0	21.05.13	First draft	Ben Miller	Sarah Young	Jon Grantham
V1	04.08.13	Second Draft	Sarah Young	Sarah Young	
V2	12.12.13	Second Draft	Ben Miller	Sarah Young	Jon Grantham

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Figure 11.6 ZTV to tip (10km)

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Appendix 1: Cultural heritage policy background

Appendix 2: Residential amenity and living conditions context



1 Introduction

- 1.1 This Scoping Report has been prepared by LUC on behalf of REG Windpower (REG). It sets out the proposed methodology for undertaking an Environmental Impact Assessment (EIA) of a proposed wind farm development known as Knightley Hall Wind Farm. The site location is shown on **Figure 1.1**.
- 1.2 This formal request for a scoping opinion is made in accordance with The Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011 (hereafter referred to as the EIA Regulations).
- 1.3 The site of the proposed Knightley Hall Wind Farm, covers an area of approximately 152ha, and lies to the west of Stafford, between the villages of Gnosall to the southeast and Woodseaves to the northeast. It is located in the Borough of Stafford.
- 1.4 The proposed scheme will involve:
- the installation of four turbines of 1.8 Megawatts (MW) in size, with a likely maximum installed capacity of 7.2MW. The turbines will be 130m to the tip of the turbine blades;
 - construction of permanent ancillary development comprising:
 - site access tracks;
 - permanent crane hardstanding areas and external switchgear buildings for each turbine;
 - a substation;
 - underground onsite electrical cabling.
 - creation of a temporary construction compound and laydown area.
- 1.5 The site boundary is shown on **Figure 1.2**.
- 1.6 A wind farm development of this size falls under Schedule 2 of the EIA Regulations as an: *"installation for the harnessing of wind power for energy production (wind farms)" that "involves the installation of more than 2 turbines"*.

The Applicant

- 1.7 REG Windpower was among the UK's original renewable energy trailblazers, starting life as the Cornwall Light and Power Company back in 1989. They are now one of the country's leading developer and operators of small to medium-sized wind farms and in 2010 changed their name to REG Windpower to reflect their expanding nationwide business. REG Windpower owns and operates 14 wind farms around the UK and has offices in Truro and Bath.
- 1.8 The REG Windpower team now contains the necessary expertise to develop, build and operate its portfolio of sites, which includes 67MW of operational capacity, with another 32.9MW under or awaiting construction.
- 1.9 REG Windpower is owned by Renewable Energy Generation Ltd. REG Ltd is listed on London's Alternative Investment Market (AIM). As well as developing, building and operating wind farms, the group also generates renewable energy from used cooking oil through its subsidiary company REG Bio-Power.

Why Renewable Energy?

- 1.10 The 2008 Climate Change Act set a legally binding climate change target of a reduction in the UK's greenhouse gas emissions by at least 80% (from the 1990 baseline) by 2050. In order to meet this target the Government has set out a number of actions, which includes an increase in low-carbon technologies such as onshore wind.
- 1.11 As part of the Act, the Committee on Climate Change is required to report annually to Parliament on the progress made in reducing carbon emissions. The fifth annual progress report on meeting carbon budgets (Committee on Climate Change, June 2013) showed that overall there has been good progress implementing some measures, including investment in renewable power generation. However, the report notes that it is necessary to provide more confidence to investors in the area of low-carbon power generation that the Government is committed to sector decarbonisation.
- 1.12 In addition to the 2050 target, the UK is legally committed to meeting 15% of the UK's energy demand from renewable sources by 2020. According to the 2011 DECC Energy White Paper approximately 30% of electricity generation will need to be produced from renewable sources by 2020 in order to meet the EU target.¹
- 1.1 In July 2010, the Coalition Government submitted the UK Renewable Energy Action Plan to the European Commission, as required by Article 4 of the Renewable Energy Directive (2009/28/EC). This outlined the technologies that are expected to deliver 15% renewable energy in the UK by the year 2020. The plan proposes the installation of onshore wind to account for 14.89 gigawatts (GW) of capacity and offshore wind to account for a further 12.99GW, bringing a total of 27.88 GW. The Department of Energy and Climate Change (DECC) renewables statistics shows that at the end of June 2013, the UK had an installed onshore wind power capacity of 7GW, suggesting that to meet this commitment an increase of over 100% in the installation of onshore wind farms is required.
- 1.2 Following publication of the Energy Bill in November 2012, DECC produced an updated UK Renewable Energy Roadmap in December 2012. This provided an updated Action Plan for the deployment of renewable energy throughout the UK, focussing on the nine technologies that are considered to have the greatest potential, which includes onshore wind energy. The key actions in this area set out include increasing overall capacity and upgrading transmission capacity, and co-funding the development of technical solutions to issues that can affect the viability of onshore wind farms, such as interference with aviation radar. A further update to the Renewable Energy Roadmap was published in November 2013 in which the Government reaffirms its commitment to onshore wind energy.
- 1.3 In November 2013, RenewableUK (previously the British Wind Energy Association, BWEA) stated that there were 506 wind projects operating in the UK (onshore and offshore), with a total installed capacity of 10,400MW and that these were producing electricity equivalent to the demand of 5,911,119 homes. This is clearly some way off the level of capacity needed to meet the UK renewables targets described above.

¹ DECC (2011) Planning our electric future: A White Paper for secure, affordable and low-carbon electricity.

Scoping Report Structure

1.4 This Scoping Report has been divided into the following sections:

Chapter 2: sets out the purpose of this Scoping Report.

Chapter 3: provides a description of the site and the development proposals.

Chapter 4: sets out the proposed content and draft structure of the Environmental Statement, it is intended to provide a consistent approach across the range of topic areas covered by the EIA.

1.5 **Chapters 5 to 14:** describe in more detail the specific topic areas that will be investigated as part of the EIA, including:

- Ground Conditions and Hydrology.
- Avian Ecology.
- Non-Avian Ecology.
- Traffic and Transportation.
- Noise.
- Heritage Assets.
- Landscape and Visual, including Residential Amenity.
- Telecommunication, Television and Aviation.
- Socio-Economic.
- Shadow Flicker.

1.6 For each of these topics, the following is provided:

- **overview of the proposed** approach for the EIA including a summary of the assessment methods to be used.
- outline of the proposed **significance criteria** to be used.
- preliminary identification of **potential environmental effects** arising from construction, operation and decommissioning of the scheme.

2 Purpose of this Scoping Report

- 2.1 In accordance with the EIA Regulations, this report provides information in relation to a formal request to Stafford Borough Council (SBC) for a Scoping Opinion.
- 2.2 The aim of this report is to:
- Outline the location and setting of the proposed development.
 - Describe the proposed scheme.
 - Identify potentially significant environmental effects.
 - Describe the studies that will be undertaken as part of the detailed EIA, and subsequently to be reported in an Environmental Statement (ES).
- 2.3 An outline is also given of the methodology that will be employed to assess the significance of effects and identify appropriate mitigation measures for each environmental topic considered.

The Nature and Purpose of EIA

- 2.4 EIA is the process of compiling, evaluating and presenting all significant environmental effects of a proposed development, to assist the determining authority in considering the application. The information compiled during the EIA is presented within an ES. Early detection of potentially adverse environmental effects also leads to the identification and incorporation of appropriate avoidance and/or mitigation measures into the scheme design.
- 2.5 The EIA will be conducted in accordance with current Government regulations, policy and good practice, including:
- *The Town and Country Planning (Environmental Impact Assessment) Regulations 2011.*
 - *Overarching National Policy Statement for Energy (EN-1) (2011).*
 - *National Policy Statement for Renewable Energy Infrastructure (EN-3) (2011).*
 - *National Planning Policy Framework (March 2012).*
 - *Planning Practice Guidance for Renewable and Low-Carbon Energy (2013).*
 - *Circular 02/99 Environmental Impact Assessment (Department of Environment, Transport and the Regions (DETR) (1999).*
 - *Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment (IEMA Guidelines).*
- 2.6 The following sections outline how the EIA process will be undertaken.

Scoping

- 2.7 The IEMA Guidelines describe the process of scoping as identifying the issues to be addressed by an EIA. It is a method of ensuring that an EIA focuses on the important issues and avoids those that are considered to be less significant. Scoping also provides a means to discuss methods of effect assessment and reach agreement on those most appropriate. In accordance with best practice, REG Windpower is submitting this Scoping Report to SBC, alongside a request for a Scoping Opinion, to aid discussions around the coverage of the EIA and the content of the ES.
- 2.8 As set out in Circular 02/99 Environmental Impact Assessment (Department of Environment, Transport and the Regions (DETR) (1999), it is the responsibility of the local authority to consult

the consultation bodies and the developer before adopting its scoping opinion. As outlined in Para. 98 Circular 02/99, the consultation bodies include:

- the bodies who would be statutory consultees under article 10 of the GDPO for any planning application for the proposed development; and (if not already included)
- any principal council for the area in which the land is situated (other than the local planning authority);
- Natural England; and
- the Environment Agency.

Requirements of the Regulations

2.9 The EIA Regulations require that an Environmental Statement should include at least:

- A description of the development comprising information on the site, design and size of the development.
- A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects.
- The data required to identify and assess the main effects which the development is likely to have on the environment.
- An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made, taking into account the environmental effects.
- A non-technical summary of the above information.

2.10 In addition to this core information, and in accordance with Part I of Schedule 4, the following information should be provided where it is reasonably required in light of any scoping opinion:

- Further detail on the development itself, including associated land use requirements during construction and operation, main characteristics of the production processes, and an estimate by type and quantity of the emissions resulting from operation of the development.
- A description of the likely significant effects of the development on the environment, including direct and indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects.
- A description of mitigation measures for any significant adverse effects on the environment.
- An indication of any difficulties encountered by the applicant in compiling the required information.

2.11 The environmental topic areas being covered in the assessment of the project are consistent with recommendations in Part 1 (Section 3) of Schedule 4 of the Regulations listed below (*italics indicate topics listed in the Regulations*):

- Ground Conditions and Hydrology (soil, climatic factors, water).
- Non-Avian Ecology (fauna and flora).
- Avian Ecology (fauna and flora).
- Traffic and Transportation (population, fauna).
- Noise (population, fauna).
- Landscape and Visual, including Residential Visual Amenity (landscape, population).
- Heritage Assets (architectural and archaeological heritage).
- Socio-Economic (population).
- Telecommunication and Television (population).
- Aviation (population).

- Shadow Flicker (population).

2.12 Potential impacts on air quality and soil (as included within Schedule 4 of the Regulations) have been scoped out of the EIA on the grounds that the proposed wind farm is unlikely to result in significant impacts of this nature. Further information is provided in **Chapter 4**.

Baseline Conditions

2.13 The EIA Regulations require that the aspects of the environment, which are likely to be significantly affected by the development, be defined within the ES. To achieve this, it will be necessary for each of the topic areas, to gather information on the environment, as it currently exists, i.e. 'baseline conditions'. This will be undertaken as the first step in the assembly of data for the ES through a combination of consultation with relevant stakeholders, field survey work and desk based research.

Assessment of Effects

2.14 The former Department of Environment Good Practice Guide² sets out the key steps to be followed in the EIA process following the scoping phase:

- Examine the environmental character of the area likely to be affected by the development through baseline studies.
- Identify relevant natural and man-made processes that may already be changing the character of the site.
- Consider the possible interactions between the proposed development and both existing and future site conditions.
- Predict the possible effects, both beneficial and adverse, of the development on the environment.
- Introduce design and operational modifications or other measures to avoid, minimise or mitigate adverse effects.

2.15 To ensure the identification of all the key effects arising from the proposed wind farm, the following key principles will be applied throughout the EIA process.

Interrelationships between Effects

2.16 It is important that the EIA also assesses the key interrelationships between the various topic areas. Environmental topic areas such as ground conditions & hydrology and ecology cannot be considered in isolation since changes affecting one factor will normally have secondary implications for other areas.

Cumulative Effects

2.17 Where appropriate and practical, the EIA will also consider the effect of the development in terms of cumulative effects. Cumulative effects may be defined as '*effects that result from incremental changes caused by other past, present or reasonably foreseeable future actions together with the project.*'³ These may include:

- the combined effect of individual effects from the development (e.g. noise, dust, etc.) on receptors;
- incremental effects caused by separate developments within the area (e.g. other existing or proposed wind farm developments).

2.18 The assessment will consider the cumulative effects of the proposed Knightley Hall Wind Farm in addition to other proposed, consented or operational schemes in the area.

2.19 The scope of potential cumulative effects to be assessed will be agreed through discussions with Stafford Borough Council.

² *Preparation of Environmental Statements for Planning Projects that require Environmental Assessment. A Good Practice Guide.* (Prepared by LUC on behalf of the Department of the Environment and Scottish Office) (1995).

³ *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*, European Commission Directorate General XI (Environment, Nuclear Safety and Civil Protection) (1999).

Significance

- 2.20 The European Commission Guidance on EIA: Scoping (2001)⁴ provides an indicative list of criteria for evaluating potential effects as set out in **Table 2.1**.

Table 2.1: Checklist of criteria for evaluating significance of effects

Criteria for Evaluating Significance of Effects

- Will there be a large change in environmental conditions?
- Will new features be out-of-scale with the existing environment?
- Will the effect be unusual in the area or particularly complex?
- Will the effect extend over a large area?
- Will many people be affected?
- Will many receptors of other types be affected (fauna, flora, businesses)?
- Will valuable or scarce features or resources be affected?
- Is there a risk that environmental standards will be breached?
- Is there a risk that protected sites, areas, and features will be affected?
- Is there a high probability of the effect occurring?
- Will the effect last for a long time?
- Will the effect be permanent or temporary?
- Will the effect be continuous or intermittent?
- Will the effect be frequent or rare?
- Will the effect be irreversible?
- Will it be difficult to avoid, or reduce or repair or compensate for the effect?

- 2.21 The above criteria have been borne in mind during the scoping stage in determining what the potential significant effects of the wind farm proposals might be.

Mitigation

- 2.22 The EIA Regulations require mitigation measures to be included in an ES. These are the measures (in order of priority) that may prevent, reduce and where possible offset any significant adverse effects on the environment. This will be included for each topic area, where appropriate, drawing from guidance and good practice.
- 2.23 In addition, the EIA will also set out details, of any post-consent monitoring proposals. This will include proposals to measure the effectiveness of mitigation measures and to identify any residual effects that may occur during the construction and operational phases of development.

Uncertainty

- 2.24 The EIA process is designed to enable informed decision making based on the best possible information about the environmental implications of a proposed development. However, the EIA Regulations accept that difficulties may be encountered when undertaking an EIA, and where this is the case, states that such gaps should be clearly indicated in the ES.

⁴ *Guidance on EIA: Scoping* (June 2001) European Commission

Responsibilities for the ES

- 2.25 This Scoping Report has been compiled by LUC with inputs from topic specialist sub-consultants, on behalf of REG Windpower. Whilst LUC will have overall responsibility for the ES, sub-consultants will also undertake specialist assessments where necessary:
- SLR (ground conditions & hydrology; traffic and transport).
 - Avian Ecology (avian and non-avian ecology).
 - Hoare Lea Acoustics (noise).
 - Oxford Archaeological Associates (heritage assets).
- 2.26 LUC will produce the introductory chapters, Summary and Conclusions chapter and the chapters on: Planning Policy; Landscape and Visual (including Residential Visual Amenity); Socio-Economic Effects; Telecommunication, Television and Aviation; and Shadow Flicker.

Consultation

- 2.27 Consultation will form an important part of the EIA process and this Scoping Report aims to identify specific groups and organisations that should be consulted. Work on collecting baseline information has begun, and consultation will be undertaken with the following key bodies:
- Stafford Borough Council: planning department, biodiversity officer, landscape officer, conservation officer and environmental health officer.
 - Environment Agency.
 - Natural England.
 - English Heritage.
 - Ofcom.
- 2.28 Further consultation will take place with additional bodies on the advice of those listed above and as the EIA progresses. Specific consultees who will be contacted as part of the EIA are included for each EIA topic in **Chapters 5 to 14**.

3 The Proposed Development

Introduction

- 3.1 This chapter provides a description of the site and the development proposals. It is important to note that this is based on an understanding of the project at the present time. This is likely to be refined throughout the project design and EIA process.

Site Location and Reasons for Site Choice

- 3.2 The wind farm site is to the west of Stafford and to the northwest of Gnosall. This site is currently used for pasture (for beef cattle) and the growing of arable crops and soft fruit. The land surrounding the site is gently rolling, leading to the village of Woodseaves and the B5405 and A519 to the North, and Shelmore Wood and Doley Common to the south. Prospect Hill borders the site to the east rising to a height of 145m. The land to the west slopes down towards the Shropshire Union canal which runs north to south approximately 1.6km from the site, including Norbury Junction and the associated Marina.
- 3.3 The site lies within Gnosall Parish, which borders eight parishes including: Forton, Norbury, High Offley, Eccleshall, Ellenhall, Ranton, Haughton and Church Eaton. The site is accessible onto Gnosall Road which joins the B5405 to the north and is approximately 7km from Junction 14 of the M6. The site is also accessible onto Gnosall Road which joins the A518 to the south.

Site Selection

- 3.4 This site has been chosen for a number of reasons:
- Potentially good wind resource across the site.
 - Capacity available (at this time) within the local grid network to accommodate the additional electricity generated by the proposed development.
 - Good access to the site from the existing road network.
 - The site is outside international and national designations for reasons of landscape and ecology. In addition, there are no designated Scheduled Monuments or Listed Buildings within the site.
 - Site lies close to an area identified in the Staffordshire County-wide Renewable/Low Carbon Energy Study (2010) as having potential for wind energy.

Description of the Wind Farm

- 3.5 The main components of the development are wind turbines, each with an external transformer and crane hardstanding area, access tracks, underground onsite electrical cabling, and a substation. In addition, a temporary construction compound will be required which will contain welfare facilities for the construction workers, parking and a laydown area for turbine components.
- 3.6 The proposal is in the design stage and the turbine layout is likely to evolve during the EIA process. The size, number and layout of the turbines will be optimised to provide the maximum energy capture whilst taking into account a number of factors, including (but not limited to) whilst taking into consideration a number of factors, including (but not limited to) residential amenity (including noise), access, electrical connections, ecological and archaeological considerations, public rights of way, and landscape and visual aspects.

- 3.7 The site boundary is shown on **Figure 1.2**. In summary, the wind farm will comprise the following structures:

Wind Turbines

- 3.8 The turbines currently under consideration for the development area will each have an electrical generation capacity of approximately 1.8 MW. The number and layout of the turbines will evolve during the EIA process as the environmental effects are assessed but it is anticipated that the application will for up to four turbines. The turbines will be sited on concrete foundations, the specification of which will be dependent on-going ground condition investigations. Each turbine will require a transformer, which will be located adjacent to the base of each turbine tower. The height of the turbines will be a maximum of 130m to blade tip.

Access and Onsite Access Tracks

- 3.9 Alternative access routes to the site will be considered as part of the assessment; however it is likely that the most suitable route will from the north via the B5405 and Gnosall Road via the existing site access track (see **Chapter 8**). Onsite tracks will be created, linking the temporary construction compound, substation and each turbine within the site. These tracks will be used during both the construction and operational phases of the development. The layout of the tracks will be dependent on the final turbine layout as informed by the EIA and associated site studies. The onsite tracks will be made of crushed stone with a geotextile separation layer and appropriately designed drainage.

Crane Hardstanding Areas

- 3.10 Crane hardstanding areas will be constructed adjacent to each turbine. The type of construction will be similar to that of the site tracks. These areas will be present for the lifetime of the wind farm, for use during turbine maintenance.

Temporary Construction Compound

- 3.11 It will be necessary to establish a temporary construction compound to house the construction site office, welfare facilities and to store materials. The compound will also provide a laydown area for the turbine components. This area will be fully reinstated at the end of the construction period and is likely to be situated close to the existing farm buildings.

Site Substation

- 3.12 Underground cables will connect the turbines to an onsite substation. To minimise disruption these cables will, where possible, be routed alongside the access tracks. The substation will comprise a single storey building and associated transformers and electrical equipment, as well as a small working area and welfare facilities for operational staff. Further investigation will be undertaken to ascertain the required dimensions of the substation and whether external compounds will be required. The sub-station will be located close to existing farm buildings.

Grid Connection

- 3.13 The onsite substation will be connected to the local electricity distribution network. At this stage this is anticipated to be via underground cabling to High Offley, following the public highway. REG will consult with the Distribution Network Operator (DNO) to determine the most appropriate connection point. The grid connection will be subject to a separate application. However as part of the EIA, a high level assessment will be undertaken of the proposed grid connection route to establish if this is likely to lead to any significant environmental impacts. The findings of this assessment will be reported in the ES.

Construction Period

- 3.14 The construction and commissioning phases of a wind farm of this size will typically take 12 months. This will, however, be dependent on the final turbine layout and the specific ground conditions.

Operational Period

- 3.15 Once constructed, the wind farm will largely be operated remotely. However, it is likely to require regular routine inspection and maintenance visits for the duration of its operational life (25 years).

Decommissioning

- 3.16 The proposal is for a project with a fixed life of 25 years, after which the wind farm will be decommissioned. It is intended that the turbines and associated infrastructure, such as the substation and external transformers will be removed from site. At this stage, it is intended that the access tracks will remain following decommissioning, and the turbine bases and cabling will be removed to a depth of 1m below ground level, with deeper infrastructure remaining in situ.

4 Proposed Structure of the Environmental Statement

The Environmental Statement

- 4.1 The following section sets out the key issues that will be addressed by the Environmental Statement (ES), which will accompany the application for consent. The proposed structure may change as a result of the environmental studies, the Scoping Opinion received from Stafford Borough Council and responses from statutory and non-statutory consultees.
- 4.2 Guidance on the content of the ES is provided within the EIA Regulations. It is proposed that the ES will include information on the following topics:

Introductory ES Sections

- Introduction and Approach to the EIA.
- Scheme Description and Design.
- Site Selection Process.
- Energy Policy Context and Rationale for the Scheme.
- Planning Policy Context.

Topic Specific Sections

- Ground Conditions and Hydrology.
- Avian Ecology.
- Non-Avian Ecology.
- Traffic and Transportation.
- Noise.
- Heritage Assets.
- Landscape and Visual, including Residential Visual Amenity.
- Telecommunication, Television and Aviation.
- Socio-Economic.
- Shadow Flicker.

- 4.3 A description of the proposed scope of the studies is included within **Chapters 5 to 14**.

Topics Scoped Out of the Environmental Statement

Air Quality

- 4.4 As a wind farm, the proposed scheme will not generate any emissions to air during operation. The wind farm will not require significant operational staff and therefore traffic movements will also be negligible. For these reasons, no significant operational air quality impacts are predicted to occur, and therefore an assessment of potential operational impacts on air quality is not deemed necessary.
- 4.5 There are no Air Quality Management Areas (AQMAS) designated by Stafford Borough Council. Given the relatively limited amount of traffic that will be generated during construction and that

any traffic will be phased over a one year construction period, significant impacts on air quality are not anticipated and have therefore been scoped out of the EIA assessment.

Soil and Land Use

- 4.6 The proposed wind farm is located on agricultural land, currently used for arable and cattle farming and fruit growing. Although there will be land take associated with the scheme, it will be minimised where possible through the design process, ensuring that the fields remain in productive use. The predominant land use will remain as at present, therefore significant impacts on land use are unlikely to occur and have therefore been scoped out of the EIA.
- 4.7 Soil removal and storage will be required during construction of the wind farm, which will be undertaken in accordance with best practice soil handling techniques as set out in the Defra publication: Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009). Excavated soil will be stored onsite and reused progressively during construction. Through strictly adhering to the Code of Practice, significant impacts on soil are considered unlikely. As such, soil has been scoped out of the EIA.
- 4.8 In addition, before any construction work takes place, REG Windpower will submit a Construction Method Statement (CMS) to Stafford Borough Council. The CMS will set out a framework for managing the environmental impacts of constructing the scheme, including a summary of construction activities and details of how environmental impacts will be minimised. The CMS will include measures to manage potential impacts on air quality, soil and dust during the construction phase of the scheme (when impacts are most likely to occur).

Supporting Documents

- 4.9 In addition to the ES, it is proposed that the following documents will be prepared in support of the application:
- **Non-Technical Summary:** This will be a standalone document, which will include relevant information and plans providing a comprehensive summary of the ES written in non-technical language.
 - **Planning Statement:** This statement will consider the appropriateness of the proposal in relation to planning policy and other material considerations.
 - **Design and Access Statement:** This document will detail the evolution of the design of the scheme.
 - **Statement of Community Involvement:** This will set out the consultation carried out with local residents and the wider public and the comments received. This document will be prepared by Your Shout.

Content of Introductory ES Sections

- 4.10 The following section provides a summary of the proposed content of the introductory chapters of the ES.

Introduction

- 4.1 The first section of the ES will provide a brief introduction to the project and the legislative requirements for an EIA, together with an outline of the structure of the ES and an introduction to the developer.

Approach to the EIA

- 4.2 The EIA process will be described in relation to the requirements of the EIA Regulations, including the key steps in the process of environmental assessment, and the consultation undertaken. The process of scoping will be documented, together with a summary of scoping responses received.

Energy Policy Context, Rationale for the Scheme and Site Selection Process

- 4.1 The ES will set out the national and local energy policy context, along with the rationale for the scheme in terms of its contribution towards reducing greenhouse gases. This will lead on to a description of the site selection process undertaken by REG Windpower.

Scheme Description and Design

- 4.1 This section of the ES will provide a detailed description of the proposed development, through the construction, operation and decommissioning phases of the development, and include information on the evolution of the wind farm design.

Planning Policy Context

- 4.2 This section of the ES will set out the national and local planning policy context. The ES will not assess how the scheme complies with these policies as that will be covered by a Planning Statement to be submitted as part of the planning application alongside the ES.

National Planning Policy

- 4.3 National planning policy comprises of the National Planning Policy Framework (NPPF) adopted in March 2012. The NPPF sets out the Government's approach to planning policy for England. At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen key to decision-taking, and also that development should be planned for positively and be approved without delay where it accords with the development plan. The NPPF is a material consideration in planning decisions and will therefore be considered in relation to the proposed wind farm.

- 4.4 The NPPF highlights the responsibility of all communities to contribute to energy generation from renewable and low carbon sources, recognising the role of local planning authorities in achieving this through:

- having a positive strategy to promote energy from renewable and low carbon sources;
- designing policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily;
- consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources.

- 4.5 The accompanying Planning Practice Guidance for Renewable and Low Carbon Energy published in July 2013 will also be considered. This guidance provides advice on the planning issues associated with the development of renewable energy. These range from how local planning authorities can develop a positive strategy to promote the delivery of renewable and low carbon energy, to a description of the planning considerations that relate to specific renewable energy technologies, including onshore wind. The guidance can be a material consideration in planning decisions and should generally be followed unless there are clear reasons not to.

- 4.6 The Overarching National Policy Statement (NPS) for Energy (EN-1) and EN-3, the NPS for Renewable Energy Infrastructure, can be material considerations for energy developments that fall under the Town and Country Planning Act 1990 (as amended). These will be considered in relation to the proposed wind farm.

Local Planning Policy

- 4.7 Consideration of local planning policy will include the extant and emerging development plans (and supplementary planning documents) which apply to the site and surrounding area, including:

- Saved policies in the Stafford Borough Local Plan (adopted October 1998).
- Emerging policies within the 'Plan for Stafford Borough' (Core Strategy) (January 2013).
- *The Staffordshire Planning for Landscape Change and Character Assessment* (adopted on 10 May 2001) which is Supplementary Planning Guidance to the now revoked Staffordshire and Stoke-on-Trent Structure Plan.

