

PROPOSED DEVELOPMENT OF A SOLAR PARK ON LAND AT BARNHAM COURT FARM, BARNHAM, WEST SUSSEX LANDSCAPE AND VISUAL IMPACT ASSESSMENT

for

BL Solar 7 Ltd

July 2015

THE Landmark
PRACTICE

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SUMMARY

- 1.1 This Landscape and Visual Impact Assessment (LVIA) informs a planning application for development of a Solar Park at Barnham Court, Barnham, West Sussex. The application site covers an area of 2.2 hectares approximately 1.1 km southwest of Barnham and 4 km north of Bognor Regis.
- 1.2 The application site lies within the extensive low land of the south coast plain. The surrounding landscape is mainly flat, open landscape crossed by meandering drainage streams, with the hills of the South Downs National Park rising four kilometres to the north. The site, which sits in a small dip, comprises a single field of agricultural land bound by small woodland blocks to the north and the east, an earth bank with mature shrubs to the northeast and a poorly maintained hedgerow to the west. The southern boundary is partially open and partially a post and wire fence.
- 1.3 The proposed development is a solar park with associated infrastructure and equipment constructed on part of an agricultural field. The development is temporary, for 30 years duration, and will be constructed in such a way that it will not have any adverse effect on the landscape once it is decommissioned and removed.
- 1.4 All the boundary hedgerows and trees at the site will be retained. The deer fence installed for security around the development will be offset from existing woodland, shrubs and watercourses by a minimum of 5 metres, with the panels off-set internally from the fence to allow for operational maintenance access. Any ground disturbed by construction works will be sown with a suitable native species seed mix which will be managed by the tenant farmer for the operational solar park by sheep grazing or mowing.
- 1.5 All field boundaries, internal and surrounding trees and woodland will be retained within the development. New hedge planting will be introduced to the southern boundaries as additional screening. New tree and shrub planting will be introduced along the northern boundary to screen views from viewpoints along PRoW 200/1 to the north of the site.
- 1.6 With the proposed mitigation and due to the low lying nature of the landscape, the application scheme will not have a long term effect, alone or cumulatively with other developments, on the local landscape of the coastal plain or on users of the public rights of way network. Given the considerable distance of the site from the higher ground on the South Downs National Park, and set against the wide panorama of the coastal plain, both the individual and cumulative effect if the development on the National Park will be negligible.
- 1.7 While operational the solar park will initially have a minor adverse visual effect on a PRoW running to the north of the site. These effects are localised and only parts of the site are visible. Once the proposed tree, shrub and hedgerow planting have matured adverse effects will be reduced to negligible adverse to no change/ no significance.
- 1.8 Overall, the proposed development is considered to be acceptable in landscape and visual terms.

GLOSSARY

For the purposes of this report the following terms are used to describe the components of the proposed development:

Glare:

The term for a continuous source of brightness, relative to diffused lighting. Unlike 'glint', this is not a direct reflection of the sun, but is instead a reflection of the bright sky around the sun. Glare is generally significantly less intense than glint.

Glint:

Also known as specular reflection. An effect that is produced by direct reflection of the sun in the surface of the PV solar panel. This is likely to be transient but can be the main concern in terms of visual issues regarding viewer distraction.

Inverter:

A type of electrical device that changes the direct current (DC) electricity produced by a photovoltaic material into alternating current (AC) that is suitable for feeding into the national grid.

Module:

A manufacturer assembled group of Solar PV Cells within a supporting frame that provides simple interfaces to, and physical protection for the cells.

Photovoltaic (PV):

Material that converts solar radiation into direct current electricity.

Solar panel:

A manufacturer assembled group of Solar PV Cells within a supporting frame that provides simple interfaces to, and physical protection for the cells.

Solar Park:

The collective term for an installation of equipment and infrastructure that forms a photovoltaic power generating installation.

Solar PV Array:

A group of Solar PV Panels or Modules.

Solar PV Cell:

A single, none divisible group of Photovoltaic Material, which can generate electricity from Solar Energy.

Substation:

A group of Electrical Switchgear that connects the Solar PV Park to the National Grid.

Table:

The supporting framework onto which a number of Solar PV Panels are mounted.

Transformer:

An electrical device that transfers electrical energy from one voltage level to another.

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APPENDIX A: Landscape and Visual Impact Assessment Criteria

1.0 INTRODUCTION

- 1.1 This Landscape and Visual Impact Assessment (LVIA) has been prepared to inform a planning application for the development of a photovoltaic (PV) power generating installation (a 'Solar Park') on agricultural land at Barnham Court Farm, Barnham, West Sussex. The application site lies approximately 1.1 km southwest of Barnham and 4 km north of Bognor Regis. (OS Grid Ref: SU 95096 103424), (**Figure 1** refers).
- 1.2 The site comprises of a single field of agricultural land bound by small woodland blocks to the north and the east, an earth bund with mature shrubs to the northeast and a poorly maintained hedgerow to the west. The southern boundary is partially open and partially a post and wire fence. The Bognor Regis to Barnham railway line lies immediately adjacent to the western site boundary. A stream and PRow run along the northern boundary through a small woodland block. The immediate landscape is flat with a dominant mix of agricultural land, agricultural structures and urban settlement. Renewable energy infrastructure is present in the landscape, including the approved Bilsham Park 1 km to the southeast. The site is approximately 2.2 hectares and is capable of providing circa 1 MW of electricity.
- 1.3 This report assesses the potential effects of the proposed development on visual amenity, together with the changes to the character and quality of the landscape. It assesses the need for and scope of any mitigation required to address identified adverse effects.
- 1.4 The existing landscape character and the visual environment are described. Characteristics and features which constitute this particular landscape and its character are identified, together with existing views to, across or from the site, and visual receptors, such as nearby residents or users of Public Rights of Way (PROWs) that might be affected by the proposed development.

