APPENDIX 2.1
EIA SCOPING REPORT

Alleston Solar Farm, Pembrokeshire

Environmental Impact Assessment Scoping Report

On behalf of **Alleston Clean Energy Limited**

Project Ref: 32516 | Rev: 02 | Date: November 2023

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1 Introduction

1.1.1 This report has been prepared by Stantec, on behalf of Alleston Clean Energy Limited (the 'Applicant'). The report accompanies a request for an Environmental Impact Assessment (EIA) Scoping Opinion with regard to a proposed photovoltaic (PV) development with a capacity of up to 49MW (the 'development') at Alleston, Pembrokeshire (the 'site'). The site lies within the administrative boundary of Pembrokeshire County Council (PCC).

1.1.2 The proposed development exceeds the 10MW threshold for energy generating projects in Wales and therefore constitutes a Development of National Significance ('DNS') under the Planning (Wales) Act 2015[i]. The Planning (Wales) Act states that Welsh Ministers are to determine DNS projects and applications should be made directly to them. The framework for applying for a DNS is detailed within the *Developments of National Significance (Procedure) (Wales) Order 2016*, as amended. The DNS application process is managed by the Planning Inspectorate Wales (PINS Wales) on behalf of the Welsh Ministers. Therefore, this EIA Scoping Report has been submitted to the Welsh Ministers with a request for a Scoping Direction for the proposed development.

1.1.3 In accordance with Regulation 33 the *Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017*[ii], this Scoping Report contains:

a. 'a *plan sufficient to identify the land;*

b. *brief description of the nature and purpose of the development including its location and technical capacity;*

c. *description of the likely significant effects of the development on the environment;*

d. *a statement that the request is made in relation to a development of national significance for the purposes of section 62D of the 1990 Act; and*

e. *such other information or representations as the person making the request may wish to provide or make.'*

1.1.4 The purpose of the Scoping Report is to provide sufficient information on the proposed development and its potentially significant environmental effects to allow the Welsh Ministers to adopt an informed Scoping Opinion.

1.1.5 EIA Scoping is a process through which the content and detailed methodology of the EIA process is agreed, formally. It is best practice and ensures that any future planning application is accompanied by a suitably proportionate and focused Environmental Statement (ES) that takes all significant environmental issues into account.

2 The Site and Proposed Development

2.1 Site Context

2.1.1 The site (see Figure 1.1) is located at Alleston Farm, Pembrokeshire, adjacent to the south-east of the town of Pembroke and approximately 300m to the west of the village of Lamphey. The site is bound to the north by Lower Lamphey Road and agricultural fields; to the east by agricultural fields; to the south by further agricultural fields, buildings associated with Alleston Farm and a pocket of woodland (Alleston Wood); and to the west by a belt of trees, a stream and Watery Lane. In addition, there are a small number of residential properties located adjacent to the north and west of the site boundary.

2.1.2 Land use in the surrounding area of the site is predominantly agricultural, with scattered farmhouses as well as residential development associated with Pembroke town and Lamphey village. A railway line, which connects Pembroke and Lamphey, is approximately 40m north of the site.

2.1.3 The site is accessible to vehicles from the north via Lower Lamphey Road and from the west via Watery Lane.

2.2 Environmental Baseline Conditions

Biodiversity

2.2.1 The site is not covered by any international or national ecological, landscape or heritage designations. Pembrokeshire Coast National Park is located approximately 300m east of the site, beyond the B4584.

2.2.2 The statutory ecological designations within 2km of the site are set out below. Distances are approximate measurements from the site boundary:

- Freshwater East Local Nature Reserve (LNR), 1.4km south-east of the site;
- Freshwater East Cliffs to Skrinkle Haven Site of Special Scientific Interest (SSSI), 1.4km south-east;
- Pembroke Mill Ponds LNR, 1.5km north-west;
- Stackpole Quay-Trewent Point SSSI, 1.5km south;
- Milford Haven Waterway SSSI, 1.9km north-west;
- Pembrokeshire Marine Special Area of Conservation (SAC), 1.4km south-east; and
- Bristol Channel Approaches SAC, 1.5km south-east.

2.2.3 Internationally designated ecological sites within 10km of the site are listed below:

- Pembrokeshire Bat Sites and Bosherton Lakes SAC, 3.8km south-west and compromising five SSSIs within 5km;
- Skomer, Skokholm and the Seas of Pembrokshire Special Protection Area (SPA), 4km south;
- Limestone Coast of South West Wales SAC, 4.2km south-west; and
- Castlemartin Coast SPA, 4.2km south-west.

Heritage

2.2.4 There are no World Heritage Sites or Scheduled Monuments within or adjacent to the site, and the site is not located within a Conservation Area. The nearest statutory designations are the Grade II Listed Alleston Farmhouse, located approximately 50m from the northern site boundary, and Lamphey and Bishop's Palace & Lamphey Court, a Grade II* Registered Historic Park and Garden, located approximately 150m north of the site. Additionally, potential for views exist from the Bishop's Palace, Lamphey Scheduled Monument located approximately 990m north-east of the site and the Lamphey Bishop's Palace & Lamphey Court, Grade II* Listed Building, approximately 900m north-east of the site. Another Grade II* Listed Building Kingston Farm is approximately 1.2km south-west of the site.

2.2.5 A Heritage Note (Appendix 1) has been prepared by Pegasus in July 2023, which provides an initial appraisal of the potential sensitivity of the Grade II Listed Alleston Farmhouse.

Air Quality

2.2.6 The site is not located within or in close proximity to an Air Quality Management Area (AQMA). The nearest AQMA is 'AQMA No.2 2012' declared by PCC in 2012 for exceedances of Nitrogen dioxide.

Agricultural Land

2.2.7 Agricultural Land Classification (ALC) mapping undertaken for the site has identified Best and Most Versatile (BMV) Land within Grades 2 and 3a as well as non-BMV land within Grade 3b.

Drainage and Flood Risk

2.2.8 Two unnamed water courses are located in the northern part of the site. Areas in close proximity to the river have elevated food risk from small watercourses categorised by high and medium on the Natural Resources Wales Flood and Coastal Erosion Risk Maps[iii].

2.3 Site Description

2.3.1 The site covers an area of approximately 100 hectares (ha) and comprises a single parcel of land. The site comprises primarily grass agricultural fields separated by mature hedgerows. Alleston Farm and the associated buildings are located within the central region of the site, accessed from the north along Lower Lamphey Road and West along Watery Lane both along unnamed tracks. An area of mature trees and vegetation is located within the south-western region of the site and runs into the central region of the site.