5 Ground Conditions and Hydrology

Introduction

- 5.1 The following section provides an overview of the approach that will be adopted to assess the potential effect of the proposed Knightley Hall Wind Farm on ground conditions and hydrology. It provides a brief summary of the site setting based on an initial review of published information.
- 5.2 Details on the proposed consultations, assessment and reporting methodologies, significance criteria and potential effects are also provided. The assessment of ground conditions and hydrology will be undertaken by SLR.

Overview of Approach

Study Area

- 5.3 The study area will include the site, and water dependent features and habitats that are in linked with the site, and which are located within 1km of the site boundary.

Baseline Studies

- 5.4 An initial review of the published geological mapping from the British Geological Survey for the area, the Environment Agency website (www.environment-agency.gov.uk) and available OS mapping has been undertaken and is summarised below.

Site Setting

- 5.5 The site lies on elevated ground. There are no 'Main Rivers', 'Ordinary Watercourses', or other significant surface water features on-site or within close proximity to the proposed site boundary. The nearest significant surface water feature is the Doley Brook (designated Main River), which flows in a south-easterly direction approximately 500-600m south of the site. An Ordinary Watercourse known as Wood Brook is located approximately 500m to the west/south-west of the site.
- 5.6 British Geological Survey (BGS)⁵ mapping shows that the site is located on superficial deposits of Till which is underlain by bedrock of Wildmoor Sandstone. The Till deposits at the site are classified as unproductive strata, and are described by the Environment Agency as: "*drift deposits with low permeability that have negligible significance for water supply or river base flow*".
- 5.7 The sandstone is classified by the Environment Agency⁶ as a Principle Aquifer, described as "layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifers".
- 5.8 There are limited dwellings in the vicinity of the proposed site and therefore it is considered that the risk to private water supplies is likely to be low. The site lies within the Outer Zone (Zone 2) of a Groundwater Source Protection Zone associated with a water abstraction located immediately on the eastern site boundary.
- 5.9 Flood maps published by the Environment Agency, illustrate that the site lies entirely within 'low probability of occurrence' Flood Zone 1 (which represents an annual probability of less than 0.1% of a flood occurring in any one year).

⁵ BGS Geology of Britain Viewer (Accessed on 02/05/13) <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>.

⁶ Environment Agency Website (Accessed on 02/05/2013) <http://www.environment-agency.gov.uk/homeandleisure/117020.aspx>

Environmentally Sensitive Features

- 5.10 Groundwater within the sandstone beneath the site is considered to be sensitive to pollution and potential effects that could alter groundwater flow paths.
- 5.11 Although there are no surface water features on the site, the Doley Brook (500-600m to the south of the site) and its tributaries are considered to be environmentally sensitive features.

Consultation

- 5.12 It is proposed that the following stakeholders will be consulted in relation to the scope of potential effects, the assessment methodology and relevant information sources:
- Stafford Borough Council (for details of private water supplies and flooding).
 - The Environment Agency (for details of water use, quality and flooding).
 - Natural England (for details of nearby water dependent designated sites).
 - Severn Trent Water (for details of water mains and sewers).

Method of Assessment and Significance Criteria

- 5.13 The potential effects on ground conditions, hydrogeology and hydrology will be assessed by completing an initial desk study followed by a detailed assessment of effects, the processes of which are detailed below.

Desk and Field Studies

- 5.14 An initial desk study will be undertaken to determine and confirm the baseline characteristics by reviewing available information within the public domain relating to soils, geology, hydrology, and hydrogeology such as groundwater resources, licensed and unlicensed groundwater and surface water abstractions, public and private water supplies, surface water flows, flooding, rainfall data, water quality and soil data. This will include further review of published geological maps, OS maps, aerial photographs and site specific data such as site investigation data, geological and hydrogeological reports.
- 5.15 The desk study will identify sensitive features which may potentially be affected by the development and will confirm the geological, hydrogeological and hydrological environment.
- 5.16 The desk study will be followed by a detailed site survey which will:
- verify the information collected during the desk study; and
 - allow appreciation of the site, including watercourses, ground conditions, etc., and to assess the relative location of all the components of the proposed development to water features and any sensitive geological, hydrogeological and hydrological features identified as part of the desk study.
- 5.17 Once the desk study is completed and sensitive geological, hydrogeological and hydrological features have been identified, an assessment of effects will be undertaken to assess the potential impacts on the groundwater and surface water regimes as a result of the construction, operation and restoration/decommissioning of the proposed wind turbines.
- 5.18 Given the site's setting, it is considered at this stage that there are only likely to be limited potential effects on the hydrological and hydrogeological environment, and no potential effects on the geological environment. It should also be noted the potential sensitive features will be confirmed after completion of the desk study and at this stage are not necessarily inclusive.

Assessment of Significance

- 5.19 A qualitative risk assessment methodology will be used to assess the magnitude of the potential effects. Two factors will be considered using this approach: the sensitivity of the receiving environment and the potential magnitude, should that potential impact occur.
- 5.20 This approach provides a mechanism for identifying the areas where mitigation measures are required, and for identifying mitigation measures appropriate to the risk presented by the

scheme. This approach also allows effort to be focused on reducing risk where the greatest benefit may result.

- 5.21 Criteria for determining the significance of effects are provided in **Table 5.1**, **Table 5.2** and **Table 5.3**, below. Effects of 'major' and 'moderate' significance are considered to be 'significant' in terms of the EIA Regulations.
- 5.22 The sensitivity of the receiving environment (i.e. the baseline quality of the receiving environment as well as its ability to absorb the impact without perceptible change) is defined in **Table 5.1**.

Table 5.1: Sensitivity Criteria for Receptors

Sensitivity	Definition
Very High	<ul style="list-style-type: none"> International importance. Receptor with a high quality and rarity, regional or national scale and limited potential for substitution / replacement.
High	<ul style="list-style-type: none"> National importance. Receptor with a high quality, local scale and limited potential for substitution / replacement; or Receptor with a medium quality and rarity, regional or national scale and limited potential for substitution / replacement.
Medium	<ul style="list-style-type: none"> Regional importance. Receptor with a medium quality and rarity, local scale and limited potential for substitution / replacement; or Receptor with a low quality and rarity, regional or national scale and limited potential for substitution / replacement.
Low	<ul style="list-style-type: none"> Local importance. Receptor with a low quality and rarity, local scale. Environmental equilibrium is stable and is resilient to changes that are greater than natural fluctuations, without detriment to its present character.

- 5.23 The criteria that would be used to assess the magnitude of the effects are defined in **Table 5.2**.

Table 5.2: 'Magnitude of Effect' Criteria and Definitions

Magnitude	Criteria	Definition
Major	Results in loss of attribute.	Fundamental (long term or permanent) changes to geology, hydrology, hydrogeology and water quality, such as: <ul style="list-style-type: none"> Permanent degradation and total loss of soil habitats. Loss of important geological structure/features. Wholesale changes to watercourse channel, route, hydrology or hydrodynamics. Changes to site resulting in an increase in runoff with flood potential and also significant changes to erosion and sedimentation patterns. Major changes to the water chemistry or hydro-ecology.
Moderate	Results in effect on integrity of attribute or loss of part of attribute.	Material but non-fundamental and short to medium term changes to geology, hydrology, hydrogeology and water quality, such as: <ul style="list-style-type: none"> Loss of extensive areas of soil, damage to important geological structures/features. Some fundamental changes to watercourses, hydrology or hydrodynamics. Changes to site resulting in an increase in runoff within system capacity. Moderate changes to erosion and sedimentation patterns. Moderate changes to the water chemistry of surface runoff and groundwater.
Minor	Results in minor effect on attribute.	Detectable but non-material and transitory changes to geology, hydrology, hydrogeology and water quality, such as:

Magnitude	Criteria	Definition
		<ul style="list-style-type: none"> Minor or slight changes to the watercourse, hydrology or hydrodynamics. Changes to site resulting in slight increase in runoff well within the drainage system capacity. Minor changes to erosion and sedimentation patterns. Minor changes to the water chemistry.
Negligible	Results in an effect on attribute but of insufficient magnitude to affect the use/integrity.	No perceptible changes to geology, hydrology, hydrogeology and water quality, such as: <ul style="list-style-type: none"> No impact or alteration to existing important geological environs. No alteration or very minor changes with no impact to watercourses, hydrology, hydrodynamics, erosion and sedimentation patterns. No alteration to groundwater recharge or flow mechanisms. No pollution or change in water chemistry to either groundwater or surface water.

5.24 The sensitivity of the receiving environment together with the magnitude of the impact defines the significance of the impact, as identified within **Table 5.3**. Major and moderate impacts are deemed to be significant in accordance with the EIA regulations.

Table 5.3: Significance of Impact

Magnitude	Sensitivity			
	Very High	High	Medium	Low
Major	Major	Major	Moderate	Minor
Moderate	Moderate	Moderate	Moderate	Minor
Minor	Minor	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Potential Effects

5.25 A summary of the potential effects on ground conditions and hydrology resulting from construction, operation and decommissioning of the scheme is provided in **Table 5.4**. These will be considered in detail in the EIA.

Table 5.4: Summary of Potential Ground Conditions and Hydrological Effects

Summary of Potential Ground Conditions and Hydrological Effects
<p>Construction</p> <ul style="list-style-type: none"> Effects on surface water and groundwater quality from pollution from fuel, oil, concrete or other hazardous substances. Discharge of sediment-laden runoff to drainage system and watercourses. Increased flood risk to areas downstream of the site during construction through increased surface run-off.

Summary of Potential Ground Conditions and Hydrological Effects

- Disturbance of any residual ground contamination which might be associated with historic land use.
- Changes in groundwater levels from dewatering excavations.
- Disturbance of watercourse bed and banks from the construction of culverts.
- Potential pollution effects to public and private water supplies.

Operation

- Increased runoff rates and flood risks, resulting from increases in areas of tracks and hardstanding at turbines.
- Changes in natural surface water drainage patterns.
- Changes to groundwater levels and groundwater movement.
- Longer term effects on abstraction for water supplies, particularly any supplies dependent on groundwater.
- Pollution effects on surface water quality from maintenance work.

Decommissioning

- Effects on surface water and groundwater quality from pollution from fuel, oil or other hazardous substances.
- Discharge of sediment-laden runoff to drainage system and watercourses.
- Potential pollution effects to public and private water supplies.

6 Avian Ecology

Introduction

- 6.1 Avian Ecology was commissioned by REG to carry out ornithological (bird) surveys in relation to the Knightley Hall Wind Farm. This section of the Scoping Report details the surveys undertaken at the site and identifies the potential impacts that will be considered within the EIA.
- 6.2 The assessment will take account of the requirements of, and advice given in:
- The Conservation of Habitats and Species Regulations 2010 (as amended).
 - The Wildlife and Countryside Act 1981 (as amended).
 - The Countryside and Rights of Way Act (2000).
 - The Natural Environment and Rural Communities Act (2006).
 - Department of Communities and Local Government (2012) National Planning Policy Framework.
 - DeFRA (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.
 - JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012
 - Stafford Borough Council Biodiversity Strategy 2012-2015.
 - Stafford Borough Local Plan (2011) and Stafford Borough New Local Plan (in preparation) nature conservation policies
 - Natural England (2010) Technical Information Note TIN069 – Assessing the effects of onshore windfarms on birds.
 - Scottish Natural Heritage (2010) – Survey Methods for Assessing the Impacts of Onshore Windfarms on Bird Communities.
 - Scottish Natural Heritage (2013) Recommended bird survey methods to inform impact assessment of onshore wind farms.

Overview of Approach

Baseline Studies

Designated Sites

- 6.3 Three statutory sites of nature conservation interest are present within 5km of the centre of the site. These are Doley Common Site of Special Scientific Interest (SSSI), Loynton Moss SSSI and Aqualate Mere SSSI, National Nature Reserve (NNR) and Ramsar site. Several non-statutory sites are also present within a 2km radius. These are detailed further in **Chapter 7**. Loynton Moss is designated for non-avian interests and is not considered further from an ornithological perspective. Doley Common located just beyond the southern site boundary, is of local importance for breeding and wintering birds. Aqualate Mere, located approximately 3.7km south-west, is designated for the nationally important numbers of breeding herons *Ardea cinerea* and passage shoveler *Anas clypeata* that it supports. It is also regionally significant for breeding waders. Beyond 5km, Doxey and Tillington Marshes SSSI located 7.8km east, provides habitat for breeding and wintering birds. Cop Mere located 6.7km north is also of interest for its breeding birds.

- 6.4 There are no internationally designated Special Protection Areas (SPAs) with ornithological interest located within 20km of the proposed Knightley Hall Wind Farm.

Bird surveys

- 6.5 The ornithological survey area for the 2011 breeding bird surveys and 2012-2013 winter walkover surveys covered all land within the site boundary. The study area for the 2011 breeding season Vantage Point (VP) surveys utilised a single VP and covered land within a 180 degree viewshed and up to 1.5km from the VP, designed to cover all turbines and potential rotor swept areas as proposed at the time of survey. Scottish Natural Heritage guidance (2010)⁷ and subsequent updated guidance in 2013⁸ allows for a 2km maximum viewed area from VPs, whilst Natural England guidance TIN069 (2010)⁹ recommends that the survey area for a VP does not extend beyond 1km; however this guidance also acknowledges that exceptions can be made where larger and more easily detectable species are selected as the target species, as is the case here.
- 6.6 To undertake the necessary evaluations, site-specific bird studies and surveys began in spring 2011. These surveys are required to provide the necessary data to allow detailed judgments on the potential effects of the Knightley Hall Wind Farm on birds of high nature conservation importance, and on nearby protected nature conservation sites of ornithological importance. The programme of surveys undertaken follows current Natural England (NE TIN069, 2010) and SNH (2010 and 2013) guidance on survey methods.

Breeding Bird Surveys

- 6.7 Breeding bird surveys based on a modified version of the Common Birds Census method were undertaken at the site between April and June 2011 (involving monthly visits). The breeding bird assemblage was found to be typical of lowland agricultural sites in Central England. A number of Birds of Conservation Concern (BoCC), including skylark *Alauda arvensis*, song thrush *Turdus philomelos*, yellowhammer *Emberiza citrinella* and cuckoo *Cuculus canorus* were recorded on site, with the majority of other species recorded consisting of common passerines.
- 6.8 Breeding season VP surveys (following current Natural England (NE) guidance) were undertaken between March and July 2011, utilising a single VP. Very low levels of flight activity were recorded over the site for most species during the breeding season. Occasional flights of grey heron *Ardea cinerea* and peregrine *Falco peregrinus* (species regarded as vulnerable to wind turbine developments (NE guidance TIN069)) were observed.

Winter Walkover Bird Surveys

- 6.9 A programme of winter walkover bird surveys was undertaken between October 2012 and March 2013.
- 6.10 Recorded species are generally considered to be typical of lowland sites within central England. Notable species have included golden plover *Pluvialis apricaria* and teal *Anas crecca*. These species were present only on an occasional basis and activity levels of target species were considered to be low in general.

Consultation

- 6.11 Consultation will be undertaken with Stafford Borough Council, Natural England and the Royal Society for the Protection of Birds (RSPB). Staffordshire Ecological Record (SER) has been contacted for records of protected and notable bird species and Natural England was consulted in 2011 with regard to a potential wind farm development in this area. Natural England's comments in relation to ornithology at the time, related to the presence of designated sites of ornithological interest and potential for movements of such species between these sites, across the proposed development area. These comments were taken on board in the design of the ornithological survey programme.

⁷ Scottish Natural Heritage (2010) *Survey Methods for Assessing the Impacts of Onshore Windfarms on Bird Communities*. SNH, Edinburgh.

⁸ Scottish Natural Heritage (2013) *Recommended bird survey methods to inform impact assessment of onshore wind farms*. SNH Edinburgh.

⁹ Natural England (2010) *Technical Information Note 069, Assessing the Effects of Onshore Wind Farms on Birds*. Natural England, Peterborough.

Assessment of Significance

- 6.12 In assessing the effects of any development on ornithology it is necessary to define the species that need to be considered in the EIA. It is impractical and inappropriate for an ornithological assessment to consider every individual bird species that may potentially be affected. The assessment will therefore focus on 'valued ecological receptors', i.e. species that are valued in some way (e.g. species of conservation concern or large aggregations of commoner species, or species which have economic value) and which are the most vulnerable in relation to the development.
- 6.13 The assessment of potential effects to ornithological receptors and the significance of these effects will follow the guiding principles provided by the Institute of Ecology and Environmental Management (IEEM) (2006¹⁰). Where possible, the magnitude of change on valued ornithological receptors will be quantified. The significance of effect will be determined by taking into account both the sensitivity of valued ornithological receptors and the anticipated magnitude of change resulting from the development.

Potential Effects

- 6.14 An evaluation of the effects of the proposed Knightley Hall Wind Farm on birds will be undertaken and this will consider:
- direct and indirect habitat loss (due to land take and disturbance/displacement respectively) during the construction, operation and decommissioning stages; and,
 - the potential effects on bird populations through collisions with rotating turbine blades (i.e. fatality or injury of birds). Where appropriate, collision rates will be predicted through theoretical collision risk modelling.
- 6.15 Where necessary, potential measures to minimise any identified adverse effects on bird species, such as scheme design, a review of construction timing and species targeted land management and support of existing conservation programmes will be considered.
- 6.16 The assessment will include a full evaluation of the nature conservation importance of the site's bird populations and identification of any particularly sensitive areas (to feed into the scheme design process).
- 6.17 Where appropriate, collision risk will be estimated for bird species of conservation importance regularly over-flying the site (based on the results of the VP surveys). This will be calculated using a standard modelling process (Band *et al.* 2007¹¹). Possible disturbance effects will also be assessed by determining the bird populations of importance within the turbine area and its surrounds and by reference to the current literature on bird-wind farm interactions.
- 6.18 An assessment of potential cumulative ornithological effects that could be generated by the interaction of the proposed Knightley Hall Wind Farm and other existing, consented and proposed (i.e. a planning application which has been submitted) developments within the relevant zone of influence of the development will also be undertaken.
- 6.19 A summary of the potential effects on avian ecology resulting from construction, operation and decommissioning of the scheme is provided below. These will be considered in the EIA.

¹⁰ Institute of Ecology and Environmental Management (2006) *Guidelines for Ecological Impact Assessment in the United Kingdom*, IEEM, Winchester.

¹¹ Band, W., Madders, M. and Whitfield, D.P. (2007). *Developing field and analytical methods to assess avian collision risk at windfarms*. In De Lucas, M., Janss, G. and Ferrer, M. (eds) 'Birds and Wind Power'. www.quercus.pt

Table 6.1: Summary of Potential Avian Ecology Effects

Summary of Potential Avian Ecology Effects
Construction <ul style="list-style-type: none">• Direct and indirect habitat loss (due to land take and disturbance/displacement respectively).
Operation <ul style="list-style-type: none">• Direct and indirect habitat loss (due to land take and disturbance/displacement respectively).• Potential effects on bird populations through collisions with rotating turbine blades (i.e. fatality or injury of birds).
Decommissioning <ul style="list-style-type: none">• Indirect habitat loss (due to disturbance/displacement).

7 Non-Avian Ecology

Introduction

- 7.1 Avian Ecology was commissioned by REG to carry out ecological surveys in relation to the Knightley Hall Wind Farm. This report details the survey effort undertaken at this site and identifies the ecological receptors that will be considered within the EIA assessment.
- 7.2 The assessment will take account of the requirements of, and advice given in:
- The Conservation of Habitats and Species Regulations 2010 (as amended).
 - Wildlife and Countryside Act 1981 (as amended).
 - The Countryside and Rights of Way Act (2000).
 - The Natural Environment and Rural Communities Act (2006).
 - The Protection of Badgers Act (1992).
 - Department of Communities and Local Government (2012) National Planning Policy Framework.
 - DeFRA (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.
 - JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012
 - Stafford Borough Local Plan (2011) and Stafford Borough New Local Plan (in preparation) nature conservation policies.
 - Stafford Borough Council Biodiversity Strategy 2012-2015.
 - Natural England (2009 updated 2012). Technical Information Note TIN051: Bats and onshore wind turbines Interim Guidance, second edition. Natural England.
 - Bat Conservation Trust (2011). Surveys for onshore windfarms. Bat Conservation Trust London (superseded by Hundt L 2012).
 - Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.
 - English Nature (2001) Great crested newt mitigation guidelines.

Overview of Approach

Study Area

- 7.3 An Extended Phase 1 Habitat Survey has been undertaken and the study area comprised all land within the site boundary and immediately adjacent habitats where these could be viewed from within the boundary or public access areas. The Phase 1 survey was extended to search for evidence of protected or notable species. Bat surveys have also been undertaken and covered all land within a minimum 150m radius of the turbines proposed, where this fell within the site boundary. Areas outside of this were inspected via public rights of way or using binoculars.

Baseline Studies

Designated Sites

- 7.4 Good ecological practice includes the identification of any statutory and non-statutory designated sites of nature conservation interest within a minimum of 2km of the boundaries of a development site; although this may be extended if effects could potentially occur over a wider area.

- 7.5 It has been determined, from Multi-Agency Geographic Information for the Countryside (www.magic.gov.uk) and data searches from Staffordshire Ecological Record (SER), that three Sites of Special Scientific Interest (SSSIs) lie within 5km of the site. These are Doley Common Site of Special Scientific Interest (SSSI), Loynton Moss SSSI and Aqualate Mere SSSI, National Nature Reserve (NNR) and Ramsar site. Doley Common, located just south of the site boundary is designated for its nationally rare and threatened acidic marshy grassland community which is extremely scarce in Staffordshire. Loynton Moss (2.7km east) supports a number of nationally rare wetland habitats as well as a rich fauna. Aqualate Mere (3.7km south-west) is a diverse site supporting features of both botanical and faunal interest, including an outstanding assemblage of invertebrates. With regard to potential for effects on the non-avian features of these sites, it is considered that only Doley Common is located in close enough proximity to the development site to potentially experience adverse effects. Therefore it is proposed that only Doley Common will require further consideration within an ES in relation to non-avian interests.
- 7.6 With regard to non-statutory designated sites, there is a high density within this area of Staffordshire and there is one such site within the site boundary. This is Wood Brook Bank Site of Biological Interest (SBI). The site is also designated as ancient woodland. A further area of ancient woodland known as Nut Wood, is located to the eastern land ownership boundary. These sites are not considered likely to be directly affected by the proposed development based on the current turbine layout and are not currently proposed for inclusion in the assessment.

Habitat Surveys

- 7.7 An extended Phase 1 Habitat Survey was undertaken in April 2011 and updated in 2013. It is proposed that this will be reviewed and updated via a walkover survey, prior to the submission of a formal planning application. The results of this survey are summarised below.
- 7.8 The majority of the Extended Phase 1 Habitat Survey study area comprised improved or poor semi-improved grassland and arable land. These habitats are considered to be of low ecological value. These areas were interspersed with hedgerows and tracts of plantation and semi-natural woodland. Mature trees were scattered across the west, south and centre of the survey area. The semi-natural woodland, parkland trees and hedgerows are considered to be of moderate ecological interest. Freshwater features within the site boundary consisted of ponds, small streams and wet ditches. These habitats are typical of those in the wider area, which is characterised by agricultural land, scattered woodland and small settlements.

Protected Species

- 7.9 The following surveys have been undertaken by Avian ecology on behalf of REG Windpower Ltd:
- a protected species walkover was undertaken in 2011 in combination with the phase 1 habitat survey and this has been updated in 2013. It is proposed that this will be reviewed and updated prior to the submission of a formal planning application.
 - Bat surveys were undertaken which assessed the potential for the site to support bats and bat roosts. Manual bat activity surveys (bat transects), automated bat activity surveys and a bat feature inspection survey were undertaken between April and September 2011. Survey effort was based on the relevant guidance at the time of survey (Natural England (NE) guidance TIN051 (2009) and the Bat Conservation Trust (BCT) guidance (2007 and 2011)). Automated survey effort comprised 2 consecutive nights' survey during April, and 5 consecutive nights on an approximately monthly basis from May to September. The number of nights increased based on the publication of draft BCT guidance in early 2011. All surveys were conducted throughout the key bat activity period. These bat surveys have been updated in 2013 based on seasonal survey effort in line with current guidance (Hundt L, 2012) and this data will feed into the assessment. A further assessment of bat roost potential has also been undertaken in relation to trees up to 250m from proposed turbine locations.
 - Great crested newt surveys were conducted during spring and summer 2011, on all suitable waterbodies (3 ponds) within the site boundary, following the methods detailed in English Nature (2001) guidance.

- Surveys for reptiles were not considered necessary at this site due to the absence of suitable habitat on site. No other surveys were considered necessary, based on desk study information and predicted effects.

7.10 The results of the surveys are summarised as follows:

- The streams and ditches were considered to offer poor quality habitat for otter and water vole during walkover surveys conducted as part of the phase 1 habitat survey. Evidence of badger was observed on site (details are not provided within this document due to the sensitive nature of the information).
- The site was considered to be of medium quality for bats due to the presence of several woodland tracts, parkland trees and intact hedgerows and ditches providing links between these habitats. A moderate diversity of species was recorded during the surveys, in line with the site's central location within the country, including a number of medium to high risk species at a population level, under TIN051 guidance. Most activity was of low risk pipistrelle species. A number of trees within the site boundary were considered to provide opportunities for roosting bats, particularly the mature parkland trees and semi-natural woodland. An updated assessment of these features in relation to the proposed turbines has been undertaken. No trees with high roost potential are located within 250m of currently proposed turbines.
- Great crested newts were present within 2 of the 3 ponds surveyed, with a medium population identified (maximum count of 13 great crested newts) at one pond and a small population (maximum count of 2 great crested newts) recorded in the other.

Consultation

7.11 Consultation will be undertaken with Stafford Borough Council and Natural England. The Staffordshire Ecological Record (SER) was consulted for records of protected and notable species. Natural England were consulted in 2011 on the basis of a proposed wind farm at Knightley Hall Farm. In relation to non-avian interests they highlighted the need for survey for badgers, bats and great crested newts in relation to the project. They also asked that the following be addressed: direct habitat loss resulting from the scheme; effects on protected or BAP species present in the vicinity; increased bird/bat mortality from collisions and mitigation and enhancement measures. With regard to designated sites, they highlighted Doley Common SSSI as requiring further consideration in relation to potential for adverse effects.

Assessment of Significance

- 7.12 In assessing the effects of any development on ecology it is necessary to define the species that need to be considered in the EIA. It is impractical and inappropriate for an ecological assessment to consider every individual species that may potentially be affected. The assessment will therefore focus on 'valued ecological receptors', i.e. species that are valued in some way (e.g. species of conservation concern or protected by law, or species which have economic value) and which are the most sensitive in relation to the proposed development.
- 7.13 The assessment of potential effects to ecological receptors and the significance of these effects will follow the guiding principles provided by the Institute of Ecology and Environmental Management (IEEM) (2006). Where possible, the magnitude of change on valued ecological receptors will be quantified. The significance of effect will be determined by taking into account both the sensitivity of valued ecological receptors and the anticipated magnitude of change resulting from the development.

Potential Effects

7.14 Potential effects comprise the direct effect of the development on species and habitats and indirect effects (e.g. disturbance, habitat modification). The potential for effects to extend beyond the boundary of the development site will also be considered.

- 7.15 Whilst the development site is dominated by habitat of limited nature conservation value, some areas of moderate value were identified and all habitats regardless of inherent value may be of value to protected and notable species in the maintenance of their populations.
- 7.16 The effects of the proposed Knightley Hall Wind Farm on species classed as valued ecological receptors (anticipated to be bats and great crested newts) will be considered in the assessment. In addition, in respect of other protected species not classed as valued ecological receptors, mitigation measures will be developed as appropriate to ensure legal-compliance.
- 7.17 An assessment of potential cumulative effects that could be generated by the interaction of the proposed Knightley Hall Wind Farm and other existing, consented and proposed (i.e. a planning application which has been submitted) wind farms within a suitable zone of influence of the site will also be undertaken.

