



# Great Harmeston Solar Farm Environmental Statement Non-Technical Summary



## Draft Non-Technical Summary (NTS)

### Introduction

This Non-Technical Summary (NTS) summarises the findings of the draft Environmental Statement (ES) prepared on behalf of ASUK HoldCo 4 Ltd, a subsidiary of Arise Renewable Energy UK Ltd and forms part of a suite of documents supporting the statutory-pre-application consultation for a Development of National Significance (DNS) application, under Section 62 (D) of the of the Planning (Wales) Act 20151 (“the Wales Act”).

The Applicant is seeking permission to develop Great Harmeston Solar Farm, a ground-mounted solar energy project in Pembrokeshire. The scheme would generate up to 65 MW of electricity, enough to contribute significantly to local and national renewable energy targets. The project includes the installation and operation of solar panels, supporting equipment, access tracks, underground cables, and an on-site connection point to link the electricity into the local grid.

The solar farm would be located on land near Great Harmeston Buildings (SA62 3HM) and covers approximately 128 hectares. The entire site lies within the administrative boundary of Pembrokeshire County Council (See Site Location plan)

### EIA Regulations and Procedures

The proposed solar farm qualifies as a Development of National Significance (DNS) because it has the potential to generate between 10 and 350 megawatts of electricity. This means the project must follow a specific planning process set out in Welsh legislation, with the final decision made by the Welsh Ministers rather than the local council. The process is administered by Planning and Environment Decisions Wales (PEDW).

As part of the DNS process, the Applicant must prepare an Environmental Statement (ES). This document reports the findings of an Environmental Impact Assessment (EIA), which is carried out before the planning application is submitted. The purpose of the EIA is to understand how the proposed development might affect the environment either positively or negatively by comparing current site conditions with what is expected during construction, operation and decommissioning.

The rules that set out when an EIA is needed, what it must cover, and how the ES should be prepared are defined in the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.

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<sup>1</sup> Town and Country Planning Act 1990, Section 62D, amended by the Planning (Wales) Act 2015 Section 19

## Screening Direction

Before submitting a planning application, the Applicant must confirm whether an Environmental Impact Assessment (EIA) is required. To do this, the Applicant asked Planning and Environment Decisions Wales (PEDW) to issue a Screening Direction, which is the formal process for deciding if a project is likely to have significant environmental effects.

The request was submitted on 27 August 2025, and on 3 October 2025, PEDW, acting on behalf of the Welsh Ministers confirmed that the proposed solar farm does qualify as EIA Development. This means an Environmental Statement must be prepared and submitted as part of the planning application.

## Scoping Direction

To help determine what the Environmental Impact Assessment (EIA) should cover, the Applicant asked Planning and Environment Decisions Wales (PEDW) to provide a Scoping Direction. Although not a mandatory step, requesting a Scoping Direction allows the Applicant and the Welsh Government to agree the scope and methods to be used when preparing the Environmental Statement (ES).

The request was submitted on 12 December 2025, and the resulting Scoping Direction will be formally adopted by the Welsh Government. It will also be included within the final ES submitted as part of the DNS planning application. All issues identified in the Scoping Direction will be taken forward and addressed in the detailed ES chapters as the assessment is refined.

## EIA Process

An Environmental Impact Assessment (EIA) is used to understand how a proposed development might affect the environment. It does this by comparing the current conditions of the site (the baseline) with what is expected during construction, operation, and decommissioning.

The findings of the EIA are presented in an Environmental Statement (ES). To prepare this, surveys and studies were carried out within and around the site to establish the baseline. The ES also describes a range of design measures built into the project from the outset to help avoid or reduce environmental impacts.

Where further mitigation is required, the assessment identifies any additional measures and then sets out the residual effects, these are the effects that remain once all mitigation has been applied.

The assessment also looks at cumulative effects, which consider whether the solar farm might have combined impacts when other nearby developments are taken into account. In addition, in-combination effects are assessed, meaning situations where different types of

effects from the same development (for example, noise and traffic) might act together on the same part of the environment.

The EIA is completed before the DNS application is submitted to ensure all potential effects are understood and properly considered.

### **The EIA Consultant Team**

The ES has been coordinated by Pegasus Group, accredited under the Institute of Sustainability and Environmental Professionals (ISEP) Quality Mark (formerly IEMA before July 2025). A Statement of Competence at the start of the ES lists the contributing specialists and evidences the expertise required by the EIA Regulations.

### **Site Context**

The Site is located on land near Great Harmeston Buildings, Pembrokeshire. The land within the site boundary has an area of approximately 128 hectares ("ha"), incorporating cable routes.

The Site is located entirely within the administrative boundary of Pembrokeshire County Council (PCC), on land near Great Harmeston Buildings, Pembrokeshire, SA62 3HM. The village of Johnston lies immediately north, village of Steynton (1.1km) south and Milford Haven (2.9km) south of the Site. The Site comprises of fields predominantly for arable use, bound by a mixture of mature woodland, trees, hedgerows, fencing, tracks, road and a railway line.

The Site is segregated by two 'A' roads and a railway line, a number of land parcels are located to the west of the A4076 Milford Road, with further land located between the A4076 and A477 (which is bisected by the Transport for Wales (TfW) railway line), and additional fields located on land to the west of the A477 (also bisected by the TfW railway line).

The A4076 Milford Road routes between Haverfordwest and the A40 in the north and Milford Haven in the south. It is a trunk road maintained by Welsh Government / Traffic Wales. In the vicinity of the site, it forms the northern and southern arm of the 'Sunnycroft' roundabout at the site's northern boundary. The A447 routes between the A40 at St Clears to the west and the 'Sunnycroft' Roundabout to the west. It forms the eastern arm of the 'Sunnycroft' roundabout and bisects the eastern parcel of the site.

The Site will be served from the A4076 Milford Road to the north via Haverfordwest for construction, operation and decommissioning purposes which has onward connections to the A40/A48 and M4. There are a number of separate access points into the Site owing to the land parcels being segregated by the A4076 and A477.

The surrounding landscape is a mixed rural and urbanising setting, within the immediate area agricultural fields are interspersed with pockets of urban features. This includes the village of Johnston to the north of the Site and the local road network (A4076 Milford Road and A477).

A Solar Farm is located south of Tiers Cross, 0.5km west of the Site. The adjoining area to the Site primarily consists of non-built-up land and agricultural land. The Site is surrounded by multiple unused artificial landscapes and industrial/manufacturing units located to the southeast and east. Residential buildings are located to the southeast, east, south, and northeast. Nearby, the Johnston Community Primary School is 0.94 km to the east, and Milford Haven School is 1.72 km to the south.

The Site is not in or adjacent to an environmentally sensitive area, as defined by Regulation 2(1) of the EIA Regulations (i.e., sites designated as Sites of Special Scientific Interest (SSSI), National Parks, World Heritage Sites, Scheduled Monuments, Area of Outstanding Natural Beauty (Now National Landscapes), and sites covered by international conservation designations). The majority of the Site is located within Flood Zone 1 (the zone with the lowest probability of flooding), small areas of Flood Zone 2 and 3 are limited to the Site boundary and one section within the southwest of the Site associated with an unnamed stream in this area (see Site Environmental Designations Plan).

The Site predominantly comprises a mix of arable land, improved grassland (cattle grazed) and silage production bounded by species poor (blackthorn and hawthorn dominated) hedgerows and trees. There are a number of ponds, ditches and waterways primarily around the site boundary as well as some woodland blocks. The Site is considered to be of low ecological value as it is subject to frequent agricultural and grazing management techniques. Field boundaries, hedgerows and boundary trees offer greater ecological value, and these features have been retained and safeguarded through the Proposed Development.

There are no statutory or non-statutory sites designated for nature conservation located within the Site or adjacent to it. The closest statutory nature conservation designation is Scoveston Fort SSSI approximately 2.3km south east. There are no areas of Ancient Woodland within the Site, but discrete pockets of Ancient Woodland are dispersed in the wider area.

