SIX OAKS RENEWABLE ENERGY PARK

Design and Access Statement

PREPARED ON BEHALF OF

Six Oaks Renewable Energy Park Limited

OCTOBER 2022

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DESIGN AND ACCESS STATEMENT

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INTRODUCTION

DA.1 The following Design and Access Statement is provided to explain the Six Oaks Renewable Energy Park (the Proposal) location and design process. It is produced in accordance with Planning Practice Guidance '*Making an Application*' (DCLG, 2014). As recommended by the Commission for Architecture and the Built Environment (CABE) publication '*Design and Access Statements - how to write, read and use them*' (2006), this statement concentrates on seven Key Design Issues and answers a set of Key Questions for each one, based upon the '*Assessment Crib Sheet*' contained within the CABE guide.

DA.2 The Town and Country Planning (Development Management Procedure) (England) Order 2015 (SI 2015/595) superseded the Town and Country Planning (Development Management Procedure) (England) Order 2010, SI 2010 No. 2184 (and subsequent amendment), which introduced '*context*' to be discussed with respect to the development as a whole, rather than with respect to the sub-components discussed by the CABE guide.

DA.3 This Statement has been prepared on the basis of the application being classified as 'Major' development.

DA.4 Questions shown in square brackets are not considered relevant to the Proposal.

THE PROCESS

Have the physical characteristics of the scheme been informed by a rigorous process which should include assessment of the site's full context (physical, social and economic characteristics and relevant planning policies); involvement; evaluation; and design?

DA.5 As discussed in **Chapter 3 - Site Selection and Design (ES Volume 2A)** the suitability of the landholding for the proposal and the initial site design, within the boundaries of the landholding, was based on consideration of technical and environmental constraints and best practice.

DA.6 Through a broad search approach eastern England was identified as an area of the UK receiving adequate solar radiation for a viable solar array. This is discussed further in **ES Volume 2A, Chapter 3 - Site Selection and Design**.

DA.7 Whilst subject to a separate consenting procedure, an underground 33kV cable will run from the substation compound across fields to Wilbraham Road. The connection will follow the highway to Fulbourn Substation.

DA.8 In selecting the potential site, the developer considered the proximity to designated sites within the locality.

DA.9 Initial factors considered through desktop study also included:

- availability of adequate contiguous land;
- viable grid connection route to the secured point of connection;
- proximity to settlements;
- Agricultural Land Classification;
- access; and
- location of Public Rights of Way.

DA.10 Taking these constraints into account, land was identified approximately 1km south east of the edge of Bottisham. As discussed further in **Chapter 4 - Existing Conditions,** the land was

observed to have an association with energy infrastructure, particularly the 400kV double circuit transmission line that crosses the site; southwest of the Proposal, a double 33kV overhead line (on wooden pylons) and a local distribution 33kV overhead line (on wooden posts), owned by UKPN, west of the proposal.

DA.11 During the detailed design stage it was felt appropriate to introduce the site to residents of the area and invite comment. Feedback from neighbouring residents and parish councils was gathered through public consultation. The key topics raised by public comment included the opportunity to improve habitat, screening planting and temporary loss of agricultural land.

DA.12 In light of these comments and as the proposed site layout evolved, more specific environmental constraints were accounted for, including:

- separation from two gas pipelines crossing the site; and
- separation from electrical infrastructure crossing the site;
- removal of an area to the far west to avoid ALC Grade 2 land and an area of historic ridge and furrow;
- separation from the footpaths to the south of the site; and
- inclusion of hedges and tree planting as landscape mitigation, with appropriate separation from panels to avoid shading.

DA.13 The Six Oaks Renewable Energy Park was judged by Ridge Clean Energy (the Developer) and the environmental assessment team to be a location offering the prospect of a suitable balance of the site-specific features which render a solar and BESS development (with its associated environmental benefits) both technically and financially viable, and the need to keep any adverse environmental impact of such a development to an acceptable minimum. The potential for significant environmental effects were considered in detail through the various assessments and Environmental Impact Assessment (EIA), the results of which accompany the application.