Effects to be Scoped In

- 7.18 A detailed evaluation of the effects of the proposed Knightley Hall Wind Farm on nature conservation resources will be undertaken and this will consider:
- Potential for indirect effects on the botanical interest of Doley Common SSSI through pollution and sedimentation.
 - Direct and indirect habitat loss (due to land take, disturbance of land, change of land use during the construction, operation and decommissioning stages).
 - The potential effects on bat populations through collisions with rotating turbine blades and barotraumas (i.e. fatality or injury of bats).
 - Potential effects on great crested newt populations through habitat loss or direct effects (mortality or injury) through construction activities.
- 7.19 Where necessary, potential measures to minimise any identified adverse effects on nature conservation, such as scheme design, a review of construction timing and species targeted land management programmes will be considered.

Effects to be Scoped Out

- 7.20 It is proposed that potential effects on most statutory and non-statutory nature conservation sites are scoped out of the assessment with regard to non-avian interests (with the exception of Doley Common), since effects on these sites are unlikely given their respective distances and the absence of mobile qualifying interest species. Due to the absence of observations of suitable habitat for water vole, otter and reptiles, it is proposed that these species are also scoped out in the early stages of the assessment.

Summary of Potential Non-Avian Ecology Effects

7.21 **Table 7.1** provides a summary of the proposed scope of the ecology assessment.

Table 7.1: Summary of Potential Non-Avian Ecology Effects

Summary of Potential Non-Avian Ecology Effects

Construction

- Statutory designated sites (Doley Common) - potential for indirect effects through run-off/pollution.
- General habitats – potential for temporary and permanent habitat loss, though access track and construction compound creation.
- Bats – potential for disturbance during construction operations.
- Badgers – potential for habitat loss through access track construction
- Great crested newts - habitat loss (small scale, temporary and permanent). Potential mortality or injury through construction activity.

Operation

- Bats – potential for direct effects on bats through collision with turbine blades and barotraumas. On-going disturbance.
- No other operational effects on non-avian ecology receptors anticipated.

Decommissioning

- Effects are considered to be the same as construction phase effects.

8 Traffic and Transportation

Introduction

- 5.1 The following chapter provides an overview of the approach that will be adopted to assess the potential effect of the proposed Knightley Hall Wind Farm on traffic and transportation. Details on the proposed consultations, assessment and reporting methodologies, significance criteria and potential effects are also provided. The assessment will be undertaken by SLR.

Overview of Approach

Study Area

- 8.1 The site will be accessed from Gnosall Road, via an improved access into the Knightley Hall Farm. Consideration will be given to alternative access routes to the site as part of the assessment, however it is likely that the most suitable route will comprise:
- From M6 junction 14;
 - A5013 northwest to Great Bridgeford;
 - B5405 west to Knightley; and
 - Gnosall Road south to the site
- 8.2 An 'Abnormal Load Assessment' will be undertaken over the chosen route, and this will be included as an Appendix to the ES chapter.
- 8.3 Construction phase effects are considered to be minimal beyond the B5405 and therefore the proposed study area for this topic will encompass:
- Gnosall Road and the site access;
 - The B5405 / Gnosall Road junction; and
 - The B5405 between the Gnosall Road Junction and the A5013.

Baseline Studies

- 8.4 A visual inspection of the roads within the study area will be undertaken, to determine their status and condition with a view to considering their suitability for use for construction access to the proposed wind farm.
- 8.5 Background traffic data will be collected in the form of 24 hour automatic traffic counts (ATCs) on Gnosall Road and the B5405 in two locations. A manual turning count (MTC) will also be undertaken over peak hours at the Gnosall Road / B5405 junction.
- 8.6 Road Traffic Accident data will be sourced from County Council for the section of road network from the site access to the A5013 at Great Bridgeford, and a review of the data will be undertaken to establish locations and likely causes of recorded accidents.

Consultation

- 8.7 Discussions will be held with the Highway Authority - Staffordshire County Council, following receipt of the Scoping Opinion. The consultation will include discussions regarding the proposed routes for abnormal loads and any restrictions on the identified route.
- 8.8 Further consultation will be held following the baseline studies in order to discuss the preliminary results of survey work and, specifically, the requirements for accommodation of abnormal loads.

Assessment of Significance

- 8.9 The significance of effects will be determined in accordance with the criteria set down in Guidelines for the Environmental Impact of Road Traffic (Institute of Environmental Assessment (now Institute of Environmental Assessment and Management (IEMA), 1993 - the IEMA Guidelines), and the stated threshold of predicted increases in total and HGV traffic.
- 8.10 The IEMA Guidelines states defined thresholds of traffic increase whereby an environmental impact may occur and further assessment work is required to determine its magnitude. The Guidelines also make a distinction between sensitive areas, where there is a strong presence of sensitive receptors and other factors (e.g. poor accident record) to consider, and non-sensitive areas, with sensitive areas having a 10% threshold (ie 10% increase in traffic) and non-sensitive areas having a 30% threshold (30% increase in traffic). Given the remote nature of the development and the access routes to the site, the study area in the context of the IEMA Guidelines is not considered to be significant and the 30% threshold will be used to determine whether further environmental assessment is required.

Potential Effects

- 8.11 Effects will arise by the introduction of construction phase road trips, which will be quantified as part of the assessment. These will then be measured against baseline traffic flows to determine the level of traffic effect. The level of effect will take account of factors such as highway capacity, driver delay, road safety, pedestrian severance & delay and amenity.

Effects to be Scoped Out

- 8.12 It is proposed to scope out potential operational traffic effects on the basis of the very low levels of traffic movements associated with an operational wind farm of this size (one to two light goods vehicles a week).

Summary of Potential Traffic Effects

- 8.13 **Table 8.1** provides a summary of the proposed scope of the traffic assessment.

Table 8.1: Summary of Potential Traffic Effects

Summary of Potential Traffic Effects
Construction <ul style="list-style-type: none">• Increase in traffic generation and impact on highway capacity.• Effect of driver delay.• Effect on road safety.• Potential pedestrian severance, delay and loss of amenity.
Operation <ul style="list-style-type: none">• Minimal increase in traffic generation for maintenance vehicles.
Decommissioning <ul style="list-style-type: none">• Increase in traffic generation and impact on highway capacity.• Effect of driver delay.• Effect on road safety.• Potential pedestrian severance, delay and loss of amenity.

9 Noise

Introduction

- 9.1 This chapter presents the proposed scope of work associated with the noise effect assessment of the proposed Knightley Hall Wind Farm during construction, operation and decommissioning. The assessment will be undertaken by Hoare Lea Acoustics.

Overview of Approach

Study Area

- 9.2 The site of the proposed Knightley Hall Wind Farm lies to northwest of Gnosall. The closest properties to the site have been identified to the north, west, south and the east of the site.

Baseline Studies

- 9.3 The existing background noise levels will be measured in accordance with the procedure set out in ETSU Report ETSU-R-97 (1996) *'The Assessment and Rating of Noise from Wind Farms'*. Six suitable measurement locations have been identified and background noise monitoring has been undertaken.
- 9.4 Meteorological data will be gathered at a location within the development site boundary for a period concurrent with the noise monitoring. This data will be gathered at suitable height(s) such that standardised 10 m wind data can be calculated from hub height data, in line with the Institute of Acoustics Good Practice Guide (GPG) *'A Good practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise'*
- 9.5 Survey data will be analysed and a trend of the background noise level versus 10m standardised wind speed will be determined and used for the existing baseline and setting of limits in accordance with ETSU-R-97 and the GPG.

Consultation

- 9.6 It is proposed to consult the following stakeholders in relation to the assessment:
- Stafford Borough Council – Environmental Health Officer.

Relevant Standards and Guidance

- 9.7 General guidance and policy concerning noise associated with new developments in England is presented in the following documents:
- National Planning Policy Framework (NPPF).
 - Planning Practice Guidance for Renewable and Low-Carbon Energy (2013).
 - ETSU Report ETSU-R-97 (1996) *'The Assessment and Rating of Noise from Wind Farms'*.
 - Institute of Acoustics Good Practice Guide (GPG) *'A Good practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise'*.
- 9.8 Advice about the effect of noise from construction and quarrying activities is included in:
- Noise and Vibration Control on Construction and Open Sites (BS5228:2009).

Assessment of Significance

Construction

- 9.9 BS 5228-1 *Code of practice for noise and vibration control on construction and open sites – Part 1: noise* provides guidance on a range of considerations relating to construction noise including the legislative framework, general control measures, example methods for estimating construction noise levels and example criteria which may be considered when assessing the significance of any effects.
- 9.10 Based on the range of guidance values set out in BS 5228 Annex E, and other reference criteria provided by the World Health Organization (WHO) and National Planning Policy Framework the following significance criteria have been derived for construction noise. The values have been chosen in recognition of the relatively low ambient noise typically observed in rural environments. The presented criteria have been normalised to free-field day-time noise levels occurring over a time period, T, equal to the duration of a working day on-site. BS 5228-1 Annex E provides varied definitions for the range of day-time working hours which can be grouped for equal consideration. The values presented in **Table 9.1** have been chosen to relate to day-time hours from 07:00 to 19:00 on weekdays, and 07:00 to 13:00 on Saturdays.

Table 9.1: Construction Noise Significance Criteria

Construction Noise Significance Criteria	
Major	Construction noise is greater than 72 dB $L_{Aeq,T}$ for any part of the construction works or exceeds 65 dB $L_{Aeq,T}$ for more than 4 weeks in any 12 month period
Moderate	Construction noise is less than or equal to 65 dB $L_{Aeq,T}$ throughout the construction period
Minor	Construction noise is generally less than or equal to 60 dB $L_{Aeq,T}$, with periods of up to 65 dB $L_{Aeq,T}$ lasting not more than 4 weeks in any 12 month period
Negligible	Construction noise is generally less than or equal to 55 dB $L_{Aeq,T}$, with periods of up to 60 dB $L_{Aeq,T}$ lasting not more than 4 weeks in any 12 month period

Operation

- 9.11 The acceptable limits for wind turbine operational noise are clearly defined in the ETSU-R-97 document and these limits should not be breached. Consequently, the test applied to operational noise is whether or not the calculated wind farm noise immission levels at nearby noise sensitive properties lie below the noise limits derived in accordance with ETSU-R-97. Depending on the levels of background noise the satisfaction of the ETSU-R-97 derived limits can lead to a situation whereby, at some locations under some wind conditions and for a certain proportion of the time, the wind farm noise may be audible. However, if noise levels at the properties in the vicinity of the wind farm are still within levels considered acceptable under the ETSU-R-97 assessment method, the level of noise from the wind farm will be considered not significant in EIA terms.

Potential Effects

- 9.12 A summary of the potential noise effects on nearby residents resulting from construction, operation and decommissioning of the scheme is provided below. These will be considered in the EIA.

Table 9.2: Summary of Potential Noise Effects

Summary of Potential Noise Effects
Construction <ul style="list-style-type: none">• Noise effects from the construction of a new access track, turbine foundations, site compound and associated onsite and offsite traffic movements.• Noise effects of works directly associated with turbine erection.
Operation <ul style="list-style-type: none">• Effect from aerodynamic noise (from the movement of the blades through the air).• Effect from mechanical noise sources (from machinery housed within the turbine nacelle).
Decommissioning <ul style="list-style-type: none">• The decommissioning phase will use similar plant and activities to that of the construction phase to a lesser extent.

Effects to be Scoped Out

- 9.13 On the basis of the work undertaken to date, the professional judgement of the assessment team and experience from other similar projects, it is concluded that the following effects can be scoped out:
- Effects associated with vibration.
 - Cumulative construction noise.

10 Heritage Assets

Introduction

- 10.1 The following chapter provides an overview of the approach that will be used to assess the potential effect of the proposed Knightley Hall Wind Farm on heritage assets. The assessment will be undertaken by Oxford Archaeological Associates Limited.

Overview of Approach

Study Area

- 10.2 In the first instance, a study area within a 5km radius of National Grid Reference SJ 807 227 ('centroid' - the geographical centre of the proposed development) will be used. Many (although not necessarily all) of the features within this area will be included within the assessment, whilst care will be taken to identify the possible few assets at greater distance that should also be included.
- 10.3 The distribution of assets currently recorded in the standard historic environment records for the vicinity is show in **Figure 10.1**.

Baseline Studies & Methodology

- 10.4 There are no designated cultural heritage assets within the proposed development site.
- 10.5 The numbers of recorded assets in proximity to the proposed development are as follows:

Table 10.1: Heritage Assets in Proximity to the Site

Heritage Assets in Proximity
World Heritage Sites
• Within 5km of the centroid, none.
Scheduled Monuments
• Within 2km of the centroid, 2; within approximately 5km of the centroid, 6 more.
Registered Parks & Gardens
• Within 5km of the centroid, none.
Registered Battlefields
• Within 5km of the centroid, none.
County Historic Environment Record 'archaeological' entries
• Within 1km of the centroid, 6 (2 also counted in Listed Buildings).
Conservation Areas
• Within 2km of the centroid, 2; within 5km of the centroid, 2 more.
Listed Buildings (Grade I)
• Within 2km of the centroid, none; within 5km of the centroid, 3.

Heritage Assets in Proximity

Listed Buildings (Grade II*)

- Within 2km of the centroid, none; within 5km of the centroid, 3.

Listed Buildings (Grade II)

- Within 2km of the centroid, 2; plus 11 associated with the Shropshire Union Canal.

- 10.6 The setting (that is, the surroundings in which a heritage asset is experienced) of all standing heritage assets will be considered within 2km of a proposed turbine location.
- 10.7 The setting of Grade I and Grade II* Listed Buildings and standing Scheduled Monuments will be considered within a radius of 5km of the geographical centre of the proposed development (which is taken as National Grid Reference SJ 807 227). In addition, all Grade II Listed Buildings and Conservation Areas out to a radius of 5km will be considered in the desk based assessment and any assets showing *prima facie* grounds for potential harm (planning-significant negative effect) will be fully assessed (including field assessment). Any exceptionally prominent and sensitive standing assets at even further distances will be identified from the standard historic environment records and included in the assessment as appropriate.
- 10.8 On the subject of setting, in this instance it is considered appropriate to approach the topic of 'context and association' through the assessment of the heritage-significance of the setting of heritage assets.
- 10.9 In compliance with the definition of 'setting' in the National Planning Policy Framework (NPPF) and relevant case law, fully buried archaeological sites will not be included (except in as much as they may provide contextual/associative background relating to other assets) in the setting analysis. **Appendix 1** provides a review of the cultural heritage policy background.
- 10.10 All reasonable efforts will be made to gain access to private land containing heritage-significant designed elements of the setting of important assets potentially affected by the proposed development. Otherwise, the setting of assets will be assessed from points of public access (including long-established permissive access, such as within churchyards).
- 10.11 Visualisations to the full cultural heritage technical standards (to include photographic panorama, wireframe and/or 'photowire' combining the two) will be produced for cultural heritage purposes, as necessary. Scottish Natural Heritage (SNH) standard visualisations will appear in the LVIA & CLVIA sections of the ES (**see Chapter 11**) and these may also be cited in relation to the cultural heritage discussion. Additional graphic information (including appropriate photographs) will, as appropriate, be included in the cultural heritage assessment itself, as judged necessary for the purposes of characterisation and demonstration.
- 10.12 There are no existing permitted turbines in sufficient proximity to form part of the baseline for cultural heritage. Other, sufficiently well advanced projects may be identified by curators or other interested parties as being in need of inclusion in the cultural heritage cumulative assessment.
- 10.13 Any Historic Landscape Characterisation data which the Staffordshire HER may contain will be used for the proposed development site, and in an appropriate surrounding area, to place the potential effect of the proposed development in proper context. However, it is noted that the proposal area has no special historic landscape designation or importance.
- 10.14 A fully detailed draft text (containing appropriate aerial photographic analysis and map regression, and the results of an area walkover) concerning potential effects upon the fabric of heritage assets lying within the proposed development site will be made available to Staffordshire County Council Archaeology Section (and to English Heritage, if so requested) for comment ahead of completion of the ES as a whole. The parties may thereafter consider a further special scoping section to cover the need, if any, for an archaeological field evaluation. It is confirmed that physical site conditions (in particular, groundwater, organic survival conditions and palaeoenvironmental potential) relevant to the archaeological interest will be assessed, in appropriate collaboration with the hydrologists to the project.

Consultation

- 10.15 The professional cultural heritage curators requested by the Council will be included in the consultation process. In the first instance, it is envisaged that the Borough Conservation Officer, the County Archaeological Service and English Heritage will be consulted.

Significance Criteria

- 10.16 The approach to be adopted will rely upon the clear description/explanation of the heritage-significance of assets and the nature of any effect (particularly any "harm") likely to be caused by the proposed development. Whilst 'standard descriptor scales' ("magnitude of effect", "importance/sensitivity of asset", etc.) will be defined in the ES, they will only be used to summarise the detailed verbal argument, not as a mechanism of assessment in their own right.
- 10.17 In accordance with the NPPF (March 2012) and the Overarching National Policy Statement for Energy Policy EN-1 (June 2011), and in conformity with existing EIA Regulations & Guidelines and with Planning Practice Guidance for Renewable and Low Carbon Energy (July 2013), the cultural heritage assessment will include a description of the significance (derived from their historic, archaeological, architectural or artistic special interest) of the heritage assets affected and (in as much as is relevant in the present context) the contribution of their setting to that significance. The information that has been considered and the expertise that has been consulted will be stated.
- 10.18 For the avoidance of doubt, it is noted that those aspects of the character and appearance of a Conservation Area which bear upon its historic, archaeological, architectural or artistic special interest will be included in the assessment of its heritage-significance.
- 10.19 The baseline having been established, the manner in, and degree to, which the proposed development may or may not cause actual harm (that is, EIA-significant negative effects) to the fabric and/or setting of the heritage assets affected will be assessed and any opportunities for mitigation, compensation, benefit or enhancement will be identified. Any further relevant matters raised in Local Development Plan policies (in as much as they are current and do not contradict more recent Government policy) will also be addressed. All work will be undertaken in accordance with the relevant standards, guidelines and code of conduct issued by the Institute for Archaeologists. All relevant professional guidelines and practices will inform the assessment, as appropriate, in particular, the wide range of literature issued by English Heritage.
- 10.20 Those aspects of the heritage-significance of assets likely to be affected and the nature and magnitude of the change likely to result from the development will inform the judgements made regarding the EIA-significance of the effect in accordance with the EIA Regulations. This EIA-significance will be expressed in the following terms:

Table 10.2: Criteria for Assessing the Significance of Effects on Heritage Assets

Significance	Criteria
Extreme	These effects represent key factors in the decision-making process. They are generally, but not exclusively associated with sites and features of national importance and resources/features which are unique and which, if lost, cannot be replaced or relocated.
Major	These effects are likely to be important considerations (especially at a regional or district scale) but, if adverse, are potential concerns to the project, depending upon the relative importance attached to the issue during the decision making process.

Significance	Criteria
Moderate	These effects, if adverse, while important at the local scale, are not likely to be key decision making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or a particular resource.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they may be of relevance in the detailed design of the project.
Negligible	Effects which are beneath levels of perception and 'experience', within normal bounds of variation or within the margin of forecasting error.

Adapted from: DCLG June 2006. Environmental Impact Assessment: A guide to good practice and procedures – a consultation paper; box on p.40.

Potential Effects

- 10.21 There are no known archaeological sites likely to be affected by the proposed development groundworks.
- 10.22 There is potential for some indirect effects upon the setting of both standing archaeological features and Listed Buildings in the vicinity, although there does not appear to be a *prima facie* risk of substantial harm.
- 10.23 The following activities associated with the construction of the proposed wind farm could directly affect known or potential archaeological remains:

Table 10.3: Summary of Potential Archaeological (Direct) Effects

Summary of Potential Archaeological (Direct) Effects
<p>Construction</p> <ul style="list-style-type: none"> • Construction of turbine foundations and crane hardstandings; • Construction/benching of access tracks; • Compression/deformation through movement of heavy machinery; • Construction of substation and construction compound; • Excavations for drainage and cable runs; • Any relevant highways works needed along the site access routes.
<p>Operation</p> <ul style="list-style-type: none"> • Effects on buried material due to any continuing modifications in surface and groundwater regimes (see Chapter 5: Ground Conditions and Hydrology).
<p>Decommissioning</p> <ul style="list-style-type: none"> • Any effects which may result in significant changes to ground conditions.

- 10.24 In addition, there is potential for indirect effects upon the setting of relevant cultural heritage assets:

Table 10.4: Summary of Potential Setting (Indirect) Effects

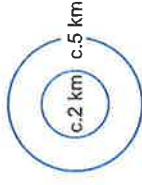
Summary of Potential Setting (Indirect) Effects

Operation

- Effects upon those aspects of the heritage-significance (special interest) of heritage assets contributed by their setting.

Figure 10.1

ES Scoping - Cultural Heritage Assets



Scheduled Monuments

- Scheduled Monument

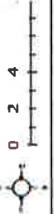
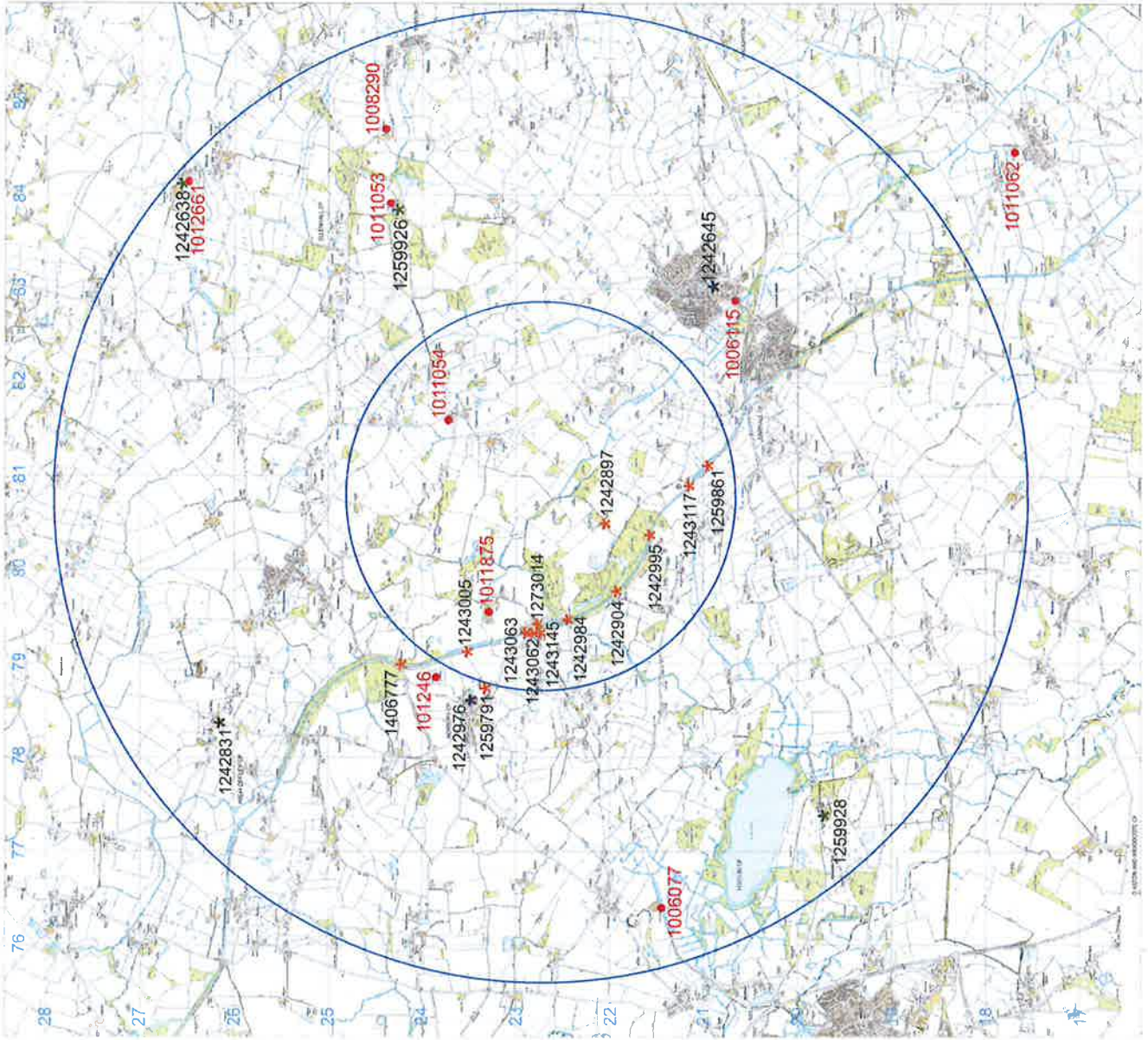
Listed Buildings

- ★ Grade I
- ★ Grade II*
- ★ Grade II

Conservation Areas

within 2km
Norbury Canal Junction
Shropshire Union Canal

within 5km
Gnosall
Forton & Meretown



11 Landscape and Visual

Introduction

- 11.1 The following chapter provides an overview of the approach that will be used to assess the potential landscape and visual effects of the proposed Knightley Hall Wind Farm. The assessment will be undertaken by LUC.

Background

- 11.2 The Knightley Hall site is located on the Staffordshire plain, to the west of Stafford (shown on **Figure 11.1**). The plain forms part of the Shropshire, Cheshire and Staffordshire Plain National Character Area (Countryside Commission and SNH, 2002), as shown on **Figure 11.2**. This is a gently rolling lowland landscape predominantly comprising an agricultural landscape of irregular hedged fields, of ancient hedgerows and hedgerow trees, crossed by networks of winding, sunken lanes. The rolling landform and occasional ridges and hills afford long views across the landscape, although this varies between the well wooded areas and the larger scale, open arable areas.
- 11.3 The local landscape character assessment, Volumes 1-3 of the Planning for Landscape Change: Supplementary Planning Guidance to the Staffordshire and Stoke on Trent Structure Plan 1996 – 2011 Landscape Descriptions Stafford Borough (2000) defines the area within which the site falls as the Ancient Clay Farmlands landscape character type, Estatelands sub-type (shown on **Figure 11.3**). Areas within this type have a strong rural character, with the scale of the landscape varying from medium to large depending on the woodland cover and hedgerow density. Marl pits, meres and mosses are present across this landscape type, and evidence of former heathland present in the hedgerow species and in areas of old common.
- 11.4 The SPD identifies the landscape character unit within which the site is located as being of 'Highest Landscape Sensitivity' (Map 1: Landscape Policy Objectives, page 4, Volume 2) and as well as being "at risk of rapid loss of character and quality" (Map 5: Landscapes at risk of rapid loss of character and quality, page 28, Volume 2).
- 11.5 National and local landscape character types and areas within 10km of the Knightley Hall Wind Farm are shown on **Figures 11.2 and 11.3**.
- 11.6 The site does not lie within any nationally or locally designated landscapes. The nearest designated landscape, the Cannock Chase AONB, lies approximately 15km to the southeast. The Shropshire Hills AONB lies approximately 20km to the southwest. The locations of the designations in relation to the Knightley Hall Wind Farm are shown on **Figure 11.4**.
- 11.7 Within the vicinity of the Knightley Hall site, the area is characterised by dispersed villages and hamlets, including Gnosall, Coton and Cottonwood, Norbury Junction and Woodseaves, with numerous farmsteads and cottages located within 2km. A number of minor roads pass within 1-2km of the site, with busier main roads present in the wider landscape, including the A518, A519 and the A41. In the wider study area larger settlements include Stafford, Newport and Telford, with major road infrastructure present such as the M6 which passes to the west of Stafford.
- 11.8 The Shropshire Union Canal, passes to the west and south of the Knightley Hall Wind Farm, approximately 1.2km from the site. This forms an important linear landscape feature, fringed with broadleaf trees as well as a recreational resource. The Way For the Millennium long distance footpath passes within approximately 2km to the southeast of the site and a number of bridleways and public rights of ways cross the area within 1km.
- 11.9 The Landscape and Visual Impact Assessment (LVIA) will consider the potential effects upon landscape character and views, including visual amenity of residents, as well as cumulative effects.