2.3.2 Public Right of Ways (PRoW) cross the site including one which runs in a north-south direction through the northern area of the site, joining with another PRoW that runs in an east-west direction through the northern area. This PRoW continues in a north-south direction, crossing the southern area of the site.

2.3.3 There are overhead 132 kilovolt (kV) powerlines crossing the site at various points.

2.3.4 In terms of topography, the site slopes downwards from highpoints in south and west towards the north and east.

2.4 The Proposed Development

2.4.1 A full planning application is proposed for the construction, temporary operation, and decommissioning of a 49 MW solar farm and associated equipment such as inverters, transformer stations, substation, fencing, CCTV and cabling. Connection to the electricity grid will be via the 132kV overhead pylon which crosses the site. The solar farm development will have an operational lifespan of 40 years, after which it will be decommissioned.

2.4.2 Solar photovoltaic (PV) panels with an anti-reflective coating, ground mounted to a piled frame made of galvanized steel or aluminium. The PV modules could be monofacial or bifacial modules.

2.4.3 The PV modules will be installed on to a fixed tilt system, the system can come in variable lengths, facing south or east and west, with a tilt range of 10-25 degrees. The rows within a south facing framework can range between 2.5 – 10 metres. The corridors for east and west framework ranges from 2.5 up to 5 metres. The lowest point of the panel would be a minimum of 0.8m from the ground and up to approximately 3m at their highest point.

2.4.4 Framework posts are pile driven with a depth range of 0.5–3.5 metres below ground level, depending on the ground condition, which are determined by a survey prior to construction.

2.4.5 Security and monitoring CCTV/infra-red cameras mounted on posts 3-6 m tall, running along the internal perimeter of the site.

2.4.6 Up to 3 m high security deer type fencing and gates to enclose the site. The fence is designed to allow small animals to pass through the site. Whereas, around any HV compound, up to a 3m high corrugated fence will be installed.

2.4.7 Compacted internal crushed stone tracks to allow vehicular access between fields, utilising existing internal gateways/gaps where possible. For single tracks, the width typically ranges between 3.5- 4 metres whereas, a 2-way track can be as wide as 6 metres.

3 Scoping

3.1.1 This scoping exercise has been informed by desk-based research, professional judgement, and other information available for the site. Table 3.1 sets out the proposed scope of the ES.

Table 3.1: EIA Scoping Summary

Topics	Potential Construction Phase Effects	Potential Operational Phase Effects	Likely Significant Effects (Pre-Mitigation)	Comments
Historic Environment	✓ - T	✓ - P	✓	Chapter to be prepared.
Landscape and Visual Effects (including a Glint and Glare Assessment)	✓ - T	✓ - P	✓	
Agricultural Land	✓ - T	✓ - P	✓	
Biodiversity	✓ - T	✓ - P	✓	
Human Health	x	x	x	Topic scoped out of the ES.
Air Quality	x	x	x	
Noise and Vibration	x	x	x	
Transport	x	x	x	
Climate Change	x	x	x	
Contaminated land	x	x	x	
Wind	x	x	x	
Daylight Sunlight Overshadowing	x	x	x	
Water Resources and Flood Risk	x	x	x	
Waste	x	x	x	
Lighting	x	x	x	
Major Accidents and Disasters	x	x	x	

Key: ✓ Likely Significant Effect / x No Likely Significant Effect.
T – Temporary Effect / P – Permanent Effect

3.2 Environmental Disciplines Scoped Out

3.2.1 Further information on the topics scoped out of the EIA in Table 1 is set out in the following sections.

Human Health

3.2.2 The proposed development will not result in significant effects on human health from noise impacts, air quality emissions, or access to open space / recreation facilities. Further, the PV development will not impact any social or healthcare infrastructure such that an assessment would be required, therefore an assessment of human health will be scoped out of the ES.

Air Quality

3.2.3 Given the nature and scale of the development, significant effects on the environment with respect to air quality are unlikely. The site is not located within an AQMA and the nearest AQMA is approximately 1.2km north-west of the site. Standard mitigation measures to control dust impacts during construction would be outlined in a Construction Environmental Management Plan (CEMP) secured by planning conditions. It is unlikely that construction HGV movements will exceed 32 movements (i.e. 16 deliveries per day). This number falls well below the IEMA criteria[iv] which require undertaking a more detailed assessment. Once complete, maintenance vehicle movements will be limited to approximately 26 visits per year in light vehicles or vans, a very low number which would not result in significant effects. Decommissioning effects will be controlled through a Decommissioning Environmental Management Plan (DEMP) and like

construction, would not result in significant effects. Therefore, it is proposed to scope out the requirement for a detailed assessment of the impact of vehicle emissions associated with the development on air quality.

Noise and Vibration

3.2.4 Solar farms developments are not inherently noisy. A Noise assessment will be submitted with the planning application which will consider the existing acoustic environment at the nearby sensitive receptors and the potential for vibration during construction and decommissioning. Mitigation measures will be identified to minimise any noise and vibration impacts from the development on all nearby sensitive receptors including from noise and vibration associated with construction, operational and decommissioning road traffic. Due to the low levels of noise anticipated at the nearest noise sensitive receptors noise is not expected to result in a significant adverse effect during the construction, operation or any relevant decommissioning of the development. Construction noise and vibration will be controlled through the Control of Pollution Act 1974, which requires control of noise and vibration on construction sites to be undertaken in a manner which demonstrates best practicable means, along with other appropriate measures secured through conditions to the planning consent. As impacts of noise and vibration are not expected, and where they arise can be sufficiently mitigated, this topic is proposed to be scoped out of the ES.

Transport

3.2.5 The effects of a development on traffic flow is not a direct environmental consideration however the noise and air quality impacts of road traffic are environmental effects, and these have been addressed above. The proposed development involves limited traffic movements during the construction/decommissioning phases and very low vehicles movements associated with ongoing maintenance during the operational life of the solar farm. Construction/decommissioning traffic will be managed in accordance with measures set out in the CEMP/DEMP secured through conditions to the planning consent. Additionally, as the construction phase is anticipated to be a maximum 8-9 months, the effects would be temporary and negligible. It is therefore concluded that there will be no significant effects on transport and therefore this topic will be scoped out of the ES.

Climate Change

3.2.6 The proposed solar farm will not result in direct effects on climate change and will contribute to enabling prevention of further climate change effects through the generation of renewable electricity. The low levels of development related traffic are not anticipated to give rise to significant effects with respect to greenhouse gas emissions from vehicle exhausts. The development's resilience to the changing climate is also not a factor given the nature of the proposals. The site is not in a location which is at risk of disasters such as land instability or earthquakes and a Flood Consequences Assessment will be submitted in support of the planning application. Accordingly, an assessment of climate change and greenhouse gases, as a separate chapter, has been scoped out of the ES.