DA.14 Relevant policies of the Council's Local Plan (2015) were considered in the assessments, as identified during the pre-application advice consultation process:

- Part One: Spatial Strategy and Policies, Section 6 Environment and Climate Change:
  - Policy ENV 1: Landscape and Settlement Character;
  - Policy ENV 2: Design;
  - Policy ENV 4: Energy and Water Efficiency and Renewable Energy in Construction;
  - Policy ENV6: Renewable Energy Development;
  - Policy ENV 7: Biodiversity and Geology;
  - Policy ENV 8: Flood Risk;
  - Policy ENV 10: Green Belt;
  - Policy ENV 11: Conservation Areas;
  - Policy ENV 12: Listed Buildings;
  - Policy ENV 14: Sites of Archaeological Interest;
  - Policy ENV 15: Historic Parks and Gardens; and
  - Policy ENV 16: Enabling Development Associated with Heritage Assets.

USE

What are the buildings and spaces used for?

Would the application help to create an appropriate mix of uses in the area?

Would different uses work together well, or would they cause unacceptable annoyance?

DA.15 The proposal is for infrastructure to allow for the storage of electricity and generation of electricity from renewable solar energy. The application is for a solar array and BESS and those other elements required for its construction, operation and maintenance. Details of the associated infrastructure (including frames, access tracks, inverters, transformer units, substation compound and security fences) are provided at **ES Volume 2A, Chapter 7 - Development Proposal** and associated **Figures** in **ES Volume 3**.

DA.16 The operation of the Renewable Energy Park would utilise approximately 76.1ha of arable land, 72.4ha of which would be fenced. Arable land would be removed from intensive agricultural production for the lifetime of the Proposal.

DA.17 A change of land management with no cultivation will enable a return towards a higher equilibrium of soil organic matter. Benefits of this change will be land that is more fertile, easier to cultivate and permits more rapid infiltration of rainfall.

DA.18 The presence of overhead electricity power lines across the site and A11 and A14 trunk roads provide an existing element of development within the local landscape. The Proposal would fit well within the context of existing infrastructure.

DA.19 The use of renewable energy in the UK is supported through the National Planning Policy Framework (MHCLG, 2021), which states at Paragraph 155 that:

'To help increase the use and supply of renewable and low carbon energy and heat, plans should provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts).'

DA.20 A detailed Agricultural Land Classification survey of the site found agricultural land in Grade 3 with 15% grade 3a and 85% grade 3b.

DA.21 Natural England provide guidance on the protection of valuable agricultural land within TIN049 (Natural England, 2012) and state that the best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance. This is reiterated within Annex 2 of the NPPF.

DA.22 A full assessment of agricultural land quality is provided within **Chapter 5 - Agricultural Land** which concludes '*the land will benefit from an extended fallow period. This break from arable production, with its attendant cultivation and application of agrichemicals, will enable a recovery of soil health. .... For the stated reasons the proposed Six Oaks Renewable Energy Park would not have a significant impact on agricultural production in Cambridgeshire or the rest of England*.'

DA.23 The location of the proposal is technically and economically viable and the site has been designed to minimise environmental and social impacts where possible, with resultant impacts determined in the studies contained within the Environmental Statement and the other non-EIA assessments accompanying the application.

AMOUNT

The planning application will say how much development is being applied for. Why is this the appropriate amount?

Is the density appropriate?

DA.24 The array will be sited within a fenced area of approximately 72.4ha, albeit not all of the ground is covered by panels. Approximately 31.9ha will be over-sailed by panels which is approximately 41.9% of the site area, or 44.0% of the fenced area). Only a small proportion of this area will penetrate the ground by the frame legs. The total solar array would have a rated capacity of up to 49.9MW at the point of connection and the BESS a capacity of 100MWh, enabling it to export 50MW over two hours. The proposed operational lifetime of the project is 40 years, following which the Proposal would be decommissioned, unless a fresh planning permission was granted for its retention.