- 11.10 The assessment will consider effects on the landscape and on visual amenity as a result of construction, operation and decommissioning (direct, indirect, intermittent, continuous, long or short term effects and cumulative effects). It will extend to an assessment of effects both as a consequence of the proposed wind farm as well as all ancillary infrastructure (access track, masts, transformers etc).
- 11.11 The assessment will be carried out in line with relevant legislation and standards, as well as the principles contained within the following documents:
- Landscape Institute and the IEMA (2013) *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition (GLVIA).
 - Landscape Institute (2011) *Photography and Photomontage in Landscape and Visual Impact Assessment*, Advice Note 01/11;
 - Scottish Natural Heritage (SNH) (2012) *Assessing the cumulative impact of onshore wind energy development*;
 - SNH (2009) *Siting and Designing Windfarms in the Landscape*, Version 1;
 - SNH (2006) *Visual Representation of Windfarms, Good Practice Guidance*; and
 - Swanwick, C. and LUC (2002) *Landscape Character Assessment Guidance for England and Scotland*, on behalf of Countryside Agency and SNH.

Overview of Approach

- 11.12 The assessment of landscape and visual effects of the proposed development will comprise the following:
- Establish baseline landscape conditions (with reference to landscape elements, landscape character and the value attached to it);
 - Establish baseline visual conditions (with reference to area from which the development may be visible, the different groups of people who may experience views and the nature of views and visual amenity);
 - Identify and agree representative assessment viewpoints within the zone of theoretical visibility¹² (ZTV) in consultation with Stafford Borough Council and other relevant local authorities;
 - Assess the sensitivity of each receptor (considering susceptibility and value);
 - Assess the magnitude of effect on each (including use of wireframe and photomontage images of the development from various viewpoints);
 - Assess significance of effect on each receptor;
 - Assess potential effects on visual amenity of individual nearby residential properties; and
 - Assess cumulative effects.

Study Area

- 11.13 The study area for both the LVIA and the cumulative LVIA is proposed to be 25km from the outermost turbines of the proposed Knightley Hall Wind Farm, as shown on **Figure 11.1**. This distance is considered to be appropriate to the scale of turbines being considered at this time. This is based on a judgement that no significant impacts on views are likely to be found beyond 20km from any turbine, but a precautionary approach has been taken in identifying a 25km study area. ZTVs will be produced to 25km from the outer turbines, in accordance with published

¹² 'Zone of Theoretical Visibility' (ZTV) is created using specific computer software designed to calculate the theoretical intervisibility between the development and its surroundings. As it uses a 'bare ground' model it is considered to over emphasise the extent of visibility of the proposal and therefore represents a 'maximum potential visibility' scenario, with not trees, vegetation or buildings present in the landscape.

guidance. This will show the potential visibility of the Knightley Hall Wind Farm based on landform and topography.

- 11.14 The study area for the landscape assessment will be focused within 10km of the outermost turbines (see **Figure 11.2 and Figure 11.3**) as beyond this significant effects on landscape character will not occur.
- 11.15 The study area for the visual assessment will be 25km. A draft ZTV has been prepared and is included in **Figures 11.5, and 11.6**. Consideration of visual effect on settlements will be undertaken within 10km as beyond this significant effects on settlements will not occur.
- 11.16 The study area for the assessment of effects on residential visual amenity will extend to 1.5km from the outermost turbines to include those properties where a potential effect on residential visual amenity could materially affect living conditions – this is explained further in the relevant section below.
- 11.17 The study area for the cumulative assessment will extend to 25km to encompass all potential significant cumulative effects that could arise from the interaction between the Knightley Hall Wind Farm and other existing and proposed wind energy developments.

Baseline Studies and Sources of Information

- 11.18 Baseline studies for assessing landscape effects will be carried out in accordance with best practice (as set out in the GLVIA) and will provide an understanding of landscape elements, landscape character (with reference to *Planning for Landscape Change: Supplementary Planning Guidance to the Staffordshire and Stoke on Trent Structure Plan 1996 – 2011 Landscape Descriptions Stafford Borough*) and landscape value (with reference to landscape designations, including national designations such as the Cannock Chase AONB and Shropshire Hills AONB).
- 11.19 Historic landscape elements will be considered in terms of their contribution to landscape character in this chapter. However, effects on the heritage significance of individual designated cultural heritage assets such as Scheduled Monuments, Listed Buildings, Registered Historic Parks and Gardens and Conservation Areas will be considered in the cultural heritage chapter (see Chapter 10). Potential effects on historic landscape character in relation to the site will also be considered within the Cultural Heritage chapter.
- 11.20 The baseline study of views and visual amenity will also be carried out in accordance with best practice and include information on the following, as recommended by the GLVIA¹³:
- 11.21 The type of receptors likely to be affected and the range of activities they are likely to be involved in; and
- 11.22 The location, nature and characteristics of the existing views experienced by these receptors;
 - Elements such as landform, buildings or vegetation which may interrupt, filter or otherwise influence the views.

Zone of Theoretical Visibility

- 11.23 An initial desk-based mapping exercise to establish areas from which the development may potentially be visible has been undertaken with the use of 'Zone of Theoretical Visibility' (ZTV) mapping, using specific computer software designed to calculate the theoretical intervisibility between the development and its surroundings.
- 11.24 Digitally mapped ZTVs are an established tool used for mapping potential visibility of developments such as wind farms across large study areas. The GLVIA highlights the importance of visibility mapping as a part of the baseline study for visual impact assessments, but emphasises the fact that the mapping cannot identify effects in their own right¹⁴.
- 11.25 ReSoft Windfarm and Map Info Vertical Mapper GIS computer software is used to generate the ZTV. These programmes calculate areas from which the turbines are potentially visible. This is performed on a 'bare ground' computer terrain model, which does not take account of potential screening by buildings or vegetation. The model uses a 50m x 50m grid which means that the

¹³ Landscape Institute and the IEMA, *Guidelines for Landscape and Visual Impact Assessment* (2013, 3rd Edition), page 111

¹⁴ *Ibid.*, page 101

computer calculates the number of turbines visible from the centre point of each 50m x 50m square. It should be noted that the programme uses point height data, rather than continuous data, and assumes straight line topography between data points, and is not able therefore to take account of small scale topographic features.

- 11.26 As a 'bare ground' model is used, it is important to note that the extent of visibility of the proposal represents a 'maximum potential visibility' scenario and does not take account of small scale topographic variations, trees, hedgerows, buildings or road and railway cuttings or embankments.

Viewpoint selection

- 11.27 Visual baseline studies will describe existing visual amenity from a selection of viewpoints within the ZTV, as recommended by the GLVIA. These will cover an appropriate range of the types of views and visual receptors within the study area which may be affected by the development, sufficient to capture the likely significant effects anticipated.
- 11.28 The GLVIA does not prescribe the number of viewpoints which should be used in visual assessments, as the appropriate number will depend on the "context, the nature of the proposal and the range of locations and visual receptors". It does however emphasise the need for the selection to be proportional to the scale and nature of the development and include "as wide a range of situations as is reasonable and necessary to cover the likely significant effects"¹⁵.
- 11.29 An initial selection of viewpoints has been made in line with the GLVIA (3rd Edition), informed by a ZTV analysis, 3D computer models of the scheme placed into Google Earth, field work and desk based research on access and recreation across the local area (including footpaths, bridleways and public access land), tourist destinations, popular vantage points and the distribution of settlements. It is our view that these viewpoints are representative of the range of views, viewing experiences and types of viewer likely to be affected by the project. .
- 11.30 The proposed viewpoints are all publicly accessible and include¹⁶:
- **Representative viewpoints** selected to represent of the experience of different types of receptors (where several receptors cannot all be included individually and where the significant effects are unlikely to differ);
 - **Specific viewpoints** selected because they represent views from sensitive receptors (such as from settlements and important recreational areas) and are sometimes promoted viewpoints within the landscape (such as viewpoints identified on OS maps); and
 - **Illustrative viewpoints** chosen specifically to demonstrate a particular impact or specific issue (which could include restricted visibility at certain locations).
- 11.31 Details about the viewpoints, together with a summary of the reasons for their selection are provided in **Table 11.1** and their locations are shown in **Figure 11.5** and **Figure 11.6**.

Table 11.1: Preliminary Viewpoint Selection

LUC working no.	Location	Distance to nearest turbine	Grid Reference	Notes on selection
1	The Hollies Farm, North of The Hollies	0.8km	SJ 81938 22194	Located on a Public Right of Way (PRoW), this viewpoint illustrates close range views from the small cluster of farmsteads and properties at The Hollies to the east of the site. Residential and recreational receptors are represented by this viewpoint.
2	Grange Road, Yeld Bank Farm	0.8km	SJ 81074 23758	Representing close range views from the minor road that passes to the north of the site and from farms and residential properties located along the road.

¹⁵ Ibid., page 117

¹⁶ Ibid., page 109

LUC working no.	Location	Distance to nearest turbine	Grid Reference	Notes on selection
3	Knightly Dale	0.9km	SJ 81520 23633	Representing views from the small cluster of residential properties at Knightly Dale, as well as the local road network to the northeast of the site.
4	Doley Common	1.0km	SJ 81744 21711	Representing close-range views from an area of open access to the south of the Hollies. Recreational receptors are represented.
5	Shelmore Wood	1.0km	SJ 80712 21679	Illustrating close range views from a PRoW to the south of the site close to Norbury Park and Norbury Park Cottages.
6	Norbury Junction Marina	1.0km	SJ 79328 22855	Illustrating views from the tow-path on the northern bank of the Marina. The viewpoint represents views experienced by residential receptors within Norbury and recreational receptors at the Norbury Marina (on the Staffordshire Union Canal).
7	Barn Bridge	1.5km	SJ 80900 21157	Located on a bridge crossing the Staffordshire Union Canal, representing views from the Canal and Towpath (designated as a scheduled monument) and PRoW network to the south.
8	Brookhouse road, Gnosall	1.9km	SJ 82785 21359	Representing views from the western edge of the settlement of Gnosall.
9	Woodseaves	2.3km	SJ 79976 25301	Representing views from the southern edge of the settlement of Woodseaves.
10	B5405, Lawnhead	2.8km	SJ 83175 24726	Representing views from the B5405 to the northeast of the site.
11	David Pit's Covert	3.4km	SJ 97077 19812	Representing views from the southwest of the site, from the A518.
12	Sutton	3.9km	SJ 76555 22134	Representing views from settlements and the A519 on the ridge to the west, where views are available overlooking the plains.
13	Stafford Castle	8.8km	SJ 90130 22259	Illustrating views from a key visitor attraction at the eastern edge of Stafford.
14	Weston Heath	10.5km	SJ 78009 12580	Representative of mid-range views from groups of settlements to the south, including Weston Heath and Blymhill.
15	Lilleshall, monument	10.6km	SJ 72938 15666	Representing views from the southwest, towards the western peripheries of Telford, from the Duke of Sutherland Memorial.
16	Tar Hill	16.0km	SJ 97010 19025	Located within the Cannock Chase AONB , on a hilltop east of Brockton. The viewpoint will illustrate views experienced by recreational receptors within the north-western part of the AONB.
17	The Wrekin Viewpoint	23.2km	SJ 62804 08120	Located close to the summit of the Wrekin, which is identified on OS maps as a specific viewpoint, within the Shropshire Hills AONB . The viewpoint will represent distant, panoramic views over the Staffordshire Plains available from the Wrekin.

11.32 Existing operational wind farms in the vicinity will be considered as part of the baseline.

Visualisations

11.33 Wireframes and photomontages will be used to illustrate changes to views. Photomontages will involve overlaying computer-generated perspectives of the Knightly Hall Wind Farm over the photographs of the existing situation to illustrate how the views will change. Visualisations will be created in accordance with current good practice guidelines contained in Landscape Institute (2011) *Photography and Photomontage in Landscape and Visual Impact Assessment, Advice Note 01/11* and Scottish Natural Heritage (2006) *Visual Representation of Windfarms, Good Practice Guidance*.

Cumulative Landscape and Visual Impacts

Approach

- 11.34 Although both landscape and visual impact assessment and cumulative landscape and visual impact assessment (LVIA and CLVIA respectively) consider effects on landscape and views, there are differences in the baseline against which the assessments are carried out.
- 11.35 For the landscape and visual impact assessment (LVIA), the baseline includes existing wind farm developments which are present in the landscape at the time of undertaking the assessment, which may be either operational or under construction. In the cumulative landscape and visual impact assessment (CLVIA), the baseline is partially speculative and to some extent uncertain.
- 11.36 In accordance with Scottish Natural Heritage's guidance *Assessing the Cumulative Impact of Onshore Wind Energy Developments* (March 2012) and the GLVIA the assessment will consider two cumulative scenarios:
- 1) The addition of the Knightley Hall Wind Farm in the context of operational, under construction and **consented developments** i.e. the most certain scenario; and
 - 2) The addition of the Knightley Hall Wind Farm in the context of operational, under construction, consented developments, and **submitted planning applications/ schemes at appeal** which are currently awaiting determination by the relevant consenting authority i.e. a less certain scenario.
- 11.37 The Scottish Natural Heritage's guidance *Assessing the Cumulative Impact of Onshore Wind Energy Developments* (March 2012) states that "*cumulative landscape effects can impact on either the physical fabric or character of the landscape, or any special values attached to it*" (Para. 48, SNH, 2012).
- 11.38 Three types of cumulative effects on visual amenity will be considered in the assessment: combined, successive and sequential:
- **Combined** effects occur where a static viewer is able to view two or more wind farms from a viewpoint within the viewers' arc of vision (assumed to be about 90 degrees for the purpose of this assessment) at the same time;
 - **Successive effects** occur where a viewer is able to view two or more wind farms from a viewpoint, but needs to turn to see them;
 - **Sequential effects** occur when a viewer is moving through the landscape from one area to another, for instance when a person is travelling along a road or footpath, and is able to see two or more wind farms at the same, or at different times as they pass along the route. Frequent sequential effects occur when a wind farm appears intermittently with short time lapses between points of visibility, depending on the speed and distance. Occasional sequential effects occur where long periods of time lapse between views of the wind farms, due to a lower speed of travel and/or longer distances between the points of visibility.

Key Steps

- 11.39 The key steps in the assessment will be as follows:
- identification of other existing or proposed wind farms within the study area in consultation with the local planning authority;
 - creation of ZTVs for each other existing or proposed wind farms (see method below)
 - combine each ZTV to create a cumulative zone of theoretical visibility (CZTV) for each cumulative scenario;
 - identification of viewpoints (likely to be a subset of the LVIA viewpoints) which will inform the assessment of combined and successive cumulative effects;
 - identification of routes which may be significantly affected by sequential cumulative effects;
 - creation of cumulative wireframes from the cumulative viewpoints; and
 - evaluation of the cumulative effects on the landscape and visual resource for each scenario.

Study Area

- 11.40 A base plan will be produced showing all existing, consented and proposed schemes (for which planning applications have been submitted) within a 35km radius of the Knightley Hall Wind Farm. It is likely that all windfarms and large single turbines will be included, as well as single turbines under 50m to tip height within 5km. The schemes which will be included in the detailed assessment will be agreed with Stafford Borough Council.

Cumulative Zones of Theoretical Visibility (CZTV)

- 11.41 To construct the cumulative zone of theoretical visibility (CZTV), the zones of theoretical visibility (ZTVs) to tip height for each windfarm will be generated to a relevant radius according to their height (as set out in SNH's Visual Representation of Windfarms Table 2). ZTVs will be combined to create the CZTV to show the number of windfarms visible from any point on the map.
- 11.42 The CZTV will be colour coded to distinguish between areas where the Knightley Hall Wind Farm is predicted to be visible (either on its own, or in conjunction with other windfarm schemes), and areas where other windfarms are visible but the Knightley Hall Wind Farm is not.

Assessment

- 11.43 The cumulative landscape and visual assessment will be carried out in accordance with the principles contained in SNH Guidance: Assessing the Cumulative Impact of Onshore Wind Energy Developments (March 2012).
- 11.44 Cumulative visual effects will be assessed through analysis of cumulative ZTVs, views from individual viewpoints (likely to be a subset of the LVIA viewpoints) and sequential views from routes, which will be agreed in consultation with Stafford Borough Council. The magnitude of cumulative change to landscape character is the additional influence the Knightley Hall Wind Farm has on the characteristics and character of the landscape type assuming the other schemes are already present.

Significance Criteria

- 11.45 Significance of landscape and visual effects will be determined through considering the sensitivity of the landscape or visual receptor (in terms of the susceptibility of the receptor to the type of change proposed and the value attached to the receptor) and the nature of the effect expected as a result of the development on each landscape and visual receptor (in terms of its size and scale, geographical extent, duration and reversibility) in accordance with published guidance (Landscape Institute and IEMA, 2013). Professional judgement and experience will be applied on a case by case basis to identify levels of significance for each receptor. Effects will be identified as either significant or not significant in the context of the EIA Regulations.

Nature of Effects: Beneficial/Adverse Effects

- 11.46 Since perception is relevant to landscape, both positive and negative reaction to landscape change may take place. With regard to wind energy development there is a broad spectrum of response from the strongly positive to the strongly negative. However, to cover the 'worst case' situation, potential effects will be assumed to be adverse unless otherwise specifically stated in the text.

Potential Effects

- 11.47 Potential effects will include direct effects of the development on the landscape resources of the site, as well as effects on wider landscape character and views/ visual amenity as experienced by people.
- 11.48 The assessment will evaluate landscape and visual effects arising during the construction, operation and decommissioning of the proposed Knightley Hall Wind Farm, including those resulting from the presence of construction activities on the site, any loss of features within the

site, the operation of wind turbines themselves as well as from associated infrastructure including substation, means of grid connection, ancillary buildings and access tracks.

- 11.49 The landscape and visual impact assessment will examine:
- the potential for effects of the wind farm on the existing character of the site, its landscape features and land cover;
 - theoretical and actual visibility of the wind farm in the wider landscape, that may result in effects on landscape character and effects on views and visual amenity as experienced by people (including local communities of Knightley Dale, The Hollies, Gnosall, Coton, and Norbury; users of local public rights of way, recreational users of the wider landscape and motorists on roads through the study area);
 - the potential for -cumulative effects of the wind farm in combination with other existing and proposed wind farm developments.
- 11.50 The aim will be to minimise potential adverse effects through the design and appearance of the wind farm following key principles set out in *Siting and Designing Windfarms in the Landscape* (SNH, 2009). Opportunities for mitigation may include the design and layout of the wind turbines themselves, ground restoration after construction, as well as restoration of and potential for improvements to landscape features within the immediate surroundings, such as hedgerows, copses and woodland.

Residential Visual Amenity Assessment

Overview of Approach

- 11.51 Residential visual amenity means visual amenity from residential properties including their gardens. Residential visual amenity is one component of residential amenity, which also includes aspects such as the potential effects of traffic and transportation, noise, and shadow flicker. A residential visual amenity assessment can be used to inform judgements relating to the *visual* component of living conditions only. It is important to note that a significant adverse change to an outlook from a property does not in itself result in material harm to living conditions. However, potential effects on living conditions *may* occur as a result of large scale wind farm development. The assessment of whether a change in outlook materially harms residential amenity or living conditions is ultimately a planning judgement.
- 11.52 Residential visual amenity assessment falls outside the 'usual' scope of an LVIA undertaken for an EIA, where the main emphasis is upon the examination of effects on publically available views and there is no published guidance on how effects on residential visual amenity should be assessed, or the criteria that should be applied in considering the extent or significance of any such effects. However, inspectors have established that there may be a point when, by virtue of the proximity, size and scale of a development, a residential property would be rendered so unattractive a place to live that planning permission should be refused. Further background information and a summary of key appeal decisions is included in **Appendix 2** of this report. Through these, and other, appeal decisions Inspectors have developed criteria against which to assess changes to visual amenity at properties and these include:
- **Proximity:** how far the turbines are from the property in question is always a key factor.
 - **Screening:** where turbines are screened by vegetation or other buildings their impact is lessened.
 - **Orientation:** direct views are considered more likely to cause harm than oblique ones (orientation can include the orientation of the windows of the house, the location and orientation of external amenity areas and the orientation of the approach to the house).
 - **Spread of Turbines:** where the turbines occupy a significant proportion of the view, this increases the impact.
- 11.53 These criteria will inform the approach to this assessment.

Study Area

- 11.54 There is currently no published guidance available on the distance from the proposed development that should be adopted for detailed examination of residential views. However, review of appeal decisions indicates that most cases where unacceptable effects on living conditions have been within 1km.
- 11.55 This study will include all of those properties where a potential impact on visual amenity could be so great as to materially affect living conditions. Following initial field work, and taking into account the size and number of turbines and nature of the landscape, we propose to include all properties within, or on the cusp of, 1.5km from any proposed turbine. This is based on a judgement that no impacts on living conditions are likely to be found beyond that distance. Indeed it is unlikely that any impact on living conditions, as opposed to visual amenity, would be found beyond even 1km from any turbine, but a precautionary approach has been taken in identifying a 1.5km study area.

Evaluation of Effects on Residential Visual Amenity

- 11.56 This study will comprise:
- identification of properties/property groups to include in the assessment using OS Mastermap Address Layer 2 data within 1.5km of any turbine;
 - collation of baseline information from maps and aerial photographs;
 - site visits to properties (using publicly accessible locations);
 - assessment of the proposed change to views and judgement on significance.

Baseline: Existing Views/Visual Amenity

- 11.57 For the purposes of the assessment, the visual amenity from a property is defined as the type, nature, extent and quality of views that may normally be experienced from the property and its 'domestic curtilage' (domestic gardens and drives). Views from residential properties are assumed to be of high sensitivity in all cases.

Elements of the development that could have potential impacts on views

- 11.58 Whilst it is generally wind turbines which are most likely to affect views, other components of the wind farm that may also have an impact will also be considered, such as tracks, substation, anemometer masts, site construction compound and vehicles during the construction phase.

Significance criteria

- 11.59 For this study a description of the likely overall nature and extent of the changes to the existing views from a property as a result of the windfarm development, including all ancillary components, will be provided with regard to the following:
- the distance of the property to the wind turbines (and ancillary components);
 - the number, extent and composition of turbines visible (and presence of screening);
 - the position of turbines in views from the property e.g. whether in key views from the property;
 - the proportion of the skyline occupied by the turbines including whether turbines would be visible on more than one side of the property (and whether there are other directions in which to look without turbines);
 - the likely presence of other ancillary elements in the view from the property, for example access tracks or substation.
 - A judgement of the significance of change to visual amenity at each property will be expressed.
- 11.60 A judgement of the significance of change to visual amenity at each property will be expressed as major, moderate, minor or negligible according to the definitions in Table 11.2.

Table 11.2: Residential Visual Amenity Significance Criteria

Significance Criteria	
Major	<p>The property is affected by a substantial change in views in the round, as a result of the combination of the distance to the turbines, the scenic quality of the view, the proportion of the available views affected, the presence of screening and the parts of the property affected.</p> <p>E.g. the development adds a prominent new feature at close proximity in the direct line of key views from the property and/or the development is visible from much of the internal or external areas of the property and/or the turbines take up a large proportion of available views (including perhaps being visible from more than one side of the property).</p>
Moderate	<p>The property is affected by a moderate change in views in the round, as a result of the combination of the distance to the turbines, the scenic quality of the view, the proportion of the available views affected, the presence of screening and the parts of the property affected.</p> <p>E.g. the development adds a new feature that is clearly visible from the property, but is not necessarily in key views; or the development adds a new feature that is a greater distance in key views.</p>
Minor	<p>The property is affected by a slight change in views in the round, as a result of the combination of the distance to the turbines, the scenic quality of the view, the proportion of the available views affected, the presence of screening and the parts of the property affected.</p> <p>E.g. the development may be partially screened; may be oblique in relation to key views from the property and/or at some distance; and/or the development is visible from only a small part of the internal or external areas of the property.</p>
Negligible	<p>The property is affected by a very small (or no) change in views in the round, as a result of the combination of the distance to the turbines, the scenic quality of the view, the proportion of the available views affected, the presence of screening and the parts of the property affected.</p> <p>E.g. the proposed development has a barely perceptible presence in views from the internal or external areas of the property.</p>

- 11.61 Major and moderate effects are significant in EIA terms. The residential visual amenity assessment will be included as an appendix to the LVIA Chapter.
- 11.62 It should be noted that a significant impact does not necessarily mean there will be an unacceptable impact on living conditions. The assessment of impact on living conditions will be made in the Planning Statement.

Consultation

- 11.63 The principles and key issues underlining the potential landscape and visual effects of the scheme will be discussed with Stafford Borough Council. In addition, the planning authorities who lie within the 25km ZTV (including Telford and Wrekin Council, Staffordshire County Council and Shropshire Council) and the Cannock Chase AONB will also be consulted.