Ground Conditions and Land Contamination

3.2.7 The site comprises agricultural land and it is not expected to be contaminated. Historic landfill site mapping[v] shows a small area of historic landfill within the north of the site which was used between 1993 and 1996. There will be no development of solar PV arrays or associated infrastructure on or adjacent to this area. As such, it is proposed that an assessment of ground conditions and contaminated land is scoped out of the ES.

Wind Microclimate

3.2.8 Likely significant effects on the wind microclimate are not anticipated given that the PV arrays will be no more than 3m above the ground and not in a location with public access preventing members of the public accessing outdoor amenity space. This topic will be scoped out of the ES.

Daylight, Sunlight and Overshadowing

3.2.9 The scale and massing of the proposed development will not cause changes to daylight or sunlight availability or cause overshadowing of residents or amenity space. It is therefore proposed to scope this topic out of the ES. In addition, a Glint and Glare Assessment will be prepared and submitted with the planning application.

Water Resources and Flood Risk

3.2.10 According to the Natural Resources Wales Flood Map for Planning[vi], the site is located entirely within Flood Zone A which is considered to be at little to no risk of fluvial or coastal tidal flooding. The Flood Risk Assessment Map[vii] shows small areas at high risk of flooding from rivers and surface water in the north of the site, concentrated along a small stream. Given that the site is at very low risk of flooding, water resources and flood risk is proposed to be scoped out of the ES. A detailed Flood Consequences Assessment will be submitted in support of the planning application.

Waste

3.2.11 The development will not produce significant amounts of waste to the extent that the creation or disposal of which will give rise to significant effects on the environment. A CEMP to be secured by a planning condition will include the mitigation measures to be implemented during the construction phase to minimise waste and ensure that it is stored, managed, collected and disposed of appropriately. There will be limited volumes of waste generated during the operational phase. Waste generated during decommissioning will be managed and disposed of in accordance with best practice guidance and legislation in force at the time.

External Lighting

3.2.12 During the construction phase, temporary and moveable lighting columns will be operated in accordance with the relevant best practice guidance, including with regard to any sensitive ecology, and limited to daylight working hours, where possible.

3.2.13 For the operational phase, any lighting within the development would be limited to motion activated downward facing security lighting on the substations and operational lighting would be installed for emergency purposes only. The site will not be permanently lit. On this basis, the development is not anticipated to produce a significant lighting impact on the existing character of the night-sky. Therefore, it is proposed to scope this topic out of the ES.

Major Accidents and Disasters

3.2.14 There is no definition of “major accidents or disasters” provided in the EIA Regulations; however, the IEMA Quality Mark Article on ‘Assessing Risks of Major Accidents/ Disasters in EIA’[viii] provides the following definition: ‘*man-made and natural risks which are considered to be likely, and are anticipated to result in substantial harm that the normal functioning of the project is unable to cope with/rectify i.e. a significant effect*.’

3.2.15 A Flood Consequences Assessment will be prepared and submitted in support of the planning application. During the construction and decommissioning phases, the contractor(s) will implement measures in accordance with Health and Safety legislation, and best practice, to minimise the risk of accidents. All such measures will form part of the CEMP to be secured by planning conditions. Therefore, likely significant effects in respect of accidents on-site during the construction, operation and decommissioning phases are not anticipated. In light of this, a separate topic chapter on major accidents and disasters is proposed to be scoped out of the ES.

3.2.16 According to the National Mineral Resource Map of Wales from NERC Open Research Archive[ix], the site is located in a Carboniferous Limestone Safeguarded Area. According to Policy SP6 of the Pembrokeshire Local Plan, the development must reserve the hard rock and safeguard this resource. In line with Policy GN.22, the new development must not affect future use of the mineral reserve.

3.3 Environmental Disciplines Scoped In

3.3.1 For each of the topics scoped into the assessment, further information on the details to be included in the assessment and the methodology to be employed are set out in the following sections.

4 Historic Environment

4.1.1 An assessment will be undertaken of the likely significant effects of the proposed solar farm development upon the historic environment (archaeological remains, built heritage and historic landscape).

4.2 Baseline

Archaeological Remains

4.2.1 There are no nationally significant archaeological remains (Scheduled Monuments) recorded within site. Scheduled Monuments within 2km of the site comprise the Bishop's Palace, Lamphey Scheduled Monument located approximately 990m north-east of the site; various sections of Pembroke Town Wall all over 1km to the north-west of the site; Pembroke Castle located approximately 1.8km north-west of the site; a medieval building at Kingston Farm, approximately 585m south-west of the site and the Kingston Burial Chamber which is approximately 1km south-west.

4.2.2 There are several non-designated historic assets recorded within the site including a medieval or post-medieval pillow mound (artificial rabbit warren) mapped by the Royal Commission on the Ancient and Historical Monuments of Wales from aerial photographs; and several findspots including a prehistoric stone axe and a medieval coin which indicate activity during these periods within the site. Within the surrounding landscape there is evidence of prehistoric activity including funerary/ ritual activity and a defended Iron Age settlement. The site is located between Llandyfai/ Lamphey and Penfro/ Pembroke which during the medieval period was open fields and consisted of numerous smaller strip fields. To the north-east of the site are ruins of the Bishops Palace. The site appears to have remained in agricultural use throughout the post-medieval period and through to the present day.

Built Heritage

4.2.3 One Listed Building is found within the site boundary (Alleston Farmhouse, Grade II Listed building). The nearest Conservation Area to the site is Lamphey Conservation Area, which is located approximately 450m east of the site, with the Portclew Conservation Area located approximately 650m south-east of the site and the Pembroke Conservation Area located approximately 985m north-west of the site.

4.2.4 There are numerous Listed Buildings within 2 km of the site including clusters in Lamphey and Pembroke. The nearest Listed Buildings to the site are as follows:

- Medieval Building at Kingston Farm, unclassified, approximately 1.2km south-west of the site;
- Outbuilding range at Kingston Farm to SE of old farmhouses, Grade II* Listed Building, approximately 1.2km south-west of the site;
- A cluster of Listed Buildings in Lamphey, beyond the railway line and approximately 550m east of the site; and
- Lamphey Bishop's Palace & Lamphey Court, Grade II* Listed Building, approximately 900m north-east of the site.