The Site does not fall within any statutory landscape designations and is not within the Green Belt. The Site forms part of the undulating landform and largely slopes from the north / north east around Johnston at c. 75 m AOD descending into a narrow and wooded valley near Great Harmeston and Hayston Bridge / Lower Hayston reaching c. 30 m – 40 m along its southern edge. The eastern part of the Site slopes east descending to c. 60 m AOD along its eastern edge.

There are no public rights of Way (PRoWs) within the Site. Public Rights of Way (PRoW) footpath PP81 1/1 and bridleway PP81 2/2 route west to east to the south of the Eastern Parcel. The development proposals will not impact the PRoWs.

The Site is not located within any statutory and / or non-statutory designated sites for cultural heritage or archaeology. The Site is not within or adjacent to a Conservation Area. A

Scheduled Monument of a prehistoric burnt mound lies adjacent to the northern boundary of the site – Heneb ref. 3347. There are 10 Listed Buildings within a 1km radius of the site.

The Site is not known to have any contaminated land although there is a historic landfill named Hayston covering a small proportion of the southeast area of the Site. The majority of the geology at the Site is underlain by the Rosemarket Formation of the Silurian period, consisting of interbedded sandstone and argillaceous rocks. The hydrogeology consists of solid geology beneath the Site designated as a Secondary B Aquifer (Rosemarket Formation) and a Secondary A Aquifer (Milford Haven Group). The Site is not within a Source Protection Zone, however, is within an area identified as 'high' for groundwater vulnerability.

An Agricultural Land Classification survey (ALC) verified by Land Quality Assessment Service<sup>2</sup> (LQAS) confirms the Site consists of a mix of Grades 2, 3a, 3b, 4 and non-agricultural land although the Site is predominantly low grade (Grade 3b, 4) agricultural land. The ALC calculations confirm the majority of the development footprint within the Site consists of Grade 3b and Grade 4 (non Best and Most Versatile (BMV) Land) land which constitutes almost 80% of the Site.

The Site does not lie within an Air Quality Management Area (AQMA) and is not adjacent or within close proximity to any other AQMA.

### **Proposed Development**

The main element of the Proposed Development is the construction, operation, maintenance and decommissioning of a ground mounted solar farm with an intended design generation capacity of up to 65 mega-watts alternating current (MWac). The electricity generated would be enough to power the equivalent of up to 34,444 typical family homes per year, helping to cut carbon emissions and support the transitions away from fossil fuels. The Proposed Development would also result in the reduction of carbon dioxide emissions of over 11,532 tonnes of CO<sub>2</sub> per year.<sup>3</sup>

The design of the Proposed Development has been refined throughout the EIA process. It is recognised that parts of the Proposed Development design and construction methodology, as presented, may be subject to further refinement and optimisation prior to and during construction. This is very pertinent to solar development due to the rapid pace of change in technology. For example, as technology advances, it is possible that solar PV panels could become more efficient, which could result in a potential reduction in total panel area required to deliver the same amount of generation. This in turn could require the micro-siting of

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<sup>2</sup> LQAS is the specialist service within the Welsh Government that validates Agricultural Land Classification (ALC) surveys

<sup>3</sup> <sup>1</sup>Source: Homes: 65MWac / 2700kWh (average UK home) = 34,444. CO2: 65MWac solar scheme based on a reasonable expected yield of 1,000 kWh/kWp/year and a carbon intensity of 0.124 kg CO<sub>2</sub>/kWh per the 2023 BEIS dataset = 11,532

panels and the associated equipment and infrastructure to reflect such changes, i.e., the final alignments of cabling and the number and location of panels, substation, inverters and transformers.

This EIA has employed a maximum (or minimum where appropriate) design scenario. A 'worst case' scenario approach to the environmental impact of a Proposed Development and allows for a broad definition of the project to be framed within a number of set parameters. The submitted site layout is therefore indicative as the detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of planning condition following grant of planning permission. The final detailed layout will demonstrate how the final 'as-build' design remains within the parameters of the design principles considered by this ES.

Key components of the Proposed Development include (see Site Layout Plan):

- Solar photovoltaic ("PV") fixed panels mounted on a simple metal framework;
- Associated infrastructure including access tracks, parking, CCTV, gates and fencing, lighting drainage infrastructure, storage containers, earthworks, culverts, surface water management, maintenance and welfare facilities, security cabins and any other works identified as necessary to enable the development
- On-site 132kV Substation compound;
- Underground cabling to connect and transmit electricity from the solar PV modules to the on-site 132kV substation.
- Underground cabling connecting the 132kV on-site substation to the existing overhead 132kV powerline located to the south of the main development site.
- A number of central inverters (inverters and transformers housed together in prefabricated containers) at various locations around the arrays;
- Boundary fencing (e.g. deer fencing) around the edge of the solar farm at a maximum height of 2.4m above original ground level;
- A CCTV system, either pole or fence-mounted, located at strategic points around the site perimeter for security and maintenance reasons, maximum height of 4m;
- Associated internal service tracks;
- Relevant communications (potential communications mast up to 15m) and monitoring equipment in substation area;

- Landscaping and biodiversity enhancements;
- Temporary development during the construction phase including construction compounds, parking, and temporary internal access tracks; and
- A number of separate access points into the Site for construction, operation and decommissioning purposes, predominantly utilising existing farm access points.

### **Solar PV panels and framework**

Panels are fixed, south-facing at 10–25° tilt, with approximately 3.5 m spacing, and mounted on posts driven approximately 1.5 m into the ground (ballast or pads may be used where needed). Pre-assembled elements reduce on-site works.

### **String Inverters and Inverter Transformer Stations**

Around 200 string inverters and ~90 inverter/transformer stations are anticipated. Final models will be chosen at detailed design and controlled by planning condition.

### **Electrical Cabling and Point of Connection**

Low-voltage strings run beneath mounting frames to shallow trenches (1 m deep, 0.5 m wide) that also carry earthing and communications cables. Arrays connect at 33 kV to the on-site 132 kV substation. Two options are presented for crossing the railway: directional drilling (Option A) or open-cut trenching via the A477 bridge/duct (Option B). The final grid link to the existing 132 kV line will be trenched; a pylon upgrade may be required. A Soil Management Plan will protect soils; limited hedgerow loss is assumed as a worst case. Cables deeper than 1 m would remain in situ at decommissioning to avoid unnecessary disturbance.

### **Substation Compound**

The 132 kV substation steps up power for export to the grid. It will be enclosed by 2.4 m security fencing, designed with permeable surfacing (other than equipment foundations) and downward-facing emergency lighting. Final design will be agreed with the DNO.

### **Access Tracks**

Internal, mainly 4.5 m wide permeable crushed stone tracks will use existing farm routes and gates where possible to minimise hedgerow loss.

### **Fencing and Security**

Perimeter 2.4 m deer/stock fencing will be designed to allow small mammals to pass, with a 5 m buffer to panels. Inward-facing CCTV (up to 4 m poles) will be oriented to avoid views beyond the boundary. Targeted security lighting will be limited to key electrical areas.

### **Temporary Construction Compounds**

Compounds (60 m × 45 m) will be installed and removed in phases. Each includes surfaced areas, storage, welfare, parking (9 vehicles), turning space for articulated vehicles, hoarding/Heras fencing, and wheel washing if needed.

### **Drainage**

A Flood Consequence Assessment and Surface Water Drainage Strategy show surface water will be safely managed: rainfall infiltrates beneath/ between raised panels; internal tracks are permeable; and Sustainable Drainage Systems (SuDS) will address local drainage. The site will remain safe for its 40-year life without increasing flood risk elsewhere.

