

## **BLANDFORD HILL ECO HUB**

# **DESIGN AND ACCESS STATEMENT**



## **LAND SOUTH OF BLANDFORD HILL (A354), WINTERBORNE WHITECHURCH, BLANDFORD FORUM, DORSET, NEAR DT11 0AA**

**ON BEHALF OF NATURALIS ENERGY  
DEVELOPMENTS LTD**



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**DESIGN ENVIRONMENT PLANNING ECONOMICS HERITAGE**

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## 1.0 INTRODUCTION

1.1 This Design and Access Statement has been prepared by Pegasus Group on behalf of Naturalis Energy Developments Ltd (The Applicant) to support a planning application for a solar farm, electric vehicle charging station and battery storage together with associated equipment and infrastructure on Land South of Blandford Hill (A354), Winterbourne Whitechurch, Blandford Forum, Dorset, near DT11 0AA known as the Blandford Hill Eco Hub proposal (The Application Site).

1.2 This application seeks full Planning Permission for a ground-mounted solar photovoltaic (PV) development, an Electric Vehicle (EV) charging station and a battery storage system, with the following Description of Development:

**“Construction of a Solar Farm together with all associated works, equipment and necessary infrastructure to include batteries alongside an Electric Vehicle Charging Station with parking, means of access, landscaping and associated development”.**

1.3 The Proposed Development would have an installed generating capacity of circa (c.) 15MWp solar energy and c. 3MW battery storage. Planning Permission is sought for a temporary period of 40 years from the date of first exportation of electricity from the site.

1.4 The purpose of this document is to demonstrate that the Applicant has fully considered the design and access issues as part of the comprehensive preparation of the scheme prior to submission of the planning application. This report therefore covers the following matters:

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

## **2.0 APPLICATION SITE AND CONTEXT**

- 2.1 The site comprises four fields presently in agricultural use with mature and established boundary vegetation. The Application Site is described as Land South of Blandford Hill (A354), Winterborne Whitechurch, Blandford Forum, Dorset, near DT11 0AA. The site is centred on co-ordinates: X: 384364, Y: 100384.
- 2.2 The site is wholly within the Dorset Council administrative area and within the Winterborne Whitechurch Parish area.
- 2.3 The River Winterborne lies c.650m to the west of the site. Blandford Hill (A354) lies directly to the northern boundary and will form the means of site access. The Site Layout retains site boundaries and includes significant buffers to the established site boundary vegetation (which is reinforced where appropriate) and the A354, as well as accommodating site specific constraints.
- 2.4 It is noted that there are a number of Heritage Assets in close proximity to the site. These include the Scheduled Monuments of prehistoric bowl barrows (south and east of the site), a Scheduled Monument of deserted medieval village at West Farm (south west of the site) together with the Grade II Listed West Farmhouse and Grade II Listed milestone (immediately north of the site on the A354). Winterborne Whitechurch forms a Conservation Area which includes the Grade I Listed Church of St Mary (north-west of the site). Whatcombe House is Grade II\* Listed (north of the site).
- 2.5 The site is situated approximately 295 metres, at its closest point, from the Dorset Area of Outstanding Natural Beauty (AONB) (north of the site) and 6.7km from the Cranborne Chase AONB (east of the site). The site is within the South Blandford Downs (12B) Open Chalk Downland landscape character type and area of North Dorset.
- 2.6 There are no International or European designated sites (Ramsar, Special Protection Area or Special Areas of Conservation) within the site or in close proximity of the site. The Higher Houghton SSSI lies approximately 5km north west of the site and the Bryanston SSSI lies approximately 7km north-east of the site.
- 2.7 There are no Public Rights of Way within the main part of the development site. Footpath E32/6 runs broadly east-west along the southern boundary of the site between the site and East Farm. The cable route crosses footpath E32/6 and runs alongside footpath E32/7, appropriate measures will be put in place during the construction phase to manage this. Footpath E32/7 is approximately 516 metres

west of the Application Site and, together with a proposed permissive footpath, this would provide access to the shop/café forming part of the development.