4.2.5 A Heritage Note has been produced as an initial appraisal to identify the potential sensitivity of Alleston Farmhouse, in line with Cadw guidance and based off historic mapping and observations during a site visit in June 2023. It concludes that Alleston Farmhouse would be sensitive to the proposed development given the historic association and the intervisibility between the site and historic asset. The development has the potential to change the historic agricultural landscape character, and discussion with the relevant stakeholders will be required to discuss and agree the most suitable embedded mitigation required to minimise or mitigate harm in order to prevent significant adverse effects.

Historic Landscape

4.2.6 There are no Registered Historic Parks and Gardens or other designated historic landscapes within the site. There are three Registered Historic Parks and Gardens within 2km of the site. These include the Lamphey and Bishop's Palace & Lamphey Court, a Grade II* Registered Historic Park and Garden, located approximately 150m north of the site. The other two Registered Historic Park and Gardens are the Grade II listed 111 Main Street in Pembroke, approximately 1km north-west of the site and the Grade II* listed Monkton Old Hall and Vicarage which is also in Pembroke and is 1.85km north-west of the Site.

4.2.7 The Milford Haven Waterway is a Registered Historic Landscape which is 1km northwest of the site and is considered to be of outstanding value.

4.2.8 No Historic Landscape Characterisation has taken place for the area covering the site, but some information is provided by the Dyfed Archaeological Trust via the Archwilio website. In summary the prevailing landscape character is of a post-medieval fieldscape with dispersed farmsteads and small nucleated settlements which has changed little since the publication of the First Edition Ordinance Survey Map in the late nineteenth century. Many of the field boundaries within the are shown on the 1839 Tithe Map and may therefore constitute 'important' hedgerows under the Hedgerow Regulations (1997).

4.3 Approach

4.3.1 A Historic Environment Desk-Based Assessment (HEDBA) will form part of the ES to understand the historic environment baseline. The HEDBA will be prepared in accordance with the latest standards and guidance published by the Chartered Institute for Archaeologists (CIfA) and Cadw. The HEDBA will:

- assess the potential for historic assets (archaeological remains, built heritage and historic landscape) to survive within the site including an assessment of previous impacts;
- assess the significance of the known or predicted historic assets considering their archaeological, architectural, artistic and historic interest and the contribution that setting makes towards those interests; and
- assess whether and to what degree the site contributes to the setting of the historic assets.

4.3.2 The HEDBA will be a key document used for consultation with heritage stakeholders to discuss the requirement and scope for further assessment and evaluation required to inform the Historic Environment ES Chapter and mitigation through further investigation and recording or through design which is deemed necessary to mitigate or offset significant adverse effects.

4.3.3 The Historic Environment ES Chapter will be prepared in accordance with standards and guidance prepared by CIfA, Cadw and the Institute of Environmental Management and Assessment (IEMA). It will include reference to field observations and primary and secondary sources which will have been presented within the HEDBA and any pre-determination field surveys carried out. It will set out the likely significant effects which could arise from:

- Direct physical impacts upon buried or extant archaeological remains and historic landscape features;
- Indirect impacts to the significance of historic environment features through changes to their setting.

4.3.4 Any mitigation measures deemed necessary to mitigate or off-set any significant adverse effects will be set out in the ES chapter and will take account of the available baseline information and discussions with stakeholders including PCC's Archaeological Advisor, Dyfed Archaeological Trust and Cadw.

4.4 Summary

4.4.1 Table 4.1 summarises the receptors identified for inclusion in the assessment.

Table 4.1: Heritage

Receptor	Effects	Scoped In
Archaeological remains	▪ Direct impacts though loss or alteration to buried or extant archaeological remains ▪ Indirect impacts on archaeological remains through change to setting (visual, noise, experience)	✓
Built heritage	▪ Indirect impacts on built heritage receptors through change to setting (visual, noise, experience)	✓
Historic Landscape (including historic hedgerows)	▪ Direct impacts through loss or alteration to extant historic landscape features ▪ Indirect and direct impacts through loss or alteration to the historic landscape	✓

5 Landscape and Visual Effects

5.1.1 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to landscape and visual effects.

5.2 Baseline

5.2.1 Figures 7.1 to 7.11 accompanying this section set out the landscape and visual baseline information currently obtained in preparation for the assessment and to be agreed with the PCC.

5.2.2 In summary, the Pembrokeshire Coast National Park is located approximately 300m east of the site, beyond the B4584. As shown in Figure 7.3: Landscape Character Plan, the site is located within National Landscape Character Area (NLCA) 48 and Local Pembrokeshire Landscape Character Area (LCA) 25 Hundleton and Lamphey. As shown in Figures 7.6 to 7.11 (Land Map Plans) the site is also located within various Landmap Aspect Areas.

5.2.3 Figure 7.1: Site Context Plan shows potential visual receptors. As shown by Figure 7.2: Topography Plan and 7.5: Zone of Theoretical Visibility (ZTV) the site's extent of visibility within the surrounding landscape is limited by the ridgelines located to the north and south of the site.

5.3 Approach

5.3.1 The assessment will be undertaken in accordance with the Landscape Institute and Institute of Environmental Management and Assessment, 'Guidelines for Landscape and Visual Impact Assessment' (Third Edition, 2013).

5.3.2 In accordance with current good practice, the assessment will address landscape and visual effects as separate issues. Landscape effects relate to both the effect on the physical features of the site, and on the landscape character of the site and surrounding area. Visual effects relate to typical views of the proposed development from the surrounding area and the visual amenity of receptors.

5.3.3 Baseline information for the study area has and will continue to be collated, this includes relevant environmental and planning designations and policy, a review of published sources of landscape character, field appraisal of existing landscape character and features, photographs from potential representative viewpoints and any other relevant information.

5.3.4 To date a Zone of Theoretical Visibility (ZTV) has been prepared (see Figure 7.4: ZTV) and an initial field appraisal has been carried out.

5.3.5 Figure 7.11: Photoviewpoint Location Plan shows the location of potential representative viewpoint locations to be agreed with PCC.

5.3.6 The landscape and visual assessment will:

- Assess the sensitivity of the landscape and visual receptors (the receiving environment) and their susceptibility to the proposals;
- Identify and assess the magnitude of landscape and visual impacts;
- Assess the level and significance of landscape and visual effects; and
- Identify requirements for any mitigation measures and assess residual effects.

5.3.7 The assessment of likely effects is reached using a structured methodology for defining sensitivity, magnitude and significance and will be combined with professional judgement.

5.3.8 Assessments will be made at the baseline year 2023, during construction; on completion – in the winter without the benefit of effective new planting; 15 years thereafter, in summer, with the benefit of effective planting mitigation; and 40 years thereafter for decommissioning.

