Glöyn Byw | Butterfly Solar Farm

Land to the North of the B5426, Wrexham

Design and Access Statement

Prepared for

RWE Renewables UK

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Well House Barns, Chester Road, Bretton, Chester, CH4 0DH
Camelia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
Maling Exchange, Studio 307, Hoults Yard, Walker Road, Newcastle Upon Tyne, NE6 2HL

T: 0344 8700 007
enquiries@axis.co.uk
www.axis.co.uk

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1.0 INTRODUCTION

1.1.1 This Design and Access Statement (DAS) is being submitted in support of a planning application made by RWE Renewables UK (referred to hereafter as 'the Applicant'), for a new solar energy generating station and an associated on-site Battery Energy Storage System (BESS) ('the Proposed Development') on land to the north of the B5426, Wrexham ('the Site'). The Proposed Development also includes the associated infrastructure and connection to the Legacy National Grid substation.

1.1.2 This DAS provides an overview of how the proposal has been designed and located, noting that a significant amount of infrastructure is pre-fabricated. It also discusses access arrangements for installation and subsequent maintenance and considers the anticipated decommissioning process after approximately 40 years.

1.1.3 This DAS has been prepared in accordance with the legal requirements of the Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016 (S.I. 2016/59) and follows the recommended structure as set out in the Welsh Government's Design and Access Statements in Wales (April 2017) guidance, which supports Technical Advice Note (TAN) 12: Design (2016) and TAN 18: Transport (2007).

1.1.4 Article 14(2) states that:

"A design and access statement must:

a) explain the design principles and concepts that have been applied to the development;
b) demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account;
c) explain the policy adopted as to access, and how policies relating to access in relevant local development documents have been taken into account;
d) state what, if any, consultation has been undertaken on issues relating to access to the development and what account has been taken of the outcome of any such consultation; and
e) explain how any specific issues which might affect access to the development have been addressed."

1.1.5 This DAS has been prepared in response to these requirements, with relevant information included in the following sections:

- Section 2 – Provides a description of the development site and a summary of the Proposed Development.
- Section 3 – Explains the key design principles that have been considered for the proposed development, based on an analysis of the site context.
- Section 4 – Provides a brief summary of design and access related influences that have been considered as the design has been progressed, including current planning policy and consultation.
- Section 5 – highlights how specific issues have been addressed, to either avoid / reduce potential impacts, or to mitigate them.
- Section 6 – the Green Infrastructure Statement for the Proposed Development, required by Planning Policy Wales: Edition 12.
- Section 7 – Provides a summary of the design implementation.

2.0 DESCRIPTION OF THE SITE AND PROPOSED DEVELOPMENT

2.1 Site Location

2.1.1 The location of the Proposed Development is shown on Figure 1.

2.1.2 The Site is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively), each of which is described below. Each of the array areas are separated by approximately 1.8km and they would be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA. The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllannerchrugog.

2.1.3 The OS grid references for each of the array areas are:

- WAA – 331692, 346263
- CAA – 333959, 345629
- EAA – 336679, 346129

2.1.4 The entirety of the Site covers an area of approximately 146 ha.

2.1.5 The predominant land use across the Site is agriculture. An Agricultural Land Classification (ALC) survey has been undertaken, provided as a standalone report accompanying the application. The ALC survey identifies that the vast majority of the Site (89%) is classified as being Grade 3b or Grade 4. Approximately 11% (14.4ha) of the Site is classified as Grade 3a. The ALC report is contained in Appendix 1.1 of the ES.

Western Array Area (WAA)

2.1.6 The WAA covers approximately 21ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. The WAA is located to the immediate east of the A483, approximately 1 km to the east of Johnstown.

2.1.7 A private road leads through the WAA, which provides access from Hafod Road in the west (west of the A483) to a private residential dwelling, Hafod y Bont in the east. The road is also a Public Right of Way (PRoW), footpath RUA/119. This private road

is not proposed as an access route into the WAA. Access would be gained into the WAA from the B5426 to the south.

2.1.8 The nearest residential property to the Site is Hafod y Bont, located adjacent to the eastern boundary of the WAA. The property is well screened in all directions by mature trees. The Hafod House Rest Home is located approximately 220m to the west of the Site, to the west of the A483. The Hafod Industrial Estate is also located to the west of the A483, approximately 300m from the WAA boundary.

