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Dove View Solar Farm, Staffordshire

Planning Design and Access Statement



June 2014

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Awards and Recognitions



ACQ Magazine
UK Technical Advisor of the Year
2013 & 2012



Finance Monthly Magazine
UK Renewables Advisory Firm of the Year
2010

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1 Introduction

1.1 Summary of the planning application

This Planning, Design and Access Statement (PDAS) has been prepared on behalf of Sun and Soil Ltd for a proposed 5.1MWp solar farm at Dove View, Marchington, Uttoxeter, ST14 8JY. It accompanies a full planning application for a Solar Farm involving the installation of rows of solar photovoltaic panels and associated works including inverter housings, access tracks, security fencing, security cameras, temporary vehicular access, open space and other ancillary works.

The site was selected in preference to other possible locations since it:

- Is not within or adjacent to any sensitive site or designated area;
- Has a gentle topography;
- Has very good screening and low visibility;
- Is agricultural land Grade 3b; and
- Is in close proximity to a feasible grid connection.

We consider that this represents good practice when selecting sites for solar farms.

Furthermore, the site will be designed to encourage biodiversity by keeping the existing hedgerows, planting new hedgerow and encouraging wild flowers of native and diverse species to grow within the site, thereby providing the surrounding wildlife a long term habitat refuge.

The planning application is accompanied by a number of documents and assessments to ensure that the Local Planning Authority (LPA) has sufficient information to make an informed decision. Pre-application consultation with East Staffordshire District Council (the LPA) provided a steer in terms of the likely key issues. Statutory Consultees were then contacted to define the scope and extent of the supporting information required.

This PDAS includes summaries of the specialist assessments undertaken for the project. These have been used to inform the extent, scale, layout and design of the solar farm, and to determine the potential effects of the proposal. Copies of the full assessment reports are provided separately as appendices to this PDAS and cover the following subjects:

- Landscape and visual impact
- Ecology
- Archaeology
- Heritage
- Agricultural land quality
- Flood risk
- Construction transport / traffic.

The application is also accompanied by the following documents, as is required by national and local guidance.

- Completed Planning Application form
- Location plan at an appropriate scale
- Block Plan of the site at an appropriate scale, showing site boundaries
- Elevations
- Completed Ownership Certificate

- The appropriate fee
- Copy of notice published.

The key benefits and positive attributes of the scheme are considered to be:

- The provision of 5.1 Megawatts peak (MWp) of electricity, sufficient to power the needs of 1,391 average UK households;
- Saving of 2,408 tonnes of carbon dioxide per year that would otherwise be generated through the use of fossil fuels;
- It is in full compliance with national planning policy in the National Planning Policy Framework (NPPF) and other Government Guidance;
- The site is not within a designated area;
- The land is agricultural Grade 3b;
- Less than 35% of the site will 'covered' with panels;
- Between and under the panels the wildflower and grassland area will remain and can still be grazed by sheep;
- The arrays do not have foundations such that the site can easily be returned to full agricultural use;
- Land would be dedicated to ecological enhancement;
- The panels have no moving parts and no noise is generated by the development; and
- The panels are designed to absorb sunlight rather than reflect it such that glint and glare is minimised.

1.2 Screening for Environmental Impact Assessment

The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 set out thresholds for Schedule 1 development for which Environmental Impact Assessment is always required and Schedule 2 development for which an EIA may be required. The proposals do not fall within any of the developments listed in Schedule 1, but fall within Section 3(a) of Schedule 2 as an “*industrial installation for the production of electricity, steam and hot water*” and the development is over the threshold of 0.5ha.

Description of development	Applicable thresholds and criteria
<i>Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1);</i>	<i>The area of the development exceeds 0.5 hectare.</i>

Accordingly, the applicant requested and East Staffordshire District Council (ESDC) has adopted a Screening Opinion. The request of the applicant and the response of the Council is included as Appendix B.

ESDC adopted their Screening Opinion on 10th February 2013, (Reference P/201400129, Appendix B), stating that;

“The Local Planning Authority has considered the information submitted and in accordance with Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 has concluded that the development does not constitute EIA Development and as a formal EIA will not be required in this instance”.

Notwithstanding that the proposed development has been deemed not to be EIA development, a thorough assessment of the possible environmental effects of the proposed development has been undertaken, as specified on page 1 of this PDAS.

2 The Site

2.1 Overview

The site for the proposed solar farm would occupy five fields measuring 10.3 Ha (24.45 acres). The fields are being used as permanent pasture grassland, typical for a mix of Grade 3 and 4 agricultural land. The site is located around 1.9km west of Marchington and 3.2km south east of the city of Uttoxeter, with a number of farms in the surrounding area. The railway line between Uttoxeter and Tutbury and Hatton runs approximately 500 metres to the north of the site, as does the River Dove. The location is illustrated over the page.

2.2 Site selection

In the absence of site specific development plans prepared at the District level, sites for large scale renewable energy installations will only come forward where the Distribution Network Operator (DNO) can make available a connection to the national grid.

In the case of Dove View the DNO has advised OST Energy that the proposed capacity can be connected at a point adjacent to the site, as illustrated on the layout plan, Appendix A. There are no known 'brownfield' sites or roofs that are available to the developer where this capacity can be installed.

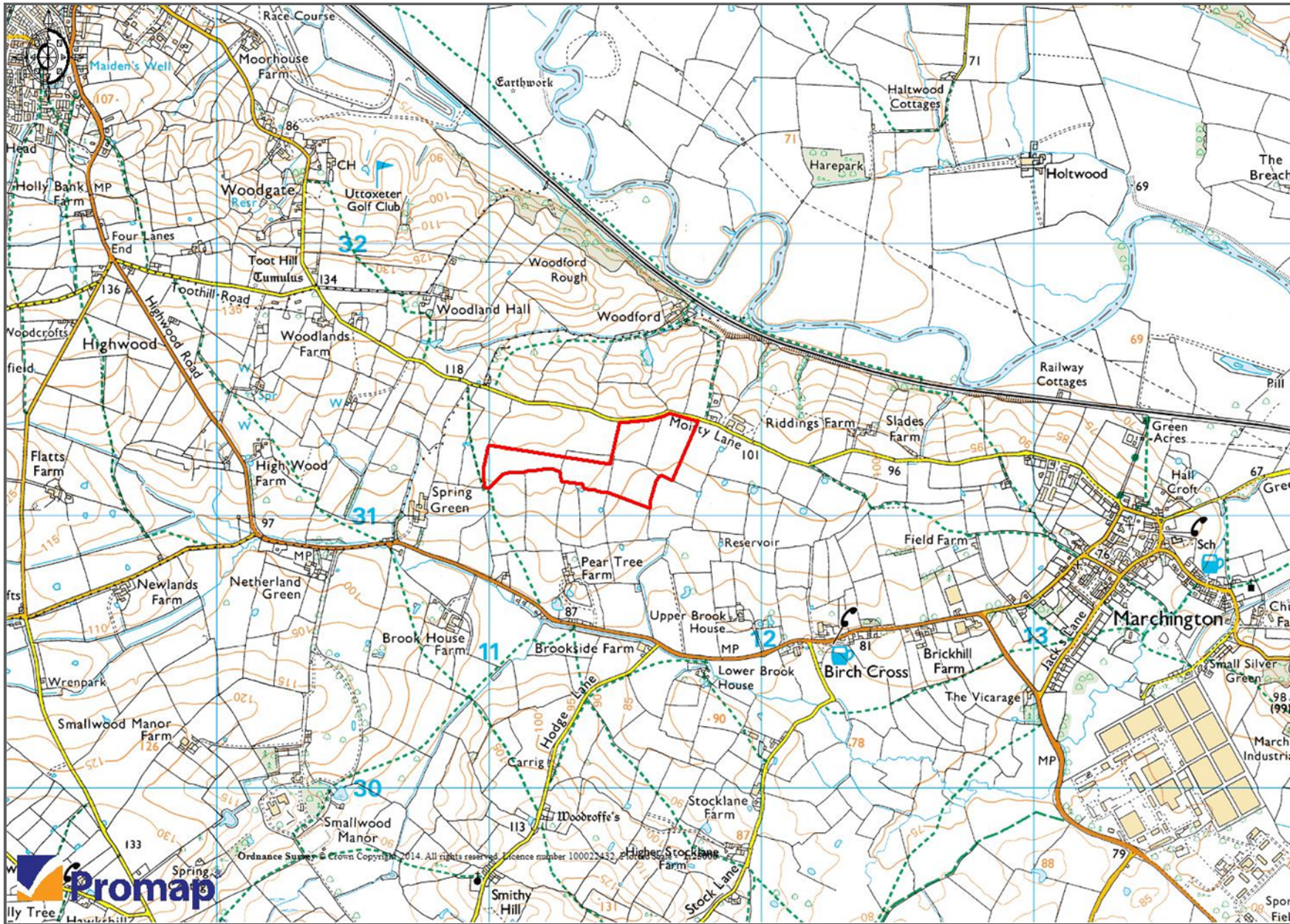
OST Energy has, therefore, sought to identify farmland of poorer quality close to the point of connection, thus ensuring that the project would economically be viable and not adversely affect the operation of the farm / agricultural output. In fact, the additional, secure income is likely to enhance agricultural activity at the farm since measures can be undertaken to improve efficiency across the whole farm unit.

2.3 Site description

The solar farm would occupy fields within a wider agricultural unit. The fields are currently used as grassland.

The site is located in Staffordshire at Grid reference SK 11463 31205, the nearest postcode being ST14 8NU. The closest settlement is the small village of Birch Cross, with its closest development boundary being approximately 800m to the south-east of the site. The village of Marchington lies approximately 1.3km to the east. The town of Uttoxeter lies approximately 1.9km to the northwest. There are a number of farms in the surrounding area.

The proposed reversed 'L' shaped site is planned to be located within five adjacent fields, divided by internal dissecting hedgerows. The site is planned to occupy the full extent of four of the fields (the four to the east) following the hedge lines, and approximately a third of the area of the largest, westernmost field. The northern section of this western field is outside the proposed development area.



Project:	Dove View
Address:	Moisty Lane, Staffs, ST14 8JY
Client:	

Key

Proposed Site Location

Drawing Title:	Rev	Date	Description	Draw	Check	App'd
Site Location Plan	00	15/05/14	Draft	RR	AA	MG
	00					
 natural energy insight						
Suite 1 - Floor 9 Tower Point, 44 North Road, Brighton, BN1 1YR T+44 (0)1273 819 429 E info@ostenergy.com W www.ostenergy.com						

N

1 : 25000 @ A4

0 1km

Drawing number:
00011-30-100

Reproduction is permissible only with prior consent. Do not scale. Check that this is the latest version of the drawing.

The topography of the immediate area is gently undulating, with the landform within the site rising from the southeast corner. It continues to rise very gently towards the northwest beyond the site and falls more steeply to the north as far as the River Dove. The landform falls away gently to the south of the site.

The proposed site rises by 15m in elevation from 97m Above Ordnance Datum (“AOD”) at the south eastern corner, to 112m AOD at the far north western corner.

The surrounding area comprises rectilinear fields with mainly dense hedgerows, irregularly scattered hedgerow trees and some woodland blocks.

The site is currently well screened with dense hedging and mature trees surrounding the fields from nearly all directions. Where gaps exist in the hedges additional planting will be undertaken to ensure the site remains largely unseen from near or far.

The accompanying reports describe the analysis of the site in detail, the findings of which are set out in Sections 7 to 12. The key issues identified are that the site is:

- Located in Flood Zone 1, the lowest possible flood risk;
- low archaeological value;
- agricultural land quality Grade 3b;
- located outside landscape designations;
- of low ecological value
- can be accessed safely
- well screened from public viewpoints.

There are no landscape designations that affect the proposed development site. It does not fall within a Conservation Area, nor is there Green Belt land or an Area of Outstanding Natural Beauty within a 5km radius of the site.

The closest AONB to the site is Cannock Chase, which is located over 15 km south west of the site. The nearest site of special scientific interest (SSSI) is the Forest Banks, which is located approximately 3 km to the south. There is also a national nature reserve; Chartley Moss, which lies around 8 km to the south west. The development of the proposed solar farm will have no impact on these sites and will not be visible from these locations.

The nearest Scheduled Monument is a bowl barrow on Toot Hill, located approximately 1 km to the west of the site; the site is not visible from this Scheduled Monument.