2.0 ASSESSMENT METHODOLOGY

- 2.1 The assessment methodology draws upon the following guidance:
- '*Guidelines for Landscape and Visual Impact Assessment*', Third Edition (Landscape Institute and the Institute of Environmental Assessment, 2013).
 - '*An Approach to Landscape Character Assessment*', Natural England, 2014
 - '*Photography and Photomontage in Landscape and Visual Impact Assessment*', Landscape Institute Advice Note 01/11
- 2.2 Existing background Information on the study area has been sourced from:
- Ordnance Survey – 1:50,000 and 1:25,000 scale maps.
 - Magic Website (www.magic.gov.uk)
 - Google Earth and Street View
 - Bing maps (www.bing.com/maps)
 - Natural England National Character Area Profiles
 - Arun District Council (www.arun.gov.uk)
 - *Saved Policies of the Arun District Local Plan 2003 -2011*

- *Arun Local Plan 2011-2031*
- *Arun Green Infrastructure Study*, June 2012.
- Policy Map 2 Arundel, the Six Villages and Surrounding Area
- Landscape Character Assessment of West Sussex 2003

Extent of the Study Area

- 2.3 The Third Edition GLVIA clarifies how study areas should be determined on a project specific basis. Paragraph 5.2 states that the study area extent should be

"... based on the extent of Landscape Character Areas likely to be significantly affected either directly or indirectly" or "on the extent of the area from which the development is potentially visible, defined as the Zone of Theoretical Visibility, or a combination of the two."

- 2.4 The extent of the visual envelope is small with localised viewpoints. Site work demonstrates that beyond 5 km, visual effects diminish rapidly and therefore significant effects are not anticipated beyond this distance. A 5 km study area was therefore set, enabling all landscape and visual receptors that may experience significant effects as a result of the development to be considered, without resulting in excessive levels of detail that detract from the key points.

The Theoretical Zone of Visual Influence

- 2.5 A Zone of Theoretical Visibility (ZTV) was modelled to show the theoretical visual envelope of the site over a 5 km study area. The ZTV was generated by computer software which placed a 2.2 m high structure (maximum height of the panels) on the highest point of the application site and one at each corner and then calculated the ZTV based on a 3D topographical terrain map. The ZTV was based on topography alone and did not take into account trees, hedgerows and buildings which will provide additional screening.
- 2.6 The actual Zone of Visual Influence (ZVI) was then determined during a site visit by a chartered landscape architect, using the ZTV as guidance. The actual area from which the proposed development will be visible is determined by observation from the highest point on the application site and then by visiting receptors in the surrounding landscape.
- 2.7 The ZTV was plotted on **Figure 3** and the ZVI on **Figure 10**.

Landscape Resource

- 2.8 This study identifies the landscape resources within the landscape which may be affected by the proposed development. The type of resources assessed are described below:

Landscape character

- 2.9 Landscape character is defined as:

"A distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example settlement and development) in the landscape that makes one landscape different from another, rather than better or worse."
(Natural England)

- 2.10 Effects on the landscape may arise where the landscape character of the area is modified by the development. It is important to consider the application site and the proposed development in its landscape context.

Landscape features

- 2.11 Landscape features include physical features such as trees and hedgerows, topography, water courses and structures. Impacts to these may arise where valued features are lost, gained or substantially modified as a result of the development. The loss or depletion of important landscape features can adversely affect the character of the landscape. Conversely, the addition of significant beneficial features can constitute an improvement in landscape character.

Visual receptors

- 2.12 Visual receptors are individuals or groups of people that are appreciating the view from locations where it is possible to obtain views of the application site. These views may be partial or full, glimpsed or direct. Impacts on the visual amenity of a particular location may arise where features intrude into or obstruct views, or where there is some other qualitative change to the view.
- 2.13 Views from such receptors are illustrated by representative photographs taken from key viewpoints (**Figures 11.1-11.6**). These have been located on a plan (**Figure 10**). Receptors may be private viewpoints, such as views from domestic residences, or public viewpoints like highways, footpaths or other places with public access.

Analysis of landscape resource and visual receptors

- 2.14 Each resource/receptor is assessed first in terms of its value and importance. This value is then combined with an assessment of each resource's/receptor's vulnerability to the changes proposed. This process gives the assessor a rational basis on which to assign the resource/receptor a level of sensitivity to changes in the landscape or visual environment
- 2.15 The sensitivity level is then combined with the predicted magnitude of change to the resource/receptor arising from the development. The nature of the effect, its duration and reversibility are all considered and used to determine the significance of the effect on each receptor resulting from the proposed development.
- 2.16 The methodology for the analysis of the resources/receptors is set out in **Appendix A**. The methodology determines the degree of significance of the impact, the definitions for which are set out in **Table 2.1** below.
- 2.17 It is not straightforward to predict how a solar park will be visually perceived in the countryside and so, for the purposes of this assessment, a 'worst case' approach has been adopted and it is assumed that the panels, if visible, will be regarded as intrusive structures within the landscape. As with wind turbines, public perception can be mixed; some people find them intrusive, others consider that they are an acceptable feature of the landscape, particularly if it is appreciated that they are providing green energy. Generally solar parks are likely to be far less visible than wind turbines due to the low height of the structures and many regard them as a more acceptable alternative. People's perception or tolerance of renewable energy schemes is often mitigated by an understanding of a 'greater need' for such developments.