2.1.9 The Bonc yr Hafod Country Park is located 215m to the west. Within the same area there is also the Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI) and the Johnstone Newt Sites Special Area of Conservation (SAC).

2.1.10 The WAA is not located within, or in close proximity to, a Special Landscape Area.

2.1.11 There are a number of cultural heritage assets within the vicinity of the Site. The Grade II listed properties 'Hafod House' and 'Hafod House Farmhouse' are located approximately 220m to the west of the Site and form part of the aforementioned Hafod House Rest Home. A Grade II listed 'Signpost at SW End' is located approximately 715m to the north and there are two further listed buildings north of the signpost. The Grade II listed 'Old Sontley Hall' is located approximately 1.2 km to the east. The Wat's Dyke scheduled monument is located approximately 260m to the east of the WAA, which is also a PRoW that forms part of the Wat's Dyke Way Heritage Trail (footpath RUA/120 and MAR/41).

2.1.12 The NRW Flood Map for Planning shows that the WAA is at very low risk to flooding from rivers and sea. The WAA is intersected by 2 no. ditches (ordinary watercourses) which flow in an easterly direction through the Site. The Site is predominantly at very low risk to flooding from surface water and small watercourses, aside from corridors of Flood Zone 2 and 3 associated with the watercourses. Flood Zone 2 is defined as having between a 1% and 0.1% annual probability of flooding, including the effects of climate change. Flood Zone 3 is defined as having a greater than 1% annual probability of flooding, including the effects of climate change.

Central Array Area (CAA)

2.1.13 The Central Array Area (CAA) covers approximately 66ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. Marchwiel Hall Road runs up the centre of the CAA which would be used to access the CAA.

2.1.14 The CAA is divided into four distinct parcels, two to the west of the Marchwiel Hall Road and two to the east. Narrow areas of woodland lie between and to the south of the two eastern parcels, these areas of woodland follow minor watercourses and the woodland is designated as Ancient Woodland. The areas of Ancient Woodland lie outside but adjacent to the boundary of the Site and are also locally designated wildlife sites.

2.1.15 There are several properties close to the southern boundary of the CAA, to the north and south of the B5426. These properties form part of the settlement of Eyton. Eyton Primary School is also located in this area, to the south of the B5426. Residential properties are located along Marchwiel Hall Road and lie close to the boundary of the CAA. Plassey Holiday Park, Retail Village and Golf Course is located to the east of the CAA.

2.1.16 Bwgan Ddu Lane runs east west approximately 200m to the north of the CAA, the cable connection between the CAA and the EAA runs along Bwgan Ddu Lane, this route is described further below.

2.1.17 The Sontley Marsh SSSI and the Errdig Park Country Park are located approximately 1.35 km and 1.7 km to the north of the Site respectively.

2.1.18 The CAA is not located within, or in close proximity to, a Special Landscape Area.

2.1.19 There are a few cultural heritage assets within the vicinity of the CAA, the nearest of which are the Grade II listed ‘Former House at The Groves’ and ‘The Groves’, located along the eastern boundary of the northern part of the CAA. The Grade II listed ‘Kiln Farmhouse including former Malthouse to rear’ is located approximately 400m to the north.

2.1.20 The NRW Flood Map for Planning shows the CAA is at very low risk to flooding from rivers and seas. The Central Array Area is intersected by several ditches (ordinary watercourses) associated with some areas of Flood Zone 2 and 3. The developable areas are outside of the flood extents associated with the small watercourses on or adjacent to the site. The flood extent is constrained to land immediately adjacent to the ditches.

2.1.21 No PRoW are located within the CAA. Footpath MAR/7 connects the B5426 with Marchwiel Hall Road and runs along a section of the southern boundary of the CAA.

Eastern Array Area (EAA)

2.1.22 The EAA covers approximately 43ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. An area of woodland, approximately 30m in width and 350m in length, is located centrally within the EAA, this woodland is not designated as Ancient Woodland. Two blocks of Ancient Woodland are found adjacent to the boundary of the EAA, forming part of land associated with Gerwyn Hall. Kiln Lane, a minor road, forms the northern boundary of the EAA. This would be used to gain access into the EAA.