DA.25 Whilst the wider landholding extends beyond the site area, the development is considered to be the appropriate amount for the relatively contained visibility of the site and maximising the available grid connection capacity.

DA.26 The Landscape and Visual Impact Assessment provided at **ES Volume 2A, Chapter 10**, assesses the impact of the Proposal on landscape and visual receptors within the study area.

DA.27 The site will be subject to biodiversity enhancements. These include:

- Planting of some 76ha of biodiverse neutral grassland wildflower meadow.
- 1.1kmm of native hedgerow planting and a further 2.5km of existing hedge restored to native species-rich hedgerow.
- a line of native trees will be planted in the south-east corner of the site.
- Barn owl box, 20 mixed songbird boxes and ten bat boxes.
- A mix of local native species will be used and will be agreed with East Cambridgeshire District Council through the Biodiversity and Landscape Management Plan (BLMP), to be agreed under Condition. To avoid creating a uniform habitat, a mixture of specimen sizes will be used and ongoing maintenance through grazing, mowing and rotational trimming will allow variation in height to result in a natural appearance whilst maximizing screening benefits. The planting has been specifically designed to reflect the wider pattern and scale of woodland and hedging in the area.

DA.28 These enhancement measures offer a material environmental benefit of the Proposal as quantified by the Biodiversity Net Gain calculations provided within **Chapter 9 - Ecology** of the ES.

LAYOUT

How will the buildings and public and private spaces be arranged on the site, and what is the relationship between them and the buildings and spaces around the site?

DA.29 As stated in **Paragraph DA.5 on page 5**, the suitability of the landholding for a Renewable Energy Park and the initial site design, within the boundaries of the landholding, were based on consideration of technical and environmental constraints as guided by Planning Practice Guidance and industry best practice.

DA.30 The rows of solar panels are arranged east to west on the site and approximately south facing to maximise energy generation. Existing site tracks are used where available. This means that the site tracks will generally be obscured from view by field boundary vegetation.

DA.31 The inverters are mounted on the backs of the solar panel frames and the transformer units are containerised and look similar in form to the client cabin container. These elements are located to minimise their potential prominence and reduce unnecessary cable runs. The BESS and substation compound is located in close proximity to the A11 in a location which minimises cable lengths.

DA.32 A restricted byway (Footpath 7) travels along Heath Road, adjacent to the southern boundary of the proposed site. This byway is crossed by the access track. Footpath 8 (byway) travels southwards from Heath Road towards Six Mile Bottom/ Wilbraham Road.

DA.33 Potential impacts on PRoW users have been considered within the Landscape and Visual Impact Assessment provided at **ES Volume 2A, Chapter 10** and mitigation planting proposed, where appropriate.

[Will public spaces be practical, safe, overlooked and inclusive?]

[Will private spaces be adaptable, secure and inviting?]

Do all spaces have a purpose?

DA.34 The elements forming this application are limited to those which are necessary for the storage, generation and transport of electricity or for the access to and maintenance of the Renewable Energy Park. The proposed arrangement of these elements is shown at **Figure 1.2 and Figure 1.3**, **ES Volume 3**.

DA.35 The key determinant for the use of space on the site is the height and angle of the solar panels. The solar panels will be mounted at an angle of approximately 25 degrees with a maximum height of 3.0m and minimum height above the ground of 0.9m. This arrangement, with consideration of terrain requires a spacing between panel rows of around 4m to avoid shading and maximise generation. Space between the panel rows will be set to a species-rich meadow mix of grass and wild flowers for the purpose of enhancing biodiversity, improving soils as well as surface water management capability of the soils.

DA.36 The panels are grouped in blocks (or 'racks') of 52 panels that are arranged in two rows of 26 panels in portrait format. Half 'racks' of two rows by 13 columns of panels are used to infill smaller areas. These racks are arranged within the existing field shapes to maximise generation and allow sufficient space for other infrastructure.