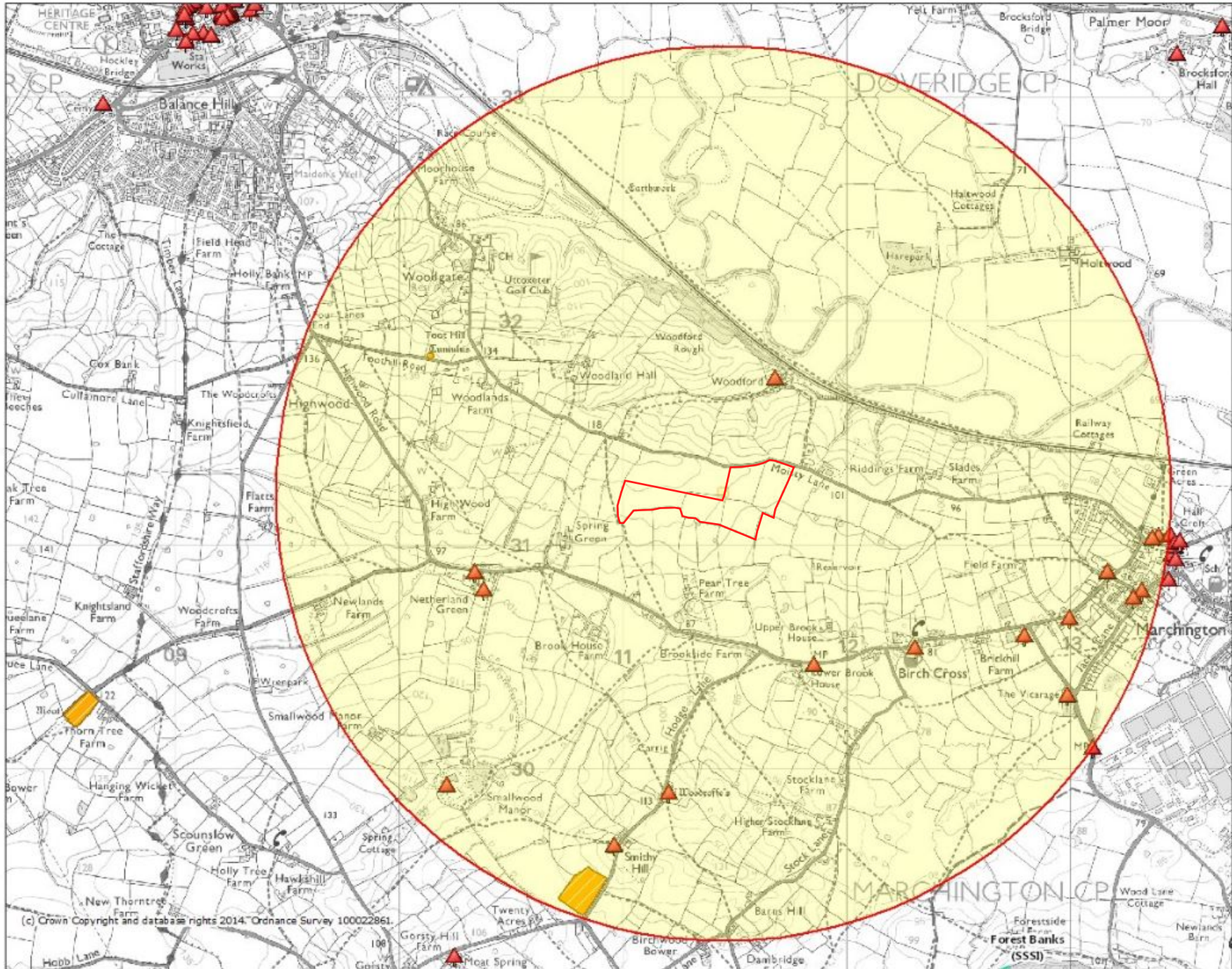
One of the main factors that was taken into consideration in selecting the site is the fact that it is generally hidden, well screened, is not close to dwellings or sensitive sites, and is not overlooked by communities; and from a technical point of view the site is open, not shaded and close to a feasible connection to the electricity grid.

The nearest Listed Building is a Grade II listed farmhouse at Woodford Hall Farm 320 m to the north, a Grade II Listed milepost outside Lower Brook House 670 m to the south west and two Grade II listings at Netherlands Farm 800 m to the south west. Other Listed Buildings lie between 1 to 1.5 km of the site, with two of particular note: The Church of St John’s is Grade II listed and located 1.6 km south of the development site, which may have the potential to have some views of the site; and a Grade II* listed building, Woodroffe’s Cottage, located 1.4 km south of the site, but the project should not be visible from this location due to the substantial screening between this building and the site.

The nearest Public Right of Way (PRoW) is the footpath that runs south east to north west and since this PROW runs close to the southern field boundary there may be views of the Project from this section of the PROW. Additional planting to mitigate the visibility of the site would be determined as part of the planning application.

The nearest residential dwelling is Woodford Cottage lying around 100 m to the east. Existing trees provide some screening of views of the site. A Visual Assessment will be undertaken as part of the planning application which will determine the extent of any potential impact of views on this property and make recommendations for additional screening measures on the eastern site boundary, if required.

The plan overleaf illustrates the proximity of sensitive sites.



Legend

- Environmentally Sensitive Areas (England)
- Local Nature Reserves (England)
- Moorland Line (England)
- National Nature Reserves (England)
- National Parks (England)
National Parks: Lake District and Yorkshire Dales Variation Orders 2012 - subject to confirmation (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)
- Biosphere Reserves (England)
- Scheduled Monuments (England)
- Buffer Zone
- World Heritage Site
- Listed Buildings (England)
- Registered Battlefields
- Registered Parks and Gardens (England)
- Catchment Sensitive Farming
- Capital Grant Scheme Target Areas (England)
- Community Forests (England)
- Heritage Coasts (England)
- Land Management Initiatives (England)
- National Forest (England)
- RSPB Reserves (GB)
- Upland Experiment Areas (England)

Projection = OSGB36
xmin = 406600
ymin = 329000
xmax = 415400
ymax = 333500
Map produced by MAGiC on 6 June, 2014.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

3 Design of the Proposed Development

This section of the PDAS describes the nature and extent of the proposed development. It includes a description of all the matters required of a Design and Access Statement:

- Use
- Amount
- Layout
- Scale
- Landscaping
- Appearance.

3.1 Layout and design

3.1.1 Project Design

The proposal is to install a photovoltaic (PV) solar farm capable of generating 5.1 MWp of electricity. This would be sufficient to provide the power needs of 1, 391 average UK households (typical domestic energy consumption figures, Ofgem, 2011). The application is for a temporary use of 25 years, after which the land would revert to agriculture. The project would displace in the region of 2,408 tonnes of carbon dioxide annually¹ that would otherwise be generated through the use of traditional fossil fuels.”.

The application site comprises approximately 10.3 Ha of Grade 3b agricultural land. The temporary nature of the development and the minimal groundworks required would enable the land to be returned to full agricultural use with no detrimental effect on the quality of the soil.

The site layout is not constrained by countryside designations such as National Park, Green Belt or AONB. The site falls within Flood Zone1. Hedgerows are to be retained to preserve biodiversity. With a 10m distance between the hedgerows and array (with a fence in between) and open space between the rows of panels, the opportunity exists to create new and enhance existing habitat.

In order to avoid shading from the arrays on one another, the distance between rows of panels will be no less than 3.4 m. This creates wide avenues of open space to ensure sunlight can reach the ground between across the whole site. The total site area is 10.3Ha with 73% (7.5Ha) remaining open green space. This is significantly greater than standard good environmental practice of less than 50% cover. Furthermore, the proposed development would not have significant foundation or infrastructure requirements. The proposed layout for the development is illustrated in drawing 101, Appendix A ‘PV Layout’.

Once constructed, the solar farm would have very limited impacts on the environment. The panels are passive in nature, do not result in any emissions, will not generate any waste during operation (aside from any required replacement of components) and require very limited onsite

¹ Using the figure of 0.5246kg CO₂/kWh for UK Grid electricity carbon content (*Carbon Trust Conversion Factors: Energy and Carbon conversion 2011 update* based on DECC data) s.

activity, consisting of infrequent maintenance work. The solar farm will not result in any hazardous impacts.

The risk of any accidents is very low, and restricted to construction and maintenance activities. The construction and operational phases would, of course, be conducted in compliance with health and safety legislation. Solar PV is one of the least technically complex and lowest impact energy generation methods available.

3.1.2 Solar Panels

The proposed design and layout is based on the installation 20,400 photovoltaic (PV) solar panels, to provide the designed generation 5.1MWp of electricity.

Each individual panel is 1m x 1.6m and is of a toughened glass construction set in an outer-anodised aluminium framework. The front height of the frame would be 0.60 m and the back height will be 2.0m, allowing an angle of elevation of 25 degrees from the horizontal and orientated due south to maximise sunlight exposure. The panels would be connected by cables, running through conduits under the rows of panels, and into junction boxes. The elevations of the substructure are shown in Appendix A. A typical arrangement is illustrated in Figure 2 below.

Panels would be mounted on a steel framework supporting structure. The legs of the structure have a 'c' shaped profile and would be pile driven directly into the ground, with no need for any concrete foundations. The rows of panels would follow the terrain.

Figure 2: Typical Solar Panel Arrangement



3.1.3 Inverters and Transformers

From the junction boxes cables would run, underground, to an inverter cabin where the direct current (DC) electricity generated by the PV panels is converted into alternating current (AC), which is compatible with the national grid. Inverter cabinets would be coloured green and measure 8.4m long, 2.6m wide and 3m high. Five inverter cabinets would be installed.

Transformers would also be housed in the inverter cabins. These are required to step up the voltage of the electricity, again to be compatible with the national grid. Cables would run from the inverter / transformer cabins to the switchgear, which would be positioned at the west of the site as illustrated in Drawing 101, Appendix A. From here the installation would be connected to the grid, via underground cables and a short overhead connection on land adjacent to the site, as illustrated in the plan 'PV Layout', Appendix A.

3.1.4 Security

To ensure the security of the equipment and prevent any health and safety issues associated with unauthorised public access to the site, and to prevent large animals from straying into the installation, security fencing would be erected around the site boundary to restrict unauthorised access to the site. This will consist of a 2.2 m deer fence installed within the sites demise and pole mounted infrared security cameras installed around the fence perimeter at strategic intervals. The security cameras will be directed within the site at all times, employ infra-red technology with no site lighting will be required. The security system is illustrated in Appendix A.

3.1.5 DNO Switchgear

The Distribution Network Operator (DNO) will install a switchgear cabinet, which connects the underground grid connection cable of the solar farm to the distribution network. The size of this cabin will be determined by the DNO requirements, but it is likely to be a GRP enclosure coloured green and no more than 6 m long, 2.55 m wide and 2.8 m high.

3.1.6 Access Track

It is proposed to construct an access road using 200mm compacted MOT type 1 hard-core. This would run from the northern-most point of the site to the highway and utilise an existing farm access, as shown in the layout plan, Appendix A. Once constructed, access to the solar farm will typically generate 10 - 20 visits per year by technicians for maintenance works in 4x4s or transit vans. Maintenance will include washing the panels with water approximately twice a year and mowing the grass 4-6 times per year (if sheep are not used). There will be no on site office or permanent staffing of the site.

The proposed project will export electricity to the national grid; the point of connection is to be within the site area and does therefore not involve any works that would disturb traffic or the like with trenching on public roads.

3.1.7 Project Layout

In determining the general layout great consideration has been given to the relationship with topography; surrounding trees and hedgerows; and existing buildings. This will help ensure that the development sits comfortably within, and is well contained by its natural surroundings whilst not adversely detracting from the ability of the existing farm estate to operate or to detrimentally affect surrounding environmental characteristics.

The proposed development would cover an area of 10.3Ha contained within the existing field boundaries. Hedgerows would be retained and with the maximum height of the rows of panels being 2.2m, the installation would sit within the existing landscape structure

The security fence would be set back 5 m from the field boundary to ensure that there is sufficient space for farm vehicle access surrounding the site. It would comprise wooden post with wire mesh fencing (deer fencing) to a height of 2m. It would be set away from the boundaries of the fields, ensuring that there is separation from the existing vegetation, and from proposed new hedgerow infill trees. PV panels will be set back from the boundary fence by 5m, leaving at least 10m between the PV panels and the tree / hedge line thereby preventing damage to tree canopy and root compression from construction works.

There would also be a separation of at least 3.4m between the closest parts of each row of panels. This prevents shading of the row behind and allows plenty of light to reach the grass. This distance is greater than the industry standard and has been adopted by Sun and Soil Ltd with the specific intention to prevent overcrowding of the site and minimise the visual impact of the development.

The site's location close to grid connection will minimise additional disruption that might otherwise occur in connecting the installation, and would also minimise the additional infrastructure required to export electricity generated.

At the end of the solar farm's lifespan of 25 years, the plant and machinery can be dismantled and removed and the land returned to arable agricultural production, with no detrimental effect on the quality or condition of the soil.

3.2 Landscaping

The topography of the immediate area is gently undulating, with the landform within the site rising from the southeast corner. It continues to rise very gently towards the northwest beyond the site and falls more steeply to the north as far as the River Dove. The landform falls away gently to the south of the site.

The site is currently well screened with dense hedging and mature trees surrounding the fields from nearly all directions. Where gaps exist in the hedges additional planting will be undertaken to ensure the site remains largely unseen from near or far.

A Landscape and Visual Impact Assessment has been completed by Greenlight and is provided as Appendix C. This includes mitigation measures in respect of landscape impact. These have mostly been incorporated into a Habitat Enhancement Plan (Appendix A) and can be required by condition should planning permission be forthcoming. The key details are described in Section 7 of this PDAS.

The installation will sit within the existing landscape structure. As the rows of panels do not form a continuous hard surface, vegetation will continue to grow under and between the structure. There would be, therefore, very little change to site run-off and no impact directly on or loss of soils; in fact the use of the site for a solar farm will allow soils to rest and regenerate as fallow land for a period of 25 years.

3.3 Appearance

The surface of each solar panel is constructed from toughened and non-reflective glass, beneath which is a non-reflective layer, electrical connections, silicon and a backing layer, all of which is set in an anodised aluminium frame.

Solar panels are specifically designed to absorb, rather than reflect solar radiation, and have an anti-reflective coating, and their casings are also non-reflective, again limiting risk of glint and glare. The panels are designed to absorb sunlight to maximise energy generation, which has the additional benefit of minimising reflection and glare from the panels.