5.4 Summary

5.4.1 Table 5.1 summarises the receptors identified for inclusion in the assessment.

Table 5.1: Landscape and Visual Effects

Receptor	Effects	Scoped In
Typical views from publicly accessible locations, including roads, cycle routes, footpaths and public open spaces	■ Visual effects on users	✓
Views from residential properties	■ Visual effects on occupants	✓
Landscape features, including existing vegetation	■ Landscape effects on the landscape resource	✓
Landscape Designations	■ Effects on the Pembrokeshire Coast National Park and its associated Landscape Character Areas ■ Effects on Registered Parks and Gardens	✓
Landscape Character	■ Effects on Landscape Character Areas and Landmap Aspect Areas	✓

6 Agricultural Land and Soils

6.1.1 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to agricultural land and soils.

6.2 Baseline

6.2.1 An Agricultural Land Classification (ALC) grades soils by the quality where Grade 1 is Best and Most Versatile (BMV) Agricultural Land and Grade 5 is poorest quality; in the case of loss of agricultural land, a loss of less than 20 hectares of Grades 1, 2 or 3a is not considered significant. The site extends to approximately 100 ha and provisional ALC mapping[x] shows the site as containing Grade 2, 3a and 3b agricultural land.

6.3 Approach

6.3.1 There is a well-established methodology for classifying the quality of agricultural land, set out in guidance issued by the then Ministry of Agriculture, Fisheries and Food (MAFF) in 1988 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. Grade 1 land is “excellent quality” agricultural land with very minor or no limitations to agricultural use, and Grade 5 is “very poor quality” land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (“good quality” land) and Subgrade 3b (“moderate quality” land). The best and most versatile agricultural land is defined as Grades 1, 2 and 3a.

6.3.2 The assessment methodology is based on determining the sensitivity and magnitude of change on the relevant receptors of agricultural land and soil resources. The sensitivity of the agricultural land and soil receptors is determined as follows:

Table 6.1: Sensitivity of Agricultural Land

Sensitivity	ALC/biomass production*	Sensitivity of topsoil and subsoil**	Agricultural businesses
High	Land of ALC Grades 1, 2 and 3a	High clay soils where the field capacity days (‘FCD’)*** is >150, or medium textured soils where the FCD is >225	-
Medium	Land of ALC Subgrade 3b	High clay soils where the FCD is <150, or medium textured soils where the FCD is <225	Full-time businesses, and farm businesses where the location of land is particularly important, such as dairy farms.
Low	Land of ALC Grades 4 and 5	Soils with a high sand fraction where the FCD is <225	Part-time farms or farms with low sensitivity to change, e.g. arable land held on short-term arrangements.
Negligible	Land of ALC Grades 4 and 5 with only indirect links	-	Agricultural land that is not farmed or does not form part of a farm business.

* IEMA Guidance Table 2

** IEMA Guidance Table 4. For the full list. refer to the IEMA Guidance Table 4

*** Field Capacity Days i.e. days when the soil is replete with water

6.3.3 The magnitude of change is determined using the following criteria:

Table 6.2: Magnitude of Change

Magnitude of Effect	Definition	
	Effects on Agricultural Land (soils)	**Effects on Farm Businesses (agricultural businesses)**
Major	The proposed development would directly lead to the loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of over 20 hectares ('ha') of soil-related features; or potential for improvement in one or more soil functions over an area of more than 20 ha.	The impact of the proposed development would render a full-time agricultural business non-viable.
Moderate	The proposed development would directly lead to the loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of between 5 ha and 20 ha of soil-related features; or potential for improvement in one or more soil functions over an area of between 5 ha and 20 ha.	The impact of the proposed development would require significant changes in the day-to-day management of a full-time agricultural business, or closure of a part-time agricultural business. Loss of buildings or impacts on drainage or water supplies affecting the potential for at least 5 ha of adjacent land to be farmed fully.
Minor	The proposed development would directly lead to loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of less than 5 ha of soil-related functions; or potential for improvement in one or more soil functions over an area of less than 5 ha.	Land take would require only minor changes in the day-to-day management/structure of a full-time agricultural business or land take would have a significant effect on a part-time business. Minor effects, direct or indirect, on surrounding land beyond the boundary of the Site.
Negligible	No discernible loss or reduction or improvement of soil functions or volumes.	Land take would require only negligible changes in the day-to-day management of a full-time agricultural business or land take would require only minor changes to a part-time farm business.

6.3.4 The overall significance of effect is then determined according to the standard significance criteria, as detailed below.

Table 6.3: Matrix for Determining Significance

Sensitivity	Magnitude			
	Major	**Moderate**	**Minor**	**Negligible**
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Minor	Negligible
Low	Minor	Minor	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

6.4 Summary

6.4.1 Table 6.4 summarises the receptors identified for inclusion in the assessment.

Table 6.4: Agricultural Land and Soils

Receptor	Effects	Scoped In
Agricultural land, including that of BMV quality	▪ Temporary loss of approximately 100 ha of agricultural land	✓
Soil Resources	▪ Loss of or damage to soil resources	✓
Farm businesses	▪ Loss of or effect on farm businesses	✓

7 Biodiversity

7.1.1 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to biodiversity.

7.2 Baseline

Designated Sites

7.2.1 The site is not subject to any statutory designations. However, a number of statutory designated sites are present within the local area. The closest of local importance are Freshwater East LNR, situated approximately 1.4km south-east and Pembroke Mill Ponds LNR, approximately 1.5km north-west of the site. The closest of national importance is Freshwater East Cliffs to Skrinkle Haven SSSI, located approximately 1.4km south-east. In addition, Stackpole Quay - Trewent Point SSSI is located approximately 1.5km south of the site and Milford Haven Waterway SSSI is located approximately 1.9km north of the site.

7.2.2 The nearest statutory ecological designations of international importance are Pembrokeshire Marine Special Area of Conservation (SAC), approximately 1.4km south-east and Bristol Channel Approaches SAC, approximately 1.5km south-east of the site. In addition, the following are internationally designated sites within 10km of the site:

- Pembrokeshire Bat Sites and Bosherton Lakes SAC, 3.8km south-west and comprising 5 SSSIs within 5km;
- Skomer, Skokholm and the Seas of Pembrokshire Special Protection Area (SPA), 4km south;
- Limestone Coast of South West Wales SAC, 4.2km south-west; and
- Castlemartin Coast SPA, 4.2km south-west.

7.2.3 An area of Ancient Woodland Site of Unknown Category is present immediately adjacent to the redline boundary, west of the Alleston Farm buildings, which is classified as priority habitat.

7.2.4 A Preliminary Ecological Appraisal (PEA) will be undertaken on the site to inform the biodiversity assessment baseline conditions.