Table 2.1: Significance Criteria

Significance	Definition
Major adverse	The proposed development will cause substantial degradation of the landscape character/landscape features/existing views. These adverse effects are key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Moderate adverse	The proposed development will cause noticeable degradation of the landscape character/elements/existing views. These adverse effects may be important, but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Minor adverse	The proposed development will cause small degradation of the landscape character elements/existing views. These adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
Negligible adverse	The proposed development will cause barely perceptible degradation of the landscape character/elements/ existing views.
Neutral	Beneficial effects balance out adverse effects such that there is no overall beneficial or adverse effect
No change	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
Negligible beneficial	The proposed development will cause barely perceptible improvement to the landscape character/elements/existing views.
Minor beneficial	The proposed development will cause a small improvement to the landscape character/elements/ existing views.
Moderate beneficial	The proposed development will cause noticeable improvement to the landscape character/elements/ existing views.
Major beneficial	The proposed development will cause substantial improvement in landscape character/elements/existing views. In making a decision about the proposal this advantageous effect may be considered to compensate to some degree for other, non-landscape, adverse effects.

Limitations to survey methods

- 2.18 The landscape character and views have been assessed from public vantage points. Although there is no right in planning law to a view from a private property, visual impact assessment protocol normally requires such views to be considered. In this case, however, it was not possible to gain access to all private property. Potentially significant private viewpoints have, nonetheless, been established from a relevant similar public viewpoint for which access was possible. All assessment work has been undertaken at ground level and on foot.

- 2.19 Photographic surveys were undertaken on 31 March 2015 on a partially cloudy day at a time when deciduous trees were without leaf. This represents the worst case scenario as winter views will be more open.

Photography and imaging

- 2.20 The photographic survey was carried out by a chartered landscape architect who is well versed with the methods and best practice required to produce verifiable photographs to be used in LVIA and visual representations.
- 2.21 Photographs illustrating views from each viewpoint were taken using a Canon EOS 600D fitted with a Canon 28 -85 mm zoom lens set to a focal length of 55 mm to an automatic landscape setting with an auto exposure lock override. A focal length of 55mm has been tried and tested at this scale to ensure this is what the 'eye' sees'; it is recommended by the Landscape Institute that a focal length of between 55-70 is as close to mirroring the human eye as possible without too much distortion.
- 2.22 Panoramas were taken by rotating the camera to portrait and shooting a series of pictures across the view, which were then stitched together using the Adobe Photoshop Photo-merging programme. These panoramas can then be used as a base to create accurate photomontages of the PV array and ancillary structures as they will appear within the landscape. This is achieved by overlaying a 3D wire frame model of the terrain with the solar panels and frames added onto the panoramic photographs.

3.0 BASELINE CONDITIONS

- 3.1 This section outlines the baseline of existing landscape and visual conditions relating to the application site and its environs and should be read in conjunction with **Figures 4, 5 and 6**.
- 3.2 The application site lies entirely within Arun District Council Boundary.

International Landscape designations

- 3.3 There are no international landscape designations relating to the application site or its immediate surroundings.

National Landscape Designations

- 3.4 The application site does not lie within a nationally designated area, however the South Downs National Park lies 4 km to the northeast. **(Figure 4 refers)**

National Planning Policy Framework (published March 2012)

- 3.5 The National Planning Policy Framework (NPPF) was published in March 2012 and sets out 13 key categories to support the 12 core planning principles in the delivery of sustainable development. Category 11 '*Conserving and enhancing the natural environment*', paragraph 109 notes that the planning system should contribute to and enhance the natural and local environment by, inter alia:

"Protecting and enhancing valued landscapes, geological conservation interests and soils"

- 3.6 The NPPF does not define what is meant by 'valued landscapes', however the value of a landscape is explored in the Landscape Character Assessment Guidance for England and Scotland, page 53 where the following is noted:

"Landscape value is concerned with the relative value that is attached to different landscapes. In a policy context the usual basis for recognising certain highly valued landscapes is through the application of a local or national landscape designation. Yet a landscape may be valued by different communities of interest for many different reasons without any formal designation, recognising, for example, perceptual aspects such as scenic beauty, tranquillity or wildness; special cultural associations; the influence and presence of other conservation interests; or the existence of a consensus about importance either nationally or locally".

- 3.7 Local planning authorities should be encouraged to allocate "land with the least environmental or amenity value, where consistent with other policies in this Framework" (Para 110).

- 3.8 With regard to developments that might affect protected species, geodiversity sites or landscape areas, paragraph 113 advises that:

"Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks."

- 3.9 In addition, local planning authorities will also be encouraged to set out a "strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure" (Para 114).

- 3.10 In terms of the significance of different landscape designations, paragraph 115 states:

"Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads."

