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**HABITAT REGULATIONS
NO SIGNIFICANT EFFECTS REPORT**

PHOENIX SOLAR PARK

Prepared for: Wessex Solar Energy

Date: December 2023

CONTENTS

1.	INTRODUCTION	2
2.	IDENTIFICATION OF RELEVANT EUROPEAN DESIGNATED SITES.....	5
3.	POTENTIAL IMPACTS FROM THE PROPOSED DEVELOPMENT	13
4.	INITIAL SCREENING OPINION WITHOUT MITIGATION CONSIDERED	11
5.	ASSESSMENT OF POTENTIAL IMPACTS WITH PROPOSED MITIGATION MEASURES INCORPORATED	13
6.	CONCLUSIONS AND RECOMMENDATIONS	14
7.	REFERENCES	15

1. INTRODUCTION

Background

- 1.1 SK Environmental Solutions Limited was commissioned to undertake an assessment to identify any likely significant effects of a proposed Phoenix solar park development, Pembroke, on European designated sites in accordance with the Habitat Regulations.

Relevant Legislation

- 1.2 Article 6(3) of the European Habitats Directive dealing with the conservation of European protected sites states that:

‘Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subject to assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.’

- 1.3 As the proposed development is not considered necessary to the management of the European sites for nature conservation purposes, yet has the potential to have a detrimental impact upon the special nature conservation interests of European designated sites, an assessment of the development is required under the terms of the above legislation.
- 1.4 European designated sites (the ‘Natura 2000 Network’) are considered to be of high importance for the conservation of species and natural habitats within Europe. The purpose of undertaking a Habitats Regulation Assessment (HRA) is to ensure that the protection of the integrity of European protected sites forms an integral part of the planning process at both a regional and local level.
- 1.5 The network of European designated sites includes:
- Special Protection Areas (SPAs);
 - Special Areas of Conservation (SACs); and
 - Ramsar sites.

- 1.6 Government guidance advises that potential SPAs (pSPA), candidate SACs (cSAC) and potential Ramsar (pRamsar) sites are also included in HRAs.
- 1.7 Habitats Regulation Assessments comprise a number of discrete stages, which include:
- Stage 1 - Screening
 - Stage 2 – Appropriate Assessment
 - Stage 3 – Assessment of Alternatives
 - Stage 4 – Assessment where no alternatives are available
- 1.8 In 2018, a change to case law as a result of recent decision by the Court of Justice of the European Union (“CJEU”) *People Over Wind and Sweetman v Coillte Teoranta* (C-323/17) means that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities during Habitat Regulations Assessment “Stage 1 - Screening”, when judging whether a proposed plan or project is likely to have a significant effect on the integrity of a European designated site.
- 1.9 In summary, this now means that where a potentially harmful impact on a European designated site has been identified and mitigation measures have been put forward, which are not an integral part of the development, these mitigation measures can only be considered as part of a formal “Stage 2 - Appropriate Assessment”.
- 1.10 With regard to the proposal being considered in this report, potentially harmful effects arising from the proposed development have been identified and mitigation measures have been proposed. This Assessment therefore constitutes Stage 2 – Appropriate Assessment.

Proposed Works to be Assessed

- 1.11 Wessex Solar Energy are proposing to construct a new solar park, with associated access and infrastructure. The Solar Park will be located approximately 0.7 kilometres (km) south east of Cosheston, and approximately 2.5 km north east of Pembroke. The proposed development site comprises eight fields (arable), which occupy approximately 34ha and will comprise the elements listed below:
- Access track approximately 865m in length;
 - Approximately 25,500 PhotoVoltaic (PV) Cells or Panels;
 - Control Building x 1 – 3m(w) x 7m(l) x 4m(h);

- Inverter cabins x 5 – 10.4m(l) x 2.6m(w) x 3.18(h)
- Perimeter deer fence 2.5m (h)

1.12 Following receipt of planning permission and award of construction contracts, it is anticipated that it could take as little as four months to construct the Solar Park.