### **Biodiversity and Landscaping**

A Construction Biodiversity Management Plan (CBMP) will guide habitat protection and enhancement. Measures include new hedgerow planting, strengthening existing boundaries, managing grassland/wildflower areas beneath and between panels, possible seasonal sheep grazing, and dedicated skylark mitigation/enhancement areas. Long-term management will be secured through a detailed CBMP agreed with the Local Planning Authority.

### **Construction Access**

Ten existing access points (A–J) will be used and, where necessary, modified under a Construction Traffic Management Plan (CTMP). One new access (K) is proposed in the south near the cable corridor, 380 m south of Access J (see Site Access Plan).

### **Operational Access**

Operational access will continue via the A4076/A477 through Accesses A–J, with inward-opening security gates. Around two maintenance visits per month are expected (van/4×4). Space within the site allows vehicles to turn without reversing onto public roads (see Site Access Plan).

### **Construction Activities**

### **Construction Phase**

Construction is expected to last about 9 months in overlapping phases: establish access/compounds/fencing, protect trees, prepare ground, build internal roads, install panels/inverters/cabling, construct the 132 kV substation, and complete grid connection, followed by testing and reinstatement.

Standard working hours will apply; night-time working only in exceptional circumstances. Peak on-site workforce is 52–100 (workers mainly arriving by minibus). The CEMP will control environmental risks (roles, monitoring, storage, emergency response), supported by plans for traffic, waste, and tree protection. Typical deliveries are 14–21 per day during normal periods. The CTMP will manage routing, peak-time restrictions, and abnormal loads. This traffic is not expected to materially affect road safety or operation.

Waste will be minimised, segregated, and sent to authorised facilities with full legal compliance (e.g., Duty of Care, Landfill and Hazardous Waste Regulations). No on-site burning will occur. Trees retained on site will be protected to BS 5837:2012.

### **Operational Phase**

During operation (40 years), activity is expected to be low and limited to maintenance, ecological management, and occasional component replacement. Perimeter fencing and CCTV will secure the site. Grassland beneath/around panels will be managed for biodiversity, including skylark areas and possibly seasonal sheep grazing. Waste will follow the waste hierarchy, with electrical components handled under WEEE Regulations.

### **Decommissioning Phase**

Decommissioning is estimated at 9 months (potentially phased). All above-ground infrastructure and cables shallower than ~1 m will be removed; deeper cables may remain to avoid disturbance. The on-site 132 kV substation (and security infrastructure) will be retained as part of the National Grid network. Land will return to agriculture or other uses chosen by the landowner; habitat planting is generally retained. A decommissioning plan and ecological survey will be prepared beforehand, secured by planning conditions.

### **Consideration of Alternatives**

The EIA Regulations require that the ES contain:

*'a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main*

*reasons for the option chosen, taking into account the effects of the development on the environment’.*

This includes alternatives in location, design, technology, size and scale, and the reasons for selecting the chosen option. These requirements ensure that realistic options are explored and that the final design can be clearly justified.

The assessment considered four main types of alternatives. First, the ‘No Development’ option was reviewed but rejected, as it would not contribute to renewable energy targets or carbon reduction commitments. The land would remain in agricultural use and none of the potential environmental or biodiversity benefits would be delivered.

Next, alternative sites were assessed through a structured site-selection process. This looked at grid connection availability, land availability, environmental constraints and national planning policy. Great Harmeston was identified as the only viable and deliverable site because it lies close to an existing 132 kV overhead line, has willing landowners, offers enough suitable land for a 65 MW scheme and avoids major environmental designations.

Design options were also reviewed, and the layout was refined several times to reduce environmental effects. This included limiting use of Best and Most Versatile agricultural land and avoiding sensitive features. Mitigation was built into the layout from the outset so that environmental effects are reduced at source.

Finally, different technologies were assessed. Fixed panels and string inverters were chosen instead of tracking panels and central inverters because they have lower visual and noise impacts, require less maintenance and are more reliable, which in turn helps reduce environmental effects.

Overall, the chosen design at Great Harmeston represents the most environmentally suitable and technically achievable option, offering a balanced solution that meets energy needs while minimising impacts.

### **Cumulative Considerations**

The cumulative effects section explains how the ES considers the combined environmental impacts of the Proposed Development alongside other existing or proposed developments in the area.

In accordance with Schedule 4, 5(e) of the 2017 EIA Regulations, cumulative effect interactions should be considered and information included within the ES where:

*“the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resource”*

Within EIA, cumulative effects are generally considered to arise from the combination of effects from the Proposed Development and from other proposed or permitted schemes in the vicinity, acting together to generate elevated levels of effects. Examples of these kinds of effects could include traffic generated from developments affecting the surrounding road network; air quality effects from developments; and discharges to the water environment.

There is no statutory method for cumulative assessment, so the approach is based on recognised good practice and professional judgement.

Assessment of cumulative effects with other developments which are either operational, under construction / consented or the subject of a full planning application as set out within the ES Scoping Report in consultation with Pembrokeshire County Council and has been considered within the relevant technical chapters of this ES.

#### *In-Combination Effects*

In-combination effects occur when different environmental effects from the Proposed Development such as noise, traffic, dust, or landscape change act together on the same receptor at the same time. Where relevant technical chapters of this ES considers whether these overlapping effects could collectively increase the overall impact beyond what each would cause individually. Only effects of minor, moderate, or major scale are included, and a structured approach is used to identify receptors experiencing more than one effect and to judge whether this results in any change to significance. This process ensures that all realistic combined effects have been fully considered within the ES.

#### **General Assumptions and Limitations**

Assessments are based on the **realistic worst-case** project parameters and current known information. Surrounding land uses are assumed to remain as existing unless already consented. All design, construction, and operation will comply with relevant legislation. Where uncertainties exist, they are identified in the technical chapters, and mitigation is assumed to be secured by conditions/obligations as required.

## **LANDSCAPE AND VISUAL ASSESSMENT**

### **Introduction**

The Landscape and Visual chapter of the ES sought to determine the effects upon the identified landscape character and visual receptors, and determine whether such effects would be significant. In line with best practice it considers the effects during the construction, operation, and decommissioning stages.

The chapter considered the Proposed Development in terms of its maximum parameters: the extent and height of the solar modules, substation elements, and fencing. The chapter also sets out the main policies and guidance relevant to landscape and visual matters based on the published guidance and relevant planning policies. The provided assessment is based on established best practice methodologies.

### **Baseline Conditions**

The Proposed Development is not located within any national statutory protected landscape designations. It does not lie within any regional or local non-statutory landscape designations, either. It is not considered to be of high value in the context of the NPPF.

The landscape associated with the Site falls entirely within National Character Landscape Area 48 Milford Haven.

The Pembrokeshire County Landscape Character Assessment has been reviewed. The Site is located entirely within LCA 9 Johnston Lowlands, located in central Pembrokeshire, south of Haverfordwest, north of Milford Haven and west of the Western Cleddau and Daugleddau where it extends to the National Park boundary.

The LANDMAP Aspect Areas for the five datasets relevant to the Site have been reviewed. For Aspect Areas beyond the boundary of the Site, a filtering process was undertaken in line with the Natural Resources Wales guidance note which used SZTV to ascertain if there would be intervisibility with the Proposed Development; these findings were then verified during the Site visits.

A preliminary visual appraisal was conducted in early June 2025 to determine the relationship of the Site with its surroundings and the approximate extent of its visibility within the wider landscape from publicly accessible locations. Additional single day site visit was then carried out in February 2026 to verify the updated SZTV and help identify any additional receptors that may gain views towards the Site in winter months when the level of vegetative screening is the lowest.

### **Likely Significant Effects**

#### *Construction Phase*

The construction phase has been judged to result in some highly localised visual effects upon receptors present at Viewpoint 2, Viewpoint 3, Viewpoint 6, Viewpoint 13, and Viewpoint 15.

No significant effects to landscape elements or the landscape character, including LANDMAP, have been identified for the construction phase.