2.1.23 There are several residential properties located along Kiln Lane, on its northern side. The aforementioned Gerwyn Hall is located immediately to the east of the EAA. A residential property and commercial premises are located to the south of the EAA. The nearest settlement to the EAA is the village of Cross Lanes, approximately 850m to the northeast. The village of Bangor-on-Dee is located approximately 1.5 km to the southeast.

2.1.24 The B5426 runs east west approximately 600 m to the south.

2.1.25 The River Dee SSSI is located approximately 635 m to the south, as is the River Dee SAC.

2.1.26 The Lower Dee Floodplain Special Landscape Area (SLA) is located approximately 225 m southwest of the EAA.

2.1.27 There are few cultural heritage assets within the immediate vicinity of the EAA. The Grade II listed ‘Ivydale’ is located approximately 870 m to the northwest.

2.1.28 The EAA is intersected by a ditch (ordinary watercourse). The ditch generally flows in a south-easterly direction. The NRW surface water and small watercourses map shows that the majority of the developable areas are outside of the flood extents associated with the ditch on site.

2.1.29 Sesswick Brook (watercourse) is located approximately 520 m south-east of the Eastern Array Area and flows north-east to join the River Dee approximately 1.4 km east of the Eastern Array Area. Sesswick Brook is situated a minimum of 10 m below the site and as such any potential flooding of this watercourse would not affect the Site.

2.1.30 There are areas of the EAA shown to be within surface water Flood Zones 2 and 3, generally constrained to the location of the ditch. The risk of surface water flooding is very low across the majority of developable area of the EAA.

2.1.31 Footpath SES/6 runs through the eastern most parcel of the EAA. Footpath SES/9 runs along the southern boundary of the EAA and connects to footpath SES/6. There are a number of other footpaths within the vicinity of the EAA.

2.2 The Proposed Development

2.2.1 The main components of the Proposed Development are:

- Photovoltaic solar panels and associated support frames.
- Switchgear Stations.
- Battery Energy Storage Systems (BESS), including battery storage containers, DC-DC converters and associated hybrid inverters.
- Onsite electrical cabling.
- An electrical substation compound (132kV) comprising a new substation and control building.
- Spare parts storage container(s).
- Wooden post deer/stock fencing.
- In-ward facing infrared CCTV cameras on 3 m poles.
- Landscaping and ecological enhancements.
- Electrical cabling between the solar array areas.
- Electrical cabling to the National Grid Legacy Sub-Station.

2.2.2 The layout of the Proposed Development for approval is shown on Figure 2.

2.2.3 Each of the array areas are separated by approximately 1.8 km and they would be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA. The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllanerchrugog. There are two potential grid connection options under consideration, which are shown on Figure 1 The intention will be to identify a preferred option for submission of the DNS application, which will be included within planning application documents.

2.3 Construction of the Proposed Development

2.3.1 The timing of the construction works would be dependent upon the grant of planning permission for the Proposed Development, subsequent contract negotiations and prevailing weather and ground conditions.

2.3.2 The construction period is anticipated to take approximately 39 weeks, including testing and commissioning.

2.3.3 This construction programme would allow for the following key construction-related works to be undertaken:

- Erection of Heras fencing around tree root protection areas.
- Establishment of site compounds.
- Construction of site access tracks.
- Erection of deer / stock fencing and gates to site perimeter.
- Installation of solar panels and frames.
- Installation of CCTV poles and cameras.
- Installation of transformer stations.
- Installation of cable trenches.
- Installation of BESS containers.
- Installation of control building, switchroom building and substation building.
- Grid connection.
- Cultivation and seeding; and
- Hedgerow and woodland planting.

2.4 Site Access and Compounds

2.4.1 The Proposed Development is located in a predominantly rural/semi-rural area with local roads commensurate with its location. As a result, the Applicant is keen to minimise the potential impact of the development on the local roads, especially during the construction period when the volume of vehicles generated by the development would be highest.

