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30th January 2015

Screening Opinion for Proposed Solar Farm on land at Woodhouse Fields Farm, Hollington Road, Croxden, Staffordshire, ST14 5JA.

Introduction

We write on behalf of Sun and Soil Limited and the owner of the land at Woodhouse Fields Farm, Croxden, to formally request a Screening Opinion to determine the requirement for an Environmental Impact Assessment (EIA) to accompany a planning application for a proposed 4.15 MWp solar farm on approximately 9.8 Ha of land. This request is made under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011 (EIA Regulations).

As required under Regulation 5 of the EIA Regulations, we have provided below a brief description of the proposed project and its surrounding area, and a summary of the possible effects of the project on the environment. A site location plan identifying the site is also enclosed, along with a proposed layout for the development.

EIA Regulations

Under the EIA Regulations an environmental assessment is automatically required for 'Schedule 1' development. In relation to electricity and energy industry generation a Schedule 1 development is identified as:

- Thermal power stations and other combustion installations with a heat output of 300 megawatts or more; and
- Nuclear power stations and other nuclear reactors.

The proposed development is therefore not a Schedule 1 development.

The EIA Regulations also require an environmental assessment for a Schedule 2 development likely to have significant effects on the environment by virtue its nature, size and location. A project is classified as a Schedule 2 development if it falls within a category of development listed in Schedule 2 and meets one of the relevant criteria, exceeds one of the relevant thresholds, or is located in a sensitive area. In relation to the energy industry, a Schedule 2 development is identified as Industrial installations for the production of electricity, steam and hot water, with a development area that exceeds 0.5 hectare. The proposed development is considered to fall under the definition of Schedule 2 development. It is therefore appropriate to submit this request for Screening Opinion to East Staffordshire Borough Council (the Local Planning Authority) to determine whether there are significant effects likely to arise from the proposed development.

Site selection criteria

The site was selected in consideration of having the following:

- a location not being within or near any Sensitive Sites or designated areas;
- a gentle topography;
- good existing screening and low visibility the majority of the surrounding area;
- land classified as Grade 3 or poorer under the Agricultural Land Classification of England;
- a close proximity to a feasible grid connection.

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

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

Site Location

The site for the proposed solar farm would occupy three fields, 9.8 Ha (20 acres) in total; currently the fields are being used for arable cultivation and is considered to be Grade 3 agricultural land under the Agricultural Land Classification (England). The site falls approximately 2 km west of the centre of Rocester, 1.8 km east from Croxden and is 5km north of the town of Uttoxeter. Other nearby settlements include; Denstone Village, approximately 1.5km to the northeast, and Alton, approximately 3 km to the northwest.; please refer to the attached Site Location Plan.

The proposed site area is mainly surrounded by agricultural fields, with Nabb Brook flowing near the eastern edge and Nabb Lane running adjacent to the western side. The field to the north is in use as a tree plantation with seven to ten years growth, and this maturing vegetation provides screening of the site from the north. The fields immediately to the south belong to the landowner at Woodhouse Farm, with Hollington Road running to south of the property. Nabb Brook forms the base of a shallow valley, with the ground rising eastwards from the brook, resulting in views of the site from receptors located to the east. A Landscape and Visual Impact Assessment (LVIA) will more clearly determine the extent of any visibility from the surrounding area.

The immediate surroundings are as follows:

- To the north – bordered tree plantation woodland, with more arable fields beyond.
- To the east – bordered by arable fields, with the grounds of Denstone beyond the fields to the northeast.
- To the south – bordered by arable fields, with Hollington Road beyond.
- To the west – bordered by single track road, Nabb Lane, with further arable fields beyond..

The site has a gently sloping topography rising from approximately 100 m AOD (above ordnance datum) at the eastern, to 120 m AOD in the northwest.

There are no 'sensitive sites' as described within the EIA Regulations, such as Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation, National Parks, World Heritage Sites and scheduled monuments within or near to the proposed development area. Figure 1 below shows a 5 km radius around the site and the locations of any sensitive sites in the region. The site is located 2.5km south of Saltersford Lane Meadows Site of Special Scientific Interest (SSSI) and 4.7km southeast of Dimming Dale and the Ranger SSSI. It is not anticipated that the proposed site will have any impact on views from these two areas.