1.13 Figure 1 (below) shows the location of the proposed solar park site.



Figure 1 – Site Location

2. IDENTIFICATION OF RELEVANT EUROPEAN DESIGNATED SITES

- 2.1 A screening assessment has been undertaken in order to determine which, if any of the European designated sites identified, have the potential to be deleteriously impacted by the proposed works.
- 2.2 The screening assessment considers:
- the location of any European designated sites located within 10km of the proposed works;
 - the likely possible sources of effect upon the identified European designated sites;
 - the possible pathways through which impacts could occur; and
 - the potential effects upon the sensitive receptors associated with the European designated sites which could potentially arise as a result of the proposed development.
- 2.3 During a search using the Multi-Agency Geographic Information for the Countryside (MAGIC) website, any European designated sites identified outside of the 10km radius have been screened out, as it is considered that the nature of the development and the potential pathways for negative effects mean it is unlikely that any sites over 10km from the proposed development will be impacted.
- 2.4 The following European designated sites were identified during a search using the MAGIC website:
- Pembrokeshire Marine / Sir Benfro Forol Special Area of Conservation (SAC);
 - Pembrokeshire Bat Sites / Bosherton Lakes Special Area of Conservation (SAC);
 - Yeberston Tops Special Area of Conservation (SAC);
 - Limestone Coast of South Wales Special Area of Conservation (SAC);
 - Bristol Channel Approaches Special Area of Conservation (SAC);
 - Camarthen Bay and Estuaries Special Area of Conservation (SAC);
 - West Wales Marine Special Area of Conservation (SAC);
 - Skolkholm and Seas Off Pembrokeshire Special Protection Area (SPA); and
 - Castlemartin Range Special Protection Area (SPA).

2.5 Many of the SAC's and the SPA's listed above have vast overlapping areas that cover a number of SSSIs. Below are details of the qualifying features for each of the European designated sites located within 10km of the proposed solar park.

Special Areas of Conservation (SAC)

Pembroke Marine SAC

2.6 Pembroke Marine SAC is designated as a European protected site due to the presence of the following qualifying features:

2.7 Annex I habitats that are a primary reason for selection of this site:

- 1130 Estuaries;
- 1160 Large shallow bays; and
- 1170 Inlets

2.8 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 1110 Sandbanks which are slightly covered by sea water all the time;
- 1140 Mudflats and sandflats not covered by seawater at low tide;
- 1150 Coastal lagoons;
- 1330 Atlantic salt meadows *Glauco-Puccinellietalia maritimae*; and
- 8330 Submerged or partially submerged sea caves.

2.9 Annex II species that are a primary reason for selection of this site:

- 1364 Grey seal *Halichoerus grypus*; and
- 1441 Shore dock *Rumex rupestris*.

2.10 Annex II species present as a qualifying feature, but not a primary reason for site selection.

- 1095 Sea lamprey *Petromyzon marinus*;
- 1099 River lamprey *Lampetra fluviatilis*;

- 1102 Allis shad *Alosa alosa*;
- 1103 Twaite shad *Alosa fallax*; and
- 1355 Otter *Lutra lutra*.

Pembroke Bat Sites / Bosherton Lakes SAC

2.11 Pembroke Bat Sites / Bosherton Lakes SAC is designated as a European protected site due to the presence of the following qualifying features:

2.12 Annex I habitats that are a primary reason for selection of this site:

- 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*

2.13 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Not applicable.

2.14 Annex II species that are a primary reason for selection of this site:

- 1304 Greater horseshoe bat *Rhinolophus ferrumequinum*.

2.15 Annex II species present as a qualifying feature, but not a primary reason for site selection

- 1303 Lesser horseshoe bat *Rhinolophus hipposiderus*; and
- 1355 Otter *Lutra lutra*.

Yerbeston Tops SAC

2.16 Yerbetson Tops SAC is designated as a European protected site due to the presence of the following qualifying features:

2.17 Annex I habitats that are a primary reason for selection of this site:

- Not applicable.

2.18 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 6410 *Molinia* meadows on calcareous, peaty or clayey / silt laden soils *Molinion caeruleae*.

2.19 Annex II species that are a primary reason for selection of this site:

- 1065 Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*.

2.20 Annex II species present as a qualifying feature, but not a primary reason for site selection

- Not applicable.

Limestone Coast of South Wales SAC

2.21 Limestone Coast of South Wales SAC is designated as a European protected site due to the presence of the following qualifying features:

2.22 Annex I habitats that are a primary reason for selection of this site:

- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts;
- 2130 Fixed coastal sand dunes with herbaceous vegetation.

2.23 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 4030 European dry heaths;.
- 6210 Semi natural dry grasslands and scrubland facies on calcareous substrates;
- 8310 Caves not open to the public; and
- 8330 Submerged or partially submerged sea caves.

2.24 Annex II species that are a primary reason for selection of this site:

- 1304 Greater horseshoe bat *Rhinolophus ferrumequinum*;
- 1654 Early gentian *Gentianella anglica*.