2.4.2 The main construction compound / laydown areas and workers' vehicle parking would be 75 m x 75 m. A construction compound would be required in each array area (WAA, CAA, EAA), with the exact locations shown on the accompanying Site Layout Masterplans.

2.4.3 The location of the site access points across the three array areas is highlighted below on Image 2.1.

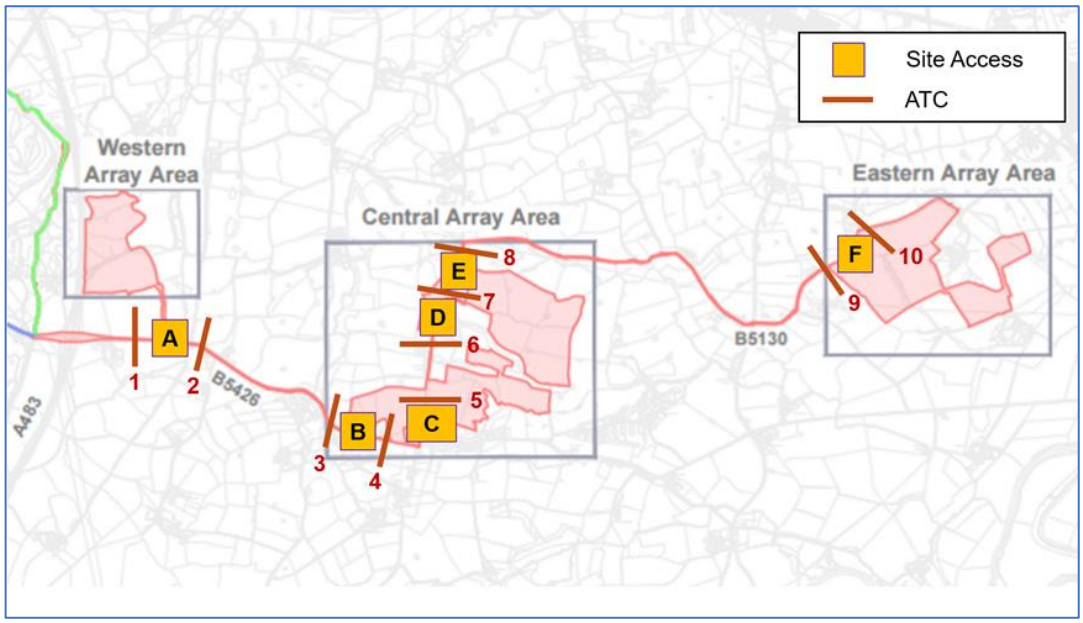

Image 2.1 Location of access points for main construction compounds

2.5 Operation of the Proposed Development

2.5.1 During the operational phase, the Proposed Development would be controlled remotely as the facility is fully automated. It would only be necessary for a maintenance engineer to visit the Site on an occasional basis (i.e. monthly routine maintenance visit). As such the operational phase of the project would not generate any significant traffic impacts.

2.5.2 Planning permission for the Proposed Development is being sought on a time-bound basis for 40 years, from the point when the solar farm first exports to the grid. Following this timeframe, and the cessation of energy operations, the infrastructure would be removed, and the Site restored to its present use and condition. It is anticipated that this would be controlled through a relevant planning condition.

2.6 Decommissioning

2.6.1 At the end of the solar farm's 40-year life, the Proposed Development would be decommissioned, and the Site would be returned to solely agricultural use. Decommissioning would require similar activities to the construction phase and would result in very similar traffic impacts.

2.6.2 All above and below ground infrastructure would be removed from Site and would be recycled where practicable to do so.

3.0 KEY DESIGN PRINCIPLES

3.1.1 Wrexham County Borough Council declared a Climate and Ecological Emergency in September 2019. In response to this declaration, WCBC developed the Decarbonisation Plan (2021-2030) seeking collaboration with partners and communities to develop and decarbonise the environment, and pursue the Council's net-zero ambitions.