DA.37 Mitigation and enhancement measures also form part of the proposed

development. These additions to the existing site baseline include the measures set out in **Paragraph DA.27 on page 8**.

DA.38 The environmental impact of the proposal is examined through the EIA, as reported in the **ES**.

SCALE

The statement should explain and justify:

the height, width and length of [buildings];

the size of spaces in relation to each other and their surroundings; and

[the size of parts of a building or its details]

The statement should provide clear evidence that the planned scale has been influenced by the existing character of the local area or, where relevant, opportunities to improve that character.

DA.39 Modern commercial electricity generation solar farms range from approximately 5MW to over 200MW. BESS schemes vary from 5MWh to 1GWh depending upon location and available grid connections.

DA.40 This solar array has been proposed to provide up to 49.9MW (3 S.F.) and the BESS 50MW to maximise use of the secured connection capacity. The generation is maximised from the available unconstrained site area and for the available grid connection.

DA.41 As mentioned in **Paragraph DA.29 on page 9**, the spacing of the renewable energy park relative to its surroundings has been driven by consideration of various constraints such as landholdings, proximity to dwellings, existing infrastructure, and trees and hedgerows. In combination, these separations minimise potential environmental impacts and maximise output.

DA.42 The NPPF, at Paragraph 158, states that Local Planning Authorities should:

'not require applicants to demonstrate the overall need for renewable or low carbon energy'.

DA.43 Nevertheless, chapter 2 describes reasons for the urgent need for renewable energy electricity generation.

Will the [buildings] sit comfortably with their surroundings?

[Will they, and parts like doors and windows, be of a comfortable scale for people?]

DA.44 Solar farms and arrays by nature have a large footprint, but the whole area is not covered with panels as spacing is left in between for access, ancillary equipment and also perimeter fencing. The panels are mounted with a maximum height of 3.0m. It is proposed to grass/ wild flower seed

the areas between, under and around the panels and seasonally mow or graze.

DA.45 It is proposed that the external finish of the containers and cabinets included within the proposal (transformer units, client cabin container, BESS containers and substation compound containers) will be agreed with the Local Planning Authority prior to construction commencing.

DA.46 The Landscape and Visual Impact Assessment provided at **Chapter 10, ES Volume 2A**, sets out the specific effects of this proposal in detail.

LANDSCAPING

How open spaces will be treated to enhance and protect the character of a place.

DA.47 During the EIA phase, a Biodiversity and Landscape Management Plan (BLMP) was developed to draw together planting associated with screening of views to the development and ecological enhancements during the operational phase of the project, as discussed in **Chapter 10 - LVIA, ES Volume 2A**; and **Chapter 9 - Ecology, ES Volume 2A** and as provided in **Appendix 9.6, ES Volume 2B**.

DA.48 The BLMP (provided in summary as **Figure 8.3** to the ES) includes:

- Restoration of lowland species-rich grassland - an area of 76ha. of arable farmland will be enhanced to deliver a more biodiverse neutral grassland wildflower meadow.
- Native hedgerow planting – 1.1km of new native hedgerow will be planted and a further 2.5km of existing hedgerow restored to native species-rich hedgerow.
- Native tree planting – a line of Rowan will be planted in the south-east corner of the site.
- Wood piles would be provided for invertebrates.
- Barn owl box – one to be erected at a secure location within the site (specific location confidential to avoid disturbance to this species).
- Songbird nest boxes – 20 boxes of mixed type (5 x small hole for tits, 5 x larger hole for sparrows, 5 x larger boxes for starlings and 5 x open-fronted boxes for flycatchers/ robins/thrushes). These will be erected within woodland patches and on trees within the existing hedgerows/field boundaries.
- Bat boxes – 10 boxes – same locations as songbird nest boxes.

DA.49 The BLMP evolved with the site design, and carefully considered the existing landscape character of the area. Considering Biodiversity Net Gain, this will deliver a net gain of 101 habitat units (an increase of 66.1%) and 2.29 hedgerow units (an increase of 1.86%). Native species will be selected for the new grassland, meadow, hedge and tree planting and it is anticipated the BLMP will be agreed with the Local Planning Authority prior to construction and controlled by condition.