- 2.8 The site itself forms Flood Zone 1 land (i.e. land with the least probability of flooding), land near River Winterborne (east of the site) forms the closest Flood Zone 2 and 3 land.
- 2.9 According to the Natural England 1:250,000 scale Agricultural Land Classification (ALC) Map for the south west region (2010) the site is identified as undifferentiated Grade 3 'Good to Moderate' land<sup>1</sup>. A more detailed assessment of the ALC within the Application Site (included at Appendix 3 of the Planning Statement) identifies it as comprising c. 80% Grade 3a and c. 20% Grade 3b. Grade 3a is described as "best and most versatile" land and development on such land therefore needs to be carefully considered. In this respect, it is noted that:
- 2.9.1 The proposal has particular and relatively uncommon locational requirements which are present at the Application Site, including proximity to an economically viable grid connection, topography with a generally south-facing aspect and proximity to a road suitable for access/egress;
- 2.9.2 Mapping from Natural England indicates that the vast majority of the surrounding farmland is similarly classified with respect to ALC<sup>1</sup> and these areas (including some with more valuable agricultural land classifications than the Application Site) have been determined by the planning system to be appropriate for this form of development with a number of solar farms granted permission and/or operating within the local authority area;
- 2.9.3 The farming family that has farmed the Application Site for many years confirms that the land comprising the Application Site is inherently less productive from an agricultural perspective than most of the other areas within the farming unit, i.e., those outside of the Application Site. While rotation farming and organic fertilisers support a successful farming unit, the more elevated areas where the Application Site is located have shallower soils and historically were downland used for non-intensive sheep grazing. The lower areas, outside the Application Site, generally have a deeper soil layer, better suited to more intensive farming and arable farming.
- 2.10 In terms of planning policy designations, the Application Site is located outside of

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<sup>1</sup> Agricultural Land Classification Map South West Region (ALC006); <http://publications.naturalengland.org.uk/file/141046>

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the settlement boundary for Winterborne Whitechurch within open countryside. The Application Site is not allocated for any form of development and is not within a 'designated' Neighbourhood Area in which a Neighbourhood Plan is being prepared.

- 2.11 The Application Site is fully described in terms of environmental designations within the Planning Statement which accompanies the submission to Dorset Council.

### 3.0 DESIGN

- 3.1 A considerable number of factors have contributed towards the design and layout of the solar farm, battery storage and electric vehicle (EV) charging station proposed in this application. These are now discussed against the various aspects of Design highlighted within CABE's guidance document regarding the production of Design and Access Statements.
- 3.2 An important factor in finalising the proposals has been pre-application consultation with the community and local stakeholders, including detailed pre-application engagement with Dorset Council between November 2020 and February 2021 and on-line consultation with the local community and parish council during March 2021. This process is summarised in the accompanying Statement of Community Involvement.

#### Use

- 3.3 The proposal is to co-locate an EV charging station with a c. 15MWp ground mounted solar farm and 3MW battery storage, involving solar PV panels and associated infrastructure.
- 3.4 The proposed solar farm will involve a temporary change of use of the land but, due to the time-limited nature of the development (of 40 years), the agricultural use will be retained in the long term.
- 3.5 In addition, the minimal physical intrusion of the development itself will mean that the panels can be removed after their 40-year lifetime and the land will revert swiftly to full agricultural use. In this respect, the proposed scheme will result in a less permanent impact than most other forms of development, many of which are permanent and/or have a more significant, direct effect on the land on which they are located.
- 3.6 The EV charging station will comprise a covered (single storey in height) walkway and canopy up to 6 ultra-rapid (up to 350kW) and 6 rapid (43-100kW) charging points. In addition, up to 7 additional EV charging points would be provided for users of the parking bays on the site; comprising a combination of 22kW Alternating Current (AC) chargers and Tesla "super-chargers". In total, this would provide the ability to charge up to 19 EVs at any one time. All charging points would be configured for use by any type of modern, light-duty EV and they would not be restricted to one EV manufacturer (save for any proprietary Tesla super-chargers).

- 3.7 The EV Charging Station will also comprise public rest facilities including public conveniences, a small café, a shop and seating area within a single storey building located to the west of the covered walkway and canopy. This will provide approximately 830sqm floorspace with a mix of Use Classes (1987 Use Class 'A1', 'A3', 'D2' and 'Other'/'Sui Generis'. 2020 Use Class (subject to legislation) 'E' and 'Sui Generis'). The café building within the EV charging station area measures 27.4 x 30.4m, the height of the northern elevation is 5.06m and slopes to the southern elevation which has a height of 3.88m. A small outdoor sitting area is located along the western and southern side of the café building.
- 3.8 Up to 27 parking spaces (some available for EV charging) located to the south of the EV Charging Station, including spaces for vehicles driven by disabled drivers will be provided. In addition, 3 parking spaces for HGVs (to adequately replace the parking available to HGVs in the existing layby that will be replaced with the access to the Application Site) have been included within the design together with hardstanding and vehicle manoeuvring space with pavements for pedestrian use. The inclusion of battery storage within the development will increase the resilience and efficiency of the Proposed Development, balancing the export of electricity produced from a renewable source (via the solar farm) on to the electricity grid and/or into the EV charging station.
- 3.9 Due to the land area typically required for solar projects (ie >50 acres), these are generally located outside of urban areas and within the countryside, where there is sufficient land capacity to accommodate such developments.
- 3.10 This Design and Access Statement, and the accompanying documents and plans, set out why it is considered that this particular site is well suited to accommodate the proposed use.