#### *Operational Phase*

The operational phase has been judged to result in some highly localised visual effects upon receptors present at Viewpoint 2, Viewpoint 3, Viewpoint 6, Viewpoint 13, Viewpoint 14, Viewpoint 15, and Viewpoint 17.

With regards to landscape elements, the operational phase is judged to result in significant, beneficial effects with regard to the hedgerow and tree resource.

With regards to landscape character, the Site and its immediate environs are judged to experience significant effects during the early years of the Proposed Development, prior to the establishment of the landscape proposals.

#### *Cumulative and In-Combination Effects*

The Proposed Development has been judged against the proposed and at scoping cumulative schemes. No potential significant effects have been identified.

### **Mitigation and Enhancement**

The Proposed Development has incorporated a number of built-in mitigation measures developed through the iterative design process and additional mitigation measure addressing the assessment of potential significant effects carried out in this Chapter 5. From an LVIA point of view the following mitigation measures are considered to be the most relevant:

Embedded mitigation measures:

- Offsets from internal and boundary watercourses and vegetation are proposed to safeguard these features and to ensure continued maintenance access.
- Increased offset from residential properties on the south eastern edge of Johnston: No. 44 and Fairviews.
- Perimeter and internal hedgerows to be managed to improve their condition and increase height.
- Hedgerow trees and perimeter planting to control views from Johnston and the adjacent highways.

### **Conclusion**

It is important to acknowledge that significant effects on landscape character and visual amenity are an inherent consequence of a new development of this type and scale. However, in this case, any potential for adverse effects has been judged to be considerably limited by the landform and existing vegetation that characterises the core study area and indeed the wider landscape. The proposed mitigation planting has the potential to reduce such significant effects, which would be geographically highly limited, both in character and visual terms. Whilst certain elements of the Proposed Development would, inevitably, be more visible, for a scheme of its scale the residual landscape and visual effects arising are considered to be highly limited. Those effects which have been identified as being significant should therefore be balanced against the benefits of the Proposed Development.

## **CULTURAL HERITAGE ASSESSMENT**

### **Introduction**

The Cultural Heritage chapter of the ES assessed the likely significant effects of the Proposed Development on the archaeological resource, built heritage and the historic landscape. The assessment considers the potential for any direct physical effects, indirect physical effects and effects due to setting change.

The assessment has been carried out with relevant sector guidance including the Chartered Institute for Archaeologists (CIfA) (2020) Standard and guidance for historic environment desk-based assessment; IEMA, Institute of Historic Building Conservation (IHBC) and CIfA (2021) Principles of Cultural Heritage Impact Assessment in the UK (PCHIA); Cadw (2011) Conservation Principles for the sustainable management of the historic environment in Wales; and Cadw (2017) Setting of Historic Assets in Wales.

A 1km Study Area was used for baseline data gathering and the identification of assets susceptible to effects due to setting change.

### **Baseline Conditions**

The Study Area has evidence for activity from at least the Bronze Age to the present day. Geophysical survey of the Site in 2025 found anomalies which appear characteristic of Bronze Age to Roman period activity across parts of the Site. Most anomalies appear to be related to settlement, such as enclosures, and field systems, mainly linear anomalies. There are some curvilinear anomalies in the northwest tip of the Site and south of Hayston Mountain which may derive from burial mounds. The Site also contains anomalies corresponding to the sites of post medieval farmsteads, plus contemporary field boundaries and tracks.

Within the Study Area, several designated historic assets have been identified. These include one Scheduled Monument, the Burnt Mound 170m south of Jubilee Cottages (SM ref. PE476),

a later prehistoric mound positioned immediately adjacent to the northern Site boundary. There are also ten Listed Buildings within a 1 km radius of the Site. To the north, approximately 410 m away, lies the Church of St Peter at Johnston (Grade II\*, LB ref. 11996), a medieval parish church that forms an important historic focal point. The Study Area also encompasses part of the Milford Haven Waterway Landscape of Outstanding Historic Interest (RHL ref. HLW (D) 3).

Adjacent to the junction of the A477 and A4076 is Upper Harmeston (Grade II, LB ref. 82698), a mid-19th century cottage contributing to the rural historic character. South of the Site lies the Hayston Hall group, comprising three Grade II listed buildings: Hayston Hall (LB ref. 83215), an early 19th century gentry house situated around 210 m from the Site; the Lofted Outbuilding at Hayston Hall (LB ref. 83216), located approximately 230 m away; and the Courtyard of Outbuildings at Hayston Hall (LB ref. 83217), around 260 m from the Site. Further east are two Grade II listed buildings associated with Great Harmeston: the 16th-century Great Harmeston house (LB ref. 13052), positioned roughly 350 m from the western half of the Site, and the Long Agricultural Range to its west (LB ref. 13053), comprising 19th-century cartsheds and a food processing store located around 300 m east of the same area.

Additionally, Hayston Bridge (Grade II, LB refs. 82524 & 83218), a late 18th-century bridge formerly carrying the historic route between Johnston and Waterston, sits adjacent to the Site. Nearby, the Grade II Milepost near Redstock Bridge (LB ref. 82696) lies on the Site boundary at Redstock, marking historic transport routes within the local landscape.

### **Likely Significant Effects**

During the construction phase, the Proposed Development has the potential to give rise to direct physical effects on archaeological remains associated with Bronze Age to Roman settlement, agricultural activity and, potentially, funerary practices. These remains are considered to be of at least low value and any resulting harm is assessed as being of a very low level. Consequently, no significant effects are predicted in EIA terms. Post-medieval farming features, which are also of low value, may experience up to a medium level of harm; however, this too would remain not significant within the context of the EIA.

During the operational phase, anticipated effects are limited to changes in setting. The Burnt Mound Scheduled Monument may experience a low level of harm associated with altered views or the changed character of its surroundings, though this would not materially affect its significance in EIA terms. Upper Harmeston, a high-value listed building, may similarly experience a low level of harm due to changes in its wider setting; however, this effect is also assessed as not significant.

In the decommissioning phase, direct physical effects may arise from ground disturbance associated with the removal of infrastructure. Archaeological remains of Bronze Age to Roman date are likely to experience a very low level of harm, consistent with their low value, and such effects would not be significant in EIA terms. Post-medieval farming features would

experience a similarly very low level of harm, which again would fall below the threshold of significance for EIA purposes.

No cumulative developments were identified which would give rise to effects to any historic assets affected by the scheme. As such, there are no cumulative effects to heritage assets.

### **Mitigation and Enhancement**

Direct physical effects on archaeological assets would be managed through an appropriate programme of archaeological works, the scope of which would be developed in agreement with Heneb, acting as archaeological advisors to Pembrokeshire County Council. Such a programme is likely to include measures such as trial trench evaluation, targeted excavation in advance of construction, and monitoring of groundworks through a construction-phase watching brief.

### **Conclusion**

The assessment has found limited effects to designated and non-designated historic assets and non which would be considered as significant in the context of the EIA.

## **ECOLOGY ASSESSMENT**

### **Introduction**

The Ecology chapter of the ES assessed the likely effects of the Proposed Development on ecology and biodiversity, using desk-based data, detailed field surveys undertaken between 2024 and 2026, and best practice ecological assessment guidance. It considered habitats, designated sites and protected species within the Site and surrounding area, and evaluated effects during construction, operation and decommissioning. Measures to avoid, reduce and mitigate impacts have been incorporated into the scheme design, alongside opportunities to enhance biodiversity.

### **Baseline Conditions**

The Site is predominantly agricultural land, comprising arable fields and modified grassland, with the principal ecological value associated with boundary features including native hedgerows (with trees), woodland edges and blocks, areas of Purple moor-grass and rush pasture, two veteran ash trees ponds and an on-site watercourse forming a riparian corridor.

Statutory designated sites of relevance within the wider area include Pembrokeshire Marine SAC, Scoveston Fort SSSI and Milford Haven Waterway SSSI, which were assessed due to potential ecological or hydrological connectivity.