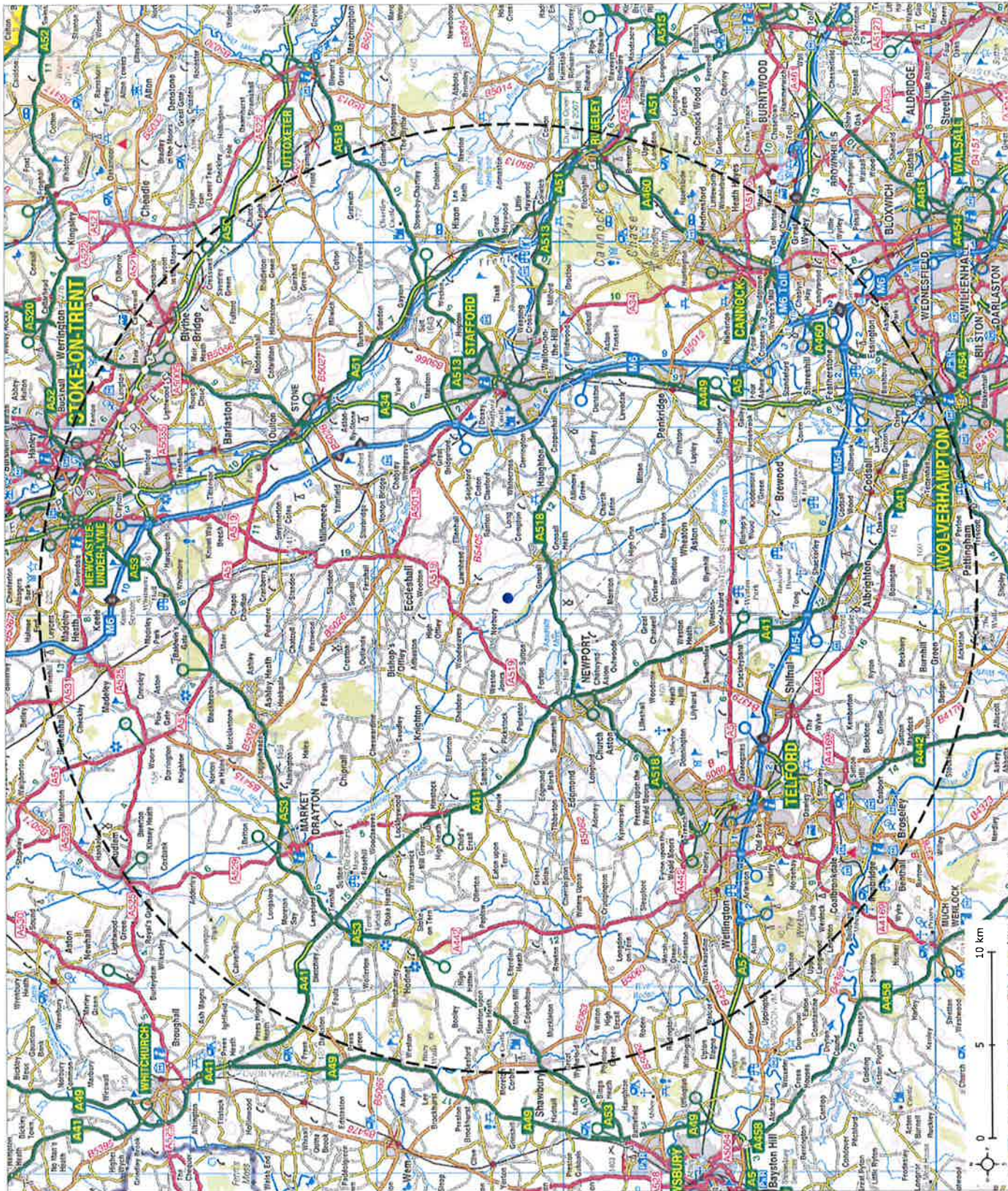
**Knightley Hall
Wind Farm EIA**

Figure 11.1

LVZA Study Area

- Site Location
- 25km radius

Map Scale @ A3:1:200,000



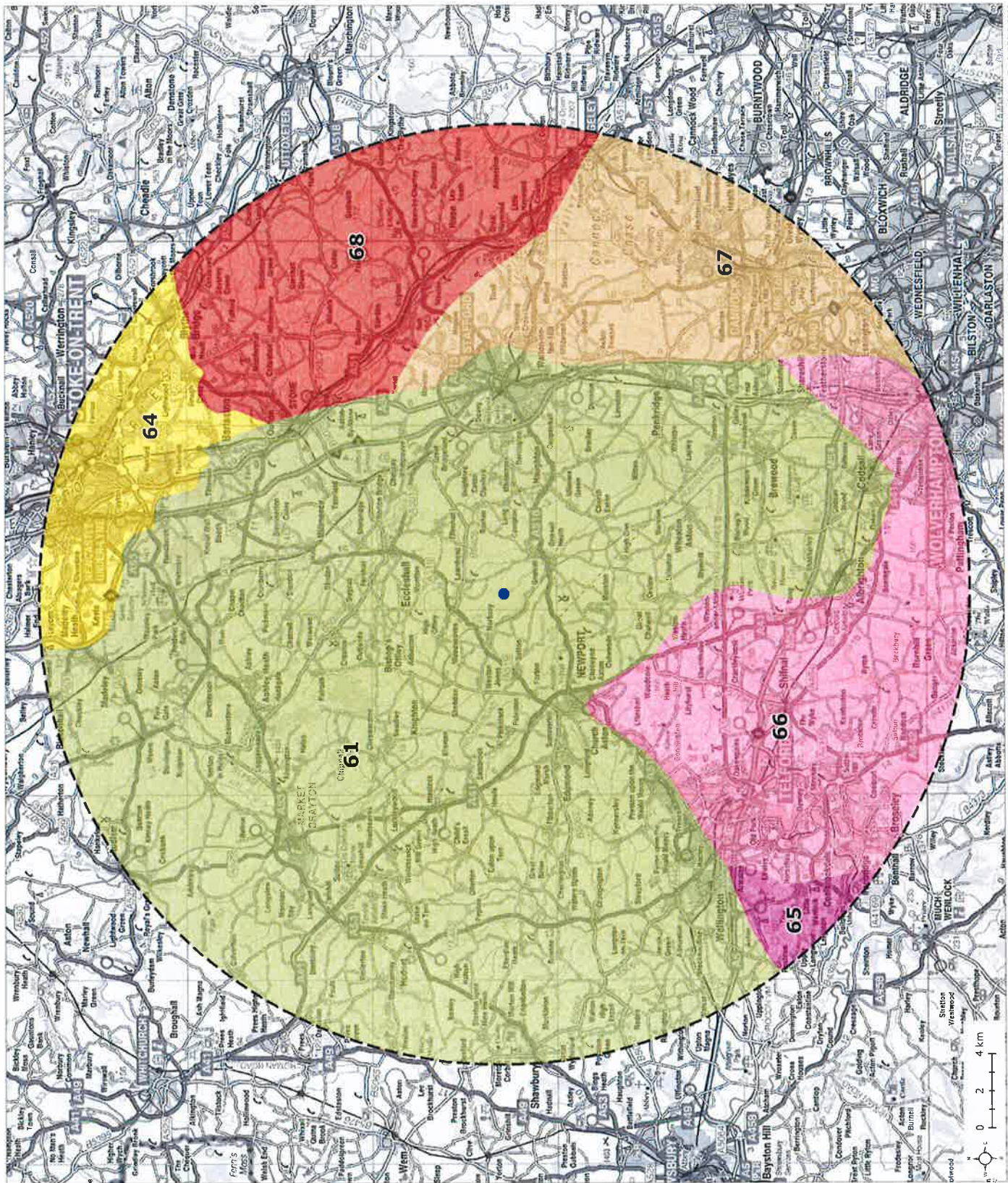
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Knightsley Hall Wind Farm EIA

Figure 11.2

National Character Areas

- Site Location
- 25km radius
- 67 Cannock Chase and Cank Wood
- 66 Mid Severn Sandstone Plateau
- 68 Needwood and South Derbyshire Claylands
- 64 Potteries and Churnet Valley
- 65 Shropshire Hills
- 61 Shropshire, Cheshire and Staffordshire Plain


















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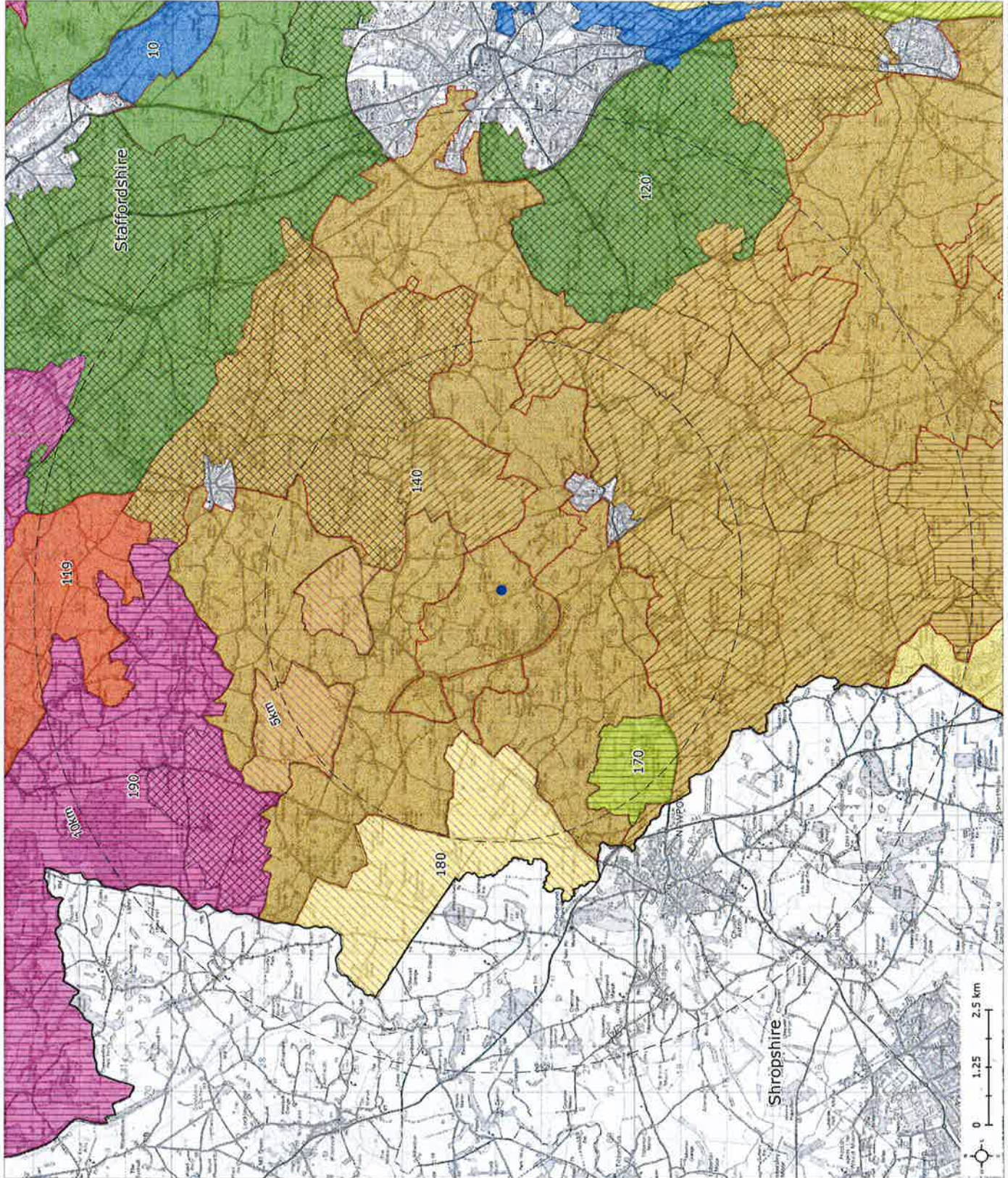


Figure 11.3

Local Landscape Character
Types

-  Site Location
-  County boundary
-  5km intervals up to 10km
- Policy Objectives (Source: Staffordshire County Council)**
 -  Active landscape conservation
 -  Innovative landscape regeneration
 -  Landscape enhancement
 -  Landscape maintenance
 -  Landscape restoration
- Landscape Character Types (Source: Staffordshire County Council)**
 -  160 Ancient clay farmlands
 -  170 Riparian alluvial lowlands
 -  180 Sandstone estatelands
 -  190 Sandstone hills and heaths
 -  195 Settled farmlands
 -  200 Settled heathlands
 -  210 Settled plateau farmland slopes

Map Scale @ A3:1:80,000



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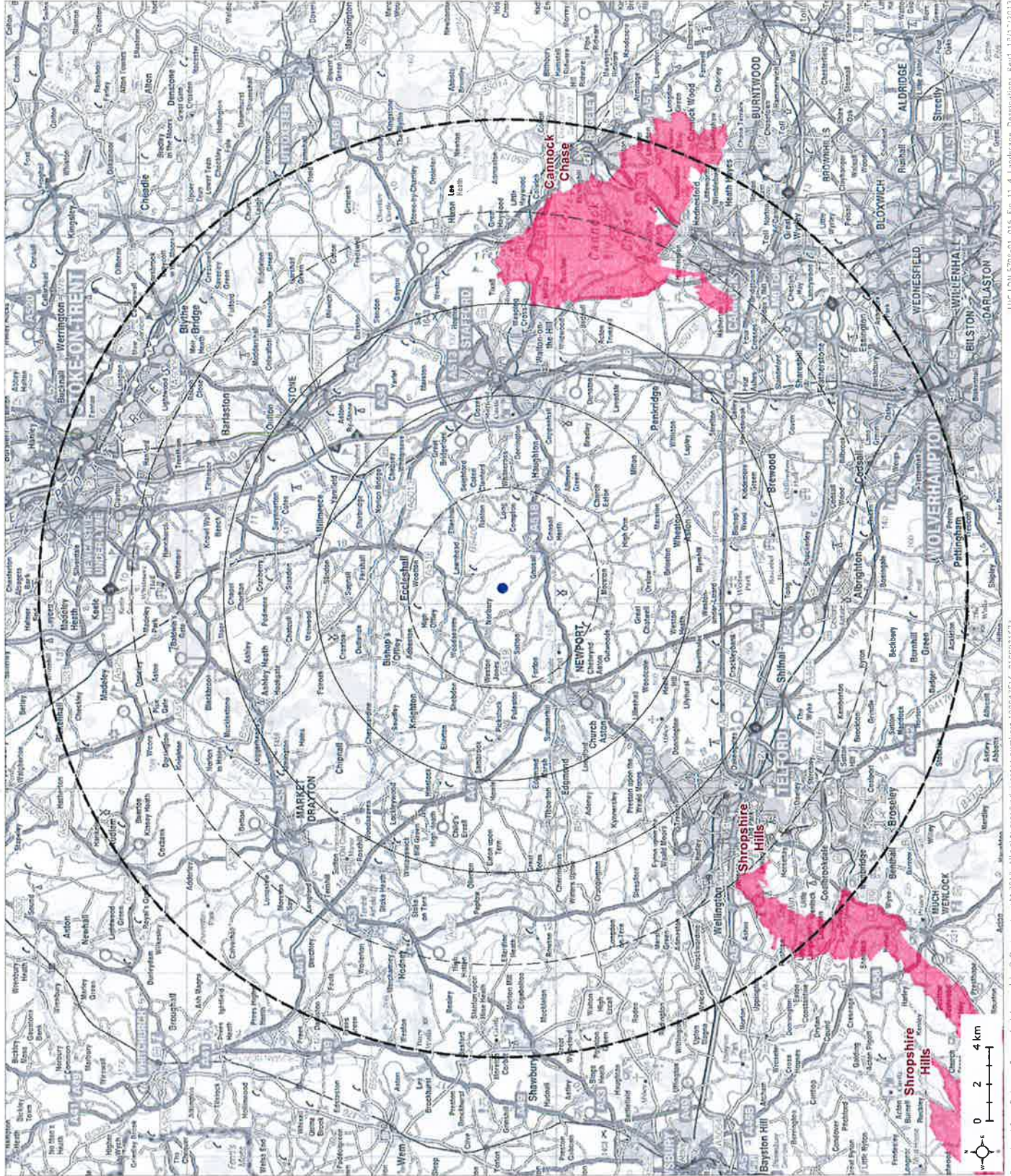
Knightsley Hall Wind Farm EIA

Figure 11.4

Landscape Designations

- Site Location
- 5km intervals up to 25km
- ✂ Area of Outstanding Natural Beauty

Map Scale @ A3:1:200,000










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Knightsley Hall Wind Farm EIA

Figure 11.5

Proposed 25km Study Area : ZTV to Tip (130m)

-  Viewpoints (see table below)
 -  Site Boundary
 -  5 - 25km buffers
- Potential Number of Turbines Visible**
-  1 turbine
 -  2 turbines
 -  3 turbines
 -  4 turbines

Viewpoint No.	Name
1	The Holles Farm, North of The Holles
2	Grange Road, Yeld Bank Farm
3	Knightsley Dale
4	Doley Common
5	Shepore Wood
6	Norbury Junction, Marne
7	Bam Bridge
8	Widdowson Road, Gnosall
9	Widdowson Road, Gnosall
10	BS6405 Lainshead
11	David Pitts Coyvet
12	Sutton
13	Stafford Castle
14	Weston Heath
15	Llleshall monument
16	Tor Hill
17	The Wrekin Viewpoint

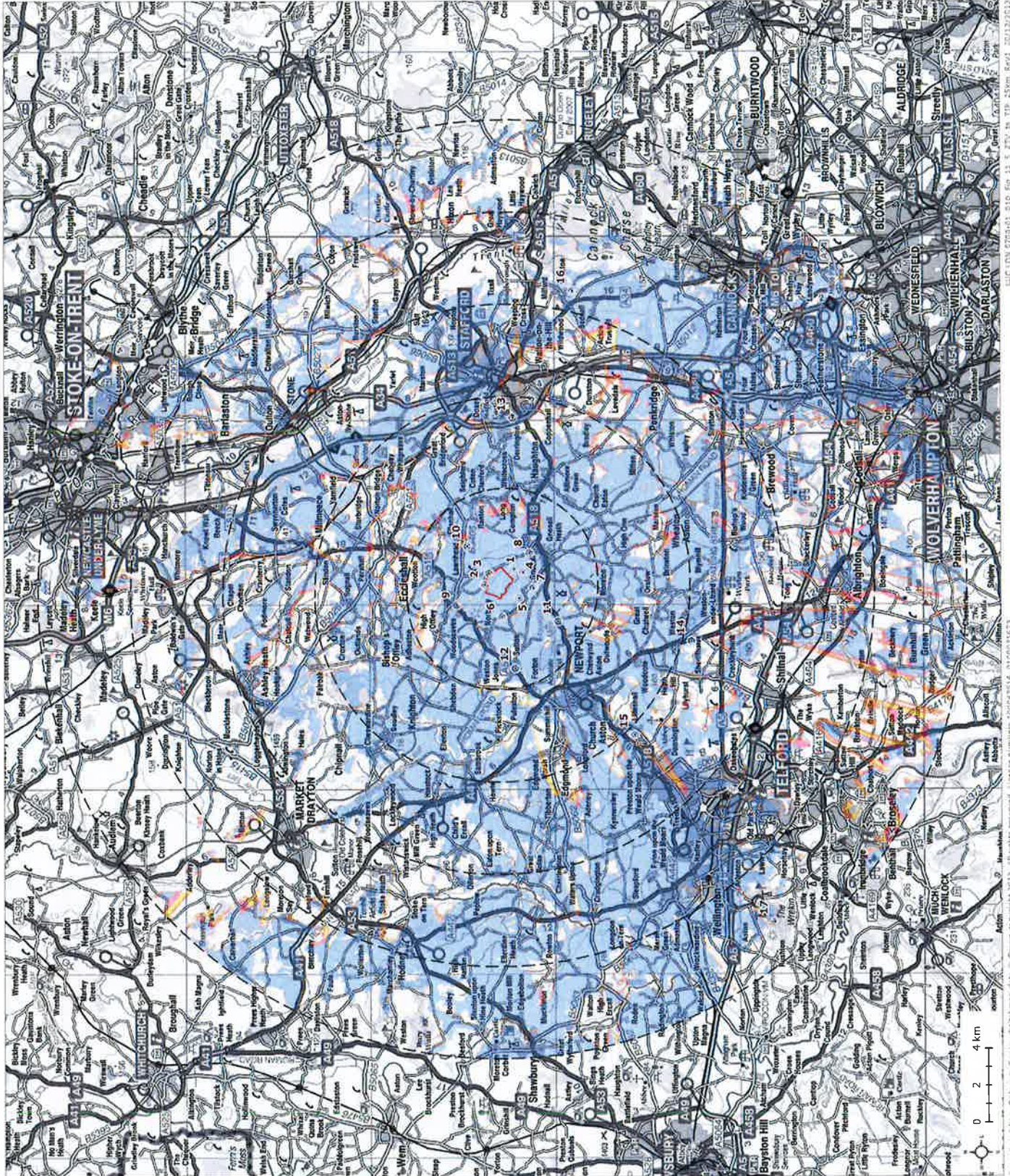
Notes: The ZTV is calculated to turbine tip height from a height of 2m above ground level. The ZTV extents for all windfarms are based on SNH guidance (SNH (2006) Visual Representation of Windfarms (Good Practice Guidance)

The terrain model is bare ground and derived from OS Terrain50 height data. The earth curvature and atmospheric refraction have been taken into account.

Map Scale @ A3:1:200,000



Supplied



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Knightley Hall Wind Farm EIA

Figure 11.6

**ZTV to 130m Tip Height
(to 10km)**

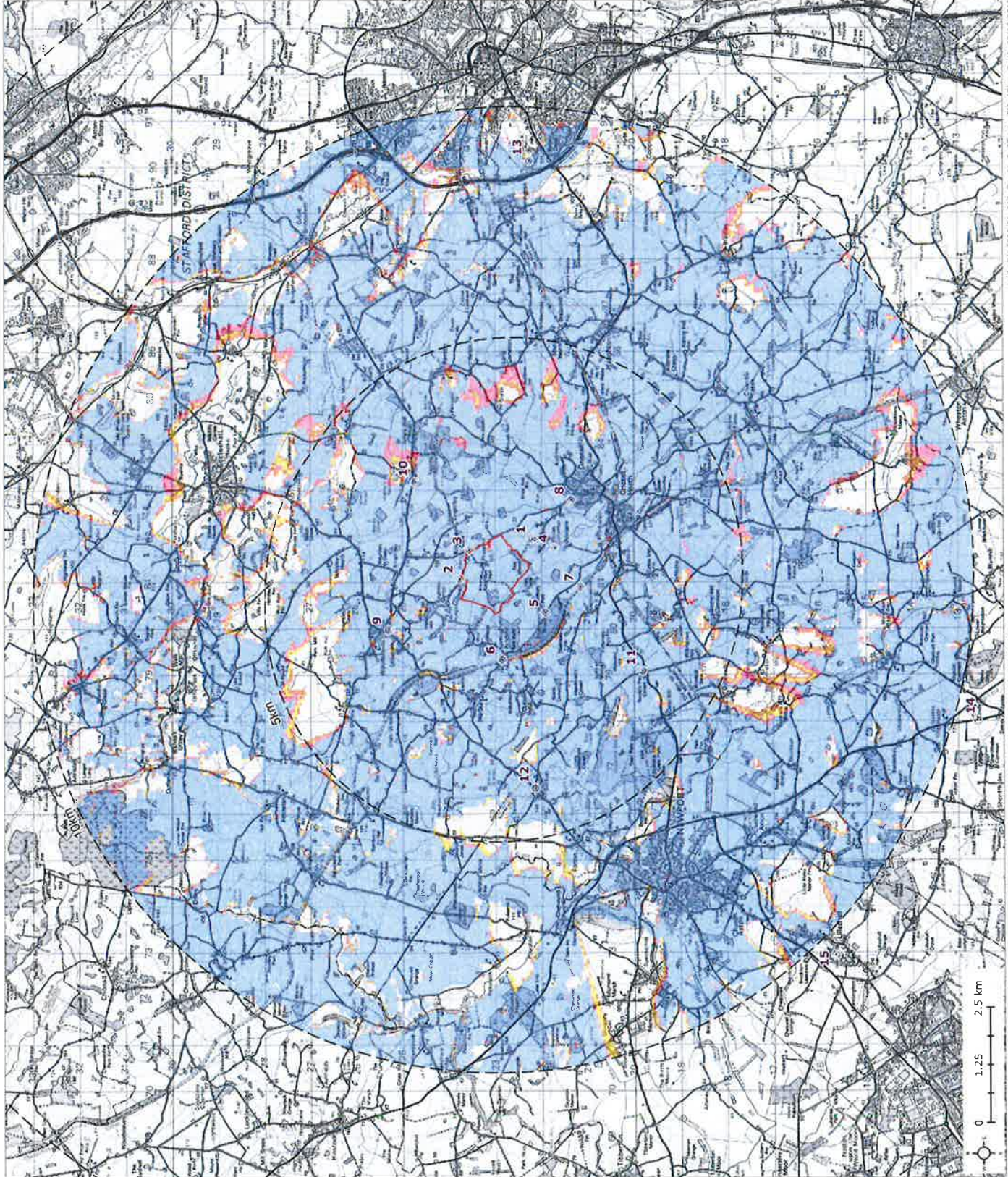
- Viewpoints
 - Site Boundary
 - 5 - 10km buffers
- Potential Number of Turbines Visible**
- 1 turbine
 - 2 turbines
 - 3 turbines
 - 4 turbines

Viewpoint No.	Name
1	The Hollies Farm, North of The Hollies
2	1, Field Bank Farm
3	Knightley Oak
4	Dokley Common
5	Shelmore Wood
6	Norbury Junction, Marina
7	Barn Bridge
8	Brookhouse Road, Gropall
9	Woodpeckers
10	Lanshead
11	Deak's Cove
12	Sutton
13	Stafford Castle
14	Weston Heath
15	Lilleshall monument

Notes: The ZTV is calculated to turbine tip height from a height of 2m above ground level. The ZTV extents for all windfarms are based on SNH guidance (SNH (2006) Visual Representation of Windfarms (Good Practice Guidance))

The terrain model is bare ground and derived from CS Terrain50 height data. The earth curvature and atmospheric refraction have been taken into account.

Map Scale @ A3:1:80,000



12 Telecommunication, Television and Aviation

Introduction

- 12.1 This assessment will examine the potential effects of the proposed Knightley Hall Wind Farm on established and planned radio, television and telecommunications transmissions and civilian and military aircraft activity.

Overview of Approach

Communication Links and Television

- 12.2 Shadows and reflections from the wind farm could potentially cause interference with television, radio and telecommunication services. However, with careful siting or, if necessary, mitigation measures in place, it is usually possible to avoid or minimise effects. It is important that such issues are considered from the outset and factored into the wind farm layout.
- 12.3 A detailed desk-based assessment has already been carried out, the results of which indicated that there are no radio or telecommunications links within the site boundary. This assessment will be repeated during the wind farm design process to ensure that this is still the case. The desk based study will involve consultation with Ofcom, which will identify any organisations with telecommunication links in the vicinity of the development. Consultation responses will be collated, and identified infrastructure mapped to inform the layout of the wind farm, with the aim being to avoid any effects on communications through siting of turbines. Operators with interests identified in close proximity to the wind farm will be consulted on the 'design freeze' layout to establish if there are any further potential issues.
- 12.4 Effects on communications infrastructure will be assessed through analysis of the geometry of the proposed turbine layout, particularly the positions of the turbines relative to the main sources of transmission. The assessment will be carried out in line with best practice, including that set out in the Planning Practice Guidance for Renewable and Low Carbon Energy (DCLG, 2013).
- 12.5 Guidelines and information on television reception problems that can be caused by large buildings and wind farms are provided in the document *Tall structures and their impact on broadcast and other wireless services* produced by Ofcom (2009). A wind farm can affect domestic television reception through physically blocking the line of sight between transmitter and receiver or by causing reflected signals through the movement of the blades.
- 12.6 It is difficult to predict with certainty the likelihood or magnitude of any effects on television reception before installation of a wind farm, due to the complexity of the issue. Generally, REG work with the providers at the wind farm design stage to accommodate recommended buffers, then seek to agree a condition which requires the investigation and mitigation of any reception issues should a complaint be made once the turbines are installed.
- 12.7 Potential remedial actions include providing improved receiving aerials, realigning existing aerials or re-tuning to receive transmissions from an alternative transmitter. Alternatively, another source of suitable television signals could be provided (e.g. cable or satellite). All such remedial works would be carried out at REG Windpower's cost.

Air Safeguarding Issues

- 12.8 A wind farm may impact on civilian and military aviation activity. Large moving structures such as wind turbines can appear as clutter which can be mistaken for aircraft by radar operators, or actual aircraft movements can be obscured by the turbine clutter. There is a consultation zone and an advisory zone around every civilian and military air traffic radar but objections may sometimes be raised in respect of developments further afield.

- 12.9 The guidance in CAP764 outlines the standard requirements for consultation and assessment of impact on nearby receptors e.g. aerodromes and Air Navigation Service Providers (ANSP) based on the distance of the scheme from the given receptor. Other guidance and regulations relating to safeguarding of air navigation equipment include CAP670 'Air Traffic Services Safety Requirements' and CAP393 Air Navigation Order. Knightley Hall Wind Farm will be subjected to a full Aviation Impact Assessment and full consultation with the relevant bodies such as the Ministry of Defence (MoD), Civil Aviation Authority (CAA) or National Air Traffic Service (NATS) will be undertaken.

Significance Criteria

Telecommunication and Television Services

- 12.10 Significance criteria will not be used for the assessment of effects on telecommunications due to an absence of standard EIA assessment methodology. Instead a qualitative approach will be adopted for the assessment, using professional judgement, publically available information and relevant telecommunications guidance.

Aviation Issues

- 12.11 Significance criteria will also not be used for the assessment of effects on aviation. Significance criteria for aviation effects are difficult to establish as they are not strictly based on the sensitivity of the receptor or magnitude of change but on whether the industry regulations for safe obstacle avoidance or radar separation (from radar clutter) can be maintained in the presence of the turbines. A qualitative approach to assessing effects will therefore be adopted for the assessment.

Potential Effects

- 12.12 A summary of the potential telecommunications infrastructure, television and aviation effects is included in **Table 12.1**.