3.1.2 The Decarbonisation Plan has helped shape the Council Plan 2023-228, which in turn highlights priority outcomes for Wrexham in its journey towards Net Zero. Six priority outcomes are referenced within the Council Plan, with the first of these being:

"Delivering efficient street scene services and decarbonising our environment"

3.1.3 In terms of achieving this priority outcome, the Council Plan identifies 15 of working towards meeting this objective. Of particular relevance to the Proposed Development are:

6. *Wrexham County Borough is a place with a diverse range of open spaces which are accessible and well managed.*

7. *A County Borough that is becoming more resilient in planning for the effects of climate change through effective flood risk management and maintenance programmes.*

8. *The council is making progress towards achieving Net Zero Carbon Emissions by 2030 through the implementation of the Decarbonisation Plan (2021-2030). We consider carbon emissions and opportunities for carbon sequestration (capturing, removal and storage of carbon from the atmosphere) in all our decisions.*

15. *Land Use: The council is committed to ensuring that land within the County Borough is used and maintained in a sustainable manner for the benefit of biodiversity and the decarbonisation agenda, through its own asset management and through its regulatory functions.*

4.0 DESIGN AND ACCESS INFLUENCES

4.1 Introduction

4.1.1 It is appropriate for the Applicant to consider how a development can be designed so that, as far as reasonably practicable, it can be integrated within the local environment, is sympathetic to the local character and history of the area, it can overcome any environmental or land-use constraints that may influence the design of the project.

4.1.2 In essence, there are two main drivers for this process; how a proposed development responds to design and access related planning policy; and whether any consultation responses can help shape how design quality and the provision, or restriction, of access can be considered.

4.2 Planning Policy and Guidance

Design

4.2.1 The adopted Unitary Development Plan (UDP) Policy GDP1: Development Objectives sets out eleven objectives for all developments to adhere to. The following objectives are considered to be particularly relevant to the Proposed Development:

"a) Ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality.

b) Take account of personal and community safety and security in the design and layout of development and public / private spaces.

c) Make the best use of design techniques, siting and orientation to conserve energy and water resources."

4.2.2 Furthermore, Policy EC5: Special Landscape Areas, states that within Special Landscape Areas"

"priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of

design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints."

4.2.3 Whilst the Local Developmemnt Plan is now unadopted, it is a material consideration in the decision making process. Policy SP12: Design Principles & Masterplanning Framework sets a strategic requirement for all development to: *"be of a high quality, sustainable design which makes a positive contribution to the creation of locally distinctive places",* and demonstrate that account has been taken of local characteristics and how design solutions will enhance the quality of the natural and built environment.

4.2.4 National guidance on the design of new development is contained within Technical Advice Note 12: Design (TAN 12) (2016), which provides guidance on how design can contribute to the quality of Wales' varied landscape and can contribute to sustaining a positive image for Wales. It states that new development should harness intrinsic resources of the area for more environmentally sustainable development and in particular, measures to help reduce effects related to climate change and to build in resilience to mitigation and adaptation.

Access

4.2.5 The key Unitary Development Plan (UDP) policy relating to access is Policy GDP1: requiring that developments:

"d) Ensure safe and convenient pedestrian and vehicular access to and from development sites, both on site and in the nearby locality."

4.2.6 Relevant policies in the now unadopted Local Development Plan (LDP) include:

- **SP11 Transport and Accessibility**: which seeks amongst other things to enhance the overall reliance of the network, to ensure new development provide adequate levels of car parking taking consideration accessibility to existing public transport facilities and to the walking and cycling network, and to deliver safety enhancements to the local highway network.
- **DM1 Development Management Considerations**: requiring amongst other things that development must be safely and conveniently accessible on foot, bicycle, by public transport and by car.
- **T1 Managing Transport Impacts**: requiring that amongst other things, development does not have an adverse impact on highway safety.

- **T2 Active Travel**: requiring that amongst other things walking and cycling infrastructure is an integral part of the overall design of the scheme.

4.3 Consultation Responses

Informal Pre-Application Consultation with the Public

4.3.1 RWE launched an informal public consultation for the Proposed Development on the 3 February 2025. The consultation sought the views of those who live and work in the surrounding area to inform them of the emerging proposals and to obtain feedback that would inform the ongoing design process.

4.3.2 The consultation was open from the 3 February 2025 to the 17 March 2025, with the following two public forming an integral part of the consultation process:

- Friday 21 February 2025 1-6pm at Marchwiel Village Hall
- Wednesday 26 February 2025 1-6pm at Ruabon Village Hall.