Ecological surveys confirmed use of the Site by a range of species, including bats commuting and foraging along boundary habitats and the riparian corridor, with several trees identified as supporting Potential Roost Features of moderate bat roost potential; breeding skylark within arable fields; wintering farmland birds; badger, with three active setts recorded within or adjacent to the Site; with one sett located within 30 m of the current development footprint; and otter using the watercourse corridor. It should be noted that the section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the original otter survey coverage and further surveys will therefore be undertaken to confirm the presence or absence of holts within this area. Common amphibians, dormice, reptiles and hedgehog are also likely to be present within suitable boundary habitats.

### **Likely Significant Effects**

Without mitigation, the principal ecological effect identified was the permanent loss of arable habitat supporting 13 confirmed skylark breeding territories, representing a Moderate adverse and Significant effect.

Other potential effects included temporary disturbance to protected species such as bats, dormouse and otter during construction, including localised works associated with the installation of the proposed drainage outfall, localised modification of woodland associated with widening of existing tracks and cable routing, localised impacts on hedgerows and small sections of woodland associated with access widening and cable routing, and risks of pollution or sediment run-off affecting aquatic habitats in the absence of appropriate controls. There is also potential for temporary disturbance to badger associated with works occurring within the precautionary 30 m buffer of one sett under the current scheme layout. There is also potential legal risk associated with trees supporting bat roost features if removal were to occur without further survey and licensing where required.

Effects on lower value arable land and modified grassland were assessed as Negligible due to their limited ecological importance. Purple moor-grass and rush pasture and veteran trees are retained within the scheme design and therefore only subject to limited temporary disturbance risk during construction.

A review of nearby developments identified White House Farm Solar Farm as the only scheme with potential to interact ecologically with the Proposed Development.

Both developments retain key habitats, incorporate buffers and include habitat management measures. As a result, no significant cumulative ecological effects are predicted for habitats or protected species including birds, bats, badger and otter.

### **Mitigation and Enhancement**

A stepwise approach has informed the layout, retaining the majority of higher value habitats across the Site, including hedgerows, woodland blocks and edges, ponds, Purple moor-grass and rush pasture, veteran trees and the riparian corridor. Buffers have been incorporated to protect these features and maintain ecological connectivity.

Further mitigation will be secured through a Construction Environmental Management Plan (CEMP), Landscape and Ecological Management Plan (LEMP) and Green Infrastructure Statement. Measures include pollution prevention and surface water controls, protection of retained habitats, application of 30 m buffers around badger setts where practicable and use of a Precautionary Working Method Statement where works occur within this buffer, pre-construction checks, retention of bat commuting routes, avoidance where practicable of trees with bat roost potential or further survey and licensing where required, daylight-only working near the watercourse, otter survey of the outfall watercourse and precautionary working methods for reptiles, amphibians and other small mammals..

A Skylark Mitigation Strategy will address the loss of breeding habitat through grassland management and enhancement measures designed to maintain suitable nesting and foraging conditions within the Site.

In addition, biodiversity enhancements will be delivered through new tree and vegetation planting, strengthened hedgerow networks and species-diverse grassland establishment as set out within the Green Infrastructure proposals.

With these measures in place, all ecological effects are predicted to be reduced to Minor to Minor-Moderate adverse or Negligible and therefore Not Significant in EIA terms. Some minor beneficial effects are anticipated during operation as newly created habitats establish and habitat connectivity is strengthened.

## **Conclusion**

The ecological assessment has demonstrated that, although the Proposed Development will result in the temporary loss of some agricultural habitat, the principal ecological features of the Site, including Purple moor-grass and rush pasture, veteran trees, hedgerows, woodland blocks and the riparian corridor, will be retained and protected. Following avoidance of key bat roost features where practicable implementation of a Precautionary Working Method Statement where works occur within the 30 m buffer of the affected badger sett, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

Following implementation of embedded design measures, further survey and licensing where required for bat roost features, appropriate protection measures for badger setts, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

The scheme will deliver long-term improvements in habitat structure and connectivity through habitat creation and management measures, contributing to strengthened ecological networks in line with national and local policy objectives.

## **GLINT AND GLARE ASSESSMENT**

### **Introduction**

The glint and glare chapter of the ES considers the predicted glint and glare effects of the Proposed Development, the mitigation measures implemented, and the resulting residual impacts.

### **Baseline Conditions**

The study areas include a range of receptors, comprising several sections of Major, National and Regional roads (2.5km of the A4076, 300m of the Bulford Road Bypass, and 2.9km of the A477), approximately 2.6km of railway line with two associated signals, a total of 51 residential dwellings, and Rosemarket Airfield.

### **Likely Significant Effects**

A medium magnitude of impact is predicted upon road users due to reflections occurring within the primary field-of-view without existing screening to obstruct views. Considering a receptor sensitivity of Medium, the significance of the effect is Moderate, which is significant.

A negligible magnitude of impact is predicted upon residential amenity due to the presence of existing screening. Considering a receptor sensitivity of Medium, the significance of the effect is negligible, which is not significant.

A negligible magnitude of impact is predicted upon railway operations and infrastructure due to the presence of existing screening. Considering a receptor sensitivity of Medium, the significance of the effect is negligible, which is not significant.

A low magnitude of impact is predicted upon aviation activity as solar reflections are predicted to be within acceptable limits and accommodatable. Considering a receptor sensitivity of Medium, the significance of the effect is minor, which is not significant.

No cumulative effects are predicted.

### **Mitigation and Enhancement**

Screening is recommended to be implemented to reduce the residual effect to road receptors to Minor or negligible.

Residual effects upon residential amenity, railway operations and infrastructure, and aviation activity are at worst minor adverse, which is not significant

## Conclusion

No significant adverse residual effects are predicted.

## SOCIO ECONOMICS ASSESSMENT

### Introduction

The Socio-Economics chapter of the ES summarises the socio-economic effects of the Proposed Development, considering how it may influence employment, economic activity and local accommodation across the construction, operational and decommissioning phases.

### Baseline Conditions

A review of baseline socio-economic conditions indicates that Pembrokeshire has experienced comparatively modest population growth between 2014 and 2024, increasing at a slower rate than Wales and Great Britain overall. Growth has been driven exclusively by an expanding 65+ population, highlighting an ageing demographic profile that is expected to continue into the future.

Labour market indicators show that employment in Pembrokeshire fell by 2.0% between 2015 and 2024, in contrast to the growth recorded in both Wales and Great Britain. As of January 2026, claimant count rates remain below the national average but marginally above the Welsh average, suggesting a labour market performing between regional and national benchmarks.

Business growth over the last decade has been constrained, with the number of enterprises increasing at a slower pace than in Wales or Great Britain. Economic output has risen more slowly than the national average, although it has outperformed the Welsh average between 2013 and 2023, indicating a moderately resilient economic base.

Pembrokeshire's visitor economy includes an estimated 4,844 serviced and self-catered bedspaces, representing a significant level of accommodation capacity that contributes to the economic profile of the county.

### Likely Significant Effects

With the exception of increased pressure on accommodation demand, likely significant effects are expected to be beneficial in respect of socio-economics. Significant beneficial

effects are expected in relation to employment and economic contribution during the construction phase. Significant beneficial effects are expected in relation to economic contribution during the decommissioning phase. While there are positive effects during the operational phase, they are not considered to be significant in EIA terms.

The cumulative effects are expected to be moderate beneficial for employment and economic output during construction and moderate beneficial for employment during decommissioning and major beneficial for economic output. Cumulative effects during both construction and decommissioning for accommodation demand is expected to be minor adverse. Cumulative effects during operation are assessed as minor to moderate beneficial for economic output.

### **Mitigation and Enhancement**

Most effects of the Proposed Development are beneficial, and therefore no mitigation is required.