The structure to support the installation would be anodised aluminium and galvanised steel, which naturally weathers.

The solar frames arranged in rows running east-west across the field and angled so that the panels face south. They would form a regular linear pattern with spaces of at least 3.4m left between the rows. As illustrated in Figure 3, below, the panels would appear with a dark blue finish with light aluminium frames showing between.

Glint and glare are not likely to be a nuisance due to the nature of the materials used being non-reflective, the topography and due to good screening of the site. This is discussed in more detail in Section 7.3 of this PDAS, which considers landscape and visual impacts.

Figure 3: Typical Solar Farm



Source: OST Energy

The proposed solar farm is intended to have limited visual impact, as the existing and enhanced boundary planting will screen the development from many surrounding views. The screening effect will improve with time as the new trees mature and the changes to the management regime of the existing hedgerows take effect.

3.4 Decommissioning

The site will be developed and used for solar energy production for a period of 25 years. It is intended that the site will then be decommissioned in its 26th year, the infrastructure removed and the land returned back to agricultural use.

At the end of the life of the solar farm the installation would be switched off and disconnected from the grid. The ancillary buildings would be removed and the structure would be carefully dismantled. The mountings, foundations, supports, PV modules and cables would be removed and loaded into containers to be taken away by HGVs. Materials would be reused or taken to an appropriate location for recycling or disposal and the site would be reinstated and would revert to agricultural use.

There is financial provision within the development proposal to ensure that there are sufficient funds in place to allow the site to be cleared. It is normal practice within a planning approval for a solar farm, to place a condition on the consent to require the land to be reverted to its former condition. This would be acceptable to the applicant and landowner.

4 Planning Context

4.1 Site

The applicant is not aware of any proposed or consented development that would have any impact on the proposed solar farm, or that the proposed solar farm could have any implications to.

4.2 Cumulative impact with other sites

A search for existing operational and consented commercial solar developments, as well as those currently in the planning process was undertaken using the Public Access online register of planning applications and direct information requests from ESDC and neighbouring administrative areas.

East Staffordshire District Council has had one application for a 2.2MW solar farm at Barton Under Needwood in 2012 to which no objection was raised. (P/2012/01565). This is around 10km to the south of the application site.

Staffordshire Moorlands District Council has confirmed (14th May 2014) that they are currently dealing with an application for a solar farm some 17km miles to the north west near Draycott in the Moors. (Ref SMD/2014/0197)

This search identified that there are no commercial solar developments currently operational or permitted near the application site that could lead to the need to consider a cumulative impact.

It is concluded that there is no evidence that the proposed scheme will have a cumulative impact with another such project in terms of visual or landscape impact.

5 Energy Policy Framework

5.1 Global Warming and Climate Change

The issues surrounding the impact and mitigation of anthropogenic climate change have been high on the international agenda since the first World Climate Conference in 1970. More recently the Rio Earth Summit (1992), where the United Nations Framework Convention on Climate Change (UNFCCC) was negotiated. The objective of this treaty is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The UNFCCC entered into force in 1994, and from 1995 the parties to the convention are meeting annually at a Conference of Parties or COP. In 1997 the Kyoto Protocol was established to set legally binding obligations for the developed countries to reduce their greenhouse gas emissions. Most recently at the COP16 in 2010 in Cancun the Cancun Agreements were reached. The agreements state that "future global warming should be limited to below 2.0°C (3.6°F) relative to the pre-industrial level." Ministers representing Governments around the world are currently meeting in Bonn, Germany, with the objective of setting new objectives to tackle climate change.

The Stern Review: The economics of climate change

The UK Government commissioned Sir Nicholas Stern, a former World Bank Economist, to undertake a review of the economics of climate change; moving to a low carbon economy and the specific lessons for the UK. The report, published in October 2006, made some clear and unambiguous statements about the human, environmental and economic costs of climate change.

Stern is clear in his opinion that industrial countries cannot afford, in economic and human terms, not to tackle excessive greenhouse gas emissions and their contributions to global warming. He states that whilst action to reduce these emissions could cost 1% of world GDP, inaction could cost up to 20 times more, as countries attempt to tackle the effects of climate change such as flooding, adverse weather patterns and rising sea levels.

5.2 European Energy Policy

At a European level, there is the agreed commitment to reduce carbon emissions by 20% by 2020, compared to 1990 levels. Following the Energy Review Report in 2006, the European Council agreed a strategy to improve energy security and to reduce carbon emissions. This was reiterated by the EU Climate and Energy package formally agreed in April 2009 which set a series of ambitious targets known as the 20 20 20 targets.

- A 20% reduction in EU greenhouse gas emissions from 1990 levels
- Raising the share of EU energy consumption produced from renewable resource to 20%
- A 20% improvement in the EU's energy efficiency.

European Directive on the promotion of the use of energy from renewable sources (2009/28/EC)

In order to reach the EU renewable energy target of 20% of 2020, the Directive outlines individual targets for each member state for their share of energy consumed from renewable sources. The

UK has a legally binding obligation to derive 15% of gross final consumption of energy from renewable sources by 2020.

5.3 UK Energy Policy

5.3.1 The Energy White Paper (2007)

Published in May 2007 “Meeting the Challenge – The Energy White Paper”² sets out the Government’s energy strategy. The paper is clear in its commitment to increasing the proportion of energy generated by the UK’s renewable sources. In the introduction to Section 5.3 outlining renewable energy policy, the paper states that

“Renewable energy has a key role to play in reducing carbon emissions and achieving security of supply”

“securing planning consent for renewables...can be an especially difficult process, with developers facing uncertainty and significant risks of delay”

Despite this, the paper highlights a number of barriers to renewable energy generation including obtaining planning consent, stating that

In order to tackle these particular difficulties faced by renewables in securing planning consent, the Government also identified a number of actions, including:

- underlining that applicants will no longer have to demonstrate either the overall need for renewable energy or for their particular proposal to be sited in a particular location”
- Giving a clear steer to planning professionals and local authority decision makers that in considering applications they should look favourably on renewable energy developments.

The paper sets out very clearly the Government’s position in the “Renewables Statement of Need”

(...) the UK faces difficult challenges in meeting its energy policy goals. Renewable energy as a source of low carbon, indigenous electricity generation is central to reducing emissions and maintaining the reliability of our energy supplies at a time when our indigenous reserves of fossil fuels are declining more rapidly than expected. A regulatory environment that enables the development of appropriately sited renewable projects, and allows the UK to realise its extensive renewable resources, is vital if we are to make real progress towards our challenging goals.

New renewable projects may not always appear to convey any particular local benefit, but they provide crucial national benefits. Individual renewable projects are part of a growing proportion of low carbon generation that provides benefits shared by all communities both through reduced emissions and more diverse supplies of energy, which helps the reliability of our supplies. This factor is a material consideration to which all participants in the planning system should give significant weight when considering renewable proposals. These wider benefits are not always immediately visible to the specific locality in which the project is sited. However, the benefits to society and the wider economy as a whole are significant and this must be reflected in the weight given to these considerations by decision makers in reaching their decisions.

² Department of Trade and Industry (May 2007). Meeting the Energy Challenge. A White Paper on Energy

5.3.2 Climate Change Act (2008)

The 'Climate Change Act 2008' was passed by the UK government in November 2008. This legislation represents the world's first legally binding targets to reduce greenhouse gas output. Based upon the 1990 baseline, it sets targets of an 80% cut in emissions by 2050, and a 26% reduction of CO₂ by 2020.

5.3.3 UK Low Carbon Transition Plan (2009)

The Plan, published by DECC in July 2009, is an overarching document produced after the Climate Change Act 2008 set legally binding target to reduce greenhouse gases. It sets out the UK's transition plan for building a low carbon UK: cutting emissions; maintaining secure energy supplies, maximising economic opportunities and protecting the most vulnerable. A number of key steps to achieve this were identified including obtaining 40% of our electricity of low carbon sources by 2020 with policies to produce around 30% of our electricity from renewables by 2020 by substantially increasing the requirement for electricity suppliers to sell renewable electricity. A number of more detailed documents were published alongside it, including the UK Renewable Energy Strategy (DECC).

5.3.4 UK Energy Strategy (2009)

This document, published by DECC in 2009, sets out the path by which the UK would meet its legally binding target to reduce greenhouse gases, and recognises that the UK needs to "radically increase our use of renewable electricity, heat and transport". The strategy has the clear aim to reduce the UK's emissions of carbon dioxide by over 750 million tonnes between 2009 and 2030 and also aims to promote the security of energy supply, reduce the UK's overall fossil fuel demand by around 10% and gas imports by 20-30% against what they would have been in 2020. The document also recognises the potential of the UK renewable energy sector to create up to half a million more jobs and generate more than 30% of our electricity, up from 5.5% in 2009.

5.3.5 UK Renewable Energy Roadmap (2011)

The UK Renewable Energy Roadmap, published by the Department of Energy and Climate Change (DECC) in July 2011, provides an analysis of how domestic deployment of renewable generation may evolve by 2020, estimates of market potential and the actions required to meet target levels.

The document highlights the coalition government's commitment to renewable energy. In paragraph 1.1 it states

"The Coalition has made clear its commitment to increase the amount of renewable energy deployed in the UK. This will make the UK more energy secure, will help protect consumers from fossil fuel price fluctuations, will help drive investment in new jobs and businesses in the renewable energy sector, as well as keep us on track to meet our carbon reduction objectives for the coming decades"

Adding to this the paper emphasises the government's goal to ensure that 15% of UK energy demand is met from renewable energy sources by 2020 estimating that in order to achieve this, the deployment of renewable energy sources will need to grow by 15% per annum.

5.3.6 UK Renewable Energy Roadmap Update (2012)

This document, published in 2012, is the first annual update to the Renewable Energy Roadmap and demonstrates that the UK is on track to meet the first interim target on the way to the target of 15% renewable energy consumption by 2020. The report states that solar PV is now identified as a “key technology” as costs have fallen dramatically and deployment increased markedly, with solar PV recording the highest growth of the renewable energy technologies assessed, a five and a half times increase in capacity to 1.4 GW by the end of June 2012 compared to June 2011.

5.3.7 The Energy Security Strategy

This document was published in November 2012 and states that the UK now faces significant new challenges to energy security, as one fifth of power stations are due to close within this decade and declining reserves of fossil fuels in the UK Continental Shelf are making the UK increasingly dependent on imports at a time of rising global demand and increased resource competition.

This Strategy identified a number of potential risks to our energy system, such as the increased level and volatility of international fossil fuel prices and insufficient investment in UK energy infrastructure. In particular this document estimates that £200 billion of investment will be needed to maintain a secure, affordable and sustainable energy system in the UK between now and 2020 alone and states that

“The Government therefore needs to work to ensure a stable and attractive investment climate, addressing both financial and non-financial (e.g. regulatory) issues.”

There is a risk the investment needed to reform the electricity market may not be forthcoming, which will increase risks to the security of the UK’s energy supply. The Department of Energy & Climate Change (DECC) and the Office of Gas and Electricity markets (Ofgem) have produced models that suggest capacity margins will tighten towards the end of this decade, potentially to levels that significantly increase the risk to reliable supplies.

New capacity is needed to replace retiring coal, nuclear and older gas power stations and help ensure the continued reliability of electricity supplies. It is therefore crucial that we deliver new investment, and that the market brings this forward in a world where gas-fired plants run less frequently as we move to low-carbon forms of power.

5.3.8 The Energy Act (2013)

The Energy Act received Royal Assent in December 2013. The Act includes provisions on:

- Decarbonisation: Allows the Secretary of State to set within secondary legislation a decarbonisation target range for the electricity sector.
- Electricity Market Reform: puts in place measure to attract the £110 billion investment needed to replace current generating capacity and upgrade the grid by 2020 and to cope with a rising demand for electricity. It includes Contracts for Difference to stimulate investment in low carbon technologies and Emissions Performance Standards to limit carbon dioxide emissions from new fossil fuel power stations.
- Other provisions include: placing the Office for Nuclear Regulation on a statutory footing; enabling the sale of the Government Pipe-line and Storage System; improved Consumer Protection through Ofgem.

5.3.9 UK Solar PV Strategy Part 1: Roadmap to a Brighter Future (November 2013)

This Roadmap sets out four guiding principles, which form the basis of Government's strategy for solar PV. These principles are:

- Support for solar PV should allow cost-effective projects to proceed and to make a cost-effective contribution to UK carbon emission objectives in the context of overall energy goals – ensuring that solar PV has a role alongside other energy generation technologies in delivering carbon reductions, energy security and affordability for consumers.
- Support for solar PV should deliver genuine carbon reductions that help meet the UK's target of 15 per cent renewable energy from final consumption by 2020 and in supporting the decarbonisation of our economy in the longer term – ensuring that all the carbon impacts of solar PV deployment are fully understood.
- Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage and local amenity, and provide opportunities for local communities to influence decisions that affect them.
- Support for solar PV should assess and respond to the impacts of deployment on: grid systems balancing; grid connectivity; and financial incentives – ensuring that we address the challenges of deploying high volumes of solar PV.

5.3.10 UK Solar PV Strategy: Part 2 (April 2014)

The second part of the solar roadmap pays great consideration to the deployment of solar PV on rooftops and the financial and technical mechanisms to help achieve this. With regard to large-scale, ground mounted solar PV development, part 2 re-iterates the four guiding principles set out in part 1. In addition, it refers to the '10 commitments' of best practice developed by the National Solar Centre (NSC), and two NSC publications; the first relating to design and installation of solar farms³; the second to enhancing the biodiversity benefits from ground mounted solar PV⁴ (in preparation).