#### Amount and Fabrication

- 3.11 The extent of the Proposed Development has been refined and finalised having consideration of potential environmental and landscape effects and local and other stakeholder feedback. The built form of the EV charging station and canopy is single storey in nature with the canopy having been reduced in height, relative to the two storey design proposed at the time of public consultation, to address local feedback. The design of the EV charging area has also been influenced by biophilic design principles<sup>2</sup> with the result that green roof is proposed on the café/shop building

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<sup>2</sup> Biophilia refers to the fact that as human beings, we have an instinctive bond with nature and our



which includes extensive natural lighting and organic building materials. An extensive area of meadow seeding is proposed along the north-east boundary of the EV charging area following completion of construction and the removal of a temporary construction compound. Following construction, the temporary construction compound to the west of the EV charging area would become a picnic area. A permissive footpath, dog walking area and shaded seating have also been integrated in the development design.

- 3.12 As a result of the iterative process, the Proposed Development, although covering a large area of land, is confined to locations where effects have been limited and/or mitigated as far as possible and are considered justifiable. This view is supported further in the context of the scheme benefits, including its contribution to the UK's renewable energy targets, legally-binding greenhouse gas reduction targets and facilitating the Government's announcement in November 2020 that the sale of new petrol and diesel cars to end in the UK by 2030. Consideration of the planning balance which weighs up all material factors associated with the planning application is contained within the accompanying Planning Statement.
- 3.13 As detailed above the EV charging station will comprise a single storey building and connected, covered walkway with parking and charging areas. Externally the charging station will also include a permissive footpath for use by the public, a dog walking area and seating areas. The EV charging facilities are almost exclusively for cars and light-duty vehicles although, as the site access requires the closing of an existing layby, limited, replacement HGV parking spaces have been provided.
- 3.14 The proposed solar farm will consist primarily of a steel framework to support the panels and the panels themselves.
- 3.15 The solar farm element of the development, as shown on the accompanying plans, will also comprise the installation of:
- A pre-fabricated Distribution Network Operator (DNO) Switching Station building, single storey in height and 4.3m (W) x 10m (L);
  - A pre-fabricated Client Switching Station building would be located near to the DNO Switching Station building and would also be single storey in height and 4.3m (W) x 10m (L);

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natural surroundings. In turn, biophilic design takes this bond and works to apply it to spaces where we live, shop, relax and work through the incorporation of daylight, free-flowing air, organic materials and plants. Biophilic design input was provided by Design Decoded Limited.

- A marshalling kiosk sited within the solar farm, of single storey height and 2.5m (W) x 6m (L);
- A number of inverter/transformers, of single storey height, would be located across the site with there likely being at least one in each field/parcel;
- A CCTV system, using cameras mounted on freestanding columns up to 4m in height, within the site boundary (looking inwards) would be installed around the site's perimeter;
- It is proposed that a 2m high security deer fence will be installed around the edge of the site. Badger friendly/small mammal access points will be prescribed at various locations along the fencing to allow the passage of wildlife across the site;
- Associated access tracks, a minimum width of 3.5m across the site (connecting inverter/transformer units and the DNO/Client Switching Station buildings);
- Storage container for spare parts;
- Relevant communications and monitoring equipment, comprising a satellite disk, pyranometers, weather station and communications cabinets;
- Associated electricity and communication cables and earthing.

### Layout

- 3.16 In proposing the general layout of the development, great consideration was given to the retention of the established field boundaries on site along with new planting of native hedgerows and trees. This will help ensure that the development is well contained both physically and visually. Only small sections of hedgerow, as shown in the submitted Arboricultural Impact Assessment prepared by Barton Hyett Associates, are to be removed to facilitate the access to and within the site.
- 3.17 The EV charging station is located within the central northern parcel of the site, adjacent to, and deriving access from, the A354. The submitted EV charging site layout drawing (ref P20-1118-04-01G) details the central location of the EV charging bays with covered canopy connecting to the shop /café building with public rest facilities to the west. The battery storage area is situated opposite the shop / café building with delivery areas and staff parking. Additional parking bays are provided and connected through a circular internal road with additional landscaping and amenity areas provided on the eastern and western boundaries of the charging

station.