APPEARANCE

The statement should explain and justify the appearance of buildings and spaces, and show how they relate to their surroundings. It should cover: architecture, materials, [decoration], lighting, colour and texture.

DA.50 The appearance of a solar array, BESS, substation compound and ancillary infrastructure is largely functional, with materials primarily chosen for their weight, strength, performance and practicality.

DA.51 By their nature, the operating surface of the PV panels and so the active face of the array will be a deep metallic blue. The purpose of the solar panels is to absorb light and so they will have a non-reflective slightly textured surface, minimising glint/glare and maximising the transmission of light to the generating layers. The framing system is typically self-coloured aluminium and typically only visible from below or behind the panels.

DA.52 Site containers will typically be in the form of steel shipping containers or Glass Reinforced Plastic (GRP) containers. The colour and finish of all site containers and cabinets will be agreed with the Local Planning Authority prior to construction.

DA.53 A full description of each element of the proposed renewable energy park is provided at **Chapter 7 - Development Proposal, ES Volume 2A**. Photos of typical infrastructure forming the renewable energy park are shown at **Plate DA.1 on page 13**.

How will the development visually relate to its surroundings?

Will it look attractive?

DA.54 The solar farm will have a perimeter fence, which will be stock style fencing with wooden posts. This type of fencing is chosen to be less intrusive and more rural in character than other types of fencing. Steel mesh field gates will be used at the site entrances. For safety purposes, the BESS and substation compound will be secured with palisade fencing. Landscape and visual impacts are assessed in detail in **Chapter 10 - LVIA, ES Volume 2A**.

DA.55 Visual representations of the proposed development in the landscape are provided through a series of visualisations and contextual photographs contained at **ES Volume 4**.

CONTEXT

A design and access statement should demonstrate the steps taken to appraise the context of the proposed development. It is important that an applicant should understand the context in which their proposal will sit, and use this understanding to draw up the application.

DA.56 The immediate and wider context of the site was evaluated during the site selection and design process, as discussed at **Chapter 3 - Site Selection and Design, ES Volume 2A**. A description of the site's context is provided at **Chapter 4 - Existing Conditions, ES Volume 2A** and by the Landscape and Visual Impact Assessment (**Chapter 10 - LVIA, ES Volume 2A**).

DA.57 The social and economic aspects of the proposal are discussed in the **Socio Economics and Sustainability Statement** accompanying the planning application

DA.58 The effects of climate change are now being experienced at all levels – global, national, regional and local. Similarly the socio-economic effects of the proposal will also have effects at the global, national, regional and local level.

Plate DA.1 - *Typical Renewable Energy Park Infrastructure Appearance (colour finish to be agreed with East Cambridgeshire District Council) - clockwise from top left: typical site track; construction works and typical cabinet/container; typical transformer container; installed solar panels; typical solar array fencing and installed panels and typical BESS.*

DA.59 Addressing the Youth4Climate Summit in Milan on 28th September 2021, climate activist Greta Thunberg said:

"There is no plan B...Build back better. Blah, blah, blah. Green economy. Blah blah blah. Net zero by 2050. Blah, blah, blah, ... This is all we hear from our so-called leaders: words. Words that sound great but so far have not led to action. Our hopes and ambitions drown in their empty promises. Of course we need constructive dialogue, but they have now had 30 years of blah, blah blah. And where has this led us ... While carbon emissions must be halved by 2030 to have a chance of avoiding dangerous climate change, instead they are on course to rise by 16 per cent. Just look at the numbers. Emissions are still rising. The science doesn't lie'.

DA.60 More recently, the urgency to act on the climate emergency was highlighted in speeches made by various world leaders, experts and climate activists at the COP26 Conference in Glasgow.