Table 12.1: Summary of Potential Telecommunications Infrastructure and Television Effects

Summary of Potential Telecommunications Infrastructure and Television Effects
Interference with the reception of terrestrial television and radio services at residences in the surrounding area.
Interference with point-to-point transmission links operated by telecommunications service providers in the area.
Potential disruption to military, civilian and emergency services aircraft operations in the area.

13 Socio-Economic

Introduction

- 13.1 This assessment will examine the potential economic, recreation and tourism effects of the proposed Knightley Hall Wind Farm on the site and its environs.

Overview of Approach

Study Area

- 13.2 The study area for consideration of socio-economic effects is related to the extent to which effects may be experienced. Users of public rights of way within or close to the site will be assessed, along with the potential economic and tourism impacts - which will be considered over a much wider area (ie within the Borough).
- 13.3 It is noted that there is a bridleway which runs from Gnosall Lane through the site and careful consideration will be given to this within the EIA.

Guidance

- 13.4 The assessment will be carried out in line with best practice, including that set out in the Overarching National Policy Statement for Energy EN-1 (DECC, 2011).

Proposed Baseline Studies and Method

- 13.5 The economic impact of employment generation during both construction and operation will be assessed. The location of all public rights of way will be mapped as part of the environmental constraints to inform the layout of turbines, with potential impacts on the users of rights of way in the vicinity considered with cross-reference to the Landscape and Visual Impact Assessment (LVIA) and viewpoints linked to public rights of way.
- 13.6 Desk based research on the tourism context of the area will be undertaken, drawing on information from Stafford Borough Council and Enjoy Staffordshire. Wider research on the effects of wind farms on tourism will also be reviewed to inform the assessment.

Consultation

- 13.7 A preliminary list of consultees includes (but is not limited to):
- Stafford Borough Council;
 - Staffordshire County Council;
 - Destination Staffordshire;
 - The Canal and River Trust
 - Gnosall Healthy Walking Group
 - Gnosall Phoenix Club
 - Newport and District Running Club
 - Ashwood Equestrian
 - Staffordshire Gliding Club

- Any other local interest groups that may use the site/surrounding area for recreation (to be identified through the Scoping process, internet/desk based research and discussions with Stafford Borough Council).

Significance Criteria

- 13.8 Criteria for determining the significance of effects are provided in **Table 13.1**. Effects of 'major' and 'moderate' significance will be considered to be 'significant' in terms of the EIA Regulations.

Table 13.1: Criteria for Assessing the Significance of Socio-economic Effects

Effect Significance	Definition
Major	Where the extent of effects on the economy, tourism and recreation or the local population is large in scale or magnitude, and a large number of people or activities will be affected.
Moderate	Where the extent of effects on the economy, tourism and recreation or the local population is small in scale or magnitude, but a large number of people or activities will be affected. <i>Or alternatively:</i> Where the extent of effects on the economy, tourism and recreation or the local population is large in scale or magnitude, but only a small number of people or activities will be affected.
Minor	Where the extent of effects on the economy, tourism and recreation or the local population is small in scale or magnitude, and will only affect a small number of people or activities.
Negligible	Where the extent of effects on the economy, tourism and recreation or the local population is barely noticeable in scale or magnitude.

Potential Effects

- 13.9 Potential effects during construction and operation of the wind farm on socio-economic effects are summarised in **Table 13.2**.

Table 13.2: Summary of Potential Socio-economic Effects

Summary of Potential Socio-economic Effects
Employment generation during manufacture, construction and operation of the wind farm.
Indirect economic effects from the proposed scheme (e.g. opportunities for local supply businesses).
Direct effects on access for recreation and indirect effects of noise, dust, traffic movements on recreational users on the site and surrounding area. This may include the temporary diversion of the bridleway. This may take the form of fencing off an equivalent length of bridleway in parallel to the existing route.
Effects on tourism in the area.
Effects on public safety during construction and operation.

14 Shadow Flicker

Introduction

- 10.1 As noted in the Planning Practice Guidance for Renewable and Low Carbon Energy (July 2013): "Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the impact is known as 'shadow flicker'." As set out in National Policy Statement for Renewable Energy Infrastructure (EN-3), shadow flicker is an effect experienced inside a dwelling, the potential significance of the effect is dependent upon a number of factors, including:
- the location of the relevant building relative to the path of the sun and the turbines;
 - the distance of turbines from such buildings;
 - the size of the window apertures and their location in the building relative to the turbines;
 - the turbine height and rotor diameter;
 - the presence of intervening topography, buildings or vegetation;
 - the frequency of bright sun and cloudless skies;
 - the time of the year; and
 - the prevailing wind direction and hence usual rotor orientation.
- 14.1 This assessment will examine the potential for shadow flicker impacts to arise as a result of the proposed Knightley Hall Wind Farm.

Overview of Approach

Study Area

- 14.1 A shadow flicker impact assessment will be undertaken to identify areas where shadow flicker caused by the proposed wind farm development may be an issue. The *Planning Practice Guidance for Renewable and Low Carbon Energy (2013)* advises that only properties within 130 degrees either side of north of each turbine will be affected at UK latitudes, while the *National Policy Statement for Renewable Energy Infrastructure EN-3 (2011)* advises that a shadow flicker assessment is needed for properties within 10 rotor diameters of wind turbines.

Approach to Assessment

Guidance

- 14.2 The assessment will be carried out in line with best practice, including that set out in the *Planning Practice Guidance for Renewable and Low Carbon Energy (2013)*, and the *National Policy Statement for Renewable Energy Infrastructure EN-3 (2011)*.

Proposed Baseline Studies and Method

- 14.3 Information on the location of properties within the Study Area will be obtained and used within the shadow flicker assessment.
- 14.4 Resoft Windfarm computer modelling software will be used to calculate a range of shadow flicker maps for the area in order to identify potential receptor buildings. For each property identified with the potential to experience shadow flicker, a detailed shadow flicker analysis will be run for each turbine to calculate the exact days in the year and the times during these days on which shadow flicker might occur. If shadow flicker impacts are identified, suitable mitigation, such as

planting to form a screen or temporary shutdown of turbines at the affected time, will be proposed.

Consultation

- 14.5 No consultation is considered necessary for this assessment, although the views of Stafford Borough Council on the methodology proposed are welcomed.

Significance Criteria

- 14.6 There are no established significance criteria for shadow flicker effects and therefore professional judgement will be used to assess whether the impacts on residential properties are considered to be significant, taking into account current guidance.
- 14.7 There are no guidelines or criteria within English policy regarding the acceptable frequency and duration of shadow flicker. Some countries have taken the approach of quantifying acceptable limits, for example, in Northern Ireland, *Best Practice Guidance to PPS18: Renewable Energy* (Department for the Environment, 2009) states that:
- “Shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day”
- 14.8 However, the 2011 DECC study of shadow flicker evidence (DECC, 2011¹⁷) examined the limits that have been set in countries including Germany, Denmark and the Netherlands and found that there is considerable variation. In addition, the study highlights the difficulties associated with quantifying acceptable levels of shadow flicker duration due to latitudinal variations affecting impacts, and the potential for wind energy developments to be rejected on the basis of shadow flicker where mitigation measures could provide a complete solution to the issue. As such, for the purposes of this assessment, it is not considered appropriate to select and apply a quantifiable limit for what constitutes acceptable shadow flicker occurrence; rather a subjective judgement was considered to be more appropriate.

Potential Effects

- 14.9 Shadow flicker can occur when the sun passes behind the rotors of a turbine casting a shadow over neighbouring properties. Shadow flicker has the potential to adversely impact such neighbouring residential properties. Impacts would only occur during the operational phase of the development when the turbine blades are rotating and therefore the assessment will only focus on this stage.

Table 10.1: Summary of Potential Shadow Flicker Impacts

Summary of Potential Shadow Flicker Impacts

Adverse impacts during the operational phase on the occupants of neighbouring residential properties.

¹⁷ Department of Energy and Climate Change (2011) Update of UK Shadow Flicker Evidence Base.

APPENDIX 1
Cultural Heritage Policy Background



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KNIGHTLEY HALL WIND FARM PROPOSAL STAFFORD BOROUGH

CULTURAL HERITAGE POLICY BACKGROUND (SCOPING REQUEST APPENDIX)

Produced by Oxford Archaeological Associates Limited
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Commissioned by



December 2013



CULTURAL HERITAGE POLICY BACKGROUND

1. Introduction

1.1 The present appendix has been assembled upon the specific request of the Local Authority. Over the past few years, cultural heritage, as a Planning topic, has been evolving extremely fast, through Government policy changes, High Court rulings and decisions from Secretaries of State and Planning Inspectors. Most Local Policy and professional guidelines have not been able to keep pace. Accordingly, the present text seeks to draw together the principal current considerations, always remembering that this rapid evolution shows no signs of slowing.

2. Local Policies

2.1 The current Development Plan comprises the saved policies of the Stafford Borough Local Plan. Those potentially relevant policies dealing with cultural heritage matters (e.g. E&D 18, E&D 23, E&D 33, E&D 34, E&D 35) are not compliant with the National Planning Policy Framework ("the Framework") Policies 151 and 215¹.

¹ Cf. The Planning Inspectorate (GRAY, J.L.) 2012. Appeal Ref: APP/H1033/A/11/2166189 Cowdale Quarry, near Cowdale, Buxton, Derbyshire (access road for bottling plant, refused, High Peak Borough), DCLG: "10. [...] Saved Policy BC10, at first glance relevant at the time of refusal and more so now, is inconsistent with the Framework, stating that planning permission "will not be granted" for development likely to harm a scheduled ancient monument or other nationally important site. The Framework allows such a loss, subject to certain criteria being met – and I shall consider the impact of the proposed development on the monument against the provisions of the Framework." Cf. also The Planning Inspectorate (MAJOR, P.) November 2012. Report (under s36 of the Electricity Act) to the Secretary of State for Energy & Climate Change Ref: DPI/R2520/12/8 Six Hundred Farm, East Heckington, Lincolnshire (Heckington Fen Wind Farm, approved [without comment of relevance here] in 2013 by the SoS, North Kesteven District), DECC: "73. Paragraph 14 is the key part of the NPPF. There is a presumption in favour of sustainable development where development accords with the development plan. That applies with force in this case. This proposal accords with the development plan and, in line with paragraph 14, should be approved without delay. In part the development plan is not consistent with the NPPF (such as in cultural heritage policies where no balancing provision is included) and hence relevant policies cannot attract full weight, but there is not a significant overall level of inconsistency. In any event any cultural heritage impacts of the proposal would not justify refusing consent." Cf. also The Planning Inspectorate (WOOLCOCK, J.) 2013. Appeal Ref: PP/N1215/A/12/2179369 Rudge Hill Farm, Rivers Corner, Sturminster Newton DT10 2AB (solar farm, allowed, North Dorset District), DCLG. Inspector Woolcock said: "20. The Council cited conflict with LP Policy 1.23 in its reasons for refusal, but acknowledges that this policy is inconsistent with paragraph 134 of the Framework^[footnote]. This limits the weight which should be given to any conflict with LP Policy 1.23 in determining this appeal. [...] [footnote] LP Policy 1.23 permits development only where it would either preserve or enhance the listed building's special interest or its setting." Cf. also *Colman v Secretary of State for Communities & Local Government and North Devon District Council and RWE NPower Renewables Limited* [2013] EWHC 1138 (Admin). In which Parker J preferred (in agreement with the Planning Inspector) the Framework balance requirement over "absolute preservation" wording in the Development Plan. Parker J also noted p 129 of the Framework and its requirement to "minimise conflict", implying that some conflict was sometimes unavoidable.

- 2.2 Emerging cultural heritage policies are also included in the (draft) Plan for Stafford Borough (draft November 2012). Proposed Policy N9 contains the main provisions and is conformable with (although less detailed than) the Framework. However, there are other broad policies (e.g. Proposed Policy N8, in respect of sub-paragraph (c)) which are still lacking a clear reference to the Planning balance and which therefore are not Framework-compliant.
- 2.3 On the key matter of sustainability, weight should be given to the relevant policies of the Development Plan in the manner set out in Framework paragraph 215; Framework paragraphs 132-4 (as relevant in each particular case) will always be material considerations (these being 'specific restricting policies' which, through footnote 9, temper the general "*presumption in favour of sustainable development*" set out in Framework paragraph 14).

3. Regional Policies

- 3.1 The West Midlands Regional Plan (RSS) (adopted 2004) was revoked in May 2013.

4. National Policies

Special Interest

- 4.1 Current national guidance on the cultural heritage is set out in the National Planning Policy Framework ("the Framework")².
- 4.2 Before continuing, it is necessary to note the most discriminating assessment tool presently available. The Government's intentions on the matter of national designation were set out in the last Heritage White Paper³. The principles are given as follows:

1.1.18 The concept of 'special interest' used in the listing system has been tested out over many years. It has shown itself to be broad enough to accommodate changing perceptions of the historic environment, and sufficiently neutral to avoid subjective

² Some precedents (whether in case law or in appeal decisions) cited in the present text necessarily pre-date the Framework, even PPS5, but, after due scrutiny, the principles involved are not judged to have been overridden by the new guidance.

³ DCMS & WAG 2007. *Heritage Protection for the 21st Century* White Paper, Department for Culture, Media & Sport and Welsh Assembly Government, March 2007.

value judgements. In future, all national designation decisions will be made on the basis of 'special architectural, historic or archaeological interest'.

1.1.19 While the statutory criteria will remain broad and flexible, we will make the designation system easier to understand by introducing detailed, non-statutory selection criteria. These will be based on the new Principles of Selection that have been issued for listing buildings under the current system. [...]

- 4.3 In 2010, PPS5 replaced (formally cancelled) both PPG15 and PPG16. The PPS⁴ extended the special interest categories to four, and extended the criteria involved from initial designation to all aspects of subsequent assessment, stating that:

[Introduction] 5. Those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are called heritage assets. [...]

HE6.1 Local planning authorities should require the applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. [...]

- 4.4 The National Planning Policy Framework has now replaced (formally cancelled) PPS5⁵. The Framework states that:

[Annex 2: Glossary] **Heritage asset:** A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).

Significance (for heritage policy)⁶: The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. [...]

128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. [...]

⁴ DCMS 2010. *Planning Policy Statement 5: Planning for the Historic Environment* Department of Culture, Media & Sport, 23 March 2010.

⁵ This removal from national policy is taken to downgrade PPS5 to a professional guidance document (but material only in as far as it remains compatible with the Framework). The Impact Statement for the Framework (July 2012) states: "The heritage section of the Framework incorporates and streamlines the policies contained in Planning Policy Statement 5. It does not significantly alter those policies or create new ones. [...]" (p.78).

⁶ The use, in policy and guidance, of common words in restricted, technical senses can sometimes create a barrier to communication, especially when those senses differ in different documents or contexts. Where it is necessary to make the distinction, we will use the term 'heritage-significance' to cover the combined special interest of an asset (as here) but 'EIA-significance' to refer to a matter that has formal 'weight' in the EIA process. We will reserve the term 'Planning-significance' for the stricter situation in which we are considering whether or not effects that are not individually EIA-significant might, in an intra-project context, contribute to a cumulative effect that should, in our estimation, have weight in the Planning balance. Thus, as a demonstration of possible usage, one could say that an effect upon heritage-significance (even if that heritage-significance is great overall) may be sufficiently small as to have no EIA-significance, although that effect might still have Planning-significance when grouped with other assessed effects.

4.5 PPS5 contains explicit definitions of the four categories of 'special interest' in its Annex 2: Terminology (pp.13-14). The Framework (in Annex 2: Glossary) has redefined 'archaeological interest'. The phrase 'special interest' is used in paragraph 127 of the Framework to cover one or more of the four interest rubrics.

4.6 The 'heritage-significance' approach (entailing both 'scalar significance' – the question of 'degree' – and 'substantive significance' – the questions of 'what' and 'how') is endorsed in Planning policy relating to energy ⁷:

*5.8.2 [...] Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called "heritage assets". A heritage asset may be any building, monument, site, place, area or landscape, or any combination of these. The sum of the heritage interests that a heritage asset holds is referred to as its significance *.*

**Save for the term "Designated Heritage Asset (covered in 5.8.3 [... of EN-1]), these and other terms used in this section are defined in Annex 2 to PPS5, or any successor to it. The PPS5 Practice Guide contains guidance on their interpretation. [...]*

4.7 The concept of 'special interest' is a determinative consideration for the Courts ⁸:

22. [...] it is important to bear in mind that SSSIs are only one among many areas or features that may be designated because of their special environmental qualities. By way of example, the Secretary of State lists buildings that are of special architectural or historic interest, schedules ancient monuments that are of national importance, and designates areas of archaeological importance that appear to him to merit treatment as such. Local planning authorities designate as Conservation Areas those parts of their area that are of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance. Natural England has power to designate Areas of Outstanding Natural Beauty (AONBs) and, subject to confirmation by the Secretary of State, National Parks.

23. The common thread running through all of these provisions is that they "flag up" the special interest of the feature, and impose, or enable the imposition, of more stringent controls than would otherwise be imposed by the "normal" planning process over any activities which might harm it, thereby ensuring that before any plan or project that is likely to have an adverse impact upon it is authorised, full account will have been taken of that which is of special interest. [...]

4.8 One may also note that the entry in the English Heritage Practice Guide ⁹ to PPS5 on this topic appears entirely reasonable:

14. The basic criterion for listing a building is that it must hold special historic or architectural interest. For a monument to be scheduled it must be nationally important

⁷ DECC, 2011. *Overarching National Policy Statement for Energy (EN-1)* July 2011.

⁸ Sullivan LJ in *R (on the application of Boggis) and Another v Natural England* [2009] EWCA Civ 1061; [2009] WLR (D) 304.

⁹ The Practice Guide to PPS5 was always English Heritage guidance, endorsed by some of the interested Departments of Government, an item of professional guidance amongst other relevant material. It remains a professional guidance document.

by reason of its historic, architectural, artistic, traditional ¹⁰ or archaeological interest. Parks and gardens and battlefields may be registered if they are of special historic interest. Conservation areas will be designated if they are of special historic or architectural interest, the character and appearance of which it is desirable to preserve or enhance. All of these criteria have two components: the nature of the interest or significance that defines the designation and the relative importance of that interest or significance. Significance, as defined in the PPS, encompasses all of the different interests that might be grounds for designating a heritage asset. The principles of selection for both listed buildings and scheduled monuments are published by DCMS.

- 4.9 This **special interest** is the unified reason why the designation of any important historic environment feature (be it a World Heritage Site, Scheduled Monument, Listed Building, Registered Park or Garden, Registered Battlefield or Conservation Area) in a future common List could be justified. This **special interest** is the legitimate basis for the recognition of what is proper to the character and appearance of cultural heritage features. For less important sites as well as nationally and internationally important ones, **special interest** must be the reason why weight in the Planning system can be justified. In order to judge potential effects, it is necessary to identify the **special interest** of cultural heritage features and it will no longer be sufficient to point to the mere presence of these features in the vicinity. Taking the point one step further to underline the relevance to indirect as well as direct effects, it is necessary to identify the contribution made by setting to the **special interest** of the assets.
- 4.10 It is worth noting at this point the specific general duty set out in the EIA Regulations ¹¹, to the effect that an ES should contain a “*description of the aspects of the environment likely to be significantly affected by the development [...]*”.
- 4.11 In view of the wording of Local Policies on cultural heritage matters quoted in section 2 above, the Framework is material in respect of the need to strike an appropriate Planning balance ¹²:

133. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss [...]

¹⁰ English Heritage do not define the term “*traditional*” in this context and no particular widening of the scope of ‘special interest’ can be deduced. The term does not appear in the currently relevant document DCMS 2010. *Scheduled Monuments: identifying, protecting, conserving and investigating nationally important archaeological sites under the Ancient Monuments and Archaeological Areas Act 1979* March 2010.

¹¹ *The Town and Country Planning (Environmental Impact Assessment) Regulations 2011* SI No. 1824 Schedule 4 (Information for Inclusion in Environmental Statements), Part 1, paragraph 3.

¹² Cf. also DECC, 2011. *Overarching National Policy Statement for Energy (EN-1)* July 2011, paragraphs 4.1.5 and 5.8.15.

134. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal [...]

Assessing the Setting of Cultural Heritage Assets

- 4.12 The concept of the setting of cultural heritage features has long been evolving, according to professional usage and case precedents as well as to past guidance. It was confirmed in guidance, after long application in practice, that setting is a material consideration in Planning, in PPG16 and PPG15¹³. This evolution was curtailed in 2010 (with the appearance of PPS5) and past experience and usage will only be valid in as much as it is consistent with the National Planning Policy Framework, which continues (from PPS5) the following definition (Annex 2: Glossary):

Setting of a heritage asset: *The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.*

- 4.13 There is a statutory duty for the decision-maker to have "*special regard to the desirability of preserving the [Listed] building or its setting*" at s.66(1) of the Planning (Listed Buildings & Conservation Areas) Act 1990; at s.72(1), there is a similar provision concerning the character or appearance of a Conservation Area¹⁴. Given the definition of setting in the Framework, one may note that, under the statutory duty, it is desirable to preserve (keep safe from harm) only those elements which make a positive contribution to heritage-significance (special interest). In the present context, mere identification of setting will not suffice; assessment of setting contribution to heritage-significance is absolutely necessary. It is confirmed here that the need to provide the decision-maker with the proper information and assessment to allow compliance with the s.66(1) duty will be integrated into all stages of the present cultural heritage project¹⁵.

¹³ Planning Policy Guidance 16: *Archaeology and Planning* 1990; Planning Policy Guidance 15: *Planning and the Historic Environment* 1994 (as amended by DCLG & DCMS 2007, *Revisions to Principles of Selection for Listing Buildings* Department of Communities and Local Government Circular 01/2007; Department for Culture, Media and Sport Circular PP992; 8 March 2007). Cf. also DCMS 2009. *Consultation paper on a new Planning Policy Statement 15: Planning for the Historic Environment* Department for Culture, Media and Sport, 24 July 2009. Cf. also *European Convention on the Protection of the Archaeological Heritage (Revised)* (UK-ratified) Valetta (January 1992), Article 5: "Each Party undertakes: [...] (v) to ensure that environmental impact assessments and the resulting decisions involve full consideration of archaeological sites and their settings; [...]."

¹⁴ Cf. the lesser duty to have "*regard to the desirability of preserving the scheduled monument or its setting*" at paragraph 3(3) of the Infrastructure Planning (Decisions) Regulations 2010 (SI No. 305).

¹⁵ The yardsticks of 'specialness' and 'desirability of preservation' are built into the very fabric of modern professional cultural heritage assessment, from the outset. These criteria govern every step of the process: the scoping of an assessment project (in particular, the inclusion of assets by category and geographical distribution); the manner in which heritage-significance is identified; the weighting that heritage-significance will receive; the identification of the contribution any aspect of that heritage-significance, likely to be affected by a development proposal, may make to the

- 4.14 The English Heritage Practice Guide to PPS5 contained discussion of the nature of setting, including very brief introduction of their wish to bring about major extensions of the scope of the concept, although their opinions on these matters have been in the public domain, in bare outline, for some time ¹⁶. Following publication of their Practice Guide, English Heritage issued detailed guidance on setting ¹⁷. Where the contents of this guidance are the natural result of the professional development of the topic over the past few decades (and this is indeed the case in the majority of details), it is entirely acceptable; this core of consensus is already present in other available commentaries. However, where the major extensions of the scope of the concept of 'setting' are concerned, the outcome is moot, especially since some of these suggestions are, in the opinion of the present author, actually at odds with PPS5, the Framework and/or current case law, not to mention other elements of published EH advice.
- 4.15 To provide an example, one of the most difficult suggestions made by English Heritage concerns non-visual matters, in the forms both of 'association' and of the concept of the 'setting' of effectively invisible, buried archaeological material.
- 4.16 The question arises as to whether, and how far, it is appropriate to take an association into account in the definition of the setting of a core historic asset, or to attempt to make an assessment of the nature of, and potential development effect upon, the setting of a 'hidden' archaeological site. Put in more concrete terms, one may ask: 'If I cannot experience an asset (cf. the PPS5/Framework definition), can I be within the asset's setting?'
- 4.17 The answer to this question would seem to be strongly implied in the very definition of 'setting' in the Framework. Association may legitimately colour how one may experience the surroundings of an asset but it cannot extend that experience geographically. Similarly, buried remains may have a bearing upon the heritage-significance of associated visible remains but a completely 'hidden' site (however deserving of direct protection in respect of its buried fabric) cannot itself be experienced. This is essentially

whole; the nature of the likely effect of the development proposal; and the EIA- and/or Planning-significance of that effect, that is, potentially, the material harm or benefit that may result. An assessor will not come to the same conclusions concerning an undesignated building in a comparable 'position' *vis à vis* the development to that of a Listed Building, unless he/she has very good reason to suggest that the building actually does meet the normal criteria for Listing (its heritage-significance simply having been 'overlooked' up to that point).

¹⁶ WELFARE, H. 2008. The setting of historic assets. *Conservation Bulletin* 59 (Autumn 2008 "The Old and the New"):16-18. English Heritage.

¹⁷ English Heritage 2011. *The Setting of Heritage Assets: English Heritage Guidance* 25th October, 2011.

the point made in the *Miller* case¹⁸. The claimant asserted that widespread archaeological material was associated with certain standing Scheduled Monuments (a proposition not itself in dispute) and that, accordingly, the likely indirect effects of proposed development on points within the geographical area of the archaeological association (but points not intervisible with the Monuments) should be taken to be effects upon the setting of the Scheduled Monuments themselves. Hinkinbottom J disqualified this assertion, ruling (at paragraph 96):

Of course, lay persons can have an opinion on setting. The [... supporters of the claimant¹⁹] contended that the impact of the [... proposed development] on the setting for the [... Monuments] was significant, on essentially "non-visual" grounds (see their representations of [... date and exact text reference]). However, that was an assertion that was misdirected (in that setting is a visual concept) and, perhaps for that reason, unsupported by any professional evidence. [...]

4.18 Recent Appeal cases show no sign of supporting a modified concept of setting to allow non-visual association in its own right²⁰.

4.19 Current Regulations²¹ state that an ES should contain:

[...]

4. A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and longterm, permanent and temporary, positive and negative effects of the development, resulting from:

¹⁸ *R (on the application of K. Miller) v. North Yorkshire County Council* [2009] EWHC 2172 (Admin).

¹⁹ Who, incidentally, included a number of professional archaeologists identified in the papers before the Court.