4.3.3 Key aspects of the design evolution as a result of feedback are:

Western Array Area:

f) Introduction of additional wet woodland planting, increased hedgerow planting along the PRoW and removal of informational boards at the request of local residents.

Central Array:

g) Removal of a field close to properties in the central portion of this parcel and replacing it with wildflower meadow and an orchard
h) Introduction of an additional 2km of permissive paths to improve interconnectivity with existing PRoW network
i) Significant increase in the level of new hedging and tree belts proposed to screen views from residential properties.
j) Removal of an access adjacent to the Ancient woodland.
k) Increased hedging and tree planting on the border with the Plassey Golf Course.

Eastern Array Area:

l) Removal of field immediately south and southeast of Gerwyn Hall.

m) Reducing the level of visibility from the hall, in response to neighbour comments.
n) Significant increase in the level of new hedging and tree belts proposed around Gerwyn Hall and along the PRoWs to screen views from residential properties.
o) Increased offset from houses in the northern portion of the site and introduction of a tree belt in response to resident comments.

Site-wide:

p) Introduction of additional tree belts to aid visual screening.
q) Increased level of hedgerow planting and strengthening.
r) Additional offsets to houses.

4.3.4 A formal Pre-application Advice Request was submitted to Wrexham County Borough Council (WCBC) in December 2020. The request was duly acknowledged, with a formal Pre-application Response being issued by WCBC on 2 July 2024. In summary, the Pre-application Response highlighted the following design and access related points:

- **Potential landscape and visual impacts** – The development could be capable of being accommodated into the local landscape without significant or adverse harm/impacts upon the character of the area. An adequate and comprehensive landscaping scheme is required to address the impacts of the Proposed Development.
- **Residential amenity** – impacts on residential amenity should be assessed, with a particular emphasis on noise, and glint and glare.
- **Impact on the public highway** – acknowledged that the main impacts would be experienced during the construction phase and a Construction Traffic Management Plan would be required to ensure the safe and careful use of local roads and public rights of way.

4.3.5 The above influencing factors have been considered as part of the design development process, which is further explained in section 5 of this Design and Access Statement.

5.0 DESIGN DEVELOPMENT

5.1 Key Design Issues

5.1.1 The initial technical analysis undertaken by project specialists, identified a range of key design issues that would need to be robustly addressed within the evolving design. These are:

- Grid connection.
- Landscape fabric / character.
- Amenity.
- Biodiversity
- Site access.
- Site security.
- Agricultural land use.

5.1.2 The way in which these key design issues have been addressed through the design development process, are described in detail below.

Grid connection

5.1.3 Upon selecting the Site for the Proposed Development, a key consideration was how to connect to the existing Legacy Substation. The use of overhead lines would be impractical and inappropriate, therefore underground cabling is proposed. Whilst the details of the underground grid connection are not confirmed at this stage, two options are being explored, as shown on Figure 1.

5.1.4 Both grid connection options would require works that are largely in the public highway. This minimises environmental impacts of more direct cable route options, which would likely impact communities and the environment to an unacceptable degree.

Landscape fabric / character

5.1.5 The existing landscape fabric of all three array areas comprises arable farmland with boundary hedgerows and trees. This type of vegetation contributes to the local character as part of a wider mosaic of agricultural fields, but has limited intrinsic value in terms of its rarity or nature conservation interest. As part of the design development, any enhancements of existing vegetation, or the introduction of new types of vegetation, needed to be considered against the requirements for ensuring

that the Site remained congruous within the local landscape, and did not create an 'artificial' landscape.

5.1.6 As presented on the Landscape and Enhancements Plan (Figure 3), the Proposed Development would result in new habitats and vegetation types including grassland, new native woodland, and new native hedgerows with trees, all of which would increase biodiversity within the Site.

5.1.7 The Proposed Development would also introduce new native tree planting, which would further enhance field boundaries and help contribute to visual screening.

Amenity

5.1.8 Whilst the Site benefits from a considerable amount of visual screening due to boundary vegetation, the components of the Proposed Development were considered in terms of scale to ensure that any adverse impacts on views was kept to a minimum.