### **Conclusion**

Overall, the Proposed Development is considered to provide significant beneficial effects in terms of Socio Economics in Pembrokeshire during the construction phase in relation to employment and economic contribution. Significant beneficial effects are expected to be provided during the decommissioning phase in relation to economic contribution. Negligible beneficial effects are predicted in respect of employment, economic contribution and business rates revenue once operational

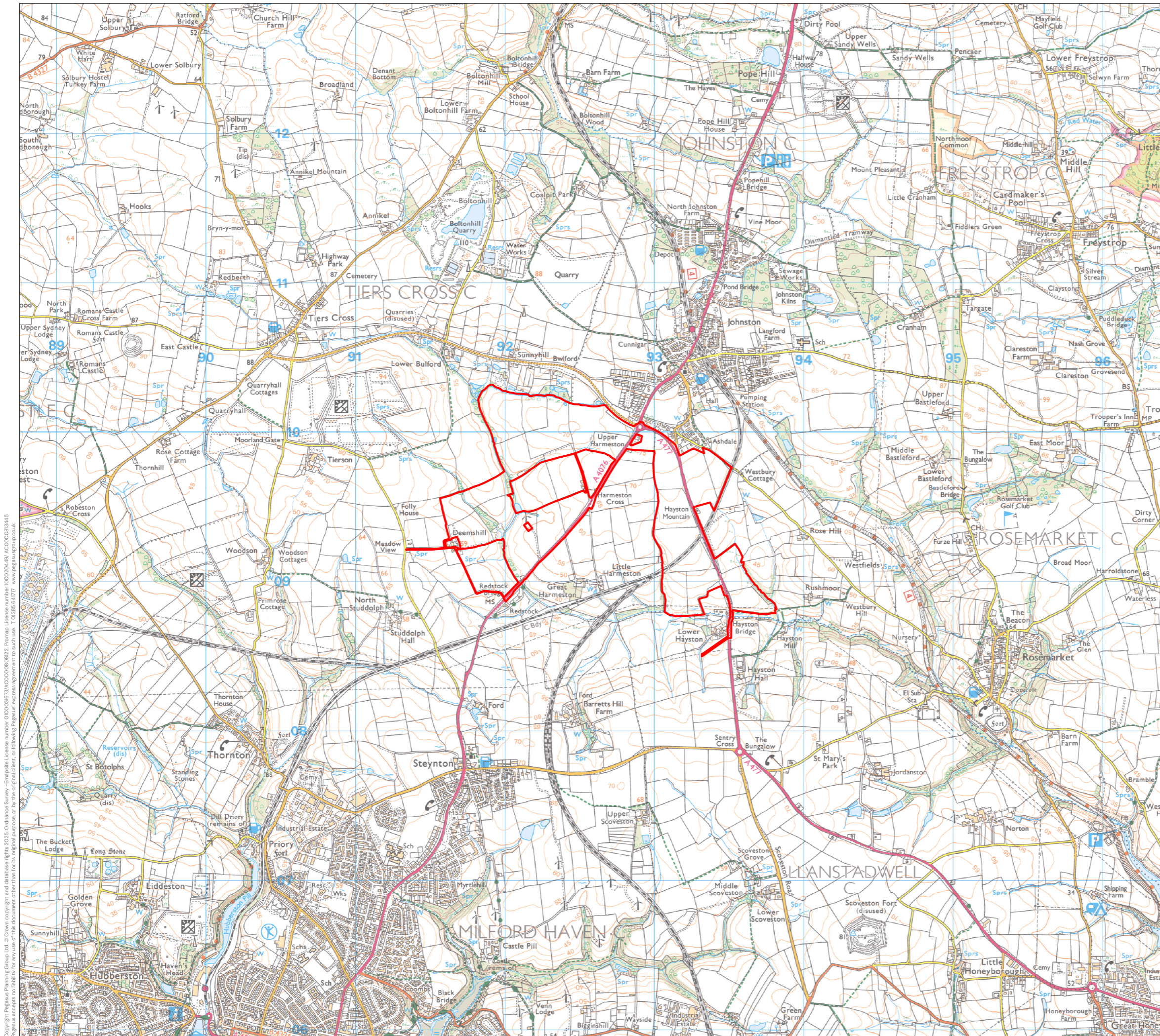
### **OVERALL CONCLUSION**

The findings of Great Harmeston Solar Farm ES demonstrate that there are no overriding environmental constraints or planning policies which would preclude the development of the application site for a proposed solar farm. The Planning Statement which forms a separate part of the DNS application demonstrates significant weight for both Planning Policy and Energy Policy which demonstrates the need for and benefits of the scheme. It has been demonstrated within this ES there will be no significant impacts as a result of the proposal.

All aspects of the design have taken full account of the environmental opportunities and constraints present. Retention of agricultural land and, where necessary, mitigation measures and enhancements form an integral part of the proposals to ensure that the environment is suitably protected.

The ES demonstrates how the proposed scheme would bring about significant benefits to the local environment, whilst providing renewable energy generation in a sustainable location.