²⁰ Cf. The Planning Inspectorate (BROWN, R.P.) 2010. Appeal Report APP/F2415/N/09/2105763 & APP/F2415/N/09/2105763 *Scraptoft Hall, Church Hill, Scraptoft, Leicester LE7 9ST* (recommendation to allow, Retirement Village, Harborough District), DCLG; The Secretary of State for Communities & Local Government, 2010 (24 March). Appeal Decisions APP/F2415/N/09/2105763 & APP/F2415/N/09/2105763 *Scraptoft Hall, Church Hill, Scraptoft, Leicester LE7 9ST* (allowed, Retirement Village, Harborough District), DCLG. EH argued (IR156) that: "[... as] to the concept of the setting of the Hall; it was accepted in cross-examination that this included the Church and churchyard. PPG15 advises that the setting of a listed building very often owes its character to the harmony produced by a particular group of buildings (not necessarily all of great individual merit) and to the quality of the spaces created between them. In other cases, setting can only be defined by a historical assessment of a building's surroundings. Consultation draft PPS15 [draft PPS5] defines setting as 'the area surrounding a heritage asset within which activity or development may affect the significance of that asset'. Applying these tests it is apparent that the setting of Scraptoft Hall includes the southern lawn, and that part of the conservation area in front of the clarevoie and the churchyard." However, the Inspector (IR278), noting that the church and CA, to one side, were physically and visually separated by long-standing trees and vegetation from the Hall, rejected the EH submission on the non-visual extent of setting. The SoS, having explicitly noted the appearance of PPS5 in the interim (after the IR), allowed the Appeal with no further comment on this matter. Cf. also: The Planning Inspectorate (LAVENDER, D.) 2006 Appeal Decision APP/Q1153/A/08/2017162 *Agricultural land to the south east of North Tawton and south west of Bow* (Den Brook Wind Farm, Borough of West Devon), DCLG; The Planning Inspectorate (BROOKS, R.) 2008 Appeal Decision APP/V3310/A/06/2031158 *Land at Inner Farm, Edithmead, Burnham-on-Sea, Somerset TA9 4HD* (refused windfarm, Sedgemoor District), DCLG; The Planning Inspectorate (MackENZIE, R.V.) 2010 Appeal Decisions APP/R1038/A/09/2107667 and APP/P1045/A/09/2108037 *Land belonging to Rushley Lodge Farm, off Wirestone Lane, Middle Moor/Matlock Moor, Derbyshire DE4* (dismissed Wind Farm, Derbyshire Dales District Council), DCLG; The Planning Inspectorate (WOOLCOCK, J.) 2010 Appeal Decision APP/P2114/A/10/2125561 *Cheverton Farm, Land at Cheverton Down, Cheverton Shute, Shorwell, Newport PO30 3JE* (dismissed Wind Farm, Isle of Wight), DCLG.

²¹ *The Town and Country Planning (Environmental Impact Assessment) Regulations 2011* (SI 1824), Schedule 4, Part 1.

a. *the existence of the development; [...]*

4.20 All setting effects are here taken to be indirect²² effects that are predominantly visual, although the other senses may also be affected. It is assumed that, should a Planning permission be forthcoming, it will be time-limited by Condition; in the context of indirect effects, the development, and the likely cultural heritage effects of the development, are therefore appropriately described as being medium-term²³ temporary (reversible). In this connection, recent Planning policy relating to energy (couched in terms of advice to the IPC, now transferred to the National Infrastructure Directorate within the Planning Inspectorate (PINS), when dealing with the largest-scale projects)²⁴ has confirmed this approach:

2.7.17 The time-limited nature of wind farms, where a time limit is sought by an applicant as a condition of consent, is likely to be an important consideration for the IPC when assessing impacts such as landscape and visual effects and potential effects on the settings of heritage assets. Such judgements should include consideration of the period of time sought by the applicants for the generating station to operate and the extent to which the site will return to its original state may also be a relevant consideration.

2.7.43 [...] onshore wind turbines are generally consented on the basis that they will be time-limited in operation. The IPC should therefore take into account the length of time for which consent is sought when considering any indirect effect on the historic environment, such as effects on the setting of designated heritage assets.

4.21 The relevant policy and statutory basis requires that indirect (setting) impacts on cultural heritage be assessed according to the following logical schema:

- (1) Assessment of the heritage-significance of an asset (in terms of special interest).
- (2) Assessment of the contribution from setting to heritage-significance (1).
- (3) Identification of the setting elements potentially at risk from proposed development.

²² It has long been normal professional practice to refer to setting effects as 'indirect effects' (as long as these do not involve physical removal of structures contributing to setting), even though some parties (including English Heritage of late) have objected to this practice; for the avoidance of doubt, it is stressed that this usage in the present text in no way implies any intrinsic inferiority or subordination in setting effects labelled as 'indirect' in comparison with 'direct' effects (such as physical changes to the fabric of assets), nor does it imply that setting effects would not be the 'direct result of the proposal'.

²³ The description here of the development as "*medium-term*" derives from consideration of the cultural heritage context (i.e. the duration of the development as relative to the time-depth of the historic environment evidenced locally, adjusted against the criterion of the observer's experience); 'short-term' would be too 'impersonal', whilst 'long-term' would not give the time-depth enough weight. A different description might or might not be appropriate under a different Planning-material topic.

²⁴ DECC, 2011. *National Policy Statement for Renewable Energy Infrastructure (EN-3)* July 2011. Note that 2.7.17 refers to "*settings of heritage assets*" and 2.7.43 to "*such as effects on the setting of designated heritage assets*"; non-designated assets there fall under the same provision as designated ones. Cf. also paragraphs 2.7.13-16.

- (4) Assessment of the contribution from setting elements (3) to heritage-significance contribution (2) ²⁵.
- (5) Assessment of the likely magnitude of proposal effects upon contribution (4).
- (6) Assessment of the EIA-significance of assessed effects (5).

4.22 In practice, these steps (or some of them) may commonly be implied and/or merged, and there is usually rapid iteration in steps (1-3) to reduce the need for reporting of all aspects of any given asset, although a true gap or *non sequitur* in this logical chain would not be justified. It is especially important to note that the Framework at paragraph 128 does not require the analysis and exposition of the full heritage-significance of every asset, only that level of detail which is "*proportionate*" and "*no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset*" ²⁶.

4.23 It follows that it is impossible to reduce the proper assessment process to the simple two-dimensional form of a 'heritage-significance *versus* magnitude of impact' matrix ²⁷. Every effort will be made here to present a clear and consistent analysis, using accepted professional criteria, but a well-defined vocabulary for the eventual judgment of EIA-significance of effects (see below) is what the Planning process needs most.

4.24 Whilst the task of assessment of heritage-significance is always a matter of professional judgment, the parameter of 'de facto designation importance' is germane. The only

²⁵ Steps 2-4 are equivalent to identifying and analysing those views (and any additional relevant 'experience', perhaps from hearing or olfaction) which carry heritage-significance (and which appear likely to be affected by the development proposal). This is reflected in recent professional guidance (particularly useful because not only 'theory' but also the details of 'practice' are discussed), English Heritage (May 2011). *Seeing the History in the View: a method for assessing heritage significance within views*: "Selection of heritage assets for inclusion depends on: • their designation or importance in a local context; • the degree to which their heritage significance can be appreciated from the Viewing Place; • whether this may be the best (or only) place to view the historic significance of the heritage asset; • whether their significance is enhanced or diminished as a result of being seen in combination with other heritage assets in the view." (p.12); the 'combinatorial' parameter may include group, cumulative and conflicting values.

²⁶ This is in keeping with the general wording in the last full set of guidance, ODPM 2000. *Environmental Impact Assessment: guide to procedures*: "32. The comprehensive nature of the checklist at Appendix 5 should not be taken to imply that all environmental statements should cover every conceivable aspect of a project's potential environmental effects at the same level of detail. They should be tailored to the nature of the project and its likely effects. Whilst every environmental statement should provide a full factual description of the project, the emphasis of Schedule 4 is on the main or significant effects to which a project is likely to give rise. In some cases, only a few of the aspects set out in the checklist will be significant in this sense and will need to be discussed in the statement in any great depth. Other issues may be of little or no significance for the particular project in question, and will need only very brief treatment, to indicate that their possible relevance has been considered."

²⁷ Cf. Rookery South Energy from Waste Generating Station Application, IPC Reference Number EN010011; consultation response (18th. November 2010) from J. Ette, English Heritage:

"Methodology and the use of matrices

- Some regard matrices as providing a quasi-scientific process to assessing impact, the outcome of which is beyond dispute. In fact the assessment of impact on setting is a value/professional judgement and matrices are only a tool that provides a degree of consistency to this process.

- Many commentators do not find the use of matrices helpful in assessing harm and English Heritage's draft setting guidance does not endorse their use. In our experience such an approach can result in the true impact of a structure not being correctly evaluated. [...]"

statutory benchmark available for 'national importance' is provided by the unequivocal case of Scheduled Monuments.

4.25 The 2007 DCMS White Paper²⁸ stated:

Grading

20. Grading helps us to understand the significance of an asset, and informs decisions about management and change. Some current designation systems, notably listing, involve grading, while others, such as scheduling and designation for wrecks, do not.

21. [...] Our conclusion is that, while their meaning should be clarified, current grades are reasonably well understood by users and should remain.

22. Most nationally designated assets are buildings and are already graded. Under the new, unified system, we will extend the existing grades of GI, GI* and GII to all nationally designated assets. For the time being, all currently scheduled monuments will be classified as GI, but these grades will be reviewed by English Heritage.

4.26 The PPS5 Impact Assessment was not of much more help:

4. National policy guidance on the conservation of the historic environment within the Town and Country Planning System is, for the most part currently set out in two planning policy guidance (PPG) notes: PPG 15: Planning and the Historic Environment and PPG 16: Archaeology and Planning, published in 1994 and 1990, respectively. It recognises that not all heritage assets of international, national, regional or local significance are currently known or recognised, and of those that are, not all are formally protected (or capable of being so under current legislation). [...]

4.27 Following PPS5 Policy HE9.1, the Framework endorses the two-tier approach²⁹ but still does not give any clear benchmark (unless one is supposed to deduce, from the position of Scheduled Monuments, that the lower tier is not so 'nationally important' as the upper tier):

132. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

4.28 The fact of formal designation, together with any 'grading' of importance, has served here as a starting point but the assessment of heritage-significance has not been rigidly pre-

²⁸ DCMS 2007. *White Paper: Heritage Protection for the 21st Century*.

²⁹ As does the recent document, English Heritage (May 2011). *Seeing the History in the View: a method for assessing heritage significance within views*. In Table 1 (p.19), Conservation Areas are also included in the 'lower' tier, not capable of being of "High Value/Importance" within a given view (although EH would no doubt argue, quite reasonably, that professional judgment might identify exceptional cases).

judged, although it has always been couched in terms of 'special interest' (in particular, where there is a statutory duty requiring 'special regard/attention').

- 4.29 Adverse effects must be weighed and then put into the overall Planning balance ^{30 31}. Similarly, the whole visual envelope of the asset cannot be transformed into an automatic buffer zone; mere intervisibility cannot be equated with harm ^{32 33}.
- 4.30 Although defining the parameter of heritage-significance, the Framework does not refer, in the context of a proposed development, to the likely 'magnitude of impact', the other

³⁰ The Planning Inspectorate (LAVENDER, D.) 2006 Appeal Decision APP/K2610/A/05/1180685 *Farmland adjacent to Skitfield Road, Guestwick, Norwich* (refused Wind Farm, Broadland District), for the First Secretary of State; "17. Nonetheless, it is apparent from PPS7 and paragraph 66(1) of the Act that protection or enhancement of the countryside and preservation of the settings of Listed Buildings are not, in themselves, intended to be determinative. Rather, as my framing of the main issues indicates, they are factors to which regard, or special regard, must be paid in the overall planning balance. [...]".

³¹ Cf. The Planning Inspectorate (MELLOR, R.) 2009. Appeal Decision APP/R2928/A/08/2075105 *Land to the South East of Kiln Pit Hill, Northumberland DH8 9SL* (allowed, Kiln Pit Wind Farm, Tynedale District), DCLG, paragraph 16: "[...] In these regards, [the RSS policy] includes as a criterion for assessing development the: 'effect on ... national ... designated heritage sites ... including the impact of proposals close to their boundaries'. [The LDF policy] requires that there be no significant adverse effect on (amongst other things) areas and sites of historic interest. Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires that: 'special regard shall be had to the desirability of preserving the [listed] building or its setting'. However none of these policies or statutory provisions mandate that there must be no adverse effect on the setting of a listed building. [...]; paragraph 24: "[...] Whilst there is residual harm to the setting of the [listed] buildings it is incorrect to describe this as intrinsically unacceptable harm which must inevitably override all other considerations. The harm must instead be weighed with the benefits of the development including the benefits of addressing climate change (which also include benefits to the wider cultural heritage)".

³² Cf. The Planning Inspectorate (SMITH, K.) 2006 Appeal Decision APP/Q1153/A/05/1187563 *Land west of A386 on Bowerland Road, south of Oakhampton, Devon* (refused Yelland Wind Farm, Borough of West Devon), DCLG; "42. I do not consider that mere visibility of the turbines from the [historic] features represents a substantial objection from the standpoint of [... standard Planning policies]. [...]". Again: The Planning Inspectorate (HISCOX, R.D.) 2007 Appeal Decision APP/Q0830/A/05/1189328 *Penpell Farm, Par, St. Austell, Cornwall* (refused Wind Farm, Borough of Restormel), DCLG; "33. I fully appreciate the argument for the Appellants that the fact that there may be intervisibility between a listed building, or its curtilage, and proposed wind turbines, does not necessarily amount to harm to the setting of that building, and judgement is needed as to whether the impact of being seen would be harmful. I am also mindful that any harm I may find in respect of the setting of this listed building, or any other buildings or features of importance in the historic landscape, must be weighed in the balance of considerations that will be necessary when I have considered the main issues.". Again: The Planning Inspectorate (LAVENDER, D.) 2009. Appeal Report APP/W0530/A/07/2059471 *Wadlow Farm, Six Mile Bottom, Road, West Wrating, Cambridgeshire, CB1 5NE* (recommendation to allow, Wadlow Wind Farm, South Cambridgeshire District), DCLG: "12.32 [...] In exercising the statutory and national policy duties, it is not in my estimation sufficient to contend that, simply because it would be possible to see both a cultural heritage asset and all or part of one or more of the proposed turbines from any particular position, that the setting of the asset would be compromised. Rather, the setting or view must be one of some special significance to the asset concerned"; confirmed by the Secretary of State for Communities & Local Government, 2009. Appeal Decision APP/W0530/A/07/2059471 *Wadlow Farm, Six Mile Bottom, Road, West Wrating, Cambridgeshire, CB1 5NE* (allowed, Wadlow Wind Farm, South Cambridgeshire District), DCLG; "15. The Secretary of State agrees with the Inspector's conclusion [...] that the visibility of turbines from [...] cultural heritage assets is not, itself, sufficient reason to reject wind turbine development unless there is evidence that such visibility will lead to actual harm. [...]". Again: The Planning Inspectorate (FIELDHOUSE, E.) 2012 Appeal Decision: APP/C3430/A/11/2162189 *Land at New House Farm, Brineton, Shifnal, TF11 8NF* (refused Wind Farm, South Staffordshire), DCLG; "40. The fact that modern high structures such as turbines might be visible in the same view as a listed building or would be seen from, towards or across a conservation area does not necessarily make them unacceptable. [...]". Again: The Planning Inspectorate (THOMAS, R.) 2012. Appeal Ref: APP/C1625/11/2155923 *Agricultural land at Standle Farm, bounded by the M5 and A38, Stinchcombe, Gloucestershire, GL13 9HD* (dismissed, Stroud District), DCLG; "58. The fact that the proposed turbines might be seen from a listed building does not necessarily mean that they would fall within its setting, unless the views outward from the building have been intended, optimised or designed for that purpose. [...]".

³³ Cf. OWEN-JOHN, H. 2008. Going with the wind. *Conservation Bulletin* 57 (Spring 2008 "Adapting to a Changing Climate"):30-31. English Heritage. "[...] There should not, however, be a presumption that, because wind turbines are visible from an historic asset or intrude on views of it, there should be an objection to the proposal." (p.31).



parameter commonly used in the EIA process to underpin a two-dimensional 'matrix', with cells coded to show resulting EIA-significance. Logically, the impact parameter must form part of the overall professional judgment but it is nevertheless impossible to codify in a simple manner³⁴. In particular, heritage-significance and potential development impact are certainly not 'independent variables' and only a clear explanation of reasoning in any given case can communicate the judgment process accurately. Furthermore, in addition to (or subsumed within) 'magnitude', other impact characteristics must be considered, including probability of occurrence, extent, complexity, seasonality, duration and reversibility. Therefore, relying upon professional judgment of impact, it is the parameter of 'harm' (the 'resultant' assessed from weighing heritage-significance against likely negative development impact) which appears in the government guidance concerning the historic environment.

Harm to Cultural Heritage Interests

Material Harm

- 4.31 There is no clear definition of the term 'harm', in the context of the historic environment, in any statute or national policy or guidance. Nevertheless, in this context, the Framework (and PPS5 before it) states that 'harm' is the result of detriment to the 'heritage-significance' of an asset, in terms of one or more categories of 'special interest' (architectural, archaeological, artistic or historic).
- 4.32 Remaining difficulty lies, not in the generality of the concept (which requires the exercise of professional judgement) but, rather, in the consistent definition of a 'lower threshold'. Professional usage has long included assessment findings of 'adverse effects' or 'negative impacts' at the 'negligible' or 'minor' levels, whilst taking such findings as, for instance, 'not EIA-significant'. It therefore seems advisable to adopt a terminology of 'harm' which will make it clear that some lower threshold of relevance has indeed been crossed.

³⁴ Cf. English Heritage (May 2011). *Seeing the History in the View: a method for assessing heritage significance within views*. In Table 3 (p.22), under adverse effects, EH simply recognise three levels of impact as development which "erodes to a minor extent" ("low"), "erodes to a clearly discernible extent" ("medium") or "severely erodes" ("high") the heritage-significance; no attempt is made to provide any sort of yardstick or calibration, although it is noted in the accompanying text that "magnitude of impact should as far as possible be objective, reasoned and quantifiable" (nothing further is said concerning this last criterion, which presumably refers merely to the 3-rank classification in the Table).

- 4.33 PPS5 contained, in the context of enabling development, the following policy (emphasis added):

HE11.1 Local planning authorities should assess whether the benefits of an application for enabling development to secure the future conservation of a heritage asset outweigh the disbenefits of departing from the development plan (having regard to the requirements of section 38(6) of the Planning and Compulsory Purchase Act 2004) or from national policies, taking into account whether:

- it will **materially harm** the significance of the heritage asset or its setting*

[...]

- 4.34 The approach to this particular issue (enabling development) was modified in the Framework but another policy contains another reference to materiality (emphasis added):

*65. Local planning authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design (unless the concern relates to a designated heritage asset and the impact would cause **material harm** to the asset or its setting which is not outweighed by the proposal's economic, social and environmental benefits).*

- 4.35 The courts have adopted this terminology. For instance, Ouseley J in *Trillium*³⁵ has found as follows (emphasis added):

*182. The Council did not have to decide whether Trillium would demolish the building. It merely had to consider properly whether there were reasonable grounds for concluding that there was such a degree of risk that Trillium would demolish 307 were it consulted, that the Council was justified in reaching a designation decision without consulting Trillium or the other building owners. It also had to conclude that there would be **material harm** to the potential Conservation Area from demolition. If that was so, then there was no breach of the legitimate expectations which Trillium otherwise was entitled to see fulfilled.*

- 4.36 Similarly, Lang J in *Sea & Land Power & Energy*³⁶, noting that the Inspector had been correct, has found as follows (emphasis added):

*36. In my judgment, the principal issue in the appeal was whether, despite the benefits which it would provide, planning permission for the development should be refused. It would be perfectly clear to an informed reader of the decision letter that the reason why planning permission should not be granted was because of the "**material harm**" it would cause "to the character and appearance of the area" (paragraph 28). [...]*

³⁵ *Trillium (Prime) Property GP Limited v London Borough of Tower Hamlets* [2011] EWHC 146 (Admin).

³⁶ *Sea & Land Power & Energy Ltd v Secretary of State for Communities & Local Government* [2012] EWHC 1419 (QB).

- 4.37 In a number of recent Planning Appeal decisions, Inspectors have followed this usage (emphasis added):

586. [...] *The impact of the development would not be so severe that the setting of these [designated] heritage assets would be **materially harmed**. This conclusion is shared by the Council and EH.*³⁷

93. No **material harm** to other heritage assets has been identified by either the Council or English Heritage. At a late stage before the Inquiry the [local residents'] heritage witness introduced a series of other designated heritage assets for which it was claimed that there would be 'less than substantial harm' to their setting and asked that this be taken into account. However this was typically in the absence of any evidence of how harm would be caused to their heritage significance or, if so, what degree of less than substantial harm would occur.

[...]

95. [...] *However that view is not of obvious importance to the heritage significance of the church and no **material harm** to the setting or significance of the church has been claimed by the Council or English Heritage.*³⁸

69. *The setting of the Church in Southoe is restricted and effectively constrained by topography, built development and vegetation. The very minor glimpses of turbine blades would not materially intrude into this setting, and hence would not harm it. Midloe Grange, a listed building, has a group of buildings around it, together with a moat, which defines a relatively tight setting which would be predominantly unaffected by the proposal. Any impact on setting would be minimal and not harmful. Other listed buildings and conservation areas are sufficiently distant and with settings of restricted definition which mean that no **material** effect on those settings would occur.*³⁹

- 4.38 Current draft government guidance⁴⁰ also adopts this usage (emphasis added):

What is the setting of a heritage asset and how should it be taken into account?

[...]

*[Local planning authorities] may also need to consider the fact that developments which **materially detract** from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its ongoing conservation.*

³⁷ The Planning Inspectorate (MAJOR, P.) 2012. Electricity Act S36 Inquiry Ref: DPI/A0655/11/13 Proposed Wind Farm Development, Frodsham Canal Deposit Grounds, Cheshire (Cheshire West & Chester), Report to the SoS for ECC. Report accepted by the SoS, Application allowed.

³⁸ The Planning Inspectorate (MELLOR, R.P.E.) 2012. Conjoined Appeal Refs: APP/V2635/A/11/2154590 Land (known as the Chiplow site) between Bagthorpe, Barmer and Syderstone, Main Road, Bagthorpe, King's Lynn, Norfolk PE31 8SR (approved, Chiplow Windfarm, King's Lynn & West Norfolk Borough), DCLG; and APP/V2635/A/11/2158966 Land (known as the Jack's Lane site) at Barwick Hall Farm, Barwick Road, Stanhoe, King's Lynn, Norfolk PE31 8PZ (approved, Jack's Lane Windfarm, King's Lynn & West Norfolk Borough), DCLG.

³⁹ The Planning Inspectorate (MAJOR, P.) 2013. Appeal Ref: APP/H0520/A/12/2188648 Land at Church Farm, Rectory Lane, Southoe, Cambridgeshire (approved, Common Barn Windfarm, Huntingdonshire District Council), DCLG.

⁴⁰ August 2013. *National Planning Practice Guidance* (Draft released as a Beta web-based resource at <http://planningguidance.planningportal.gov.uk/>).

4.39 Similarly, a reasonable interpretation of the phrase “*significant harm*” used by Jay J in *Bedford Borough Council* ⁴¹ would seem to be ‘material harm’, in the usage discussed in the present appendix (emphasis added).

5. In this context, I also refer to two specific matters which were drawn to my attention through evidence filed by the second respondent. First of all, before the inspector's decision under challenge, a previous inspector had considered these issues, or at least most of them [... at DL50]:

"In terms of heritage matters, references have been made to Hinwick House and its parkland Hinwick Hall, the Podington Conservation Area, and Chellington Church. There would be some views of the turbines over and through trees and woodland from these places. However, I find that the distances would be such that their settings would not be adversely affected. I note that neither English Heritage nor the Council have raised objections on heritage grounds."

*6. So the position at the first appeal was not even that some harm would be caused. My interpretation of DL50 is that no **significant harm** would be caused.*

4.40 The same point had already occurred in the government guidance in EN-1 ⁴² (emphasis added).

5.3.11 [relating to SSSIs, some of which are archaeological]

*Footnote 102: [...] the term 'harm' should be understood to mean '**significant harm**'.*

4.41 Even English Heritage guidelines have long included the explicit concept of materiality (emphasis added):

*12. Intervention in significant places primarily to increase knowledge of the past involving **material loss** of evidential values, should normally be acceptable if: [...]*

[...]

14. New work or alteration to a significant place should normally be acceptable if:

[...]

*b. the proposal would not **materially harm** the values of the place, which, where appropriate, would be reinforced or further revealed;*

[...]

157. Enabling development that would secure the future of a significant place, but contravene other planning policy objectives, should be unacceptable unless:

*a. it will not **materially harm** the heritage values of the place or its setting*

[...] ⁴³

*120. When assessing any application for development within the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change and the fact that developments that **materially detract***

⁴¹ *Bedford Borough Council v Secretary of State for Communities & Local Government and Nuon UK Ltd* [2013] EWHC 4344 (Admin).

⁴² EN-1 2011. *Overarching National Policy Statement for Energy*.

⁴³ English Heritage 2008. *Conservation Principles*.

from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its ongoing conservation.

[...]

*130. Where development will lead to **loss of a material part** of the significance of a heritage asset, policy HE12.3 requires local planning authorities to ensure that developers take advantage of the opportunity to advance our understanding of the past before the asset or the relevant part is irretrievably lost. [...]*⁴⁴

- 4.42 This concept of 'material harm' can therefore be employed legitimately to indicate the crossing of the lower threshold of the category of effect labelled "*less than substantial harm*", in PPS5 and subsequently in the Framework.

Substantial Harm

- 4.43 In the Framework (cf. paragraphs 132-4), and in PPS5 before it, the lower threshold of "*substantial harm*" is, by definition, the upper threshold of "*less than substantial harm*". These two 'levels' of harm explicitly attract a different response in Planning and the location of the boundary between them is therefore of primary importance.

- 4.44 Early approaches to locating this boundary attempted to draw support from the exact wording and organisation of PPS5. For instance, the present author made the following suggestion in Appeal evidence⁴⁵:

6.4 In Policy HE9.1, PPS5 states that "substantial harm" to any designated heritage asset should be "exceptional" ("wholly exceptional" in the case of assets of the highest importance). To gain a 'feel' for what is meant by "substantial harm", it should be noted that it is associated with (and therefore cannot be so very far from or less than) "loss of", that is, "loss of a historic asset or of its setting". Now, this would obviously be a severe state of affairs and one may reasonably ask [... case specific questions].

- 4.45 Given the success of this argument, the present author continued to include it in the methodological sections of subsequent cultural heritage Environmental Statement chapters. In one case⁴⁶, this resulted in an LPA querying the point directly with the Department for Communities & Local Government:

[LPA asking, inter alia, with original stress:] What I am concerned about is that the definition of "substantial harm" In PPS 5 is not entirely clear. The phrase is

⁴⁴ English Heritage 2010. *PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide.*

⁴⁵ S.N. COLLCUTT (November 2010), *Cultural Heritage – Proof of Evidence* BED CH.1, Wind Farm Planning Appeal, Westnewton, Allerdale, Cumbria (PINS Ref: APP/G0908/A/10/2132949; Allerdale Borough Council Ref : 2/2008/0997).

⁴⁶ Exchange of Letters: J. ARNOLD (Head of Planning & Environmental Health, Bolsover District Council) to S. Quartermain (Chief Planner, DCLG), 180511 (Ref. 10/00463/FULEA/C2017); P. WEATHERBY (Planning – Development Management, DCLG) to J. Arnold, 290711 (Ref. ER/66/018249/11); replying on behalf of the Chief Planner.

used in the same sentence/context as "total loss" and "total loss of significance" and so one might reasonably conclude that substantial harm is a level of harm which is [...] comparable, albeit lesser in magnitude, to total loss.

Having regard to the above it would be helpful if you can let me know if you are able to provide any clarification as to what constitutes "substantial harm".

[DCLG replying, inter alia:] The term 'substantial harm' is not defined in the PPS or in the accompanying Practice Guide, and I think it would be difficult to provide a definition that would fit every application where the consideration of the amount of harm caused to a heritage asset was at issue. As with many questions of this sort, it is a matter of fact and degree in each case, though your conclusion that it is comparable to total loss seems a reasonable one. [...]

4.46 The separation of 'less than substantial harm' and 'substantial harm or loss' into two distinct categories, each requiring a specific response, has been maintained in the Framework. Thus, paragraph 134 deals with the former and paragraphs 132-3 with the latter. At no point does the Framework make any differentiation between the Planning treatment appropriate to cases of "substantial harm" and of "(total) loss", even if a different absolute quantum of effect is implicit.