5.4 Energy Policy in Staffordshire

A Climate Change Adaptation Plan for Staffordshire County Council, published in 2012, discusses the changes in climate that Staffordshire is expecting and outlines the policies in place that emphasise the importance of the council's need to adapt. The plan also highlights the council's leadership of a partnership adaptation group. The document does not consider the role of specific renewable energy installations, but recognises the importance of a co-ordinated approach to address the causes and consequences of climate change.

Staffordshire County Council has produced 'Wind Energy in Staffordshire'. Whilst this document is, of course, focuses on wind energy, it establishes the principle that the County Council recognises the value and importance of renewable and low carbon sources to generate some of the energy we need to deliver our ambitious plans for economic growth in Staffordshire. It has invested in energy technologies such as biomass and solar power to

³ National Solar Centre: Best Practice For The Development Of Ground Mounted Solar PV Systems

⁴ National Solar Centre: National Planning Guidance - biodiversity

heat and light council buildings. But the council is also aware of the potential for negative impacts on our landscapes and local communities from some technologies.

6 Planning Policy Considerations

Relevant planning policy is set out in the adopted National Planning Policy Framework (March 2012), the adopted East Staffordshire Local Plan (2006) and emerging Local Plan, which has now been lodged with the Secretary of State in preparation for a public hearing in October 2014.

6.1 National Policy

6.1.1 National Planning Policy Framework

Paragraph 93 of the NPPF states that the delivery of renewable and low carbon energy and associated infrastructure is central to the economic social and environmental dimensions of sustainable development. Paragraph 14 confirms there is a presumption in favour of sustainable development which for decision taking means approving development proposals that accord with the development plan without delay unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against policy in the Framework or specific policies in the Framework indicate that development should be restricted.

Paragraph 98 confirms that Planning Authorities should not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and to approve applications if their impacts are (or can be made) acceptable.

6.1.2 Other National Policy

Other National Policy comprises Planning Practice Guidance for Renewable and Low Carbon Energy in the on-line Planning Practice Guidance Suite launched in March 2014, an Updated UK Solar PV Strategy Part 1 (October 2013) and Part 2 (April 2014) Strategy Roadmap to a Brighter Future and a companion letter titled Solar Energy from the Dept. of Energy and Climate Change dated 1 November 2013.

The Planning Practice Guidance Suite updates policy from the former Planning Practice guidance of July 2013 which is now withdrawn. The updated guidance at paragraph 013 sets out the particular planning considerations that relate to large scale ground mounted solar voltaic farms. Test 2 below is an additional criterion not included in the July 2013 guidance. The tests are:

Encouraging the effective use of land by focussing large scale solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value;

- Where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays
- That solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use;
- The proposal's visual impact, the effect on landscape of glint and glare (see guidance on landscape assessment) and on neighbouring uses and aircraft safety;
- The extent to which there may be additional impacts if solar arrays follow the daily movement of the sun;

- The need for, and impact of, security measures such as lights and fencing;
- Great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting. 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 large scale solar farms on such assets. Depending on their scale, design and prominence, a large scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset;
- The potential to mitigate landscape and visual impacts through, for example, screening with native hedges;
- The energy generating potential, which can vary for a number of reasons including, latitude and aspect.
- The approach to assessing cumulative landscape and visual impact of large scale solar farms is likely to be the same as assessing the impact of wind turbines. However, in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography the area of a zone of visual influence could be zero.

The UK Solar PV Strategy Part 1: Roadmap to a Brighter Future (October 2013) sets out four guiding principles, which form the basis of Government's strategy for solar PV. They are:

- Support for solar PV should allow cost-effective projects to proceed and to make a cost-effective contribution to UK carbon emission objectives in the context of overall energy goals – ensuring that solar PV has a role alongside other energy generation technologies in delivering carbon reductions, energy security and affordability for consumers.
- Support for solar PV should deliver genuine carbon reductions that help meet the UK's target of 15 per cent renewable energy from final consumption by 2020 and in supporting the decarbonisation of our economy in the longer term – ensuring that all the carbon impacts of solar PV deployment are fully understood.
- Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage and local amenity, and provide opportunities for local communities to influence decisions that affect them.
- Support for solar PV should assess and respond to the impacts of deployment on: grid systems balancing; grid connectivity; and financial incentives – ensuring that we address the challenges of deploying high volumes of solar PVs.

The Solar PV Strategy Part 2 Roadmap (April 2014) reaffirms that the Government's ambitions for solar PV are high, and whilst the strategy is for more growth in small scale and medium scale deployment (paragraph 14) it remains committed to large scale solar PV. In this regard it states that it will promote the Planning Practice Guidance on large scale solar farms and its considerations such as their visual impact, and underlines that it is important that the planning concerns of local communities are properly heard in matters that directly affect them.

A companion letter to the roadmap dated 1 November 2013 has also been published by the Department of Energy and Climate Change. Whilst the letter says the focus for growth should be on domestic and commercial roof space, large solar farms will still be approved so long as they take account of the Planning Practice guidance.

It states that the need for renewable energy does not automatically override environmental protections and great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of planning proposals on views important to

their setting. For the avoidance of doubt it confirms that the separate planning practice guidance of the BRE on large scale ground mounted solar PV systems is not government guidance and does not have any particular status in the planning system.

6.2 Regional

The Localism Act 2011 provided for the abolition of Regional Spatial Strategies (RSS). The West Midlands RSS, which was prepared by the Government Office for the West Midlands (GoWM), was revoked on the 25th April 2013.

6.3 Local Planning

6.3.1 The Development Plan

The relevant saved policies of the adopted East Staffordshire Local Plan (2006) are:

- Policy BE1 - Design;
- Policy NE1 – Development outside Development Boundaries

6.3.2 Emerging Local Plan

In 2007 East Staffordshire District Council started work to review the 2006 Local Plan and replace it with a new Local Plan. The new Local Plan replaces the former Core Strategy and will replace all saved policies contained in the 2006 Local Plan. The Council has now submitted the Local Plan to the Secretary of State for examination, which is scheduled to take place in October 2014.

The following policies from the submission local plan are relevant to the proposal:

- STRATEGIC POLICY 1 - East Staffordshire Approach to Sustainable Development
- STRATEGIC POLICY 8 - Development Outside Settlement Boundaries
- STRATEGIC POLICY 14 - Rural Economy
- STRATEGIC POLICY 24 - High Quality Design
- STRATEGIC POLICY 27 - Climate Change, Water Body Management and Flooding
- STRATEGIC POLICY 28 - Renewable and Low Carbon Energy Generation
- STRATEGIC POLICY 29 - Biodiversity and Geodiversity

7 Landscape and Visual Assessment

7.1 Introduction

A Landscape and Visual Impact Assessment (LVIA) has been undertaken by Greenlight on behalf of Sun and Soil Limited.

The independent assessment follows the methodology set out in the Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013), produced by the Landscape Institute and the Institute of Environmental Management & Assessment.

The LVIA process has involved desktop assessment and field work, including recording and assessment of fourteen viewpoints. Effects on both the Landscape resource and upon Visual amenity have been considered, together with potential cumulative effects arising from the interaction of the proposed solar farm and other solar farms proposed. The full report of the LVIA including photomontages and Zone of Theoretical Visibility (ZTV) is presented in Appendix C. The key findings are summarised below.

7.2 Landscape Effects

The site lies within the 'Settled Plateau Farmland Slopes: sub-type Farmland' to the south of the River Dove Valley, as classified in the Staffordshire Landscape Character Assessment (2001). The key characteristics of the wider landscape are "*irregular, hedged fields and numerous hedgerow trees on a sloping landform, often dissected by small steep sided wooded stream valleys draining the plateau tops. Where the land-cover pattern remains intact, the hedgerows and hedgerow trees to a large extent control and limit views across the landscape, with the rolling landform and steeper slopes often allowing longer views and showing up the pattern of fields and small woodlands.*" and "*The predominantly low intensity pastoral farming, together with a network of narrow, often sunken lanes and clustered farmsteads, hamlets and villages of traditional Staffordshire red brick lend the landscape a peaceful, rural feel.*"

The landscape character type is assessed as "*locally sensitive to the impacts of development and land use change*".

The operational elements of the proposed solar farm would represent a change to the landscape character from that of a permanent pasture field to a landscape containing renewable energy infrastructure. However, given the relatively low height of the proposals, the sensitivity of the landscape character area to this change is not as high as it is for taller forms of development. Given the proposals for mitigation planting along the north field boundary, the development would avoid adding any conspicuous new elements into the landscape in the long-term, after de-commissioning.

The landscape effects of the proposed development are limited by mature boundary hedgerows and trees, and the fall in landform to the north towards the River Dove. The area exhibits a sense of enclosure, and has a reasonable presence and distribution of semi-natural vegetation, including tree and shrub cover. This screening helps to maintain the character of the area, and limit the effects of the proposed development.

Based on this assessment, the sensitivity of the landscape character of the site is judged to have a medium level of sensitivity to change.

There are several landscape receptors upon which there would be no landscape effect caused by the proposed development at site scale:

- Topography: intimate scale, gently undulating landscape;
- Field pattern and mature trees: small irregular fields bounded by hedgerows. The boundary and interior vegetation will be retained;
- Land cover: the land will continue to be covered by permanent pasture grassland, managed for grazing animals;
- Watercourses: field ponds on boundaries and fed by ditches;
- Perceptual aspects: the attractive landscape to south of the site.

The landscape receptors that would be affected by the proposed development at site scale are:

- the development will affect the rural and undeveloped feel of the area;
- for the specific field in which panels are to be situated, a change in land use from intensively managed pasture to solar PV panels.

The medium-term change to the fabric of the site is the alteration in the overall use of arable farmland and the introduction of a new landscape element, namely a solar PV farm. However, the change brought about by the introduction of the solar farm can be reversed after the 25 year operational period of the site. Although this affects the land cover and land use of the site, it does not change the scale, landform or field pattern of the landscape. The solar farm would introduce a notable element into the landscape at close scale, and would be a relatively conspicuous feature of the make-up of the character area within 1km, with less of an impact over greater distances. However, it does not alter the balance of the character of the landscape. The overall magnitude of change is, therefore, considered to be medium.

During construction of the solar farm, expected to be approximately 3 months, the area from where the development would be potentially visible would be slightly greater than the existing and operational zone of visual influence. Construction lorries, cranes and other plant and equipment are likely to be visible above and between nearby hedgerows over a wider area than the operational solar farm. Given the existing context and the temporary nature of the construction phase, it is considered that visual impact during construction would be slight and not significant for the affected visual receptors.

Both the development and construction area fit within the field pattern and boundary vegetation. Increased vehicular traffic will not conflict with users of Public Rights of Way as the site access and maintenance route is via a track with no public footpaths along or near it.

The construction of the proposed solar PV farm would take place on agricultural land, which is in landscape terms considered to have medium sensitivity to change. The temporary nature of the activity would mean that the magnitude would be considered to be low.

7.3 Visual Effects

The vertical height of the built structures of the proposed solar farm is relatively low, with the perimeter fence reaching 2.2m. The solar panels follow the terrain, and are only 2.0m from ground level, with security cameras being 2.68m above ground. The structures are set back (5m) from the site boundary, which reduces their perceived height.

The fencing is of 'rural style' and the solar panels are non-reflective, reducing their visual impact. There will be no lighting.

7.3.1 Residential receptors

Residential receptors are amongst those most susceptible to change. The closest dwellings to the proposed development are Woodford Cottage; a bungalow occupied by the site owner down the same lane; and Dove View.

Woodford Cottage has oblique views to the site although only the north east field will be visible from the property, leading to a visual effect that is slight/moderate and not significant. With appropriate management of the Moisty Lane roadside hedge, the property would be completely screened within 7 years. The bungalow down the lane adjacent to Woodford Cottage will not experience any visual effect.

Woodford Lodge is located 170m to the northwest of the site and is visible between the Oak trees lining Moisty Lane. These trees would provide some screening of views towards the site. The property has one upstairs window facing towards the site. The field of view occupied by the north field is at most 15 degrees from this property, and the solar panels will occupy a narrow horizontal band. The tall vegetation on the western boundary of the west field screens views of this field from this property entirely. The resulting visual effect is considered to be slight / moderate and not significant.

Approximately 660m to the northwest is Woodland Hall. The property has several upstairs windows facing towards the site. Intervening topography and vegetation in the form of tall trees and hedgerows mean that the northern field of the site will be only partly visible from the property, while the west field is entirely screened.

Woodford Hall Farmhouse (Grade II listed) is located 300m to the north of the site but views to the site are shielded by the northern boundary hedgerow of the north and east fields. As only the tops of the panels will be higher than the boundary hedgerow at the installation stage the visual effect is slight / moderate and not significant. After mitigation to increase the height of the north boundary hedgerow, there will be no visual effect.

Upper Brook House is located 520m south east of the site but does not have any windows facing towards the site, and gardens facing south, away from the site. There will be no visual effect experienced by this receptor.