2.25 Annex II species present as a qualifying feature, but not a primary reason for site selection:

- 1395 Petalwort *Petalophyllum ralfsii*.

Bristol Channel Approaches SAC

2.26 Bristol Channel Approaches SAC is designated as a European protected site due to the presence of the following qualifying features:

2.27 Annex I habitats that are a primary reason for selection of this site:

- Not applicable.

2.28 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Not applicable.

2.29 Annex II species that are a primary reason for of this site:

- 1351 Harbour porpoise *Phocoena phocoena*.

2.30 Annex II species present as a qualifying feature, but not a primary reason for site selection.

- Not applicable.

Carmarthen Bay and Estuaries SAC

2.31 Carmarthen Bay and Estuaries SAC is designated as a European protected site due to the presence of the following qualifying features:

2.32 Annex I habitats that are a primary reason for selection of this site:

- 1110 Sandbanks which are slightly covered by sea water all the time;
- 1130 Estuaries;
- 1140 Mudflats and sandflats not covered by seawater at low tide;
- 1160 Large shallow inlets and bays;
- 1310 Salicornia and other annuals colonising mud and sand; and
- 1330 Atlantic salt meadows.

2.33 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Not applicable.

2.34 Annex II species that are a primary reason for of this site:

- 1103 Twaite shad *Alsoa fallax*.

2.35 Annex II species present as a qualifying feature, but not a primary reason for site selection.

- 1095 Sea lamprey *Petromyzon marinus*;
- 1099 River lamprey *Lampetra fluviatilis*;
- 1102 Allis shad *Alosa alosa*; and
- 1355 Otter *Lutra lutra*.

West Wales Marine SAC

2.36 West Wales Marine SAC is designated as a European protected site due to the presence of the following qualifying features:

2.37 Annex I habitats that are a primary reason for selection of this site:

- Not applicable.

2.38 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Not applicable.

2.39 Annex II species that are a primary reason for of this site:

- 1351 Harbour porpoise *Phocoena phocoena*.

2.40 Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Not applicable.

Castlemartin Range SPA

- 2.41 Castlemartin Range SPA is designated as a European protected site due to the presence of red-billed chough *Pyrrhocorax pyrrhocorax*. During the breeding season the area is home to over 3% of the UK breeding population.
- 2.42 No further information on the reasons for the designation can be found through online sources.

Skolkholm and the Seas off Pembrokeshire SPA

- 2.43 Solkholm and the Seas off Pembrokeshire SPA is designated as a European protected site due to the presence of the following bird species:
- European storm petrel *Hydrobates pelagicus* – An Annex 1 species (breeding);
 - Red-billed chough *Pyrrhocorax pyrrhocorax* – An Annex 1 species (breeding);
 - Short-eared owl *Asio flammeus* – An Annex 1 species (breeding);
 - Manx shearwater *Puffinus puffinus* – Regularly occurring migratory species (breeding);
 - Atlantic puffin *Fratercula arctica* - Regularly occurring migratory species (breeding);
 - Lesser black backed gull *Larus fuscus* - Regularly occurring migratory species (breeding); and
 - Seabird assemblage – Seabird assemblage of international importance – At least 20,000 seabirds in any season.

Relevance

- 2.44 Of the nine sites detailed above, eight SACs / SPAs have been scoped out of any further assessment at this stage due to the nature of the qualifying features, the scope of the proposed development and / or the distance from the site:
- Pembroke Marine SAC;
 - Yerboston Tops SAC;
 - Limestone Coast of South Wales SAC;
 - Bristol Channel Approaches SAC;
 - Carmarthen Bay and Estuaries SAC;
 - West Wales Marine SAC;
 - Castlemartin Range SPA; and

- Skolkholm and the Seas off Pembrokeshire SPA.

2.45 The remaining SAC is considered in greater detail below.

Pembrokeshire Bat Sites and Bosherton Lakes SAC

2.46 Table 1. (below) summarises the features of interest that are listed under the Pembrokeshire Bat Sites and Bosherton Lakes SAC citation and whether they are likely to be present within the area associated with the proposed works:

Table 1 – List of Qualifying Features of Interest for Pembrokeshire Bat Sites / Bosherton Lakes Special Area of Conservation SAC	
Annex 1 Habitats (Primary Reason for Selection)	Represented at the Proposed Working Area
3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp.</i>	No
Annex 1 Habitats (Non-primary Reason for Selection)	Represented at the Proposed Working Area
Not applicable	N/A
Annex II Species (Primary Reason for Selection)	Represented at the Proposed Working Area
1304 Greater horseshoe bat <i>Rhinolophus ferrumequinum</i>	Potentially
Annex II species present as a qualifying feature, but not a primary reason for site selection	Represented at the Proposed Working Area
1303 Lesser horseshoe bat <i>Rhinolophus hipposiderus</i>	Potentially
Otter <i>Lutra lutra</i>	Unlikely