- 3.18 Bicycle parking with a covered shelter has been provided and is located between the dog walking area and picnic area.
- 3.19 Within the eastern part of the EV charging area, provision has been made for air and water facilities for vehicle maintenance.
- 3.20 Recycling and refuge facilities have been included and located behind the staff parking area opposite the shop / café.
- 3.21 Within the fields of the solar farm the panels will be arranged in long rows running from east to west, orientated to the south to maximise efficiency.
- 3.22 Relatively small ancillary control buildings are required around the site. The submitted site layout drawing outlines the position of these structures within the site and accompanying drawings set out their dimensions.
- 3.23 A network of internal tracks around the solar arrays will be laid to allow vehicle access to the supporting equipment (mainly inverters and transformers) for the purposes of maintenance. The layout and extent of the tracks is limited to that necessary to provide access and maximise efficiency.
- 3.24 The 2m high perimeter fencing and pole-mounted CCTV system serve an important purpose in helping to prevent access to the equipment within the application site, including high-voltage equipment. The perimeter fencing includes badger/small mammal friendly access points to allow the continued passage of wildlife across the application site.
- 3.25 The associated equipment siting has also considered the impact on the appearance of the area and, where practicable to accommodate the site's carefully designed electrical layout, has been set away from the boundaries of the fields, ensuring that there is separation from the existing vegetation and any sensitive ecological features. The existing and proposed mitigation planting will contribute towards visual screening of the site while mitigating any ecological effects and/or enhancing existing habitat features.
- 3.26 The battery storage system is likely to use Lithium Ion (LI-Ion) batteries and the location and design of this part of the development meets the applicable safety recommendations relating to fire risk offset<sup>3</sup>. Specifically, the battery storage

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<sup>3</sup> Allianz Risk Consulting, "Tech Talk", volume 26 "Battery Energy Storage Systems (BESS) using Li-Ion batteries", (2019)

system design is external and provides for safe distances between each battery container while the system is located at, or greater than, 20 metres from the café/shop and EV charging areas and at, or greater than, 3 metres from publicly accessible areas.

#### Scale

- 3.27 All of the buildings proposed including plant buildings on site will be at or below single storey level. (i.e. approximately at or below c.3m in height except for the maximum elevation of the pitched roof of the EV charging building which is c. 5m). When viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height, integrated appearance and the natural screening provided by existing and proposed vegetation.
- 3.28 In regard to the solar farm, the scale of development has been determined by the equipment necessary to efficiently and viably generate renewable energy and to optimise the grid connection. Each array of panels within the solar farm will be mounted on a simple metal framework and have a maximum height of no more than 3m above existing ground level. The main purpose of the mounting structure is to hold the modules in the required position without undue stress. It is capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading. The solar farm will consist of fixed-supporting frameworks, inclined southwards at between 15 to 25 degrees. The framework will be driven into the soil removing the need for deep foundations. Such piled supporting systems are designed to avoid the use of concrete foundations and are reversible. Individual rows are separated by 4m to 10m to prevent shading. Electrical combiner boxes are located underneath the panels throughout the site.
- 3.29 The proposed ancillary buildings are designed to be as small as possible while still being capable of safely undertaking their required electrical function within the site. Such structures will not be prominent within the surroundings and will be smaller than many isolated stores and barns typically found in the countryside environment.

#### Landscape

- 3.30 The impact upon the local landscape has been given careful consideration in putting forward the proposals. While a scheme of this nature will inevitably be visible from some locations and have some effect on landscape character as set out in the accompanying Landscape and Visual Impact Assessment (LVIA), the development

and its design minimise effects as far as possible.

- 3.31 It is considered that the landform and vegetation of the site and surrounding area make this location ideal for utilisation as a solar farm alongside an EV charging station.
- 3.32 Existing vegetation and landscape planting proposals considered within the LVIA minimise the number of locations in the surrounding landscape where views of the Proposed Development could be experienced. Hawthorn tree planting (to reach approximately 8m on maturity) specified in the west of the site and coppice areas within the north west boundary areas of the EV charging area and the southern boundary of the solar farm would assist in screening inward views of the development. Internal hedgerows will be maintained at a maximum height of 4m to strike a balance between the need for visual screening while avoiding overshadowing the solar panels. As a result of the landscape mitigation planting, views of the Proposed Development would be limited.
- 3.33 The landscape strategy / planting plan illustrates that sections of the boundary vegetation will be infilled and strengthened including the planting of native tree species which would restrict potential views of the development from outside the site. Additional planting and amenity areas will also be incorporated to the eastern and western boundary of the EV charging station to mitigate landscape impacts.
- 3.34 Further consideration of the landscape and visual effects is contained in the LVIA.