Views from nearby Woodlands Farm, Riddings Farm and Slades Farm are screened by intervening vegetation. Views from other farms in the area of study, such as Pear Tree Farm and Netherland Farmhouse (Grade II Listed) are also screened by vegetation and intervening topography, as are properties in and near Marchington, including the Church of St Peter, Marchington, (Grade II* listed)

There is only one distant property, Woodroffe's Cottage (Grade 2* listed), located 1.2km south of the site which is judged to be significantly affected by the development. The annex of the cottage appears to have distant views of the site from some principal windows, although partially screened by boundary vegetation at the property. All fields of the site will be visible owing to its sloping nature. The sensitivity of visual receptors at the property are medium, and the predicted magnitude of change is medium owing to the width of view occupied by the site, although at some distance, leading to a visual effect that is moderate and significant. This effect will be

reduced to slight / moderate and not significant by proposed mitigation hedgerow management along the southern boundary of the site (increasing the hedgerow height to 4m).

Other properties as listed in the baseline and indicated in the ZTV mapping have been analysed from the site to determine potential sight-lines back to the site, but none have been identified with views from windows or gardens.

7.3.2 Public Highways and Public Rights of Way

No Public Rights of Way cross the site. However, a footpath runs approximately north / south from south of Moisty Lane to the B5017, passing the south western corner of the site, immediately adjacent to it.

The only point on the footpath where the site is visible is where it crosses the south western corner of the site. This is a non-strategic footpath which appears to experience low levels of use, and as such, the receptors using it would display a medium visual sensitivity to change. The magnitude of change is predicted to be low, and therefore the visual effect would be considered to be slight / moderate and not significant.

Moisty Lane runs adjacent to the northern boundary of the north and northeast fields. There are no significant views from this transport route onto the site, owing to the dense 2m high hedgerow lining the southern verge of the road. A brief view only is possible through one gateway at the proposed access into the site from Moisty Lane, but only the north field will be visible. Road users along this route will have a medium sensitivity to change, including tourists, and the magnitude of change to the view will be low, leading to a slight/moderate visual effect which is not significant.

No views to the site are possible from Toothill Road to the west or the B5017 to the south owing to hedgerow screening of the site from all angles, and to the local topography.

The ZTV analysis indicates potential views from some elevated roads beyond 2km from the site, but it is considered that these are too distant from the site to have any notable visual effect on road users travelling along these routes. To the south of the B5017: Hodge Lane, Stock Lane, the B5017 south of Marchington and an un-named road between Queen Lane and the B5017 have no views to the site owing to roadside hedgerows along these roads.

7.3.3 Heritage sites

Consideration has also been given to the potential for views to occur from heritage-related locations toward the site. There are no heritage locations in the vicinity of the site that will be affected by the proposed development

7.3.4 Glint and Glare

Sometimes there is a perception that solar panels have the potential to create glint and glare impacts; however, photovoltaic panels are designed to absorb sunlight (rather than reflect it), minimising potential impacts of glint and glare.

Limited glint and glare can be experienced momentarily (as the sun keeps moving) at sunrise and / or sunset. The effect would not be to dazzle, as can be the case with a glass window since the materials are non-reflective. Rather, it can be described as a 'shine' or 'glow'. At these times the sun is low in the sky and reflection could be at a low level. At other times reflection is upwards,

towards the sky. At Dove View in the early morning the reflection could be experienced to the west. The combination of the curvature of the land and the existence of tree screen, however, mean that any 'reflection' could only be seen at height well above people or vehicles on land. Similarly in the evening the reflection that could potentially be seen in the east would be too high to be visible to people / vehicles. The ZTV identifies that the solar farm can be seen from limited positions to the north east and south east. In none of these locations is it likely that any reflection would be experienced.

7.3.5 Construction phase

Given the existing context and the temporary nature of the construction phase, it is considered that any additional visual impact during construction would be slight and not significant for the affected visual receptors.

7.3.6 Mitigation

The LVIA proposes that species should be chosen for the grassland under the panels which are specifically found in the area, thus contributing to the biodiversity of the landscape character of the site and the wider valley. Significant biodiversity benefits can be obtained by choosing plant species which provide habitat for species specifically found in the area.

Management of all the hedgerows lining the southern verge of Moisty Lane should be to at least 4m in height to provide screening from nearby residential receptors, but other hedges should be managed to existing heights to maintain the typical hedgerow structure, managed for livestock containment, in the area.

Hedgerow management to increase hedgerow heights to 4m on the southern boundaries of fields will screen views from the south, and additional planting of scattered trees will enhance screening from the south and improve the landscape character of the site.

Although there would be some visual effects to the composition of views at the local level, these are largely mitigated by proposed planting.

It is noted that solar farms have successfully been installed in the UK and throughout Europe in locations adjacent to railways and airports.

7.4 Cumulative Effects

Consideration has been given to the potential cumulative landscape and visual effects of the proposed solar PV farm at Dove view. There are currently no other known solar PV farms in the area.

The proposed development will change the landscape character of 10.3 hectares, for a period of 25 years, and is therefore considered to pose no cumulative impact on the landscape character.

The greatest effect on visual amenity is likely to be experienced within 1km to 2km of the site depending upon the direction in which the site is being viewed. There are very few more distant views due to the fabric of the landscape with strong boundary features and the topography of the area reducing the views to its characteristic intimate scale. If there were any distant views of the proposed development they would tend to be assimilated into the wider landscape and it is considered that there is little potential for the development to result in any significant effects on

visual receptors at distances of over 2km from the site. No cumulative visual effects are predicted for this development.

8 Ecology

8.1 Findings of Assessment

An ecology report has been prepared by Greenlight. This independent survey, assessment and report provides details of an Extended Phase 1 Habitat Survey undertaken on land within the ownership of Dove View Farm in relation to the proposed solar farm.

The Survey was undertaken on 17th May the broad habitat types were identified, mapped and assessed for their ecological importance and the potential of the site was assessed to support protected species. This information was then used to identify any additional work that may be required prior to the planning application.

8.1.1 Designated and other Nature Conservation Sites

There are no statutory protected sites in or within 2km of the site.

There are three non-statutory protected sites, of which one is a local wildlife site (LWS) and the other two are Roadside Nature Reserves (RNR) and are located at least partially within 2km of the site.

Woodford Rough LWS is approximately 7ha and lies 450m north of the site, It comprises an area of ancient semi-natural woodland unimproved neutral grassland and scrub on a steep north-east facing slope and stream that runs through part of the site.

Gorsty Hill RNR lies approximately 1.9km to the south west of the site, a flat semi improved grassland with hawthorne hedge with standards.

Stock Lane RNR lies approximately 1km south east of the site; a species rich hedgerow and verge with woodland adjoining with rich ground flora

The habitats on and surrounding the site include small enclosed fields of improved permanent pasture grassland. A network of hedgerows is located around the perimeter of the site and connects the site to the wider landscape. Moisty Lane is to the north of the site and directly borders the two most northern fields. Further north flows the River Dove, which at its closest to the site is approximately 450m away.

The low impact nature of the installation of the solar panels and associated infrastructure will have no effect on the habitats of the protected sites in the vicinity. It is also predicted that there would be no impact on these sites from the minimal effects of operation of the facility.

The installation and operation of the solar farm will have no impact on protected BAP habitats in the vicinity of the site.

The site habitats to be directly affected by the development are of low ecological value, being confined to improved pasture grassland. Installation works will occur mainly at a 10 metre distance from the boundary hedgerows. Cable excavations will cause temporary disturbance, but these habitats will be reinstated post construction with no permanent loss.

It is recommend that the barbed wire fence boundary (northern) of the west field is planted with a new mixed native species hedgerow.

8.1.2 Protected / Notable Species

Protected sites and species data within 2km of the centre of the site have been obtained from the Staffordshire Ecological Record service. The 72 protected species recorded within 2km include 1 amphibian, 19 bird, 9 mammal, 1 crustacean and 1 plant species.

The closest great crested newt record is over 1.1km from the site (1 record in 1990).

The bird records comprise mostly King Fisher *Alcedo atthis*, Barn Owl *Tyto alba*, Redwing *Turdus iliacrus*, Green Sandpiper *Tringa ochropus* and Fieldfare *Turdus pilaris*. These records are mostly from the Uttoxeter area and along the River Dove.

Three ponds within 250m of the sites boundaries provide average or good great crested newt habitat. In one of these, 130m to the east of the site boundary, a great crested newt egg was recorded, providing evidence of a breeding pond.

The grassland margins and hedgerows provide terrestrial feeding habitat for great crested newt, as does the permanent pasture habitat. The local area is concluded to have a low population of great crested newts.

Due to the nature of the works associated with the proposed scheme, minimal impacts are envisaged on GCNs as a result of both the installation and the long term running of the solar farm. No ponds will be directly affected by the installation and operation of the solar farm. Apart from temporary habitat disturbance during construction, there will be no habitat loss to the great crested newt.

Bat records include Common Pipistrelle *Pipistrellus pipistrellus* and Brown Long-eared *Plecotus auritus* roost locations at Marchington all within 2km. Soprano Pipistrelle *Pipistrellus pygmaeus* has also been recorded within 2km of the site.

The habitats likely to be used by bats are mainly confined to the hedgerow margins of the site, although bats may also forage over the grassland habitat. Bats are unlikely to be affected by the installation and operation of the solar farm. Trees and buildings with bat roost potential locally will not be directly affected by the solar farm and bat interests are unlikely to be diminished through the operation of the solar farm.

Potential bird nesting habitat is mainly confined to the marginal hedgerows. Skylark may nest in the pasture (subject to vegetation height). However, the permanent pasture will generally only be suitable following a grass cut, due to the lack of structure and sward height. Consequently the pasture has limited value to ground nesting birds, but may on occasion be used.

There is a risk that Skylark may not use the grassland habitats once panels are installed. The vertical height of structures may deter Skylarks, as they prefer nesting in areas with open views above nests. Skylark nesting habitat would still be available in surrounding cropped land and permanent pasture, and the loss of breeding territory for up to two pairs is unlikely to have a significant impact on the local population.

8.2 Recommendations and enhancement

The ecology report (Appendix D) recommends the following enhancements and protection measures:

8.2.1 Mitigation Measures

Great crested newt

As excavations will occur within the fields and in close proximity to the hedgerow in some locations for the installation of the underground cable, the works could harm any great crested newt if present. To avoid harm it is recommended that the works should be undertaken between November and February when great crested newt are hibernating and activity on land is expected to be low

Any vegetation removal within 5m of hedgerow should be strimmed / cut by hand to a height of no less than 150mm prior to earth works, at least one week ahead of works. A one meter buffer around the proposed excavation should also be cut. Following this, a hand search along the area should be undertaken by a suitably qualified ecologist. Once clearance has been given by the suitably qualified ecologist, the vegetation can be cut as short as possible.

No excavations are to be left overnight uncovered as great crested newt if present are active (February – November) at night and could potentially fall within the cavity. All holes that cannot be in filled during the day should be suitable covered and inspected prior to infilling if left over night. If a great crested newt or a suspected great crested newt is observed then a suitable experienced ecologist should be informed.

It is proposed that no hedgerows would be removed, however. Consequently, the proposed works are not likely to affect hibernating great crested newt, as any hibernating animals would be restricted to bases of the hedgerows.

Mitigation measures are set out to minimise risk of harm to great crested newt during construction, comprising mainly a phased vegetation height reduction prior to construction commencing.

Enhancement for amphibians will include creation of four habitat piles from logs, as resting places in the vicinity of two ponds. Three ponds would benefit from restoration from de-silting and scrub removal to reduce shading and improve water oxygen levels. Removing scrub will allow aquatic vegetation to flourish and improve breeding conditions for amphibians.

Birds

The erection of two barn owl boxes in suitable trees or on poles is proposed.

Any works affecting bird nesting habitat such as scrub, hedgerows or trees would need to be conducted outside the main nesting season, which lasts from March to August. Loss of

nesting habitat would require mitigation. If installation occurs during the breeding season, a survey for Skylark nests would be required and safe working distances established to avoid disturbance around nests, until the young birds have fledged.

If ground works are planned in areas of grassland or scrub, it is recommended that habitat management is carried out three weeks prior to works to reduce sward height. This will reduce the risk of harm to animals were they to be present in the area.

Vegetation clearance should ideally be carried out on warm days (>150 Celsius), as reptiles may be less active in colder conditions (torpid) and more vulnerable to being injured or killed.

Protection of biodiversity

The following additional precautionary measures to protect biodiversity are recommended:

Any excavations on the construction site should be covered during the night to prevent animals from falling in.

Lighting of the construction site at night should be minimised as far as practicable, to reduce the risk of possible disruption to nocturnal animals such as bats

Construction materials should be stored off the ground on pallets, to prevent providing shelter for animals and subsequent harm when materials are moved.

The following measures have been incorporated into the layout / design, the Habitat Management Plan (see Appendix A) and the construction working method:

- No storage of materials, equipment and plant under the 'drip-zone' of mature trees (under their canopy);
- Retain trees, shrubs and hedgerows, as is planned. Protect individual trees by adherence to BS5837:2012;
- Laying of hedges to improve the quality of the habitat;
- Enhancement of open areas to create wildflower meadows;
- A 3m wide strip of managed grassland each side of the hedgerow fencing to facilitate good access for hedgerow management; and
- Security fencing limited to the site perimeter and not be placed alongside this corridor

8.2.2 Enhancement Measures

The site is currently of low ecological value. Opportunities for enhancing the site's biodiversity have been designed along the principles of Natural England (2011), RSPB (2011) and BRE (2014) guidance. This includes creation of a grass and wildflower meadow underneath and around the solar panels, and planting of new and infill mixed native species hedgerows and trees on boundaries of the site. Climbing plants Honeysuckle *Lonicera* sp. and Clematis sp. will be planted along the fence lines to provide foraging and nesting resources.