5.1.9 The maximum height of the components of the Proposed Development would be approximately 3m. The existing vegetation cover along boundary features, would continue to provide effective screening of views from local residential receptors, as there is only limited vegetation loss. This screening would be enhanced by the new planting proposed as part of the Proposed Development, and in the medium and longer term, the Proposed Development would be very well screened from the surrounding area.

Biodiversity

5.1.10 Biodiversity enhancements are also shown on the Landscape and Enhancements Plan (Figure 3), which shows the following habitat measures will be implemented to increase the on-site biodiversity:

- Retaining and enhancing the hedgerows on-site.
- Native hedgerow planting.
- Native tree planting.
- Wildflower meadow creation.

5.1.11 Biodiversity enhancements have been achieved by avoiding impacts where possible, such as using existing field access points where possible to avoid hedgerow loss, and maximising the opportunities for creating new habitat.

5.1.12 In addition, the Proposed Development has recognised the views expressed during pre-application consultation, with the following measures also being included as part of the wider management of the Site:

- Planting of a grazing mix within defined areas, to allow the potential for sheep grazing on site, in turn limiting any requirements for pesticides to be used on site.
- 16 ha of new diverse wildflower meadow in addition to two new orchards proposed within the site.
- 5 km of new tree/hedge planting across the site.
- Incorporating mammal passages within security fencing every 50 m, allowing wildlife (such as hedgehogs) to be able to move in both east-west and north-south directions across the Site.
- Provision of insect / bee hotels, bird boxes, reptile hibernacula and bat boxes throughout the array areas, to improve population viability across a range of species.

Site access

5.1.13 How the Site was to be accessed and navigated, during construction and operation, was a multifaceted design issue, given the various factors needing to be considered, which were:

- Creating and / or maintaining safe access from the public highway and visibility splays for egress.
- Minimizing any habitat loss from works at the entrance point.
- Ensuring the entrance and site access tracks were suitable for all potential requirements include emergency vehicle use.
- Ensuring that access tracks (as well as other infrastructure) resulted in no conflict with other aspects of the devleopment.

5.1.14 Construction traffic will route to all parts of the Site via the A483 Junction 2 (SRN) and the B5426. Access to the WAA will then be achieved directly from the B5426 with access to the CAA and EAA being via Marchwiel Hall Road (CAA) and the B5426 / A528 Overton Road / B5130 Kiln Lane (EAA).

Site security and safety

5.1.15 Given the nature of the development, keeping the Site secure during construction and operation is of paramount importance from both a crime and safety perspective. Where appropriate, the site access points have been designed to be set back from the highway to avoid vehicles having to wait on the public highway whilst the site is accessed.

5.1.16 Security would be provided by approximately 2 m high deer fencing and 3 m high pole mounted CCTV cameras. The location of the security fencing is illustrated on Figure 2, while the indicative appearance is illustrated on Planning Drawing Typical Fence, Track & CCTV Details. The CCTV poles would have a maximum height of 3m and would generally have one pan-tilt-zoom (PTZ) camera focussed along the boundary of the Site. All cameras would operate using infra-red technology and as such no additional lighting would be required. The indicative CCTV is also illustrated on Planning Drawing Typical Fence, Track & CCTV Details.

5.1.17 Whilst security lighting is a proven deterrent to criminal activity, it can also be a source of nuisance. Given that the Proposed Development would be remotely monitored using CCTV, no permanent external lighting is required during the construction or operational phase of the Proposed Development.

Agricultural Land Use

5.1.18 The Site is currently used for a mix of pastoral and arable farming. As stated in various consultation comments, the potential loss of agricultural land was a key issue for many respondents and has been noted by WCBC in its Pre-application Advice Response.

5.1.19 The Agricultural Land Classification (ALC) survey undertaken identifies that the vast majority of the Site (89%) is classified as being Grade 3b or Grade 4, so not Best and Most Versatile (Grades 1, 2 or 3a). Approximately 11% (14.4ha) of the Site is classified as Grade 3a, which does fall into this category.