- 3.11 The preparation of landscape character assessments, which support the understanding of landscapes as valued at all levels, is encouraged in paragraph 170, as well as recognition of the need to consider landscape sensitivity where there are major expansion options in general.

National Planning Practice Guidance – Renewable and Low Carbon Energy

- 3.12 National Planning Practice Guidance (NPPG) was adopted in March 2014. The NPPG has been designed to support the National Planning Policy Framework and the two should be read in conjunction.

- 3.13 The NPPG gives specific guidance on planning for renewable and low carbon energy developments and notes that renewable energy developments should be acceptable for their proposed location. The following paragraph 13 (Reference ID: 5-013-20150327) details the landscape assessment requirements relating to solar proposals.

What are the particular planning considerations that relate to large scale ground mounted solar photovoltaic Farms?

“The deployment of large-scale solar farms can have a negative impact on the rural environment, particularly in undulating landscapes. However, the visual impact of a well-planned and well-screened solar farm can be properly addressed within the landscape if planned sensitively.

Particular factors a local planning authority will need to consider include:

- that solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use;*
- the proposal’s visual impact, the effect on landscape of glint and glare (see guidance on landscape assessment) and on neighbouring uses and aircraft safety;*
- the extent to which there may be additional impacts if solar arrays follow the daily movement of the sun;*
- great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large scale solar farms on such assets. Depending on their scale, design and prominence, a large scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset;*
- the potential to mitigate landscape and visual impacts through, for example, screening with native hedges;*
- the energy generating potential, which can vary for a number of reasons including, latitude and aspect.”*

- 3.14 The guidance states that the approach to cumulative landscape and visual impact of large scale solar farms is likely to be the same as assessing the impact of wind turbines. However, in the case of ground-mounted solar panels it notes that with effective screening and appropriate land topography the area of a zone of visual influence could be zero. Paragraphs 22 and 23 of the guidance contain specific details regarding the assessment of cumulative landscape and visual impacts which have been taken into consideration when in undertaking this assessment.

Development Plan Policy

The 'saved policies' of the adopted Arun District Local Plan 2003 - 2011

- 3.15 The following policies referred to relate in particular to landscape and visual issues concerning the proposed development.
- 3.16 POLICY GEN3 - Protection of the Countryside states that:

“Outside the Built-Up Area, as defined on the Proposals Map, the countryside will be safeguarded for its own sake. Development will not be permitted unless:

(i)...it meets the operational needs of agriculture, forestry, the extraction of minerals or the deposit of waste; or

(ii)... for quiet, informal recreation; or

(iii)...for the diversification of the rural economy; or

(iv)...for essential road schemes; or

(v)...it is in accordance with a policy in Sections 2 and 3 of the plan referring to a specific use or type of development.

Permission will not be given for the extension of isolated groups of buildings or the consolidation of linear or sporadic development unless the proposal accords with criteria (i) to (iii) or (v).”

3.17 POLICY GEN21 Renewable Energy states that:

“Planning permission will be granted for development for renewable energy generation provided that:

(i)...there is no significant harmful environmental effect on the quality of the natural and built environments;

(ii)...there is no unacceptable impact on the amenity of neighbouring residents;

(iii)...there is no adverse effect on public safety;

(iv)...development will make a contribution to meeting need on a local, regional or national basis and the reduction in emissions of damaging greenhouse gases.”

Arun Emerging Local Plan, 2011-2031

3.18 The *Arun Local Plan 2003-2011* is in the process of being replaced by the emerging ***Arun District Local Plan 2011-2031*** which was submitted along with supporting documents on 30th January 2015 for independent examination to the Secretary of State for Communities and Local Government via the Planning Inspectorate.

3.19 The following policies are taken from ***Arun Local Plan – Publication Version Oct 2014***, whilst not formally adopted, the following policies of relevance to the proposed development already can carry weight as a material planning consideration as it progresses to adoption.

3.20 Policy SD SP1 Sustainable development states that:

“When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will work proactively with applicants to jointly find solutions which mean that proposals can be approved wherever possible and to secure development

that will contribute to the social, economic and environmental conditions south of the National Park through to the coast and throughout its settlements (both coastal and inland).

Planning applications that help to achieve the central aim of this Local Plan, which is to increase employment density and which accord with the policies in this Local Plan and/or adopted Neighbourhood Development Plans will be approved, unless material considerations indicate otherwise.

Where there are no relevant policies in this Local Plan (and where relevant, with policies in Neighbourhood Development Plans) development proposed will be approved without delay unless material considerations indicate otherwise - taking into account whether:

a. Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or

b. Specific policies in that Framework indicate that development should be restricted.

This presumption will not be applicable where development requires an Appropriate Assessment or where consideration of the need for one is being undertaken."

3.21 Policy C SP1 Countryside states that:

"Outside the defined Built-Up Area Boundary (as identified on the Policies Maps) as well as outside both the strategic, site specific and broad allocations, the countryside will be safeguarded for its own sake...

The Council will take into account cumulative impact of development in the consideration of planning applications. To ensure better management of the rural-urban fringe in those areas where significant new development is proposed, early consideration will need to be given to landscape and biodiversity enhancement, woodland management, recreation provision and access routes."

3.22 Policy GI SP1 Green Infrastructure and development states that:

"The existing Green Infrastructure Network, as shown on the Green Network Maps (provided in the Technical Appendix) for each parish and town, must be considered at an early stage of the design process for all major development proposals.