**SITE LOCATION PLAN**



KEY

Site Boundary

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REV	DATE	DESCRIPTION

**SITE LOCATION PLAN**

**GREAT HARMESTON**

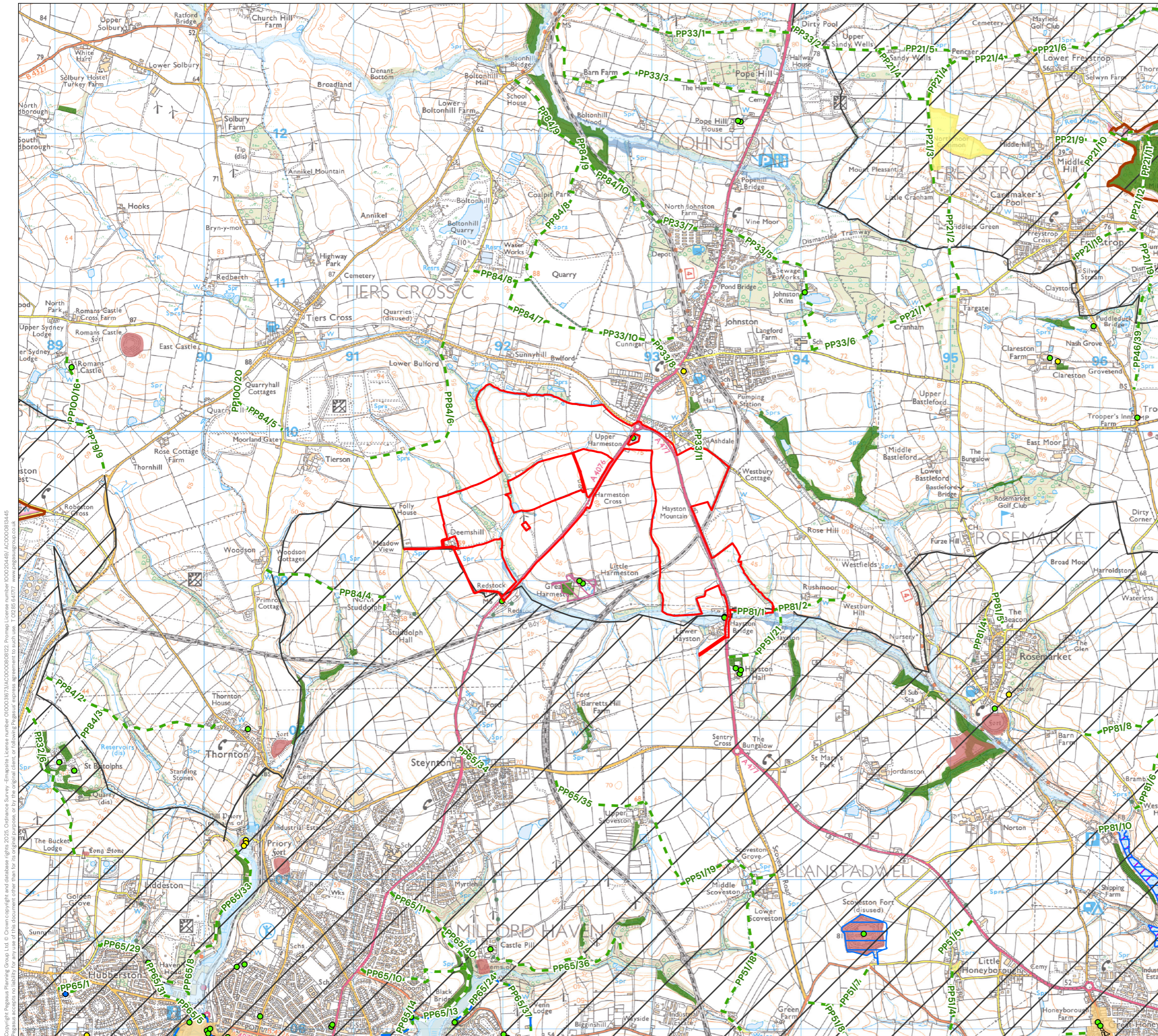
ARISE RENEWABLE ENERGY UK LTD

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DRAWING NUMBER  
P24-1037\_EN\_03



**ENVIRONMENTAL DESIGNATIONS PLAN**



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- KEY**
- Site Boundary
  - Grade**
  - I
  - II\*
  - II
  - Public Rights of Way
  - Wales Coastal Path
  - Statutory Access Land
  - Registered Common Land
  - National Parks
  - Historic Landscape Area
  - Registered Historic Parks and Gardens
  - Conservation Areas
  - Scheduled Ancient Monuments
  - Sites of Special Scientific Interest
  - Special Areas of Conservation
  - Ancient Woodland
  - Flood Zone 2
  - Flood Zone 3

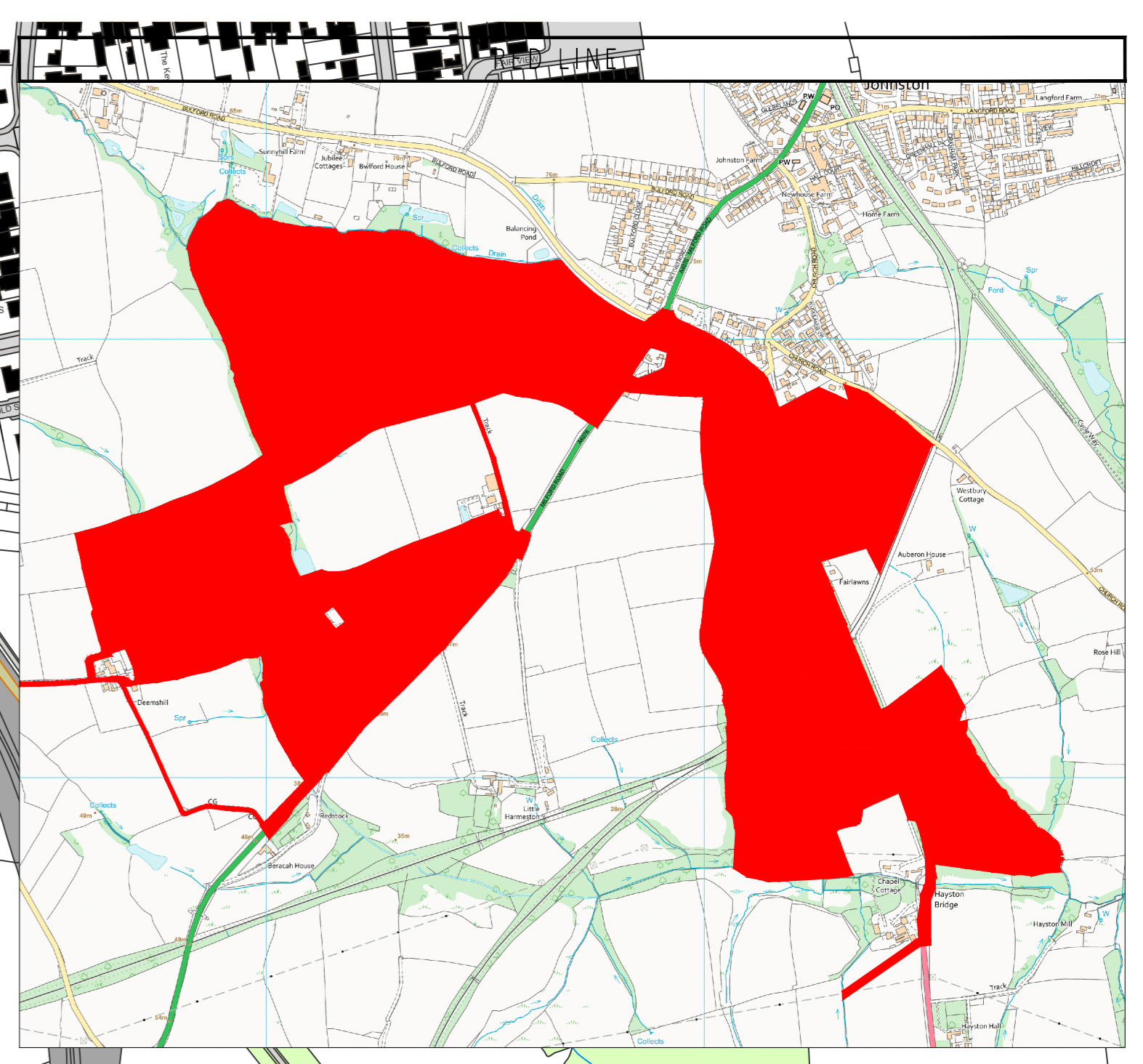
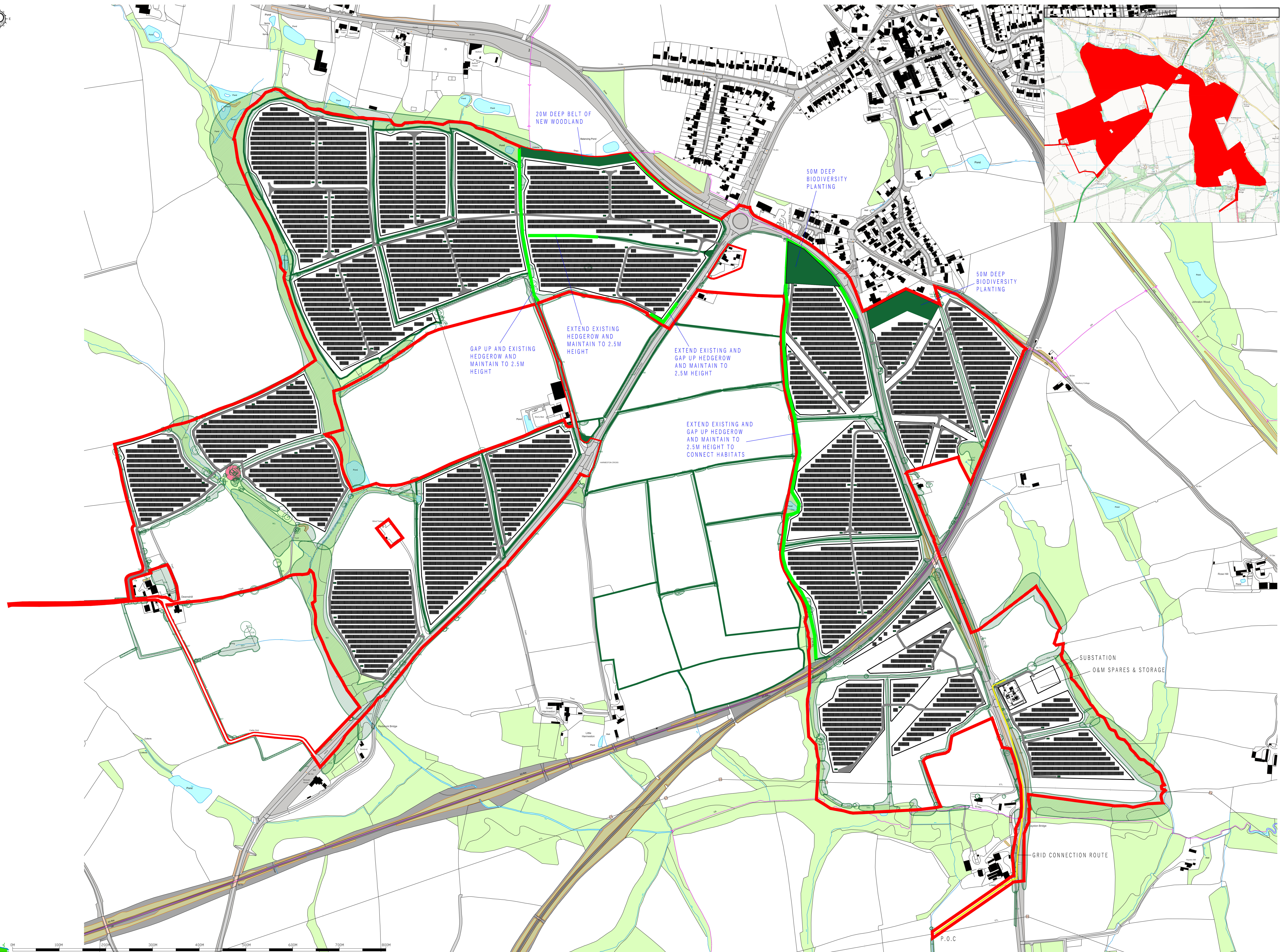
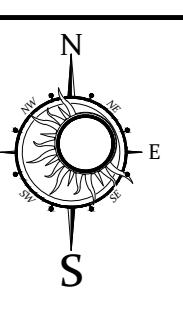
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**ENVIRONMENTAL DESIGNATIONS PLAN**