Grassland / meadow area

A species-rich wild flower and grass margin with nectar, pollen and bird seed species (species selection in agreement with East Staffordshire District Council), is to be planted along the field margins of the solar site and underneath the solar panels. The grassland will be sown in strips, with species selection under panels reflecting plants that tolerate shade. The grass mix will include fine grasses to encourage wildflowers to establish.

This meadow habitat will benefit invertebrates such as bees and butterflies, and some ground nesting bird species. Biodiversity will be improved through provision of a varied structure of vegetation and through cessation of the crop-spraying programme associated with modern agricultural practices. This benefit to invertebrates is also realised further up the food-chain.

The grass between the panels could be used to obtain an annual hay crop, or to graze sheep. Sheep grazing will be managed to avoid over-grazing of pasture, and to allow flowering plants to flower and set seed during the spring and summer.

Hedgerows

Gaps in the hedgerows will be planted with suitable native woody species including hawthorn and hazel will be undertaken to ensure all gaps are filled. Hedges would be laid once the plants are more mature to enhance shelter for nesting birds and to help maintain the integrity of the wildlife corridors. This re-planting will be beneficial to the site's ecology and will ensure that ecological corridors created by the hedgerows are not interrupted. Subsequent management will monitor growth, encourage thickening of the hedgerow. Good management will promote invertebrate biodiversity and enhance the site for birds, reptiles and bats.

It is proposed to plant additional hedgerow at the northern boundary of the west field with scattered hedgerow trees. Species composition and eventual mature structure would match the existing boundary hedgerows.

The new habitat would provide enhanced ecological function for the site

Hedgerow management to increase hedgerow heights to 4m on the southern boundaries of fields will screen views from the south, additional planting of scattered trees will enhance screening from the south and improve the landscape character of the site.

Along the western boundary adjacent to North Farm (eastern field), a beech hedge will be planted to run the full length of the boundary to the central corner, and to join to the existing beech hedge on the south westerly boundary adjacent to North Farm (western field). This will be managed to a height of 4m.

Management of all the hedgerows lining the southern verge of Moisty Lane should be to at least 4m in height to provide screening from nearby residential receptors, but other hedges should be managed to existing heights to maintain the typical hedgerow structure, managed for livestock containment, in the area.

8.2.3 Bird and bat boxes

Two bird nest boxes suitable for a variety of species would be installed onto suitable trees. The 2GR Schwegler Nest Box is suitable for a range of bird species and provides extra protection from predators (available from NHBS; www.nhbs.com).

If considered appropriate we would be pleased to provide and install two bat boxes.

8.2.4 Hibernaculum

Artificial hibernaculum would be created, as indicated in the Habitat Plan (Appendix A), to further enhance the area for reptiles, amphibians, small mammals and invertebrates. Hibernacula should be free-draining and therefore are recommended to be located outside of any damper areas.

As regular hedgerow maintenance is carried out, some of the resulting material would be used to create small log and brush piles, creating a potential habitat for invertebrates and reptiles and potential nesting sites for birds.

8.2.5 Programme and ongoing monitoring

A programme of work would commence at the end of construction to deliver the above measures.

Throughout the operational life of the solar farm an annual ecological survey of the site and the adjacent hedgerow margin areas would be undertaken. The exact scope of this survey would be agreed with the LPA and would be expected to highlight the presence of protected species as well as monitor the occupancy of bird & bat boxes erected as part of the application. A summary report of the annual ecology survey would be submitted to the LPA, and copied to the local Wildlife Trust.

This data would feed, along with data from other solar farms across the country, into the National Biodiversity Network Gateway. This would enable information to be made public on how well the site was succeeding in the objective of enhancing biodiversity; and enable comparisons to be made such that best practice could be shared and further improved.

8.2.6 Biodiversity benefit

A study issued by Parker McQueen concludes that if site selection is appropriate and certain measures are incorporated into the design and management of a solar farm then significant biodiversity benefits can accrue.

It makes eight recommendations that, if followed, can achieve this important objective:

1. A formal biodiversity management must be agreed and followed;
2. The plan must recognise the unique nature of the site;
3. Enhancement should use plant species native to the UK and of local provenance
4. Bare areas of soil should be reseeded quickly to avoid colonisation by weeds;
5. A wildflower mix beneath the array can benefit a broad range of wildlife;
6. Fine grasses should be used for grassland to avoid colonisation by herbs;
7. Appropriate management activities should be established from the outset on the advice of wildlife organisations
8. At lower intensity livestock can contribute to conservation goals

These principles have been followed in finalising the design of the solar farm, which includes 4m between rows and undeveloped field margins, and in preparing an ecological management plan.

The installation has been designed so as to have a net benefit on the local ecology and improve local biodiversity through the selective planting of wildflowers between the panels and in undeveloped areas. Planting will also be undertaken to fill in gaps within surrounding hedges, using local plant species.

9 Archaeology and Cultural Heritage

9.1 Archaeological desk based assessment

Wyvern Heritage and Landscape Consultancy has undertaken this desk Based Archaeological Assessment on behalf of Sun and Soil Limited. The report is Provided as Appendix F.

Assessment has established that there are no designated heritage within the site.

The only undesignated heritage assets within the study site are historic hedgerows identified as important under criteria set out in the 1997 Hedgerow Regulations. These will not be effected by the proposed development.

Beyond these assets and based on current evidence, a low potential is identified by this study for the presence of any unrecorded significant undesignated buried heritage assets dating to all other periods within the study site. There is some potential for ploughed out Medieval Ridge and Furrow.

In accordance with the policy set out in the NPPF and given the meagre HER evidence for the study site and its wider setting, this desk-based assessment presents a proportionate response to enable an informed planning decision to be made.

The only archaeological work in the vicinity of the development site was in relation to the route of the Drinton to Sutton Transco gas pipeline. (Pipeline runs through Derbyshire and Staffordshire) which passed near to the site and was preceded by a desk based assessment, programme of archaeological fieldwalking, field reconnaissance and geophysical survey and a series of archaeological watching brief. In relation to the site in question the relevant discovery related to the observation of extant Medieval Ridge and Furrow at Spring Green Farm, Marchington which is discussed below.

There is low archaeological potential for surviving areas of Ridge and Furrow but there is some archaeological potential for ploughed out Ridge and Furrow which would have local significance.

The surviving historic field pattern is an important feature and the hedgerows are identified as field boundaries on the 1842 Tithe Map and as such is considered 'important' under the criteria set out in the 1997 Hedgerow Regulations.

Current evidence does not suggest that any heritage assets of national importance meriting preservation in situ will be present on the study site and any other heritage assets of sufficient importance to merit in situ preservation appears highly unlikely.

Furthermore, the proposed development would not have significant foundations or infrastructure requirements and therefore would have a minimal impact on the existing ground conditions. The main area of impact from the proposed development is from the erection of Distribution Network Operation Cabin (16.2msq) and five inverter cabins (103.2msq in total), which are located at the corners of the field boundaries.

Although the rest of the site area will be covered by solar panels the impact on below ground archaeology is limited to the erection of fence posts and 'c' shape substructure legs. This will effect less than 1% of the site in total. This will mean that there will be minimal impact on potential archaeology including ploughed out Ridge and Furrow.

The important historic field boundaries mentioned above will be retained. Beyond these assets and based on current evidence, a low potential is identified by this study for the presence of any unrecorded significant undesignated buried heritage assets dating to all other periods within the study site. There is some potential for ploughed out Medieval Ridge and Furrow on the site, although the nature of the development means that the impact on buried archaeology is limited to less than 1% of the site.

In accordance with the policy set out in the NPPF and given the meagre HER evidence for the study site and its wider setting, apart from the evidence discussed for Medieval Ridge and Furrow, this desk-based assessment presents a proportionate response to enable an informed planning decision to be made.

9.2 Assessment of Impact on Cultural Heritage

Wyvern Heritage and Landscape has completed an assessment of the potential impact of the proposed development on built designated assets within the vicinity of the development. Wyvern Heritage and Landscape Consultancy is a Registered Organisation with the Institute of Archaeologists and specialises in the preparation of heritage statements, the preparation of heritage management and action plans, historical and archaeological research, historic landscape analysis and historic characterisation. The report is provided as Appendix E to this PDAS, the findings of which are summarised below.

9.2.1 Heritage Assets

There are no designated heritage assets within the site boundary and no undesignated heritage assets. There are 5 Listed Buildings within 1km of the site. The nearest Listed Building is a Grade II listed farmhouse at Woodford Hall Farm 320 m to the north.

There is a Grade II Listed milepost outside Lower Brook House 670 m to the south and another outside Netherlands Farm 800m to the south west.

There is a Grade II listing building at Netherlands Farm 820 m to the south west.

There is a Grade II listed building at Christmas Cottage 900 m to the south east.

There are 20 listed buildings within 2km of the site. Buildings of particular note include

- Church of St John's Grade II listed and located 1.6 km south of the development site
- Grade II* listed building, Woodroffe's Cottage, located 1.4 km south of the site
- Grade II Smallwood Manor
- Grade II Field House near Brickhill Farm
- 16 Listed Buildings associated with the settlement of Marchington

The Conservation area of Marchington lies 1.5km to the east of the site.

There are 2 Scheduled Ancient Monuments within 2km of the site.

There are no Registered Parks and Gardens or Registered Battlefields within 2km of the site.

9.2.2 Analysis of the impact of the setting on the Listed Buildings

English Heritage has produced a guidance document 'The Setting of Heritage Assets (2011)', which provides guidelines and, in section 4.2, a broad five point framework for assessing the implications of development. This step wise approach has been used in this assessment.

The assessment, which is provided in full as Appendix E, finds that none of the heritage assets would be the subject of substantial impacts and that The proposed development does not provide any opportunity to enhance the significance of any of the assets.

The report concludes that whilst the development is within the wider setting of Woodford Hall Farm but will cause minimal harm to this setting and does not therefore impact on the significance of this heritage asset.

A range of other historic assets were considered and there is no harm to the setting of any of these assets including the Church of St John, Woodroffe's Cottage and Marchington Conservation Area. The development would not, therefore, impact on the significance of these heritage assets.

It is considered that the proposed development accords with the objectives of Sections 66 and 72 of the Planning (Listed Building and Conservation Areas) Act 1990 and the relevant policies within the National Planning Policy Framework.

10 Agriculture

Dove View is a dairy farm comprising some 81Ha (200 acres). The land is predominantly used for grazing with some maize and wheat grown for feed. The land identified for the solar farm is currently grazed and on the poorer end of the land available to the farmer. The installation of a solar farm at the property is very much in keeping with the ethos of environmental best practice since animal rearing can continue alongside the production of clean energy. The guaranteed income from the solar farm will help consolidate and diversify farming activity such that the post development agricultural output is likely to be at least the same as the current position.

10.1 Agricultural Land Classification

The total landmass of the UK is 24,482,000ha; of this approximately 17.2 million ha (70%) is agricultural land (source: DEFRA).

The Ministry of Agriculture Fisheries and Food (MAFF, now DEFRA) has prepared an indicative plan for the UK that classifies land as Grade 1, 2, 3, 4 and 5. The grades represent the quality of the land for agricultural use with Grade 1 being the most productive and Grade 5 being the least productive.

Grades 1, 2 and 3a are collectively termed as 'Best and Most Versatile agricultural land'.

It is generally agreed in the agricultural industry that Grade 3a is suitable for grazing and, with some effort, crop growth (often to feed animals), whereas Grade 3b is on the margins of being useful for anything other than a grazing regime. The MAFF plan does not distinguish between Grade 3a and Grade 3b.

Natural England reports that the amount of agricultural land falling into Grade 1 and Grade 2 is 21% and Grade 3a also 21%, which implies that 58% is poor quality. The land at Dove View that is the subject of this application is classified as Grade 3 on the MAFF plan. An Agricultural Land Quality Assessment, which is provided as Appendix I, has determined that the land is Grade 3b.

The land is classified as Grade 3 in the MAFF plans (see Figure 4, over the page). Since planning policy seeks to direct development to land graded 3b, 4 and 5, an independent assessment has been commissioned by Sun and Soil. Assessment finds that the land is 'in the middle of sub class Grade 3b'. The full report is provided as Appendix I to this PDAS.

10.2 Dual land use

The combination of part shading by rows of panels and the operational requirement for each panel to be accessible for maintenance means that crop growth is not possible, even if it were a viable option. Experience at operational sites has demonstrated that sheep can successfully be grazed. Anecdotally, farmers advise that the sheep enjoy the shade from the sun in the summer and the protection from wind and rain in the winter.