Habitats

7.2.5 The site comprises an intensively managed arable farm, comprising arable fields with generally narrow uncultivated margins and grazing pasture. The fields are bounded by robust native hedgerows and mature woodland, with a pond and stream recorded. All boundary features are expected to be retained and protected as part of the proposals.

Protected / Priority Species

7.2.6 Works undertaken to-date on the site include bat activity surveys (static detectors only) and breeding bird scoping surveys. The bat activity surveys are ongoing and a further two breeding bird surveys will be undertaken in spring 2024. Between two and four wintering bird surveys are also proposed for winter 2023-24.

7.2.7 The following has been ascertained from survey effort to date:

- The field boundary habitats in the form of hedgerows and woodland are likely to be used by a range of foraging / commuting bats. The arable fields comprising the majority of the site are unlikely to be of value for bats, however, while the grazing pasture maybe be utilised by some species. The proposals are unlikely to adversely affect commuting or foraging bats as the hedgerows and

woodland will be retained, and the arable fields will be converted to grassland (providing likely enhanced foraging habitat for bats in these areas). The loss of grazing pasture will likely result in a degradation in the quality of foraging habitat in these areas for bats.

- The hedgerows and adjacent mature woodland are suitable for dormouse, which is recorded sparsely in Pembrokeshire (although may be under recorded), and the presence of this species cannot be ruled out. The field boundaries are expected to be retained as part of the proposals, and thus dormice (if present) will be unaffected.
- The site (as with most of the surrounding landscape) is likely host to populations of farmland birds, although further survey will be undertaken to fully inform impacts.
- The site lies outside of the known range for great crested newt, indicating the likely absence of the species from on-site and nearby waterbodies.
- The site has some suitability for widespread reptile and amphibian species, such as slow worm, common lizard, grass snake and toad, mostly limited to the field margins and boundary features. The suitable habitat for these species is expected to largely remain unaffected by the development.
- The site is suitable for brown hare, although records are sparse in the local area and have not been recorded on site during surveys undertaken to date. Hedgehogs and harvest mouse have not been seen during site visits but can be assumed to be present at least at low density within the hedgerow, woodland and field margin habitats, with records of both species present in the desk study data.
- No badger setts have been identified within the site to date, however, evidence of badger using the site has been recorded and multiple records were returned within the desk study.
- Otter and water vole may be present within the wider area, although nearby records are lacking for the latter, and the watercourse adjacent to south of the site may support these species.
- The habitats at the site are unlikely to support notable invertebrate communities due to the intensive nature of the agricultural use. The hedgerows, waterbodies and woodland, which are expected to be retained as part of the proposals, are the most valuable habitats with respect to invertebrates.
- Although none were recorded on site, invasive non-native species including Japanese knotweed, Himalayan balsam and montbretia, are known within the wider area and should be considered within the impact assessment.

7.2.8 Consultation with PCC identified there is no requirement for dormice surveys on the site where impacts on the species can be avoided through the retention and protection of suitable habitat for the species throughout construction and operational phases. It has also been agreed that the bat activity surveys would not include walked transects under the same assumption.

7.3 Approach

7.3.1 A qualitative and quantitative ecological impact assessment will be undertaken, following the principles set out in the Chartered Institute of Ecology and Environmental Management ('CIEEM') publication 'Guidelines for Ecological Impact Assessment in the United Kingdom', and will include an assessment of cumulative effects, details of appropriate mitigation measures and details of any residual effects. The assessment will also be informed by CIEEM's Ecological Impact Assessment Checklist (2019) developed in association with the Association of Local Government Ecologists. The two best practice guidance documents comprise the 'CIEEM Guidelines'. The CIEEM Guidelines advocate an approach to the assessment of the importance of ecological features using a geographical framework, where the importance or potential importance of an ecological resource or feature should be determined within a defined geographical context. The guidelines suggest a range of geographical parameters and the ones chosen for this assessment comprise:

- International (e.g. Europe);

- National (e.g. Wales);
- Regional (e.g. south-west of Wales region);
- County (e.g. Pembrokeshire);
- Local (e.g. PCC); and
- Site, or Negligible (i.e. insignificant in the context of this assessment).

7.3.2 The assigning of a geographical framework will be based on available guidance and information, professional judgement and peer review. Only habitats and species considered to be of at least local importance will be assessed within the assessment. Features of negligible importance will be scoped out. The only exception to this is where a habitat or species has been afforded a level of legal protection that requires it to be considered in the assessment of likely significant effects, irrespective of that feature's assumed ecological importance (e.g., badger). This will be made clear whenever this occurs.

7.3.3 What sets an EIA assessment apart from a standalone technical assessment is the need to identify which, if any, of the identified effects are 'significant', as required by the EIA Regulations. A clear explanation of the approach to identifying 'significant' effects for this topic should be confirmed here.

7.3.4 Following the methodology described by CIEEM, an ecologically significant effect is defined as "an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local".

7.3.5 In line with CIEEM guidance, significance of residual effects will be described as being 'significant' or 'not significant'. As CIEEM guidance discourages the use of the matrix approaches to assign categories (e.g. minor, moderate, major) to residual effects, 'significant' residual effects will be qualified with reference to the appropriate geographical scale (see above) at which the effect is considered to be felt.

7.3.6 Consideration will be given to the following broad categories of potentially significant adverse effects:

- Disturbance of protected species (visual, noise, vibration);
- Hydrology and pollution (dust generation, pollution of aquatic habitats);
- Lighting;
- Damage, destruction, or degradation of habitats (permanent and temporary);
- Loss of habitat for relevant identified species;
- Killing or injury of protected species; and
- Permanent loss of breeding and wintering habitat for farmland birds, including for species associated with designated sites, where relevant.

7.3.7 As a result of the development, management of the site will change from intensively-managed arable farmland and grazing pasture to a more diverse mixture of ecologically valuable habitats managed at lower intensity. It is therefore anticipated that the development will result in potentially significant beneficial effects for at least some important species and species groups. Consideration will also be given to the following broad categories of potentially significant beneficial effects during the construction and operational phases:

- Disturbance – reduction in agricultural management of sites, particularly arable land resulting in benefits to soils, flora and fauna;
- Hydrology and pollution – reduction in agricultural inputs (herbicides and pesticides) as well as releases in sediments during ploughing events. Stable soils may also improve water sequestration in local environment;

- Connectivity – provision of buffer zones and management of boundary features allows for improved stable habitat corridors through the site improving connectivity;
- Killing and Injury of Species – reduced as a consequence of lower levels of management, particularly associated with ploughing and harvesting which may lead to localised increases in certain species populations;
- Opportunities to create specific habitats designed specifically for locally important species, such as ground nesting or wintering birds, foraging bats and invertebrates;
- Provision of habitat features specifically targeted towards breeding and shelter, including habitat boxes, hibernacula, habitat piles and invertebrate towers.