DA.61 The UNEP's Emissions Gap Report (October 2022) states that:

'Every year, the negative impacts of climate change become more intense. Every year, they bring more misery and pain to hundreds of millions of people across the globe. Every year, they become more a problem of the here and now, as well as a warning of tougher consequences to come. We are in a climate emergency.'

DA.62 The report goes on to state that:

'The transformation towards zero GHG emissions in the sectors of electricity supply, industry, transportation and buildings is under way. However, increased and accelerated action is needed if these are to happen at the pace and scale required to limit global warming to well below 2°C, preferably 1.5°C.'

DA.63 Net Zero is enshrined in law and East Cambridgeshire District Council declared a Climate Emergency in October 2019.

DA.64 The potential for a renewable energy park at the proposed site location was investigated in the context of the existing overhead electricity lines and pylons crossing the site and the existing transport infrastructure to the west north and east. Feasibility assessment and a detailed site design process determined the site to be suitable against a number of environmental, technical and social constraints.

ACCESS

The design and access statement will need to cover two potential aspects of access vehicle and transport links, and [inclusive access...]

Will the place be safe and easy for everyone to move around?

Will it make the most of the surrounding movement network?

DA.65 It was determined that the most suitable route from the identified likely port of delivery for components would use the motorway and A-road network as far as possible. This minimises the potential disruption to local traffic and road users.

DA.66 The proposed development will be accessed from Wilbraham Road, using an existing farm entrance and farm tracks. The access point and tracks already take agricultural vehicles and therefore Heavy Goods Vehicles (HGVs). This is further discussed in the **Traffic and Access Statement** that accompanies the application.

DA.67 The first 1km of access track is within South Cambridgeshire District. The remaining development is within East Cambridgeshire.

DA.68 It is proposed that existing field entrances will be utilised and upgraded, where necessary, to allow access to the solar array, BESS and substation compound.

DA.69 Where sections of new, upgraded or widened access track are required, these will have the appearance of typical vernacular farm tracks with a crushed stone running surface (**Plate DA.1**) that will grass over in time. Typical detail is shown in **Figure 6.3 (ES Volume 3)**, the running surface (4.5m wide) is laid over a permeable stone sub-surface on a surface-mounted geogrid base (e.g. Geotex).

DA.70 Access within the site is required to the site transformers during construction, through operation, and finally during the decommissioning of the site at the end of the project's operational life.

DA.71 There will be no public access to the proposed site. The existing PRoWs outside of the south and west boundary of the site will remain accessible through all phases of the development, being fenced off from the construction site for user safety. Advance notification and signage will be in place to warn users of the PRoW of the adjacent construction activities. Banksmen will be deployed as necessary during times of construction traffic at the crossing of the byway.

DA.72 Construction personnel will be required to adhere to health and safety procedures, as set out in a Construction Traffic Management Plan (draft accompanies this planning application and is to be agreed with the Local Planning Authority prior to construction).

DA.73 Further information regarding access to the site is provided in the **Traffic and Access Statement** accompanying the planning application.

Has the applicant clearly described their policy approach and consultation process, whether carried out or planned?

DA.74 The approach to the consultation process included pre-submission consultation with the Local Planning Authority as well as a comprehensive package of pre-application consultation with surrounding residents, businesses and Parish Councils.

DA.75 Relevant policies of the Council's Local Plan (2019) were considered in the assessments, as identified during the pre-application advice consultation process, as detailed in **Paragraph DA.14 on page 6**.

DA.76 Prior to submission of the application, members of the public from the surrounding settlements were consulted via letter sent in the post, and were offered the opportunity to provide pre-planning comment about the proposal. In addition, the letter invited residents and interested parties to attend two public consultation events where questions and comments could be made directly or via a feedback form. Local Parish Councils were also consulted on the proposed development prior to submission.

DA.77 Issues raised and suggestions received were incorporated into the iterative site design process wherever possible.

DA.78 The consultation process and incorporation of amendments to the design is summarised in **Chapter 6 - Environmental Impact Assessment** and provided in full in the Statement of Community Involvement accompanying the application.

REFERENCES

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