All major development must be designed to protect and enhance existing Green Infrastructure assets, and the connections between them, in order to ensure a joined up Green Infrastructure Network. Where compatible with nature conservation objectives, development proposals must identify opportunities to connect existing Green Infrastructure assets with the coast, the South Downs National Park or to the District's inland villages. Opportunities to enhance the network should take account of the multiple functions of Green Infrastructure assets and should be based upon those opportunities set out in the supporting text."

3.23 Policy LAN DM1 Protection of landscape character states that:

"Development will be permitted where:

- a. Landscape character, including its natural features, are conserved or enhanced;*
- b. The historic character and development pattern of settlements is respected, taking into account their distinct identity and setting; and*
- c. It does not negatively impact upon the setting of, or upon views into and out of South Downs National Park*

All proposed development either adjoining or in close proximity to the South Downs National Park planning authority boundary (see Proposals Map) shall have particular regard to the setting of and views in to and out of the South Downs National Park. Developments shall only be permitted where they will not have a demonstrable visual impact on either the landscape character of Arun or the setting of and views into and out of the South Downs National Park. Developments shall also be consistent with all other Local Plan policies.”

3.24 Policy ECC SP1 Adapting to climate change states that:

“The Council will support development which is located and appropriately designed to adapt to impacts arising from climate change such as the increased probability of tidal and fluvial flooding; water stress; health impacts as a result of extreme temperatures and a decline in the quality of habitats and richness of biodiversity. In order to achieve this, development must be designed to take account of the following issues:

- a. Location (in relation to flood risk and vulnerability to coastal erosion);*
- b. Water efficiency;*
- c. Shade, cooling, ventilation, solar gain;*
- d. Connectivity to the green infrastructure network;*
- e. Layout and massing;*
- f. Resilience of buildings and building materials to extreme weather events; and*
- g. Capacity of drainage systems and incorporation of Sustainable urban Drainage Systems (SuDS)”*

POLICY ECC DM1 Renewable Energy states that *“The Council will support renewable energy development subject to the criteria in this Policy... The Council will support proposals for appropriately located renewable energy development...”* Criteria for renewable energy development, which are relevant to the proposal, state the following:

- a. The proposal is located and designed to minimise adverse impacts to landscape, habitats, the historic environment and residential amenity including visual, noise and odour impacts;*
- b. The location and design of proposals will need to take account of the Council’s landscape assessment and landscape sensitivity studies (or successor documents) and proposals for large scale renewable energy projects will need to be supported by a zone of theoretical visibility and viewpoint assessment;*

c. Proposals will need to demonstrate that there are no detrimental cumulative impacts on landscape character, biodiversity, key species or residential amenity;

d. Proposals located within or close to the boundaries of areas designated for their landscape, ecological, or historic interest should demonstrate that development will not impact upon the purposes of designation;

e. Proposals will need to demonstrate the potential benefits of the development to the host communities and identify opportunities for environmental enhancement;

Schemes falling within landscape or nature designations will be considered where there are no alternatives and where a considerable community benefit is demonstrated and considered to outweigh the landscape impact.

Developments shall also be consistent with all other Local Plan Policies."

3.25 Policy HER SP1 The historic environment states that:

"The Council will grant planning permission for development proposals that conserve or enhance the historic environment of the District, specifically:

a. For Conservation Areas, development proposals must preserve or enhance the character or appearance of the area including its setting;

b. For Statutory Listed Buildings, development proposals must preserve the building, its setting and any features of special architectural and historic interest it possesses;

c. For Areas of Special Character, development proposals must respect the intrinsic character of these areas; and

d. For Locally Listed Buildings or Structures of Character, development proposals must preserve the building, its setting and any features of value it possesses;

Development likely to prejudice any of the above, including their settings, will be refused. Any proposals for development will be required to comply with all other relevant policies and reflect any relevant appraisals or management proposals adopted by the Council."

3.26 Policy HER DM1 Listed Buildings states that developments will need to "protect, and where possible enhance the setting of the buildings."

Supplementary Planning Guidance

Arun Green Infrastructure Study, 2012

- 3.27 Arun District Council undertook a *Green Infrastructure Study (June 2012)*. The site is not identified as an asset within the existing Green Infrastructure network. The strategic plan showing the opportunities for GI within the study area suggest the site might form a "new shared use path to link ... the coastal path to the National Park."

Conservation Areas Supplementary Planning Guidance— Adopted Oct 2000

- 3.28 The nearest Conservation Area to the application site is Barnham (Church Road), which lies 400 m to the east. Within the supplementary guidance describes the Conservation Area as

having “a distinct rural character with buildings of various styles, ages and materials...” and “...an informal pattern of development enhances the rural character, together with mature planting, flint boundary walls and grass verges.” (Figure 5 refers)

3.29 Additional Conservation Areas within the 5 km study area include:

Yapton, 2.5 km to the east

Shripney, 1.9 km to the southwest

Eastergate, 1.9 km to the northwest

Walberton, 3 km to the north

Local Landscape and Cultural Designations (Figure 5)

3.30 There are a number of Listed Buildings which lie within 5 km of the application site. The closest and which lie within 1km of the site are summarised below:

- Barnham Court, Grade I, approximately 390 m northeast
- The Parish Church of St Mary, Grade I, approximately 430 m northeast
- The Lodge of Barnham Court, Grade II, approximately 410 m northeast
- Manor Cottage, Grade II, approximately 500 m northeast
- The Street Cottage, Grade II, approximately 550 m northeast
- Curacoa, Grade II, approximately 610 m northeast

3.31 There are no Scheduled Monuments or Registered Parks and Gardens within a 3 km radius of the site.

Countryside recreation

3.32 The nearest Public Rights of Way (PRoW), 200/1, runs along the northern boundary of the site in an east-west direction between nearby villages of Barnham and Lidsey. PRoW 146 lies 600 m to the east running roughly north-south from Barnham to Bognor Regis. PRoW 296/1 lies 720 m to the west near Lidsey and PRoW 152 lies 1 km to the southwest, both running roughly north-south to and from Sack Lane. These are illustrated in Figure 6.