7.3.8 The net change in habitat value resulting from the development can be assessed within the ecological supporting information via a biodiversity net gain calculation using the Defra metric v4.0, although, as this is not expressly required in Wales, full habitat condition assessments have not been undertaken.

7.3.9 Considering the anticipated lifespan of the proposed development, the accurate prediction of decommissioning effects is challenging and can only be informed by the legal, policy and conservation constraints and priorities at the time of application. Potential impacts associated with the decommissioning phase include:

- Habitat loss or gain; It is assumed that the fields will be able to be returned to agricultural use upon decommissioning. This habitat change will therefore need to be considered, including impacts on any newly created habitats.
- Species mortality; as per the construction phase, risks for direct harm to species should be discussed.
- Fragmentation; while the removal of development infrastructure as a reversal of the construction phase is unlikely to result in habitat fragmentation, the reversion to an intensive arable landscape may impact the habitats and species which have arisen as a result of the proposed development.
- Disturbance; impacts are likely to be no greater the construction phase.
- Habitat degradation; pollution and habitat degradation risks are likely to be the same as the construction phase.

7.3.10 The assessment of the development's likely significant effects upon important ecological features will only consider potential effects that are relevant to the feature in question, but the above categories summarise the broad effect types that have are proposed to be scoped in and will be considered further.

7.3.11 The potential effects during construction, operation and decommissioning, and whether an ecological feature is therefore scoped in or scoped out of the assessment is informed by the current ecological baseline knowledge. Pending the results of further surveys, it is possible that some of these features may be excluded from (or potentially others added to) further assessment during the preparation of the ES chapter. Where the scope of the assessment is adjusted or refined, a clear rationale will be provided for doing so.

7.4 Summary

7.4.1 Table 7.1 summarises the receptors identified for inclusion in the assessment.

Table 7.1: Biodiversity Effects

Receptor	Effects	Scoped In
Ecological Designations	▪ Habitat Loss; ▪ Disturbance (visual, noise); ▪ Hydrology and pollution (dust generation, pollution of aquatic habitats); ▪ Loss of Species; ▪ Lighting; ▪ Construction site hazards; ▪ Beneficial Effects	✓
Habitats		✓
Faunal species		✓

8 Cumulative Effects and Consultation

8.1.1 The ES will consider the potential for likely significant effects on the environment resulting from committed developments in the area. PPG identifies that:

> *"…There are occasions where other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development…"*

8.1.2 Cumulative effects (inter-project) are defined in paragraph 5(e) of Schedule 4 to the EIA Regulations as:

> *"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 resources."*

8.1.3 The ES will consider the potential for likely significant effects on the environment resulting from committed developments. Table 8.1 below details the scheme identified within 2km of the site to be considered within each ES chapter. Each technical ES chapter will include a dedicated section for the assessment of inter-project cumulative effects.

Table 8.1 Cumulative Schemes

Site Address and Application Reference Number	Description	Current Status	Distance to from site
Land East of Mylett's Hill, Golden Hill, Pembroke, Pembrokeshire Application Reference: 14/0129/PA	New solar park and associated works	Operational	1.6km north of the site

8.2 Consultation

8.2.1 Public consultation will be undertaken during the preparation of the planning application. The feedback received through the consultation will be summarised in the ES and written up in full in the Statement of Community Involvement submitted in support of the planning application.

8.2.2 The following statutory and other consultees will be consulted through the EIA process:

- Natural Resources Wales;
- Cadw;
- Welsh Government Soil Policy & Agricultural Land Use Planning Unit
- PCC (various departments);
- PCC Archaeological Advisor;
- Cadw; and
- Any other stakeholder than PCC nominates.

8.2.3 Public consultation will be undertaken during the preparation of the planning application. The feedback received through the consultation will be summarised in the ES and written up in full in the Statement of Community Involvement submitted in support of the planning application.

9 Environmental Statement Structure

9.1.1 The ES will contain three main volumes as set out in Table 9.1 below.

Table 9.1: Environmental Statement Structure

Volume 1: ES Main Text and Figures		
Chapter No.	Chapter Title	Description
1	Introduction	Introduction to the ES, EIA requirements, details of project team, ES organisation and availability.
2	EIA Methodology	Methods used to prepare each chapter, description of ES structure and content, generic significance criteria, scoping and consultation.
3	Site and Development Description	Site description and details of the proposed development.
4	Alternatives and Design Evolution	Outline of the main alternatives considered by the Applicants.
5	Construction Methodology and Phasing	Details of anticipated programme for development and construction methodology.
6	Historic Environment	Assessments of effects relating to heritage.
7	Landscape and Visual Effects	Assessments of effects relating to landscape and views.
8	Agricultural Land and Soils	Assessment of the effects of the proposed development on agricultural land and soils.
9	Biodiversity	Assessments of effects relating to biodiversity.
10	Summary and Residual Effects	Summary of the residual and interactive effects of the proposed development.
Volume 2		
Technical Appendices		Technical data and reports to support the chapters in Volume 1.
Standalone Document		
Non-Technical Summary		Summary of the ES in non-technical language.

Introduction

9.1.2 This chapter will provide background to the EIA, describe the structure of the ES and identify the project team.

EIA Methodology

9.1.3 This chapter will set out the methodology used in the EIA, state the assumptions applicable to all disciplines, summarise the EIA Scoping process undertaken and summarise the public consultation process. Bespoke methodologies, limitations and assumptions will be contained in the technical chapters of the ES where required.

9.1.4 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. Generic criteria to be used in carrying out this process are detailed below. Some technical chapters will use discipline-specific criteria with their own terms for magnitude, sensitivity and significance. This will be explained in the relevant chapter.

Prediction of Impact Magnitude

9.1.5 The methodology for determining the scale or magnitude of impact is set out below.

Table 9.2: Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for assessing impact
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

9.1.6 The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out below.

Table 9.3: Methodology for Determining Sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Assessment of Effect Significance

9.1.7 Effect significance will be calculated using the matrix in Table 9.4. This illustrates the interaction between impact magnitude and receptor sensitivity.

Table 9.4: Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Site and Development Description

9.1.8 This chapter will describe the setting of the site and the existing conditions on the site, as well as explaining the proposed development and setting out the development parameters. The parameter plans will be included as figures to the chapter.