5.1.20 In response to this, the design development process identified ways that agricultural use could be maintained within the Site. Given the site is already used for pastoral grazing, with the inclusion of a diverse grazing grass seed mix this will be allowed to continue within the Site for the operational life of the solar farm. By grazing sheep, this avoids the loss of agricultural land, and allows for sustainable means for managing habitat.

5.1.21 It is also worth noting that whilst solar farms are often derided for their land use compared to other forms of generation, an argument promotes the sentiment that the Welsh Government must either prioritise food production or solar energy, this is a common misnomer. Currently the UK's land cover (242,495km2) consists of around 56% agricultural land (137,000km2). To meet the UK's renewable energy targets, just 700km2 of this would need to be used for solar, according to Corine Land Cover Data and an analysis by Carbon Brief. This represents just 0.3% of the UK's land surface area, or just 0.5% of the UK's agricultural land surface area, less than the amount used for golf courses and a fraction of the land used for biofuel production.

5.1.22 In fact, the greatest threat to food security is climate change. DEFRA predicts a 73% loss in BMV land by 2050 due to the impact of climate change. Intensive arable farming can also lead to increased soil erosion, resulting in the loss of topsoil, and the need for intensive chemical fertiliser use to return viable yields.

5.1.23 As such, it can be concluded that solar farms do not pose a threat to food security. By allowing the soil to recover, there are likely to be benefits of the proposed development on the soil health. Furthermore, with the provision of continued pastoral grazing on the Site, alongside the fact the vast majority of the site does not constitute Best and Most Versatile Land, the impacts is not considered significant, and should attract positive planning weight by virtue of the ability to allow farm diversification to occur.

6.0 GREEN INFRASTRUCTURE STATEMENT

6.1.1 The landscape and enhancement proposals for the Proposed Development are illustrated on Figure 3. These proposals, in combination with the features identified on and would be developed in detail prior to commencement of the Proposed Development.

6.1.2 The soft landscape proposals build on the existing landscape features and comprise:

- Retention of existing vegetation patterns as far as practicable by maintaining a minimum 5 m buffer between field boundary hedgerows and woodland, and the stock fencing around the development areas.
- 16 ha of new diverse wildflower meadows.
- 2 new orchards, with a variety of local fruit trees proposed.
- Creation of buffer zones between fence lines and field boundaries for habitat connectivity, either seeding these areas with species-rich grassland mixes or allowing natural regeneration through a managed rewilding approach.
- Gaps in existing hedgerows would be planted up, and the hedgerows would be maintained at a height of approximately 3 m to provide enhanced visual screening.
- Planting approximately 5 km of new hedgerow/trees.
- Planting belts of specimen trees along field boundaries within the Site to screen local views and provide habitat connectivity.
- Use of Native species trees and shrubs to diversify the range of native species in the local area to reduce biosecurity threats from pests and disease.

6.1.3 Existing farm access tracks would be used wherever practicable during construction, maintenance, and decommissioning. This would help to utilise existing hedgerow gaps, which would minimise the loss of breeding habitat for birds.

6.1.4 The solar arrays have been designed with significant clearance between rows, which would permit vegetation growth beneath the panels and continue to provide bird foraging and potential nesting habitat. By design, solar panels would be positioned at an inclined angle and this, along with the large gaps between rows, would enable birds to distinguish the surface of the solar panels from a water body.

7.0 DESIGN IMPLEMENTATION

7.1.1 Figure 2 and Figure 3 highlight the components of the Proposed Development referred to in this Design and Access Statement, including:

- Existing field access points used for site access, minimising vegetation loss within the Site.
- Pastoral farming is able to continue, which helps offset the use of agricultural land for development.
- The Proposed Development resulting in a significant net improvement for local biodiversity through the creation of vast, new, high-quality habitats.
- Significant planting of new hedgerow and trees to aid visual screening and habitat connectivity, in addition to opportunities of enhancing the hedgerow throughout the Site.
- Native tree planting along field boundaries to help screen views towards the site.
- The locating of noise-emitting plant within areas of the Site where impacts on neighbouring noise sensitive receptors would be kept to a minimum.

Figure 1 – Planning Drawing 3456-01-01 Location Plan

Figure 2 – Planning Drawings 3456-01-02a-c Planning Layouts

Figure 3 – Drawing 3456-01
Landscape and Enhancements Plan