3. POTENTIAL IMPACTS FROM THE PROPOSED DEVELOPMENT

3.1 Through careful consideration of the proposed development and the operations associated with it, a number of factors have been identified as having the potential to have a deleterious impact upon the qualifying features of the Pembrokeshire Bat Sites and Bosherton Lakes SAC are listed below:

- Habitat loss;
- Habitat fragmentation and / or
- Disturbance;

3.2 As part of this assessment, it is considered that the proposed development has the potential to cause any / all of the above listed impacts and as such each one must be assessed before reaching a decision as to whether the proposed development is likely to have a deleterious impact upon the integrity of the SAC and / or its qualifying features.

4. INITIAL SCREENING OPINION WITHOUT MITIGATION CONSIDERED

- 4.1 Table 2 (below) highlights the potential pathways from which a deleterious impact has the potential to occur on the Pembrokeshire Bat Sites and Bosherton Lakes SAC as a result of the proposed development and whether mitigation is considered to be required.

Table 2 – Potential Harmful Factor and Associated Recommended Mitigation Measures				
Qualifying Feature	Potential Factors	Potential for Effect	Potential Impact on Pembrokeshire Bat Sites and Bosherton Lakes Qualifying Feature	Mitigation Measures Required (?)
Greater and lesser horseshoe	Habitat Loss	The site layout has been designed in such a manner as to incorporate the retention of all hedgerows and trees. A minimum stand-off of 5m will be maintained from the centre line of all hedgerows and no works will be undertaken within the Root Protection Area (RPA) of any trees or hedgerows. As such no relevant habitat loss is anticipated.	N/A	Not required
	Habitat fragmentation	The site layout has been designed in such a manner as to incorporate the retention of all hedgerows and trees. A minimum stand-off of 5m will be maintained from the centre line of all hedgerows and no works will be undertaken within the Root Protection Area (RPA) of any trees or hedgerows. As such no habitat fragmentation is anticipated.	N/A	Not required

	Disturbance	<p>No night-time working will be undertaken during the proposed development works. As such, there will be no requirement for artificial lighting.</p> <p>Increased traffic and noise during construction and decommissioning will be temporary and is considered unlikely to be sufficient to alter the behaviour of bats within the proposed site for any period of time.</p>	N/A	Not required
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5. ASSESSMENT OF POTENTIAL IMPACTS WITH PROPOSED MITIGATION MEASURES INCORPORATED

- 5.1 There will be no requirement to implement any mitigation in relation to the proposed development in order to prevent deleterious impacts occurring at the Pembrokeshire Bat Sites and Bosherton Lakes SAC as the qualifying features for the SAC that have any relevance to the proposed development site will not be impacted upon.

In-Combination Effects

- 5.2 It is a requirement of HRA screening assessments to take account of any possible 'in-combination' (cumulative) effects that could have deleterious impact upon any European designated site, that could occur as a result of other developments nearby. There is the potential for a low number of minor impacts to occur simultaneously, which would not be considered likely to have a negative effect when assessed in isolation, but which could potentially combine to cause a more significant effect.
- 5.3 Through the consideration of the Habitats Regulations Assessment, the proposed solar park has been determined as having no significant effect upon any European designated sites within 10km. As such, is considered unlikely that any in-combination effects will occur as a result of the construction / operation of the proposed solar park.

6. CONCLUSIONS AND RECOMMENDATIONS

- 6.1 As a result of the initial screening process for the HRA, it has been established that the Pembrokeshire Bat Sites and Bosherton Lakes Special Area of Conservation (SAC) has the potential to be affected by the proposed works.
- 6.2 Screening and consideration of a number of factors including:
- Analysis of the location of European designated sites within 10km of the proposed development;
 - Screening of the SAC's qualifying features;
 - An assessment of the potentially harmful factors that could arise as a result of the proposed development;
 - Analysis as to whether further mitigation may be required in order to minimise the potential impact from the development upon the qualifying features of the SAC; and
 - The consideration for the potential of other in-combination factors which could have a deleterious impact upon the SAC.
- 6.3 The review has concluded that the proposed development to construct a solar park at the site will have **No Significant Effect** upon the qualifying features of the SAC.

7. REFERENCES

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