Alternatives

9.1.9 This chapter would describe the evolution of the proposed development based on environmental constraints and discuss any reasonable alternatives considered by the Applicant, with reasons for the choice made.

Construction Methodology and Phasing

9.1.10 This chapter will outline the anticipated construction programme, phasing and methodology and explain the assumptions made. This chapter will form the basis of the construction phase assumptions documented in each of the technical chapters of the ES.

Technical Assessments

9.1.11 Each ES chapter will follow the headings set out below to ensure the final document is transparent, consistent and accessible.

- Introduction;
- Assessment Methodology;
- Baseline Conditions;
- Likely Significant Effects;
- Mitigation Measures;
- Residual Effects;
- Cumulative Effects; and
- Summary.

9.1.12 Each chapter sub-heading is explained in further detail below.

Table 10.5: Technical Chapter Format and Content

Sub-Heading	Content
Introduction	This section will introduce the assessment discipline and the purpose for which it is being undertaken.
Planning Policy Context	This section will include a summary of national, regional and local policies of relevance to the environmental discipline and assessment. Where applicable, relevant legislation will also be summarised.
Assessment Methodology	This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria will also be discussed. It will also outline any difficulties encountered in compiling the required information.
Baseline Conditions	This will include a description of the environment as it is currently (2023) and as it is expected to change given the project were not to proceed (i.e. 'future baseline scenario). The method used to obtain baseline information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted.
Likely Significant Effects	This section will identify the likely significant effects on the environment resulting from the construction and operational phases of development.
Mitigation Measures	Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of

Sub-Heading	Content
	the project, compensation and the provision of alternative solutions (including alternative technology) as well as pollution control, where appropriate. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions. Clear details of when and how the mitigation measures will be carried out will be given. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable subsequent adjustment of mitigation measures, as necessary. The opportunity for enhancement measures will also be considered, where appropriate. Information will be included on the mechanism by which the mitigation will be secured (e.g. by planning condition) with outline arrangements for monitoring and responsibilities for doing so, where necessary.
Residual Effects	The residual effects, i.e. the effects of the proposed development assuming implementation of proposed mitigation, will be determined. The residual effects represent the overall likely significant effect of the proposed development on the environment having taken account of practicable/available mitigation measures.
Cumulative Effects	The cumulative effects of the proposed development and the identified committed developments will be assessed.
Summary	A summary of the assessment and conclusions will be provided at the end of each technical chapter.

Summary and Residual Effects

9.1.13 The residual effects of the proposed development will be summarised in one table at the end of the ES setting out the overall beneficial and adverse effects of the proposed development.

9.1.14 Interactive effects (the interaction of effects relating to different technical disciplines on one receptor or group of receptors) will be summarised here, if applicable. Transboundary effects would not be likely.

REFERENCES

[i] Planning (Wales) Act 2015 Available at: https://www.legislation.gov.uk/anaw/2015/4/contents/enacted

[ii] The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (2017 No. 567 (W.136))

[iii] Available at: https://flood-risk-maps.naturalresources.wales/?locale=en

[iv] Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement

[v] https://datamap.gov.wales/maps/new?layer=inspire-nrw:NRW_Historic_Landfill_Sites#/

[vi] https://naturalresourceswales.gov.uk/flooding/flood-map-for-planning-development-advice-map/?lang=en

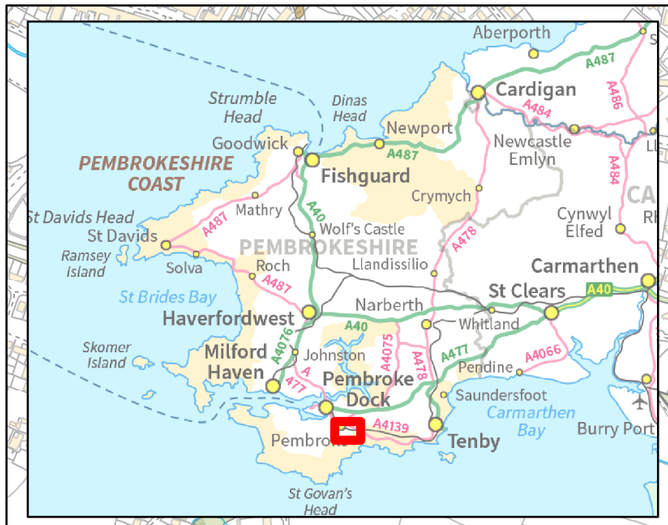
[vii] https://naturalresourceswales.gov.uk/flooding/check-your-flood-risk-on-a-map-flood-risk-assessment-wales-map/?lang=en

[viii] Available at: https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer#:~:text=What%20is%20a%20Major%20Accidents,major%20accidents%20and%2For%20disasters

[ix] Available at: https://nora.nerc.ac.uk/id/eprint/20135/1/SW_Wales_FINAL.pdf

[x] https://www.gov.wales/agricultural-land-classification-predictive-map

Figure 1.1 – Site Location Plan



Statkraft

N

Site Boundary

Alleston Solar Farm

Project Name: Alleston

Page Centre: 200,402 200,083		Revision no. R2
Drawn By: KT	Checked By: CBD	Date: 07/11/2023

Figure 7.1 – Site Context Plan

The scaling of this drawing cannot be assured

Revision		Date	Drn	Ckd
A	Redline Revision	06.11.23	EJ	FS

N

LEGEND

- Site Boundary
- Existing Woodlands, Copses and Tree Belts ^
- Existing Scrub ^
- Existing Water Courses and Features ^
- Contours/Spot Heights (Metres AOD) ^
- Public Rights of Way *
- Long Distance Walks ^
- Sustrans Cycle Route +
- Listed Buildings ~
- Conservation Area ~
- Registered Parks and Gardens ~
- Scheduled Monument ~
- National Parks #
- Sites of Special Scientific Interest #
- Special Area of Conservation #
- Ancient Woodland #
- Local Nature Reserve #

Sources:
^ OS Mapping
# Natural Resource Wales GIS Data Set
~ Cadw GIS Database
* Pembrokeshire County Council GIS Data
+ Sustrans National Cycle Network GIS Data

Data collated for constraints and analysis mapping is based on publicly available sources at the time of preparation inserted using the British National Grid and may itself not be accurate. Stantec shall not be liable for the accuracy of data derived from external sources.

FIGURE 7.1

Project
Alleston Clean Energy

Drawing Title
Site Context Plan

Date	Scale	Drawn by	Check by
03.10.2023	1:10,000 @A1 1:20,000 @A3	GS	FS
Project No	Drawing No		Revision
33100437	LN-LP-01		A

0 100 200 400m

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Figure 7.2 – Topographical Features Plan