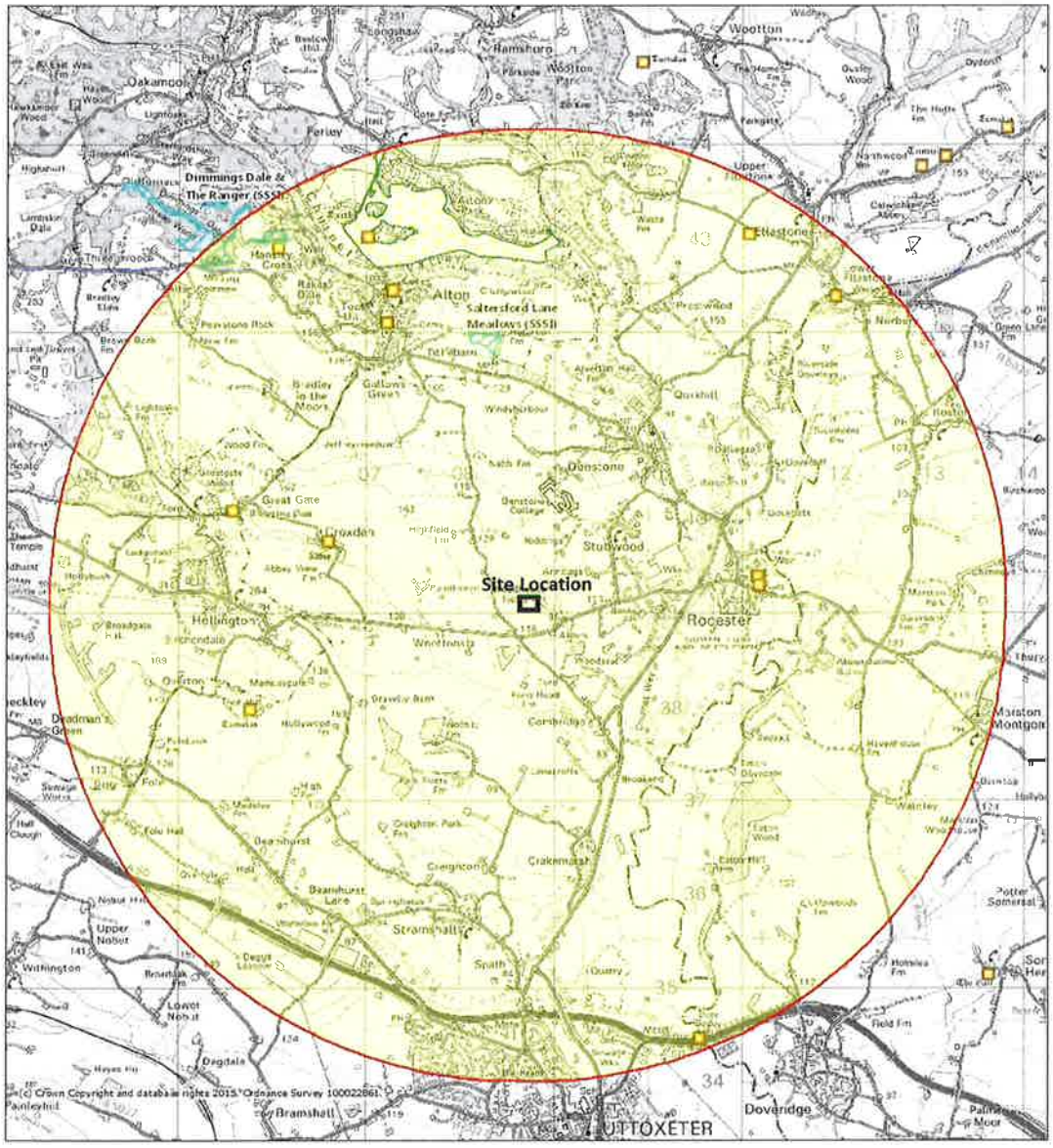
Croxden Abbey is the only Scheduled Ancient Monument within 2 km of the proposed site, lying just under 2 km to the northwest. Alton Towers Grade I Registered Park and Garden lies approximately 3.5 km to the north of the proposed development site. There are no views of the

site from these areas and it is therefore not anticipated that the proposed development will have any impact on these potential receptors.