**GREAT HARMESTON**  
**ARISE RENEWABLE ENERGY UK LTD**

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SITE LAYOUT PLAN



20M DEEP BELT OF NEW WOODLAND

50M DEEP BIODIVERSITY PLANTING

50M DEEP BIODIVERSITY PLANTING

GAP UP AND EXISTING HEDGEROW AND MAINTAIN TO 2.5M HEIGHT

EXTEND EXISTING HEDGEROW AND MAINTAIN TO 2.5M HEIGHT

EXTEND EXISTING AND GAP UP HEDGEROW AND MAINTAIN TO 2.5M HEIGHT

EXTEND EXISTING AND GAP UP HEDGEROW AND MAINTAIN TO 2.5M HEIGHT TO CONNECT HABITATS

SUBSTATION  
O&M SPARES & STORAGE

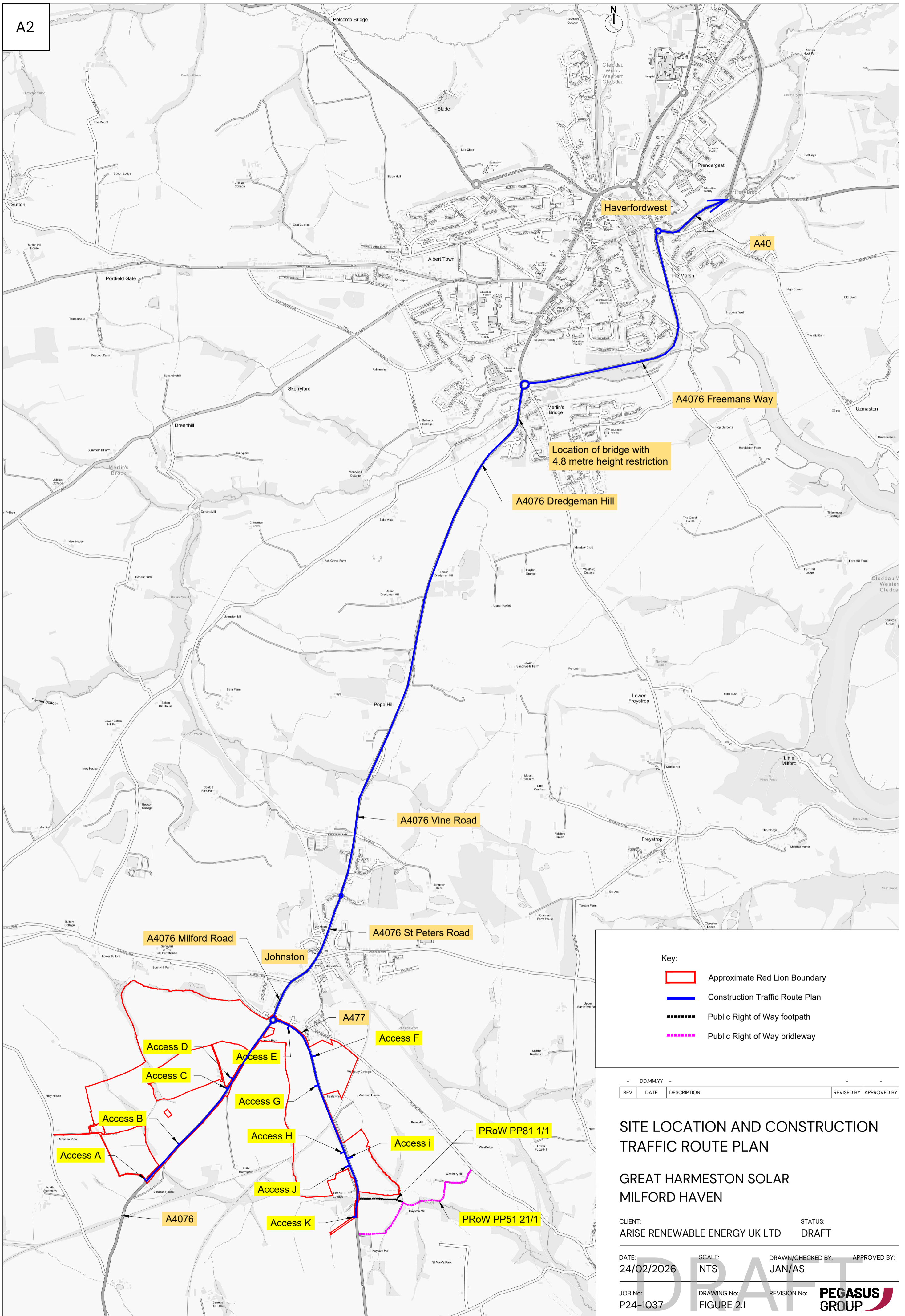
GRID CONNECTION ROUTE

P.O.C



**arise**  
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1280249.2883 M2  
GREAT HARMESTON  
PROPOSED SITE PLAN  
LAND EAST & WEST OF JUNCTION OF MILFORD ROAD A4076 A477, JOHNSTON SA62 3HL  
PRE-PLANNING  
1:2500@A1 JUL 25  
95749-CJ-05-CHK-0002-SI-P01

**SITE ACCESS PLAN**



- Key:
- Approximate Red Lion Boundary
  - Construction Traffic Route Plan
  - Public Right of Way footpath
  - Public Right of Way bridleway

REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY

**SITE LOCATION AND CONSTRUCTION TRAFFIC ROUTE PLAN**

**GREAT HARMESTON SOLAR MILFORD HAVEN**

CLIENT: ARISE RENEWABLE ENERGY UK LTD STATUS: DRAFT

DATE: 24/02/2026 SCALE: NTS DRAWN/CHECKED BY: JAN/AS APPROVED BY:

JOB No: P24-1037 DRAWING No: FIGURE 2.1 REVISION No: **PEGASUS GROUP**