3.33 In the wider landscape there is an extensive PRoW network connecting Bognor Regis with the villages, such as Barnham, Yapton and Eastergate. The majority of these connections lie in open countryside to the south and east of the site.

3.34 There are no cycle routes near to the site, with the nearest, National Cycle Route 2, running 2.7 km to the southeast through Bognor Regis onto Littlehampton via Yapton. There is no open access land within 3 km of the site.

4.0 LANDSCAPE BASELINE

- 4.1 This section outlines the baseline of existing landscape and visual conditions relating to the application site and its environs, and should be read in conjunction with **Figures 2, 7, 8, 9.1- 9.3.**

Landscape Baseline

- 4.2 The national and local character of the area is summarised below as well as the character of the site itself, the nature of the topography/watercourses, land use and landscape features.

Landscape Character

The National Context

- 4.3 The application site lies within the National Character Area 126: South Coast Plain (Natural England - Character Map of England) (**Figure 7 refers**).
- 4.4 The key characteristics for this area that are of relevance to the site and its environs include:
- *The plain slopes gently southwards towards the coast. From the coastal plain edge there are long views towards the sea and the Isle of Wight beyond.*
 - *The underlying geology of flinty marine and valley gravels extends several miles inland to the dip slope of the South Downs and the South Hampshire Lowlands. This gives rise to deep and well-drained high quality soils.*
 - *In places, streams and rivers flow south from the higher land of the Downs to the sea.*
 - *There are stretches of farmed land between developed areas, often with large arable fields defined by low hedges or ditches.*
 - *The area has significant urban development, with settlements along the coastline dominated by the Portsmouth conurbation, suburban villages and seaside towns including Bognor Regis, Littlehampton and Worthing linked by major road and rail systems.*
- 4.5 The Statements of Environmental Opportunity for the character area of which SEO2 is relevant include:
- “SEO 2: Plan for the creation of a strong landscape framework within and around major settlements and identified growth areas, while managing and enhancing existing greenspace and access, and balancing the needs of agriculture, communities and the natural environment.”*
- 4.6 Relevant examples listed for SEO 2 include:
- *Seeking to maintain and **enhance areas of open countryside in this heavily urbanised NCA, to preserve the distinct settlement pattern** and ensure that local communities have access to greenspace for their wellbeing and enjoyment.*
 - *Ensuring that development and its associated infrastructure (including light, noise and air pollution) does not intrude on the special qualities of Chichester Harbour Area of Outstanding Natural Beauty (AONB) and the South Downs National Park; and ensuring that the **landscape character within these areas and their settings is conserved,***

restored, reinforced or created as appropriate to reflect the ambitions of their respective management plans.

- *Promoting and **enhancing the rights of way network throughout the area**, especially along the coast and linking to the South Downs, while developing new permissive access that links towns and settlements to quality greenspace and other areas of interest as part of a cohesive network of inspiring access provision for all.*

County, District and Local Landscape Character Assessments and Appraisals

West Sussex Landscape Character Assessment, Nov 2003

The site lies within the character area SC9, Chichester to Yapton Coastal Plain, as identified in the West Sussex Landscape Character Assessment. The Key Characteristics of relevance to the site and its environs include:

- *“Low lying flat open landscape*
- *Meandering rife and straight drainage ditch systems, with associated unimproved grassland and edged by reed beds*
- *A low density of hedgerows and hedgerow trees with occasional shelterbelts*
- *Large-scale arable farming and market gardening. Extensive farms with both traditional and modern farm buildings and silos*
- *Clusters of glasshouses*
- *Scattered, historically nucleated villages with mixed building materials of flint, brick, half timber and stone*
- *Large farmsteads along roads, and on dead-end tracks*
- *Long views to Arundel, the Downs and to the distinctive spire of Chichester Cathedral*
- *The relatively open character of much of the area allows long views so that village church towers are important landmarks in views*
- *Frequent urban fringe influences of horse paddocks, light industry and disused airfields, with busy minor and major roads*
- *The urban fringes associated with Bognor are particularly obvious, with sporadic urban development in suburban settlements of Tangmere, Barnham, Yapton and Westergate*
- *Few trees or hedgerows, partly as a result of Dutch Elm Disease, from the 1970s and the Great Storm of 1987 and overall high quality agricultural land, although, where they do exist, they form prominent features*
- *Light industry in the countryside at Ford and Tangmere.”*

- 4.7 The land management guidelines continue to identify a number of issues relating to changes in the landscape for SC9. Issues of relevance to the site and its immediate surroundings include:

- *Urban development pressures, especially in the gaps between settlements and on the edge of Chichester.*