Figure 1: Sensitive Sites

MAGIC

Magic Map



There are a number of Listed Buildings within 2 km of the proposed site:

- Milepost (Grade II*) is located approximately 650 m to the west of the site.
- Fieldhead Farmhouse, cowhouses, granary and stable (Grade II) are located approximately 700 m to the south of the site.
- College Chapel, College Hall and War Memorial of Denstone College (all Grade II) are located between 800 and 900 m northwest of the site.
- Pointhorne Farmhouse (Grade II) is located approximately 950 m northwest of the site.
- Banks Farmhouse (Grade II) is located approximately 1 km to the southeast of the site.
- Stubwood Chapel (Grade II) is located approximately 1 km northeast of the site.
- Manor Farm House (Grade II*) is located approximately 1.3 km to the north of the site.
- Stone House (Grade II) is located approximately 1.5 km northeast of the site. Views to the proposed site are screened by intervening topography.
- Denstone Village Cross and drinking fountain (Grade II) are located approximately 1.7 km to the northeast of the site. Views to the proposed site are well screened by intervening topography and vegetation.
- A Listed Barn in Croxden (Grade II) is located approximately 1.8 km to the northwest of the site. Views to the proposed site are well screened by intervening topography and vegetation.
- Podmore's Mill, Churnet Bridge and Causeway (Grade II) are located approximately 2 km to the east of the site, on the edge of Rocester. Views to the proposed site are well screened by intervening topography and vegetation.

Some views of the proposed site are possible from the receptors within the grounds of Denstone College as they sit on the opposite sides of the shallow valley of Nabb Brook. The other listed sites appear to be well screened by intervening topography and vegetation.

The closest residential and commercial buildings are:

- A bungalow sits 120m to the south of the site on the west side of Nabb Lane, adjacent to its junction with Hollington Road.
- A house sits 300m northwest of the site, to the west of Nabb Lane.
- Two residential properties sit either side of Hollington Road approximately 300m to the south of the site
- Denstone College sits around 700m to the northeast of the site. It is noted that there are a large number of buildings in the grounds of the college, some of which are understood to be privately occupied residential properties. The closest of these buildings sits just over 300m from the north western corner of the site.
- Aldersbrook Cottage, which is located at the end of a track running off Stubwood Lane, sits around 450m east of the site.
- A residential dwelling sits approximately 450m to the southwest of the site, just off Hollington Road.
- Wootton's Cottage and Alton Brook Cottage sit 600m west and 630m northwest of the site respectively.
- Field Head Cottage Farm sits approximately 650m south of the.
- Several residential properties sit along the north side of Hollington Road to the southeast of the site, between Four Winds, 620m from the site and Parkbrook Lodge 780m from the site at the junction with Stubwood Lane. From this junction, a row of several properties sit along the west side of Stubwood Lane up to Broadview cottage, which is situated around 700m to the east of the site.
- A large JCB factory is located on the western side of Rocester. Situated just over 1km to the east of the site.

The two closest properties, located on the west side of Nabb Lane, offer views of the site across the lane, although hedgerow management along the western edge of the site should provide effective additional screening. Further to the west of Nabb Lane the land gently falls away from the natural ridge along which the lane runs, providing screening from properties to the west.

Intervening vegetation and topography also provide screening of the site from the other residential buildings to the south along Hollington Lane. Properties to the north are screened by the maturing tree plantation adjacent to the site. The most significant visual impacts of the proposed development will be on receptors to the east, on the opposite side of a shallow valley. These receptors include Aldersbrook Cottage and the college buildings and private residential properties within the grounds of Denstone College.

A Visual Assessment will be undertaken as part of the planning application which will determine the extent of any potential impact of views on the identified properties and make recommendations for additional screening measures, if required.

From a technical point of view the site is open, not shaded and close to a feasible connection to the electricity grid.

Figure 2: View from the east of the site looking northeast towards Denstone College

Figure 3: View from centre of the site looking east

Figure 4: View from south of site looking southwest across Nabb Lane

Outline Project Description

It is intended to submit a planning application for the development of a Photovoltaic (PV) solar farm capable of generating approximately 4.15 MW of electricity. This would be sufficient to provide the power needs of over 1,132 average UK households and save in the region of 1,960 tonnes of carbon dioxide per year that would otherwise be generated through the use of traditional fossil fuels.

The proposed Project development involves the installation of PV panels arranged in rows covering a total site area of around 9.8 Ha (please refer to the attached Site Layout Plan). Panels will be mounted on a steel framework supporting structure which will be driven directly into the ground, with no need for any concrete foundations. The structure will follow the terrain and as such will not rise above 2.3 m above ground level. The solar panels will be inclined to 25 degrees from the horizontal and orientated due south. Each individual photovoltaic panel is approximately 1,000 mm x 1,600 mm and of a glass construction set in an outer metal framework. The PV panels are connected by cables, running through conduits along the rows of panels, and junction boxes. Figure 4 shows a typical arrangement for PV panels within a solar farm.