4.47 The dichotomy suggested above was eventually adopted explicitly (if indirectly) in an Appeal decision ⁴⁷:

71. [...] there is a need to make some sort of assessment of how the concept of substantial and less than substantial harm can be calibrated. The Framework is silent on the matter, as was PPS5 before it. If one looks to the PPS5 Practice Guide for clarification, substantial harm, demolition or destruction are dealt with under the same heading in paragraphs 91 to 95. There is no specific guidance or example of where on a notional sliding scale of harm, harm to a designated heritage asset might become substantial. The Council's witness maintained that substantial harm sits half-way between no harm and total loss.

72. However, a fair reading of paragraphs 91-95 suggests that the author(s) must have considered substantial harm to be something approaching demolition or destruction; otherwise there would be little sense in dealing with them under the same heading. On that basis, I adopt the position taken by the appellant's witness; that substantial harm lies further along that sliding scale, approaching demolition or destruction. As set out, no part of the fabric of any of the designated heritage assets identified would be affected by the proposals. As a consequence, a good deal of their archaeological, architectural, artistic and historic interest would remain intact despite any effect on their settings.

4.48 However, it is necessary to consider the above decision in the round. The Inspector went to great pains in paragraphs 75-110 of his report to analyse setting effects, each time explicitly finding "less than substantial harm"; therefore, it is clear that his remarks in

⁴⁷ The Planning Inspectorate (GRIFFITHS, P.) 2012. Appeal Refs: APP/K0235/A/11/2160077 & APP/G2815/A/11/2160078 Chelveston Renewable Energy Park, Chelveston Airfield, Chelveston (turbine appeals allowed, Bedford Borough & East Northamptonshire District), DCLG.

paragraph 72 (quoted above) must not be taken to indicate an *a priori* position, that there can never be 'substantial harm' on setting grounds alone (see below).

4.49 The same Inspector took the argument a little further forward in a subsequent case ⁴⁸:

22. Bearing in mind the advice in the Framework, the crux is whether that harm to that significance is substantial, as the Council and EH posit, or less than substantial. The Framework is silent on the difference and does not indicate where, on a sliding scale between no harm and complete destruction, substantial harm falls. Neither the Council nor EH, in their representations, offer any useful explanation of where they consider that point is reached.

23. If one looks to the still extant PPS5 Practice Guide for clarification, substantial harm, demolition or destruction are dealt with under the same heading in paragraphs 91 to 95. Those paragraphs deal almost exclusively with demolition and if substantial harm is something very far removed from that, as the Council and EH suggest, it seems reasonable to expect that there would have been some explanation. Otherwise, I see no good reason why these matters should have been dealt with together. The only sensible conclusion, in the light of the advice in the PPS5 Practice Guide, is that substantial harm, while not equating to demolition or destruction, is a degree of harm that falls not very far short of it. That conclusion is consistent with the way the term 'substantial' has been used in Appendix D to Circular 01/01 [FOOTNOTE 12] when dealing with the implications of the House of Lords judgement in the case of Shimizu (UK) Ltd v Westminster City Council [1997] 1 All E.R. 481 in relation to the total or substantial destruction of unlisted buildings in conservation areas.

[FOOTNOTE 12: Circular 01/01: Arrangements for Handling Heritage Applications – Notification and Directions by the Secretary of State ⁴⁹]

4.50 One may note at this point that the question raised in some quarters since the appearance of PPS5 as to whether or not an adverse effect upon setting could of itself amount to 'substantial harm' has been settled in subsequent guidance ⁵⁰.

34. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of wind turbines on such assets. Depending on their scale, design and prominence a wind turbine ⁵¹ within the setting of a heritage asset may cause substantial harm to the significance of the asset.

4.51 Current draft government guidance ⁵² also tackles this issue:

How to assess if there is substantial harm?

What matters in assessing if a proposal causes substantial harm is the impact on the significance of the asset. As the National Planning Policy Framework makes clear, significance derives not only from a heritage asset's physical

⁴⁸ The Planning Inspectorate (GRIFFITHS, P.) 2013. Appeal Ref: APP/Q3305/A/12/2181741 Warren Farm, Old Frome Road, Masbury, Wells BA5 3HB (small turbine appeal allowed, Mendip District), DCLG.

⁴⁹ [OAA] Note, however, that the *Shimizu* judgment itself does not use the actual word 'substantial'.

⁵⁰ DCLG July 2013. *Planning Practice Guidance for Renewable and Low Carbon Energy*.

⁵¹ This is also recognised explicitly as being the case for other large-scale developments (such as solar power).

⁵² August 2013. *National Planning Practice Guidance* (Draft released as a Beta web-based resource at <http://planningguidance.planningportal.gov.uk/>).

presence, but also from its setting. While the impact of total destruction is obvious, partial destruction is likely to have a considerable impact but, depending on the circumstances, it may still be less than substantial harm or conceivably not harmful at all. Similarly, works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all. However, even minor works have the potential to cause substantial harm ie the scale of the works is not necessarily determinative of whether any harm caused is substantial or less than substantial.

A key factor in determining whether the works constitute substantial (ie serious) harm is if the adverse impact goes to the heart of why the place is worthy of designation – why it is important enough to justify special protection. This has to be assessed at the time of the decision in all cases.

4.52 The first paragraph above comprises a not unreasonable proviso (calling for a judgement). The second paragraph, although reinforcing the primacy of heritage-significance, seeks to draw an equivalence between the two adjectives “*substantial*” and “*serious*”. This is not a ‘new’ proposition, merely an interpretation of paragraph 92 on the English Heritage *Practice Guide* ⁵³. The EH paragraph in question does not actually make the equation between the two adjectives; what is mentioned is “[...] *such serious harm* [...]”, clearly referring to harm so serious as to be qualified properly as ‘substantial’. Whether or not this guidance can stand in these exact terms in the light of the *Bedford Borough Council* case (see below) remains to be seen, although the stress on effects upon heritage-significance appears wholly acceptable.

4.53 We now come to the recent case of *Bedford Borough Council* ⁵⁴, in which Jay J considers the matter of ‘substantial harm’ in some detail. To do this, he finds that he needs to consider the matters of “*physical harm*” (to fabric) and “*indirect harm*” (to setting) ⁵⁵.

4.54 Speaking of the Framework, Jay J notes:

18. Secondly, and perhaps less straightforwardly, I turn to address the third sentence of paragraph 133. I agree with [the Claimant] that this is examining the different ways in which significance may be damaged, to use a neutral term not in fact deployed in this paragraph. Significance may be harmed through alteration of the asset, ie physical harm, or development within its setting, ie non-physical or indirect harm. Significance may be lost through destruction of the asset, or, in a very extreme case, development within its setting.

⁵³ English Heritage, March 2010, *PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide*.

⁵⁴ *Bedford Borough Council v Secretary of State for Communities & Local Government and Nuon UK Ltd* [2013] EWHC 4344 (Admin).

⁵⁵ As an aside, not diminishing a jot the generality of the argument here, the present author would note that there are some cases (relatively few) in which a development could cause physical harm to a significant element of the fabric of setting (not to the fabric of the asset itself). To cite an example, the removal of a natural feature (hill, lake), which served as the focus of a designed vista but which lay well outside the ‘designated site’, would constitute physical harm. As long as it is recognised that a direct effect is not intrinsically more ‘severe’ than an indirect one, and that impact upon heritage-significance is the determinative criterion, there should be no difficulty.

4.55 There would appear to be a typographical error in the official transcript here, since Jay J is clearly referring to paragraph 132 (not 133 as written) of the Framework, when he speaks of the “*third sentence*” (i.e. “[...] *Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. [...]*”). Note that, both in the Framework and in this judgment, the terms ‘loss’ and ‘lost’ refer to (partial or total) destruction and thus (usually) to the highest order of harm, namely ‘substantial harm’. Therefore, one of the conclusions that may be drawn from the above statement by Jay J is that substantial harm may indeed arise through setting effects (not just direct fabric effects), albeit “*in a very extreme case*”.

4.56 Jay J continues:

19.[The Claimant’s] submission is that paragraph 132 is looking at both types of harm, physical and non-physical, and substantial as well as less than substantial harm. I agree with [the Claimant’s] analysis of paragraph 132 to that extent, but do not accept that it significantly enhances his argument on ground 1. It is common ground that the instant case is only about non-physical harm. It is also plain in my judgment that paragraphs 131 to 134 are not purporting to quantify harm or explain what is meant by the adjective “substantial”.

4.57 Jay J then pursues his analysis, turning to the English Heritage *Practice Guide*:

20.The inspector drew some assistance from the practice guide, and in my judgment he was right to do so. The real question is whether he misunderstood it. The heading before paragraph 91 [...] is “Substantial harm, demolition or destruction”. Paragraph 91 provides:

“Where substantial harm to, or total loss of, the asset’s significance is proposed a case can be made on the grounds that it is necessary to allow a proposal that offers substantial public benefits. For the loss to be necessary there will be no other reasonable means of delivering similar public benefits, for example through different design or development of an appropriate alternative site.”

Then paragraph 92:

“Alternatively a case can be made for such serious harm or loss on the grounds that the designated heritage asset is generally redundant itself and it is preventing all reasonable uses of the site in which it sits ... ”

21.It is clear in my view that the epithets “substantial” and “serious” are to be read as synonymous. It could not sensibly have been otherwise. Further, it is also plain in my judgment that paragraphs 91 to 95 are not, pace [the Claimant’s] submissions, limited to physical harm. Express reference is made to the asset’s significance. Paragraph 14 of the practice guide addresses this [...]. These interests include “historic, architectural, artistic, traditional or archaeological.”

22. *It is not arguable in my view that the practice guide excludes non-physical or indirect harm. But it is against this background that DL42 [Inspector's Report ⁵⁶] needs to be understood. I set it out in full [...]:*

"As a precursor to the assessment of impacts on the setting of individual heritage assets, it is necessary to address the concept of significance. This is defined in the framework as the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. Furthermore, it is necessary to assess the calibration of substantial and less than substantial harm. This is dealt with in paragraphs 91 to 95 of the still extant practice guide that accompanied PPS5. There is no specific guidance as to the level at which harm might become substantial but on a fair reading, it is clear that the author(s) must have regarded substantial harm as something approaching demolition or destruction."

23. *[The Second Defendant] accepted that the meaning would have been even clearer had the words "to significance" been interpolated after "substantial harm" in that final sentence, but I agree with him that their absence does not alter the sense. The inspector clearly had in mind substantial harm to the setting. Not merely does he say that expressly, the whole appeal before him was not about physical harm.*

4.58 Jay J continues with his consideration of the correct juxtaposition of the concepts of 'setting effects' and 'substantial harm':

24. At one stage I was attracted by [the Claimant's] submission that the inspector was falsely comparing the physical with the non-physical, and by using the formulation "something approaching demolition or destruction", he was applying a concept which was solely apt to the case of physical harm. However, this is an incorrect reading of the inspector's decision. On further analysis, I agree with [the Second Defendant] that the inspector was not setting up a dichotomy. He was applying a unitary approach to a unified concept of significance. What the inspector was saying was that for harm to be substantial, the impact on significance was required to be serious such that very much, if not all, of the significance was drained away.

25. Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced.

4.59 If one may distil the key elements of this judgement on the point in question, Jay J finds (a) that the test for 'substantial harm' applies to both fabric and setting effects and (b) that the threshold of 'substantial harm' has to be set high - the words and phrases Jay J uses are clear and there would certainly be no merit in a gloss upon them here.

⁵⁶ If the wording of the Airfield Farm (Podington) Inspector's Report seems familiar, it is because this is the same Inspector (GRIFFITHS, P.) as cited earlier in this appendix, concerning other Planning Appeal cases.

4.60 Looking back at the chain of argument set out above, one notes that the Inspector's decisions and the judgment of Jay J pass, explicitly, through the explication set out in the *EH Practice Guide*, especially at paragraphs 91-92 of the latter. However, there is absolutely no difference (beyond technical details) in the propositions of EH (as cited by Jay J in paragraph 20 of his judgment, and repeated at paragraph 4.57 above) from those expressed in Framework paragraph 133. The only apparent difference is in the EH section heading of "*Substantial harm, demolition or destruction*" but "*demolition or destruction*" simply refer to cases of "*loss*", in the usage of the Framework. In paragraphs 24-25 of his judgment (cited at paragraph 4.58 above), Jay J comes full circle and sets out everything one needs to know about the characterisation of 'substantial harm'. In this context, the present author respectfully suggests that the last sentence of paragraph 19 of the judgment ("[...] *It is also plain in my judgment that paragraphs 131 to 134 are not purporting to quantify harm or explain what is meant by the adjective "substantial".*") might be somewhat too broad, if taken in isolation, since the organisation of the Framework, albeit more compact than that of the *EH Practice Guide*, would not seem to be materially different in its import. The fact that current draft government guidance (cited at paragraph 4.51 above) notes that physical removal of some or part of an asset does not always point to the correct quantum of 'harm' does not invalidate the proposition that, by the form of words in the Framework itself, the lower boundary of "*substantial harm*" must be set high on the scale of adverse effects upon heritage-significance.

4.61 Before leaving this topic, it is worth noting that Framework paragraph 133 requires that, if substantial harm is indeed found, refusal should ensue "*unless [inter alia] it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss*". In the *SAVE v Sheffield* [2013] case⁵⁷, involving proposed demolition of the Edwardian Wing of the LBII Jessop Hospital building in Sheffield, heard in the Court of Appeal before Lord Justice Longmore and Sir David Keene, this matter of weight was considered in detail. Keene LJ(*ref*) found:

17. *In the light of all the passages [in the Officer's Report] to which I have referred, and indeed of the reports read as a whole, it seems to me that the Council was looking at what benefits the demolition would bring, and at what benefits retention or partial retention would bring, and it came to the conclusion that those benefits would be significantly less in the absence of demolition and sufficiently so as to override the undoubted value of the building and therefore to justify demolition.*

⁵⁷ *R (on the application of Save Britain's Heritage & the Victorian Society) v Sheffield City Council and the University of Sheffield* [2013] EWCA Civ 1108.

In the paraphrase by Chris Costelloe (Director of the Victorian Society) ⁵⁸, the Court confirmed that Framework paragraph 133 "*should be interpreted as meaning that where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local authorities must look at the benefit of demolition, rather than just the benefit of the overall scheme*".

Practical Problems of Vocabulary

- 4.62 A number of 'equivalences' in terminology concerning harm to the historic environment have been noted above.
- 4.63 The most critical 'equivalence' is that between "*substantial*" and "*serious*", at least allowed by Jay J and in the current draft government guidance, despite the fact that this is not what English Heritage originally set out in their *Practice Guide* (as noted at paragraph 4.52 above). Another possible 'equivalence' is that apparently made by Jay J between "*significant*" and 'material' (in the sense discussed above in this appendix).
- 4.64 Whilst explanations of meaning, especially from the judiciary, are most helpful to practitioners, the present author here makes a plea for 'operational exactitude'. The Framework uses the expressions "*material harm*" and "*substantial harm*". When an assessor, consultee and decision-maker see these expressions, each should understand the same thing (under the guidance of the courts), such that any disagreement would be based properly upon the substantive assessment of effect upon heritage-significance, rather than upon uncertainty as to what conclusion was actually being reported. It is best professional practice to communicate the results of assessment in the terms of the current Planning policy, in this case, the Framework.

Environmental Impact Assessment Procedures

- 4.65 As noted above, accepted professional practice in Environmental Impact Assessment has long recognised that it is in the public interest that assessors should recognise and report adverse effects of 'negligible' and 'minor' EIA-significance ⁵⁹. Unfortunately, the vocabulary to describe higher levels of effect remains variable.

⁵⁸ <http://www.victoriansociety.org.uk/news/court-of-appeal-allows-demolition-of-jessop-hospital-by-sheffield-universit/>.

⁵⁹ That it is necessary for the decision-maker to apply judgement in bringing the various Planning and EIA requirements together is shown in the chain of proceedings leading to *R (on the application of Evans) v Secretary of State for Communities & Local Government, Babergh DC and Persimon Homes Ltd* [2013] EWCA Civ 115; [2013]

4.66 The needed ‘well-defined vocabulary’ has appeared in the only Government recommendation (itself only in draft) to cover the issue of EIA-significance ⁶⁰:

EXAMPLE BOX: GENERIC SIGNIFICANCE CRITERIA	
Significance	Criteria
Extreme	These effects represent key factors in the decision-making process. They are generally, but not exclusively associated with sites and features of national importance and resources/features which are unique and which, if lost, cannot be replaced or relocated.
Major	These effects are likely to be important considerations at a regional or district scale but, if adverse, are potential concerns to the project, depending upon the relative importance attached to the issue during the decision making process.
Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they are of relevance in the detailed design of the project.
Negligible	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

4.67 The “*substantial harm*” of the Framework would certainly arise from “*extreme adverse effects*” in the above tabulation; note that this includes “*loss*” of features of “*national importance*”. Moving down the scale, “*major adverse effects*” are clearly “*material harm*” but note how the table uses the phrase “*at a regional or district scale*”. It is not likely that the DCLG intended that we understand this to refer only to effects on features intrinsically of ‘merely’ regional or district importance; there can surely be an effect that is a ‘local issue’ upon an aspect of an asset that is itself (overall) of ‘national importance’. Indeed,

J.P.L. 8, 1027-1037. Beatson LJ found (*inter alia*) that the SoS could not be faulted in arriving at a screening decision that a proposed housing development was not likely to have (there was no ‘real risk’ of) significant effects on the environment (and thus did not require EIA). It was common ground that the English Heritage advice was that there would indeed be harm to the historic environment (due to visibility of some of the proposed houses within the grounds of a Grade I Listed house, Abbas Hall, as well as to effects upon landscape associations with the work of the painter, Thomas Gainsborough) but less than substantial harm; EH noted that this in itself did not justify the development requiring EIA (but might do so if taken together with other effects on the environment). Thus, the SoS and EH agreed, in the facts of the case, (a) that development visibility would cause ‘harm’, (b) that this ‘harm’ would be less than substantial, and (c) that this alone did not constitute a ‘likely EIA-significant effect’ – in this, there was no error of law. One may also note, as implied by Beatson LJ at paragraph 26 of the J.P.L report, that the ruling certainly does not disqualify the ‘harm’ perceived by EH (and others) from being considered, in combination with other factors, as potentially Planning-significant, in the sense mentioned in the footnote to paragraph 4.4 above.

⁶⁰ DCLG June 2006. *Environmental Impact Assessment: A guide to good practice and procedures – a consultation paper* Box on p.40. This vocabulary may also be applied to direct (fabric) impacts, should the need arise. Note that this draft DCLG guide is cited as relevant in the document: English Heritage 2011. *The Setting of Heritage Assets: English Heritage Guidance* 25th October, 2011.

because it is reasonable to translate this concept into the actual assessment of EIA-significance, there can surely be aspects of nationally important assets (including setting aspects) which are themselves of lesser (regional, district or local) heritage-significance.

4.68 The tabulation then notes that “*moderate*” adverse effects “*are not likely to be key decision making issues*” (remembering that it is for the decision-maker to make the final judgement here over what is and what is not “*key*”, not the assessors). Here we are clearly getting close to the lower threshold of EIA-significant ‘harm’; indeed, in respect of a finding for an individual asset, the present assessment will use the term “*moderate*” to refer to an effect which is not EIA-significant. However, we are warned to check on the possibility of added Planning-significance due to cumulative effects (both in the sense of inter-project effects and the aggregate of effects from one project on a number of assets)⁶¹.

4.69 Any “*minor*” effects “*are unlikely to be of importance in the decision making process*” (again, ultimately a matter for the decision-maker), that is, EIA-significant ‘harm’ is unlikely^{62 63}.

4.70 A broad concordance can therefore be drawn between EIA terminology and that in the Framework, as follows:

not EIA-significant	EIA-significant	
negligible/minor/moderate effects	major effects <i>± subject to professional judgement over potential intra-project cumulative effects</i>	extreme effects
not material harm	material but less than substantial harm	substantial harm

⁶¹ It is the presence of a class of effects that is central in a five-point scale (rather than the four-point scale sometimes used in EIA) which renders this ‘vocabulary’ particularly useful in highlighting candidates for a possible cumulative/combinatorial effect that might, in aggregate, cross the threshold of significance.

⁶² Cf. The Planning Inspectorate (KINGABY, J.C.) 2010. Inspector’s Report APP/E2001/A/09/2101421 *Land north of Sober Hill Farm, Stoneknowle Hill, North Newbald, East Riding of Yorkshire YO43 4TG* (recommendation for approval on SoS recovered decision, wind farm, East Riding of Yorkshire), DCLG; in which it was found that the proposed six turbines, at a remove of 1.1 km, would have “*only a modest impact*” (paragraph 171) and would “*not have a materially harmful effect*” (paragraph 172) upon a CA with an LBI church; these effects were not therefore included in the balancing exercise by either the reporting Inspector or the Secretary of State (appeal allowed).

⁶³ Cf. The Planning Inspectorate (MAJOR, P.) 2012. Electricity Act S36 Inquiry Ref: DPI/A0655/11/13 *Proposed Wind Farm Development, Frodsham Canal Deposit Grounds, Cheshire* (Cheshire West & Chester), Report to the SoS for ECC. “586. [...] *The impact of the development would not be so severe that the setting of these [designated] heritage assets would be materially harmed. This conclusion is shared by the Council and EH.*” Report accepted by the SoS, Application allowed.

- 4.71 Using this approach, it is possible to address the assessment needs (in preparation for the decision-maker's consideration of the appropriate Planning balance) of the P(LB&CA)A 1990 and of the Framework paragraph 137 in respect of 'preserving [or enhancing/better revealing]' in the terms of 'keeping from harm [or sometimes even positively improving]' set out in *South Lakeland* ⁶⁴.
- 4.72 Just like heritage-significance, harm stands to be assessed, clearly explained and weighed ⁶⁵. The first two stages fall within the Cultural Heritage remit, the last (in respect of striking a balance) being one for Planners and decision-makers to consider.
- 4.73 Finally, in respect of setting, it is important to note that the Cultural Heritage and the Landscape & Visual Planning topics may not be 'merged' or in any way confused, in either policy or proper assessment parameters ⁶⁶. It is also germane to note that Historic Landscape character areas do not themselves have setting ⁶⁷.

5. PRACTICALITIES

- 5.1 The proposed scope of and practical steps towards assessment are set out in the "Introduction", "Study Area" and "Baseline Studies & Methodology" sections of the main Scoping Request.

⁶⁴ *South Lakeland DC v Secretary of State for the Environment* [1991] 2 P.L.R. 97; *South Lakeland District Council v Secretary of State for the Environment and Carlisle Diocesan Parsonages Board* [1992] 2 A.C. 141; [1992] 2 WLR 204; [1992] 1 P.L.R. 143, HL.

⁶⁵ The Secretary of State for Communities & Local Government, 2009. Appeal Decision APP/W0530/A/07/2059471 *Wadlow Farm, Six Mile Bottom, Road, West Wrating, Cambridgeshire, CB1 5NE* (allowed, Wadlow Wind Farm, South Cambridgeshire District), DCLG: "16. Against these conclusions that there would be no actual harm to most of the small settlements in the vicinity, the Secretary of State agrees with the Inspector's reasoning and conclusions [...] that the proposed turbines would neither preserve nor enhance the setting of [...] certain assets]. However, the Secretary of State also agrees with the Inspector [...] that these negative findings are not determinative and that a balance of considerations has to be undertaken. Thus, for the reasons given [...], the Secretary of State agrees with the Inspector that the desirability of preserving the settings of [...] the assets in question] is not the most compelling factor in weighing the degree of harmful effect against the range of potentially positive effects and the need for renewable energy."

⁶⁶ Cf. *R (on the application of Enertrag (UK) Limited) v Secretary of State for Communities and Local Government & Others* (Queen's Bench Division, Administrative Court, March 9 2009) [2009] EWHC 679 (Admin); in finding that the Inspector in the Guestwick case did not confuse CH and L&V, Patterson DJ unequivocally upheld the proposition that it was indeed necessary to draw that substantive and policy distinction in the first place.

⁶⁷ Cf. The Planning Inspectorate (POPE, N.) 2012. Appeal Refs: Appeal Ref: APP/N1215/A/11/2160839 *Land between West Bourton & Whistley Farm, Silton, Gillingham, Dorset* (Silton Wind Farm, refused, North Dorset District), DCLG. Inspector Pope said: "64. I agree with the appellant that a historic landscape is not a heritage asset within the definition contained within the Glossary to 'the Framework'. Neither the development plan nor any of the policy guidance that I have noted above identifies the appeal site or the surrounding land as having the attributes of a heritage asset. Whilst it has historic character it is not a historic landscape with a setting. There are no significant 'relict landscapes' or 'unaltered settings' and there is no policy presumption that historic landscape character should be preserved. [...]".

APPENDIX 2

Residential Visual Amenity and Living Conditions Context

APPENDIX 2: Residential Visual Amenity and Living Conditions – Context

The approach taken by reporters in Scotland, and inspectors in England, confirms that in planning no individual has the right to a particular view. However, there may be a point when, by virtue of the proximity, size and scale of a development, a residential property would be rendered so unattractive a place to live that planning permission should be refused. The question of when a property becomes an unattractive place to live relates to the property and not to the occupier.

The matter of consideration of potential effects on living conditions has been examined at several public inquiries. A summary is provided here of a number of Inspector's decisions which have informed the approach and methodology for the proposed residential visual amenity study for Knightley Hall Wind Farm.

At Enifer Downs, North Dover, Inspector Lavender noted that *"when turbines are present in such number, size and proximity that they represent an unpleasantly overwhelming and unavoidable presence in main views from a house or garden, there is every likelihood that the property concerned would come to be widely regarded as an unattractive and thus unsatisfactory (but not necessarily uninhabitable) place in which to live."*¹⁸

The Inspector considered the extent to which:

- the visual experience from the dwelling and garden may be comparable to *"actually living within the turbine cluster"* rather than a turbine cluster being present close by; or
- the experience of the turbines is *"unpleasantly overwhelming and unavoidable"*.

In coming to this conclusion, the scale at which the turbines appear in views (related to their proximity and vertical scale), the extent of the horizontal angle of view occupied, and the degree of screening offered by vegetation and other buildings and features in the landscape were considered.

At the Burnthouse Farm appeal the Inspector noted that the approach taken by Inspectors at the Enifer Downs appeal should not be regarded as *"a mechanistic test"* but that a *"transparent and objective approach to assessing visual impact"* should be adopted¹⁹. In assessing the effect on visual outlook the Inspector posed the question:

"would the proposal affect the outlook of these residents to such an extent, i.e. to become so unpleasant, overwhelming and oppressive that this would become an unattractive place to live".²⁰

In considering these and other appeal decisions, the visual effect of the wind farm has to be commonly described as 'unacceptably overbearing', 'oppressive' or 'unpleasantly overwhelming and unavoidably present in main views' for there to be a potential unacceptable adverse effect on living conditions. Being able to see the turbines in itself does not demonstrate material harm to living conditions. A judgement should be made in the round and consider several factors.

The indicators: size, number and proximity, can be taken as a guide, as can indicators such as: whether the whole or part of the skyline will be affected (encirclement, or a feeling of being in a wind farm landscape); the focus and context of the existing view, and if there are other directions residents can look in which are not affected; the degree to which views will be blocked; the extent of turbines which will be seen (ie upper parts of turbines or their whole, visibility of associated structures such as tracks and the substation); the extent that they extend into the landscapes in which residents live (separation); and position on the skyline.

¹⁸ Paragraph 66 Land west of Enifer Downs Farm and east of Archers Court Road and Little Pineham Farm, Langdon, Appeal decision APP/X2220/A/08/2071880. 28 April 2009.

¹⁹ Paragraph 63 Land North of Burnthouse Farm, Appeal Decision APP/D0515/A/2123739. 6th July 2011.

²⁰ Paragraph 232 Land North of Burnthouse Farm, Appeal Decision APP/D0515/A/2123739. 6th July 2011.