Grade 3 agricultural land can typically support 5 ewes per acre at any one time. Taking a pessimistic view on grass growth and the lower stocking rates of an organic farm, together with the land being confirmed as Grade 3b, it is estimated that 60 ewes could be supported within the 10.3 ha (24.5 acres) that would be used for the solar farm. In addition to the income from the ewes the income and financial security provided by the lease to the solar farm owner would

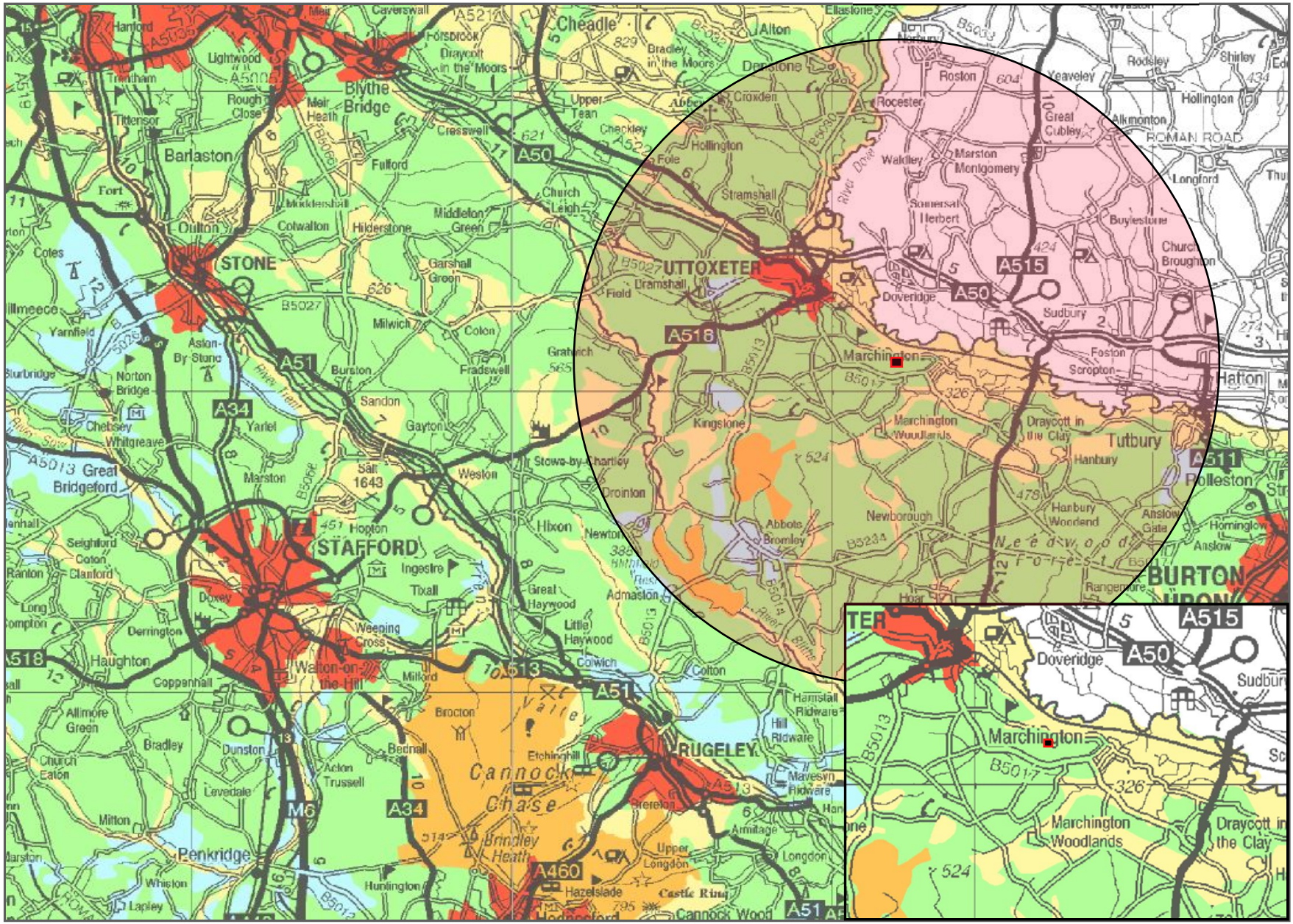
enable the landowner to invest in further improvements, including fencing and hedgerows, to bring more of the farm to productive use. On this basis, the post-development output of the farm compared to the current productivity would, at worst, see no change. The most likely outcome is for the farm to become more productive in terms of food output.


Disregarding the ability to utilise the land for the rearing of sheep, and in a national context, the Department for Energy and Climate Change sets a target of 20GW for solar capacity in the UK by the year 2020 and anticipates that some 7GW may be on agricultural land. With a typical 1MW solar farm occupying 2ha, this equates to a total of 14,000 ha, less than 0.001% of agricultural land. The impact is, therefore, negligible.

After 25 years the solar farm would be removed and the land reverts wholly to agriculture. The impact on agriculture cannot, therefore, be considered to be adverse in any way. In reality, it is likely to be strongly positive for Dove View.



In addition to the above, it must be noted that no trees or hedges would be removed and the area has already been seeded with an agricultural wild flower mix.

Pesticides will not be present on the field, as no fertiliser will need to be applied. This meets with the Government's aims to reduce spraying and in doing so reduce harmful nitrates in the watercourses. The land would be naturally fertilised by the presence of sheep.





Project:	Dove View
Address:	Moisty Lane, Staffs, ST14 8JY
Client:	

Key


-  Proposed Site Location
-  10 Km Radius around site

Grade	Description
1	Excellent
2	Very Good
3	Good to Moderate
4	Poor
5	Very Poor

Non-Agricultural Land

-  Other land primarily in non-agricultural use
-  Land predominantly in urban use

Drawing Title:	ALC Map	Rev	00	00	00	00	00	00	Date	06/06/14
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11 Flood Risk Assessment

The potential sources of flooding considered are fluvial, from rivers and streams; tidal; pluvial, from rainfall on the surface; rising groundwater; overwhelmed sewers and drainage systems; reservoirs, canals, lakes and artificial sources.

An Envirocheck Flood Report has been obtained to inform the assessment. Historical research has also been undertaken and the East Staffordshire District Council SFRA (February 2008) has been reviewed for site specific information.

11.1 Findings of the FRA & Flood Risk Management Measures

The site is located in the River Dove catchment. The River Dove is the nearest major watercourse and is located approximately 410m north-east of the site at its nearest point.

There is an unnamed watercourse, classified as a tertiary river, located approximately 300m north of the site. This watercourse is a tributary of the River Dove.

There are no records of fluvial flooding at or near to the site. The site is situated in Flood Zone 1 on the EA Flood map (Appendix G) and it can be concluded that the risk of fluvial flooding is low.

There are no records of any historical pluvial flooding incidents; groundwater flooding at or near to the site; and there is no public sewer or canal infrastructure in the area. It can, therefore, be concluded that the risk of these types of flooding is low.

11.2 Surface Water Management

The proposed development will not introduce any significant areas of hard-standing and runoff will continue to drain into the ground similar to the existing situation.

The proposed change in land use from heavily grazed agricultural land to wildflower pasture will increase absorption rates, improve the natural drainage of the site and reduce the risk of overland flows being generated on site. The proposed development will therefore provide betterment to surface water runoff when compared with the existing situation.

Longer growing Tussock Grass on the site boundary will act as an interceptor in the unlikely event where overland flow is generated on site.

The development will not impede overland flow routes. It can therefore be concluded that the development will not increase flood risk elsewhere.

11.3 Residual Risks

The proposed development will not involve any significant land modifications, including no land raising, and will, therefore, not impact on overland flow routes.

12 Access and Transport Assessment

12.1 Introduction

A Construction Traffic Management Plan (CTMP) has been prepared by Transport Planning Associates on behalf of Sun and Soil. This independent report assesses the likely impact of construction and operational traffic on the highway system and considers whether the site can be accessed safely. The report is provided as Appendix H.

12.2 Access and routing

The designated route for all traffic associated with the construction is in Figure 5, over the page. This route will ensure, as appropriate, that construction vehicles associated with the site use the B5017, Jacks Lane, High Street, the Square and Hall Road to access Moisty Lane.

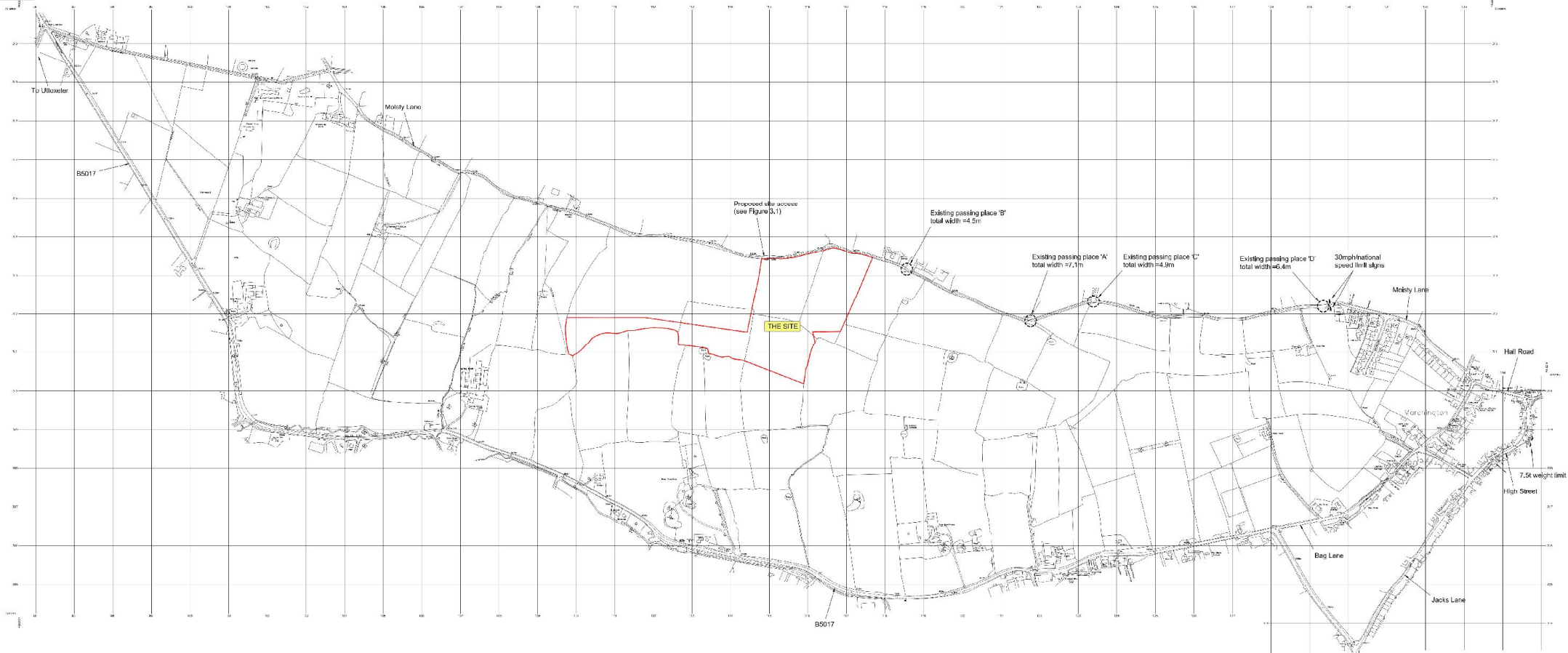
Construction vehicle access to the site will be via an existing field access with Moisty Lane approximately 300 metres west of Woodford Cottage

Whilst other, more direct routes are available between the primary road network accessed at Uttoxeter and the site, it is considered that the selected route for construction traffic is the most appropriate being mindful of road widths, weight restrictions and the method of control proposed between construction vehicles and background traffic.

It is noted that Moisty Lane serves numerous farms and, therefore, is in regular use by farm vehicles such as tractors and trailers.


It is acknowledged that some overrunning of grass verges may occur as a result of vehicle movements associated with the construction phase. As such, a pre and post highway condition survey will be carried out and agreed with highway officers.

In order to minimise any damage to highway verges, the applicant proposes to operate a vehicle escort service for all HGV deliveries.



NOTES:

1. Existing passing place 'A' to be used as a waiting place for background traffic when escorted HGV delivery is taking place. Refer to Construction Traffic Management Plan Report for more detail.

 <p>25 Kilg Street Bakers B51 4RT 0117 925 9900 www.tpa.co.uk</p>				
<p>CLIENT: SUN & SOIL LTD</p>				
<p>PROJECT: DOVE VIEW, UTTOXETER</p>				
<p>TITLE: Site Location and Construction Traffic Route</p>				
<p>STATUS: INFORMATION</p>				
SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:500	10.08.14	PSW	MFF	MFF
JOB NO:	DRAWING NO:	REVISION:		
1405/67	Figure 2 1			



12.3 Vehicle Trip Attraction

12.3.1 Construction Phase

The applicant has confirmed from its experience of developing solar farms elsewhere in the UK that the construction of the solar farm will take approximately three months, with the majority of the work requiring deliveries taking place over a six week period (30 working days). Construction at the site will be carried out Monday to Friday 0800-1900 and Saturday 08:00-13:00.

The construction phase includes the preparation of the site, installing the temporary access polyethylene matting, erection of security fencing, assembly and erection of the PV strings, installation of the inverters/transformers and grid connection.

A maximum of up to 50 construction workers are anticipated to be on site during peak times during the construction period. A temporary construction compound will be provided and will provide storage, parking for contractors and turning for HGVs.

The location where staff will travel from is unknown at this stage as it will depend on the appointed contractor. However, it is envisaged that a number of the non-local workforce will stay at local accommodation and be transported to the site by minibuses to minimise the impact on the strategic and local highway network.

An estimated 83 deliveries (average of 3 per day) would occur if matting is used for access tracks or 103 deliveries (average of 3 per day) if stone is used for access tracks.

It is anticipated that there will be a maximum of around five large vehicles per day accessing the site (five arrivals and five departures) over a six week period when deliveries will occur. There will also be construction workers arriving at the site first thing in the morning and departing in the evening, although the numbers involved are forecast to be relatively low on a day-to-day basis. The level of traffic during the temporary three month construction phase is not considered to be material and it is considered that this will not have an impact on the safety or operation of the local highway network.