In addition to the PV panels a solar farm comprises of the following:

- Inverters – are required to convert the direct current (DC) electricity generated by the PV panels, into alternating current (AC) for the grid. Inverter cabinets are typically in the order of 10m long, 2.5m wide and 3m high. The proposed Project will require 4 inverter cabinets which shall be painted dark green.
- Transformers are required to connect the solar farm to the high voltage grid, which would sit alongside or inside the inverter cabinets.
- A security system is required to prevent unauthorised access into the solar farm, which is an energy generation system, and to protect the solar farm. This will consist of a 'rural style' deer fence approximately 2 m high, installed within the sites demise and pole mounted security cameras installed around the fence perimeter. The security cameras will employ infra-red technology and no site lighting will be required.

- The Distribution Network Operator (DNO) will also 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, typically 4m long, 3m wide and 2.5m high.

The proposed project will export electricity to the national grid; the point of connection is to be at Rocester Substation just over 1km to the east of the site.

In order to avoid shading from the arrays on one another, the distance between rows of panels will be around 5 m; which will create wide avenues left open between the panels. The total site area is around 98,000 m^2, of which 23,240 m^2 will be covered with panels, leaving 76% (74,760 m^2) as 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. The unoccupied ground between rows of panels and under the panels will be seeded to produce a wildflower meadow and grassland area. Following the completion of a proposed development, the site will maintain the potential for farming activity of grazing by sheep, which can continue to co-exist with the erected solar arrays, thereby maintaining economic value.

Access to the site would be gained via an existing access gate 280 m to the southeast on Hollington Road. The access gate is situated adjacent to a bend in the road and therefore mitigation measures for access of heavy vehicles during construction shall be considered as part of a construction traffic management plan, submitted as part of a full planning application.

Once constructed, access to the solar farm will typically generate 10 - 20 visits per year by technicians for maintenance works in 4x4s or 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.

Figure 5: Typical PV Solar Panel Arrangement

Source: Photo: OST Energy

Effects on the Environment

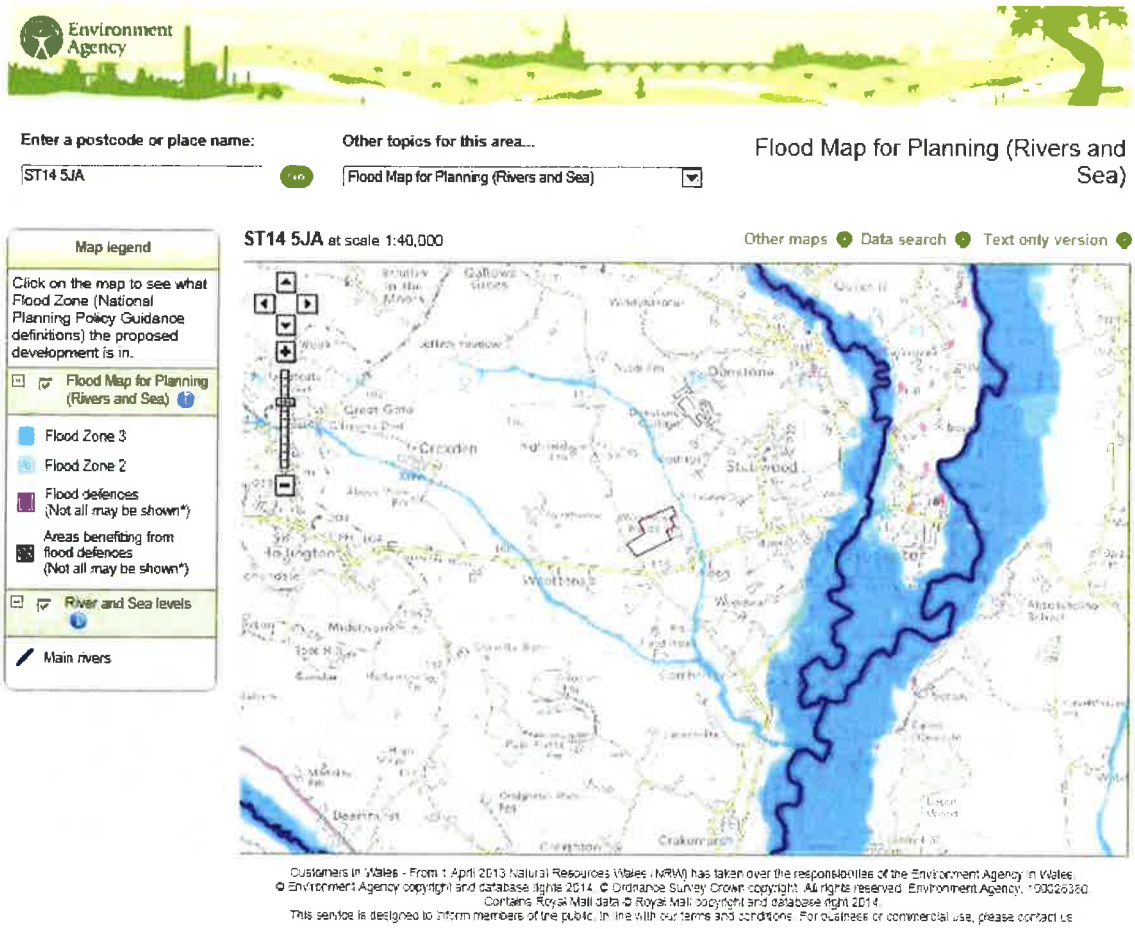
Once constructed, the solar farm development will have very limited impacts on the environment. The panels are passive in nature, do not result in any emissions, will not generate any waste during operation (aside from any required replacement of components) and require very limited onsite activity,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