#### Appearance

- 3.35 Visual effects of the Proposed Development have been assessed in the LVIA. In addition to the existing vegetation, as part of the landscape enhancement proposals for the site, sections of existing hedgerow along the site boundary are to be strengthened with infill planting and native tree planting to further restrict and prevent views of the Proposed Development. In the longer term, as a result of the mitigation planting, visual effects would be reduced. The layering effect of the vegetation will, as it matures and establishes, successfully integrate the Proposed Development into the landscape, particularly during summer months (noting the existence, and planting, of native, deciduous species).
- 3.36 The appearance of the EV charging station has been carefully considered in regard to its location and landscape impact. In terms of design, features have been sought to reflect the countryside setting and integrate the development into the landscape through the use of biophilic design including wooden cladding and a green roof for

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the building comprising a café/shop and public rest facilities.

- 3.37 The EV charging station area will incorporate modern LED lights which face into the site, directed downwards to minimise any light spillage outside of this area. Prior to construction and operation of the development commencing, a detailed lighting scheme will be agreed with the planning authority.

## **4.0 ACCESS**

- 4.1 Construction and operational access will be provided via a new priority tee-junction off an existing layby to the south of the A354. The proposed new access has been designed to allow safe access and egress for the construction vehicles for the solar farm, periodic visits by maintenance vehicles as well as providing public access to the EV charging station.
- 4.2 Many of the components which are required to construct the Solar Farm will arrive on HGVs. The PV panels and frames will be shipped in 12.2 metre containers which are typically carried to the site on a 16.5 metre-long articulated vehicles. This is the largest vehicle which will access the site.
- 4.3 It is expected that there will be a maximum of around 395 two-way movements by large vehicles for the construction of the solar farm (i.e. 395 arrivals and 395 departures) over a three month period. For the EV charging station assuming a three month construction phase there will be approximately 360 deliveries in total (five deliveries per day on average). 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 a detrimental impact on the safety or operation of the local or strategic highway network.
- 4.4 After commissioning, it is anticipated that there will be around one visit to the solar farm per month for equipment maintenance. These visits would typically be made by light van or 4x4 type vehicles.
- 4.5 A construction compound will be established and remain on site throughout the construction phase. This will be where HGV deliveries would be made throughout the construction process and smaller vehicles will distribute materials and plant to the remaining sections of the site.
- 4.6 A detailed Construction Traffic Management Plan (CTMP) has been prepared to demonstrate how the site will be accessed during the construction period.
- 4.7 When in full operation, the solar farm and EV charging station will not generate any significant additional traffic movements.
- 4.8 There are no public rights of way within the main part of the development site. The cable route crosses footpath E32/6 and runs alongside footpath E32/7, appropriate measures will be put in place during the construction phase to manage this. The new permissive footpath specified as part of the development proposals will link

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with the existing public rights of way to the west of the site.

- 4.9 Pedestrian access to the solar farm will be restricted for security purposes to prevent theft and vandalism. When construction plant and machinery are accessing the site, a banksman will be employed to control both pedestrian movements and traffic control throughout the duration of the construction phase.



## **5.0 SUMMARY AND CONCLUSIONS**

- 5.1 The Design and Access arrangements of the Proposed Development have been assessed. It is considered that due to the appearance of the scheme and the natural screening afforded by existing vegetation and the landscape enhancements proposed, the development proposals will not have an unacceptable adverse effect on the visual or amenity value of the wider countryside.
- 5.2 The site and extent of development have been carefully selected. The site is naturally screened in places and supplemented by additional planting which will result in only limited views of the site. Landscape considerations are outlined within the Landscape and Visual Impact Assessment.
- 5.3 The equipment forming the solar farm and design of materials for the EV charging station have been selected on the basis of maximising efficiency and productivity, while seeking to minimise visual effects where possible.
- 5.4 Safe access can be taken into the site from the public highway (Blandford Hill, A354). Mitigation measures will be employed to ensure construction traffic is managed appropriately as outlined within the submitted Construction Traffic Management Plan.
- 5.5 Overall, the proposals are appropriate in terms of design and access and the development represents a necessary step towards meeting the UK's legally binding climate change and renewable energy obligations as well as meeting the existing and rapidly growing infrastructure demands of EV users, owners and operators. It is therefore considered that the application before Dorset Council can be supported and that Planning Permission should be granted.