12.3.2 Operational Phase

After commissioning there are anticipated to be around 10 to 20 visits to the site a year for equipment maintenance. These would typically be made by light van or 4x4 type vehicles. Whilst the contractor's compound will have been removed, space will remain within the site on the access tracks for such a vehicle to turn around to ensure that reversing will not occur onto the highway.

12.4 Recommendations

A Walk-Over Condition Survey of the local highway network should be carried out and agreed with the Highway Authority, prior to commencement of construction, in order to assess the baseline condition. This will incorporate a photographic record as appropriate. This would be followed by a further Condition Survey with highway officers with a further photographic record covering the same extents as previous at the end of construction activities, in order to identify and agree any remedial works reasonably attributable to construction activities.

13 Pre-application Consultation

13.1 Pre-application consultation with East Staffordshire District Council

The EIA Screening Opinion of the Local Planning Authority (ESDC) was sought and, subsequently, their Opinion adopted on 10th February 2014. The Opinion provided some guidance with respect to the scope and nature of the necessary assessment work required to inform the planning application.

13.2 Consultation with Statutory Consultees

Sun and Soil commissioned specialist contractors to undertake survey and assessment for a number of subject areas including landscape impact, visual impact, ecology, highways, flood risk and archaeology. Each of the specialists has contacted the respective statutory consultees with a view to seeking guidance and opinion ahead of the submission of the planning application.

13.3 Pre-application Community Consultation

Government guidance in the NPPF (paragraph 189) encourages applicants to carry out community consultation at pre application stage.

A short presentation was given to the Parish Council Meeting on Tuesday 10th June. Plans and drawings to be made available and, subsequently, the Parish Council has been asked to circulate our dedicated website address such that interested members of the public can find out more about the proposed development:

Visits were made to neighbouring property owners ahead of the meeting to advise them of the proposals and the likely time table for the submission and decision on the planning application.

www.sunandsoil.co.uk/projects/dove-view-farm

A newspaper advert has also been published in the local press and is illustrated Figure 6 over the page.

A second public consultation exercise is to be undertaken on Tuesday 8th July.

Ahead of this a letter and summary of the details of the application will be sent to the Ward Member and neighbouring Ward Member; the Parish Council and neighbouring Parish Council, and to the MP.

Figure 6: Newspaper Advert

The logo for Sun & Soil LTD, featuring a stylized sun icon composed of multiple overlapping, curved lines in various colors (red, orange, yellow, green, blue, purple) to the left of the text 'Sun & Soil LTD' in a serif font.

Sun and Soil Ltd is proposing to construct a 5MW solar farm on land at Moisty Lane, Staffs.

This summer we shall be submitting a planning application to East Staffordshire Borough Council, at which time you will have the opportunity to make representations to the Council to let them know your views.

In the meantime, further details of the proposal can be found on our website: www.sunandsoil.co.uk/projects. If you would like to make any comments on the proposal or have any queries, please contact us at info@sunandsoil.co.uk.

If you would like to find out more about the project or to talk to the project team, then please call Sun and Soil on 01273 645 210.

14 Planning Policy Assessment

The studies undertaken to inform the nature, layout and design of the proposed development, and previously described in this PDAS, have examined the relationship between the proposed development, its site and the surrounding environment. The findings allow a full assessment of the proposed development in the context of the relevant national and local planning policies, which have been identified in Section 6 of this PDAS.

14.1 National Policy

Paragraph 93 of the NPPF states that the delivery of renewable and low carbon energy and associated infrastructure is central to the economic social and environmental dimensions of sustainable development.

The Solar PV Strategy Part 2 Roadmap (April 2014) reaffirms that the Government's ambitions for solar PV are high, and whilst the strategy is for more growth in small scale and medium scale deployment (paragraph 14) it remains committed to large scale solar PV. In this regard it states that it will promote the Planning Practice Guidance on large scale solar farms and its considerations such as their visual impact, and underlines that it is important that the planning concerns of local communities are properly heard in matters that directly affect them.

A companion letter to the roadmap dated 1 November 2013 has also been published by the Department of Energy and Climate Change. Whilst the letter says the focus for growth should be on domestic and commercial roof space, large solar farms will still be approved so long as they take account of the Planning Practice guidance.

It states that the need for renewable energy does not automatically override environmental protections and great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of planning proposals on views important to their setting.

The proposed scheme ensures all environmental and landscape impacts are taken into account and great care has been given to ensuring the proposed landscaping scheme minimises the impacts from all surrounding areas.

The significant benefits of up to 5.1MWp production need to be weighed against any perceived environmental impact and it is considered that the balance weighs firmly in favour of the proposal.

National Planning Policy Framework, paragraph 112, states that:

'Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.'

14.2 Local Policy

14.2.1 Adopted 2006 East Staffordshire Local Plan

Policy BE1 - Design;

This policy promotes applications for development which respond positively to the context of the area surrounding the site of the application. It specifically relates to the layout of the development in terms of its circulation routes and arrangement of buildings and how elements of open spaces relate to the landscape's character. It also refers to the density, massing and arrangement of the development in relation to its context and use as well as its height in relation to vistas, view or skylines.

The accompanying LVIA details the compatibility of the design of the proposal with the local landscape, highlighting elements of natural topography and screening as well as the intrinsic visual qualities of the solar array (low-lying regular arrays with even, grass and wildflower filled spacing). 77% of the proposed site, some 8ha) will remain open green space, which is significantly greater than standard good environmental practice of less than 50% cover. Furthermore, the proposed development would not have significant foundations or infrastructure requirements and therefore would have a minimal impact on the existing ground conditions. Existing circulation routes are comfortably adequate for both the very low level access requirements of the project during operation as well as the temporary site traffic during construction.

Policy NE1 – Development outside Development Boundaries

This policy stipulates conditions under which planning permission will be granted on sites that are outside development boundaries but which are considered appropriate in the countryside.

It includes criteria that aim to safeguard nature conservation interests, amenities enjoyed by existing land users and the character of the surrounding area. It also stipulates the consideration of impacts on immediate and distant views and the suitability of access roads to the traffic generated by the project.

The proposed project will not affect the surrounding land use and the site itself can be restored unaffected to its previous agricultural use after the expiry of the project. The existing use as grazing land for sheep can co-exist with the solar arrays. The accompanying ecological survey details the safeguarding of nature conservation interests as well as their enhancement by the extension of hedgerows and planting of wildflowers in the extensive green space between solar panels, and the associated benefits to local biodiversity. As referred to above, the accompanying LVIA highlights how natural topography and screening provides significant protection from impact on views from public rights of way and local dwellings. The adequacy of local access routes are also summarised in the previous paragraphs.

14.2.2 The Emerging Local Plan (Submission Draft)

The relevant policies of the emerging Local Plan are:

STRATEGIC POLICY 1 - East Staffordshire Approach to Sustainable Development

This policy requires development proposals to demonstrate the principles of sustainable development.

The project provides for archaeological investigation of the site the findings of which are detailed in the accompanying Cultural Heritage Assessment documentation. It also, due to the nature of the development intrinsically incorporates energy efficient considerations and renewable energy technology. The project's design uses Sustainable Drainage Systems (SUDS), as well as aiming to enhance local biodiversity. As outlined above, it also protects the amenity of occupiers of residential properties nearby, and any future occupiers of the development. The project therefore follows the principles that the Council apply when assessing whether a proposal is as sustainable as possible.

STRATEGIC POLICY 8 - Development Outside Settlement Boundaries

This policy states conditions under which development outside settlement boundaries will be permitted. These include projects that are essential to the creation of a new business appropriate in the countryside. These conditions closely follow the principles of Local Plan saved policy NE1. Relevant criteria additional to those contained in this saved policy stipulate that the development must not introduce considerable urban form and that development proposals that affect farmsteads and their setting should be assessed using the relevant evidence base including the farmsteads mapping and landscape characterization. The accompanying LVIA detail the farmstead's mapping and landscape and the compatibility of the project in this context. The solar array is not considered to introduce urban form to the area.

STRATEGIC POLICY 14 - Rural Economy

This policy states that farm diversification proposals will be supported where they can make a long-term contribution to sustaining the agricultural enterprise as a whole and where the proposal is consistent with its rural location in terms of use, setting and scale. The setting and scale of the proposal are in harmony with the existing enterprise, fitting within an existing field boundary. In providing significant and reliable income for a period of 25 years, the development will help sustain the agricultural enterprise over this time. Furthermore, the land is Grade 3b and can easily be restored to agricultural use after expiry of the project in 25 years.

STRATEGIC POLICY 24 - High Quality Design

This policy states that development proposals must contribute to the area in which they are proposed, minimise the production of carbon through sustainable construction and reuse of materials where possible and promote the use of renewable energy source technology solutions where possible. As a renewable energy project, the proposal will lead to very significant reductions of carbon production from burning fossil fuels and intrinsically promotes renewable technology solutions.

The layout and design respects the landscape character in that no hedgerows would be removed. The installation would sit within existing hedgerows and, with a maximum height of 2.2m, not exceed their height.

STRATEGIC POLICY 27 - Climate Change, Water Body Management and Flooding

This policy states that all new development will be expected to incorporate Sustainable Drainage Systems (SUDS) and protect and enhance wildlife habitats, heritage assets, existing open spaces, amenity areas and landscape value of the site. The details in the relevant accompanying assessment documents indicate that the project adheres to this policy.

STRATEGIC POLICY 28 - Renewable and Low Carbon Energy Generation

This policy states that the Council will promote and encourage all technologies and types of renewable and low-carbon energy generation, appropriate to the location in the Borough and encourage technologies that provide the greatest renewable energy generation and carbon savings.

It states that projects will be approved if their impacts are (or can be made) acceptable and stipulates certain conditions to ensure their acceptability.

These conditions include the following:

- consideration of the proposal to sensitivity of the landscape and of natural, historical and cultural features in relation to the development.
- the degree to which the developer has demonstrated wider environmental, economic, and social benefits as well as to how any adverse impacts have been minimised, including wider benefits arising from clean energy supply, reductions in greenhouse gas and other polluting emissions, and contributions towards meeting national targets for use of renewable energy sources
- the proximity to, and impact on, transport infrastructure and the local highway network
- the impact on designated sites of European, national, regional and local biodiversity and geological importance
- the impact on relevant heritage assets.

The extent of impacts on landscape, local heritage, natural and historical features and transport infrastructure as well as any necessary mitigating and enhancing measures are detailed in the relevant reports accompanying this document. In terms of the wider benefits of the scheme, the project is designed to produce 5.1 MW of electricity, sufficient to provide the power needs of over 1,173 average UK households and save in the region of 2,030 tonnes of carbon dioxide per year that would otherwise be generated through the use of traditional fossil fuels. This will make a measurable contribution towards the national targets set out in the UK government policies on renewable energy and carbon emissions outlined above and help reduce the long term global and local effects of climate change due to increasing energy demands.

STRATEGIC POLICY 29 - Biodiversity and Geodiversity

This policy seeks to protect, maintain and enhance the biodiversity and geodiversity of the Borough by ensuring that development retains, protects and enhances features of biological or geological interest, and provides for the appropriate management of these features and ensuring that development produces a net gain in biodiversity.

The development of the proposed solar farm will identify and include ecological enhancement measures, such as the creation of a wildflower meadow within the project area, supplementary hedgerow planting, and creation of wildlife habitats, such as hibernacula, bird and bat boxes. The intention is to ensure that the project has an overall net benefit to the local ecology and wildlife.

15 Summary and Conclusion

Given the benign nature of the proposals coupled with the relatively limited environmental value of the site, it is considered that whilst there will be some effects upon the environment as a consequence of the scheme, none of these are considered to be significantly adverse.

The small impacts that would occur must be considered in the context of the inherent benefits of renewable energy, which have most recently been confirmed in the UK Solar PV Strategy.

The site was selected due to it not being close to any sensitive sites, having a gentle topography; being well screened with low visibility, being agricultural land classification Grade 3b, and close to a feasible grid connection.

Solar farms such as this are recognised and acknowledged as having low levels of impact on their surroundings and settings, whilst supporting the requirements for renewable energy production and sustainable development. Solar farms are at the leading edge of zero emission energy generation, and will play an increasingly important role in moving the UK towards a low carbon economy and towards greater energy security.

The installation has been designed so as to have a net benefit on the local ecology and improve local biodiversity through the selective planting of wildflowers between the panels and in undeveloped areas. Planting will also be undertaken to fill in gaps within surrounding hedges, using local plant species.

This assessment has identified the key benefits of the proposed solar farm:

- impact is minimal and limited to the immediate area;
- there are no sensitive sites within or close to the proposed development area;
- landscape character would be retained;
- limited visibility from public vantage points and residential buildings;
- negligible impact on archaeological and heritage assets;
- easily manageable water flows from the site;
- enhancement of habitat; and
- continued agricultural activity and diversification.

In addition, business rates would accrue to the District Council and OST Energy would commit to an appropriate community benefit. The latter is not discussed in detail since it is not a planning matter.

Appendices

- A. Plans and Elevations
- B. Screening Opinion of East Staffordshire District Council
- C. Landscape and Visual Impact Assessment
- D. Ecological Assessment Report
- E. Heritage Assessment
- F. Archaeological Desk Based Assessment
- G. Flood Risk Assessment
- H. Construction Traffic Management Plan
- I. Agricultural Land Quality Assessment.



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