hazardous impacts, and it does not involve any unusually complex technologies. The risk of any accidents is very low, and restricted to construction and maintenance activities, which will be covered by health and safety plans. Solar PV is one of the least technically complex and lowest impact energy generation methods available.

As the panels do not form a continuous hard surface, vegetation will continue to grow under and between the panels and there will be very little change to site run-off. Therefore there will be 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.

As part of the planning application a Flood Risk Assessment will be undertaken. Following a desktop review we have determined that the area proposed for the solar development lies within a Flood Zone 1 area. The nearest watercourse, Nabb Brook runs along the eastern edge of the site and the nearest Flood Zones 2 and 3 are located in the flood plain of the River Churnet, approximately 1.2 km to the east of the site. The development of the solar farm will not result in an increased risk of flooding to other areas. The design of the installation is such that it does not decrease the capacity of the land to absorb rainfall and will not increase run off to other areas.

Figure 6: Flood Zones



The most significant impact associated with solar farms is their potential to impact on the local landscape and the visible changes to the site. Part of the reason why this site was selected was due to the relatively limited visual impact the proposed project would have on the local landscape. The immediate surrounding area is characterised by predominantly agricultural uses and is rural.

It is considered that the visual impact of low lying solar equipment will not result in a material change to the character of the area, particularly when considering the existing surrounding hedges and tree-scape that will be retained, which afford some screening of the site. It should be noted that as part of the development of the Project additional screening through planting will be undertaken; for example hedgerows would be allowed to grown to a greater height and where gaps exist in the hedge line additional planting will be undertaken to fill gaps thereby ensuring the site remains largely unseen from near or far. The extent of planting for screening will be determined following the findings from a Visual Assessment that would be carried out as part of the Planning Application. It is therefore considered that any potential visual impacts beyond the immediate site would be very low.

There are no moving mechanical parts associated with the panels and no significant noise generating equipment or machinery, minimising the potential for noise generation from the development. Consequently no noise impact on even the closest local residents is anticipated.

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), and also have a non-reflective coating, thereby minimising the potential of glint and glare.

Once the solar array is operating, it is anticipated there will only be limited visits required to the site for routine maintenance. Thus any impact arising from increased traffic will be negligible.

Furthermore, the development of the proposed solar farm will also identify and include ecological enhancement measures, such as 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.

The site will be decommissioned at the end of project life and the land returned back to its original use.

Figure 5: Solar Farm with wildflowers

Source: Photo: OST Energy

EIA Screening

The Screening process should consider the development proposals against the criteria and thresholds which are included within the EIA Regulations and accompanying guidelines in Circular 02/99, in determining whether or not an EIA is required to accompany an application. Schedule 3 of the EIA Regulations provides selection criteria for Screening Schedule 2 development, which includes the following three categories to consider:

- the characteristics of the development (e.g. its size, use of natural resources, quantities of pollution and waste generated);
- the environmental sensitivity of the location; and
- the characteristics of the potential impacts (e.g. its magnitude and duration).