- *Loss of mature elm trees in the 1970's and 1980's due to Dutch elm disease.*
- *Loss of floodplain and wet woodland due to changes in agricultural drainage practices.*
- *Loss of tree and hedgerow cover from agricultural intensification since World War II.*
- *Introduction of large scale industrial buildings and glasshouses with distribution sheds.*
- *Derelict glasshouses.*
- *Climate change may increase the risk of storm surges associated with flooding. This will have consequences for inter-tidal habitats, increasing pressure for possibly insensitive coastal defences.*

4.8 The document goes on to provide a unique land management description to be used as a guide. The key points of relevance to the site include:

- *Create a new, large scale tree and hedgerow framework which complements the open intensively farmed landscape, whilst maintaining significant views of Chichester Cathedral, the South Downs and local features.*
- *Maintain and strengthen field boundaries such as hedgerows and shelterbelts.*
- *Link up existing remnant hedgerows and tree lines to re-establish coherent field boundaries and wildlife corridors.*
- *Encourage and promote land management schemes to increase species rich grassland areas.*
- *Promote management and establishment of grassland regimes of grazing, hay cutting and silage.*
- *Restore and strengthen the landscape of the gaps between settlements.*
- *Establish new vegetation features by the planting of hedgerows and tree clumps in field corners and along roadsides, especially those approaching settlements.*

Site Description

- 4.9 The application site covers an area of 2.2 hectares approximately 1.1 km southwest of Barnham and 4 km north of Bognor Regis. The Bognor Regis to Barnham railway lies immediately adjacent to the western boundary of the site. A small stream and PRow run along the northern boundary.
- 4.10 The site, which sits in a small dip, comprises a single field of agricultural land bound by small woodland blocks to the north and the east, an earth bund with mature shrubs to the northeast and a poorly maintained hedgerow to the west. The southern boundary is partially open and partially a post and wire fence.
- 4.11 The immediate landscape is flat with a dominant mix of agricultural land and urban settlement. Solar Parks are present in the wider landscape, with the approved Bilsham Park 1 km to the southeast.

Topography and water courses

- 4.12 The application site lies within a small depression within a wider area of low, flat ground associated with the south coast plain, approx. 2-3 m AOD. 3 km north of the site, the land begins to rise significantly to form the hills of the South Downs National Park, peaking at 195 m AOD at St Roche's Hill approximately 10.5 km NNW. **Figure 2** illustrates the nature of the topography within the surrounding area.
- 4.13 A small stream runs immediately to the north of the site along the northern boundary and a small pond lies in the woodland block to the east of the site. There is a wider network of small streams and drainage ditches across the local landscape. The River Arun runs 5.4 km away to the east near Littlehampton.

Land Use

- 4.14 The application site comprises of a single 2.2 hectare field. The aerial photograph in **Figure 8** illustrates the land use and the type of vegetation cover, as well as the supporting photographs A to H, (**Figures 9.1-9.3**).

Land to the north

- 4.15 The northern boundary of the site consists of a small woodland block with a small stream running through, and an earth bank with mature shrubs. Beyond is the 'Old Canal' which has been infilled and runs east-west. The Bognor Regis to Barnham railway line cuts diagonally across the landscape in a southeast-northwest direction, from the western side of the site to Barnham Station. The line merges with the Chichester to Littlehampton railway line which runs east-west across the landscape 0.8 km away.
- 4.16 The wider landscape is a mixture of agricultural land, glass houses and urban settlement. There is a strong urban influence on the landscape from a high density of villages, clustered settlements and glass houses, of which many merge into single linear bodies. The nearest villages include Woodgate, 1.5 km northwest, Westergate, 2 km to the northwest and Eastergate, 1.9 km to the north. The A27 lies 3.7 km to the north.

Land to the east

- 4.17 A small woodland block with small pond defines the eastern boundary of the site. The wider landscape consists of agricultural land with urban influences from Barnham, 0.5 km to the northeast, Yapton, 2.8 km to the east, an extensive complex of glasshouses, 1.6 km to the northeast and an ex-airfield, 4 km to the east. Further afield runs the River Arun, 5.4 km away and the urban edge of Littlehampton lies 6.5 km away.

Land to the south

- 4.18 The southern boundary of the site is partially open and partially a post and wire fence. The immediate landscape consists of predominantly agricultural land with the occasional farmstead and the village of Shripney. The railway line from Bognor Regis cuts through the landscape in a north-south direction towards the western boundary of the site. The urban edge of Bognor Regis covers large areas of the coastal landscape 2.3 km to the south.

Land to the west

- 4.19 The western boundary of the site is open with areas of swampy vegetation. Mature shrubs cover the embankment of the Bognor Regis to Barnham railway line. There is a considerable

network of mature tree belts immediately to the west of the site. The wider landscape is predominantly agricultural with urban features in the form of extensive glass housing, 2.5 km away, a caravan park at Lidsey, 1.1 km away, and a water treatment works, 0.3 km away. The A29 lies 1 km away running north-south through Westergate and Lidsey down to Bognor Regis. The railway line between Chichester and Littlehampton runs east-west through the landscape to the northwest of the site.