We consider that the proposed solar farm does not fall within the above selection criteria, based on the following reasoning:

Characteristics of the development	Although the proposed solar farm occupies 9.8 Ha of land, the development will be close to the ground and coupled with significant existing screening and proposed new screening, will have very limited local impact. Throughout the operational life of the project there will be no resources consumed, no pollution emitted or wastes generated.
Environmental sensitivity of the location	There are no environmentally sensitive sites within or directly adjacent to the proposed site area and therefore no impact on sensitive sites will occur due to the development of the proposed project.
Characteristics of the potential impacts	The magnitude and complexity of any impacts are expected to be limited, confined to the local area and are predictable. The duration and frequency of the potential impacts are not significant and (with the removal of the panels at decommissioning) are reversible.

In addition to this, for Schedule 2 developments, paragraph 33 of Circular 02/99 states that generally EIA will be required in three main cases:

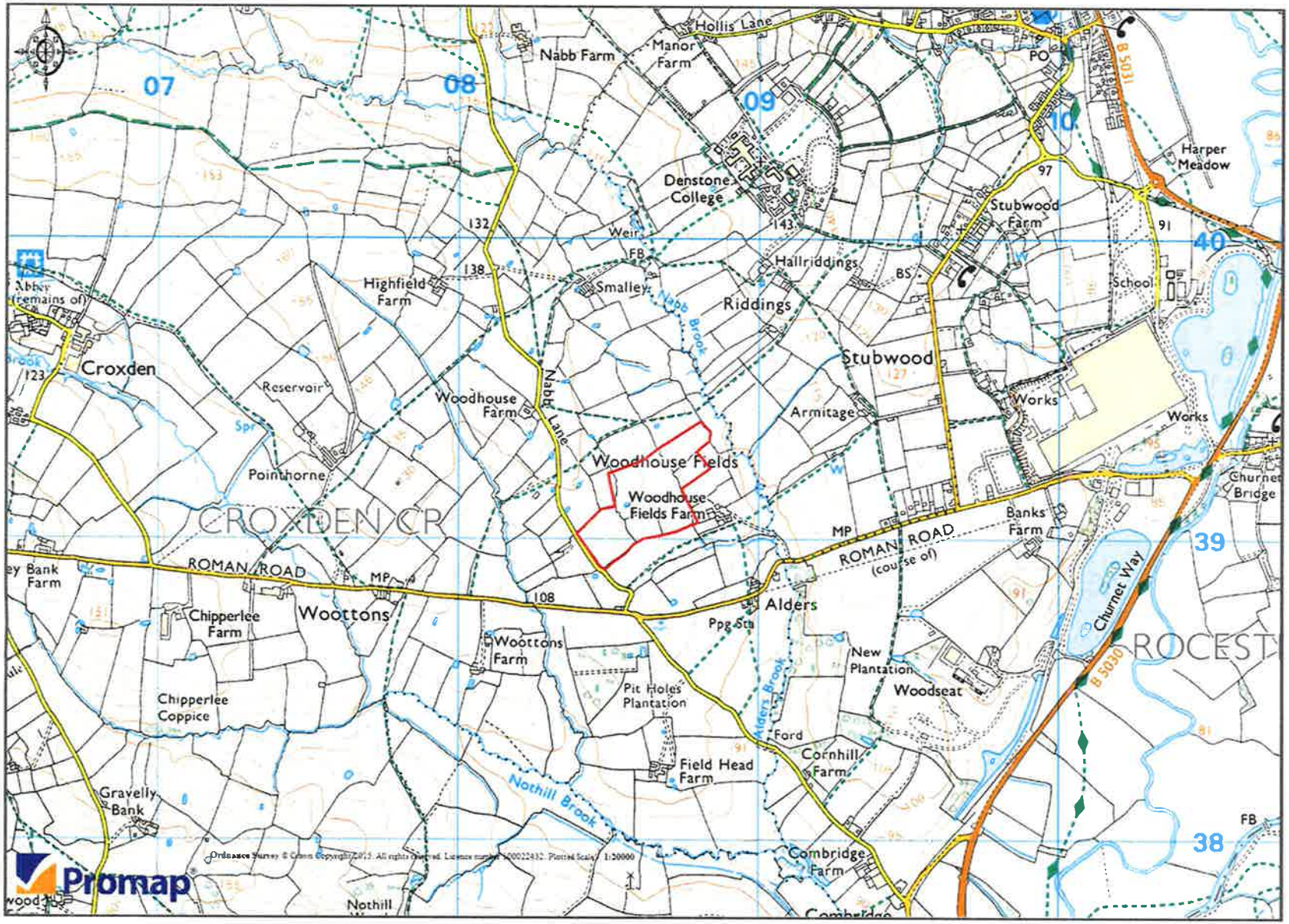
- *For major developments which are of more than local importance* – the proposed solar farm is not considered to be of more than local importance.
- *For developments which are proposed for particularly environmentally sensitive or vulnerable locations* – the development is not sited in a particularly environmentally sensitive or vulnerable location.
- *For developments with unusually complex and potentially hazardous environmental effects* – the proposed solar farm is not considered to have any complex or hazardous environmental effects.

It is therefore considered that the proposed development does not have significant effects on the environment when considered against these factors and as such, it is not an EIA development and does not therefore require an Environmental Statement to be prepared.

Summary

Based on the criteria set out in the EIA Regulations and Circular 02/99, we consider that the proposed development does not require the preparation and submission of an Environmental Impact Assessment for the following reasons:

- Due to the nature and scale of the proposed solar farm any potential impact is minimal and only limited to the immediate area surrounding the project and therefore of no more than local importance.



N

1 : 20000 @ A4

0 1km

Project:	Woodhouse Fields Farm
Address:	Staffordshire, ST14 5HY
Client:	Sun&Soil

Key

Proposed Site Location

Drawing Title:

Site Location Plan

Rev	Date	Description	Draw	Check	Appd
00					
00					
00					
00	14/02/15	Draft for Planning	RR	AA	MG
01	09/01/15	Draft for Planning	RR	AA	MG
02					

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Drawing number:

00011-40-100

- There are no sensitive sites, as defined under the EIA Regulations, within or near to the proposed Project.
- Due to the passive operational nature of the solar farm it is considered that the development will not constitute a significant negative effect upon the environment.
- The proposals are not unusually complex and do not pose potentially hazardous environmental effects.

Given the benign nature of the proposals coupled with the generally limited environmental value of the current 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 constitute 'significant effects' upon the environment, as set out in central Government guidance. Accordingly, it is considered that the proposals do not constitute EIA development and would not require an Environmental Statement to be submitted with a planning application for the scheme.

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

In acknowledgement of the potential for the proposed development to create some effects on the environment, a number of supporting studies to assess the effects of development will be submitted as an accompaniment to planning application. We propose that these studies are prepared and submitted to ensure that appropriate regard is given to environmental requirements throughout the development and in consultation with the Local Authority; they could include:

- Transport Statement
- Ecological Survey and Assessment
- Biodiversity Planting Action Plan
- Visual assessment
- Agricultural Assessment (desk based)
- Flood Risk Assessment
- Heritage Assessment (desk based).

Solar farms are recognised as having low levels of impact on their surroundings, 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.

Furthermore, the proposed Project will be designed so as to have a net benefit on the local ecology and improve local biodiversity through the selective planting of wildflowers, grasses and hedging using local and appropriate plant species.

We trust that we have provided you with sufficient information for you to make a Screening Opinion for the proposed solar farm. Should you have any queries or would like to arrange a further meeting to discuss our proposals, please do not hesitate to contact me.

We look forward to receiving the Council's Screening Opinion within the necessary timeframe specified by the EIA Regulations.

Kind Regards

Mark Grundy

Inverter Cabins

DNO cabin, Customer Switchgear and Control Room

Internal Access Tracks

Security Fence leaving 5m access for vehicles

PV Array

PV free area due to existing overhead power lines

N

Project:	Woodhouse Fields Farm
Address:	Staffordshire, ST14 5HY
Client:	Sun & Soil

Location:

System Details:

System size DC:	4.99MWp
System size AC:	4.15MVA
Leased area:	10.7ha
No of panels:	19,998
Array Tilt:	25

Rev	Date	Description	Draw	Check/Appv
00	23/01/15	PV Layout	RR	AA
01	14/01/15	Amended Layout	RR	MG

Drawing Title:

PV Layout

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Scale (metres):	1:2250 @ A3
Drawing Number:	00011-40-101