Landscape features

- 4.20 Internally, the site is open grassland with an earth bund covered with mature naturalised scrub along the northern boundary. There are no other landscape features on the site. Just beyond the site boundary are small woodland blocks. A stream runs along the northern boundary and a pond is located in the woodland to the east.
- 4.21 Residential development is a notable feature in the landscape with the villages of Woodgate, Westergate, Eastergate and Barnham creating an arc of built development to the north. Extensive areas of glasshouses and poly-tunnels are notable features within the landscape, which merge with residential development to the north and northeast.
- 4.22 The wider landscape is very open with no woodland cover. There is a notable network of tree belts along field boundaries to the west of the site. Intensification of farming has resulted in a significant loss of any distinctive field pattern, with fields of varying sizes and shapes. Existing field boundaries which remain are hedgerows with hedgerow trees.
- 4.23 Other urban features include the Bognor Regis to Barnham railway line, the Chichester to Littlehampton railway line, a golf course near Bognor Regis, Lidsey Water Treatment Works and a disused airfield.

5.0 VISUAL BASELINE

- 5.1 A set of representative public viewpoints have been selected using a desk study. Due to the urgency to take the photos during the dormant season the photos were taken prior to correspondence with the case officer. These viewpoints were, however, verified by the case officer on 24 June 2015. These are listed in **Table 5.1** below and are presented in **Figures 11.1-11.6**.
- 5.2 The ZTV indicates that the application site is highly visible across the majority of the surrounding landscape within the 5 km study area. A site visit confirmed, however, that in fact the extent of the visual envelope is extremely localised and restricted to a single PRoW north of the site. Intervening vegetation, a flat topography of the landscape and the site's depressed location greatly limit the extent of views to the site as identified in the Viewpoint Location Plan and ZVI (**Figure 10**).
- 5.3 There are partial and glimpsed views of the site through from PRoW 200/1 in the northeast through gaps in hedgerow along the western boundary, through trees in the woodland block and through a gap before the earth bund. There are immediate views into the site from the railway line.
- 5.4 The key receptors potentially affected by changes resulting from the proposed development are those using PRoW 200/1

Table 5.1 Location of representative viewpoints

Viewpoints	Grid reference	Distance	Elevation	Receptors
Viewpoint 1	SU 94909 03498	110 m	3 m	Users of PRoW 200/1
Viewpoint 2	SU 95023 03506	50 m	4 m	Users of PRoW 200/1
Viewpoint 3	SU 95058 03506	40 m	5 m	Users of PRoW 200/1
Viewpoint 4	SU 95070 03357	355 m	4 m	Users of PRoW 200/1
Viewpoint 5	SU 95105 03371	335 m	4 m	Drivers, passengers and non-vehicular users of Fattening Ground Road
Viewpoint 6	SU 95172 03395	910 m	3 m	Drivers, passengers and non-vehicular users of Sack Lane

6.0 EMERGING KEY ISSUES FROM POLICY AND LANDSCAPE CHARACTER AND INITIAL RECOMMENDATIONS

- The Arun emerging local plan 2011-2031 seeks to safeguard the countryside. Policy C SP1 states that outside the defined '*Built-Up Area Boundary*' (as identified on the policies maps), the countryside will be safeguarded and cumulative impact of development will be taken into consideration. The policy outlines the need for development to consider to "*landscape and biodiversity enhancement, woodland management, recreation provision and access routes.*"
- Whilst Policy HER DM1 of the Arun Emerging Local Plan, 2011-2031, mentions that the setting of a listed building is often an essential part of its character, it is considered that, given the distance of such properties away from the site and the intervening vegetation, this is not an issue.
- The West Sussex Landscape Character Assessment identifies the "*low density of hedgerows and hedgerow trees with occasional shelter belts*" as key features of the landscape which add to the "relatively open character" of the landscape. However, the site is already enclosed visually by mature woodland, hedgerows and hedgerow trees and the LCA suggests the addition of hedgerows to "*maintain and strengthen field boundaries*" and "*link up existing remnant hedgerows and tree lines to re-establish coherent field boundaries and wildlife corridors.*"
- Both the West Sussex Landscape Character Assessment, 2003, - Chichester to Yapton Coastal Plain and National Character Area Profile, 2014, - South Coast Plain, refer to the open character of the landscape with arable farming prominent. The change in the land use to a solar farm may conflict with such studies.
- The emerging plan states under policy LAN DM1 the importance that development does not negatively impact on the setting of the South Downs National Park. Due to the distance between the site and the South Downs National Park, as well as the positioning

of the reflective side of the solar arrays facing south away from the National Park, this should not pose an issue.

- Emerging policy LAN DM1 outlines the need for development to respect the setting of settlements. The site forms part of the immediate setting for Barnham as well as the setting from villages further afield such as Woodgate, Westergate and Eastergate. It is essential that through appropriate mitigation and site layout that the development does not affect the setting of these settlements. Strong consideration should be given to reducing the cumulative effects from the Bilsham Solar Farm on the setting of local settlements.
- Careful consideration needs to be given to mitigating visual effects on users of PRoW 200/1 which lies to the north of the site and to long distance viewpoints to the southwest of the site.

6.1 Initial recommendations in terms of the layout of the scheme are as follows:

- In fill gaps in the northern boundary with shrub planting and introduce new tree planting in the northwest corner to reduce the visual impacts on receptors along PRoW 200/1 in the north. Allow for new planting to reach its mature size similarly to the existing planting.
- Establish a new native, species rich hedgerow using species of local provenance, across the southern boundary of the site to screen views from the southwest, connect existing woodlands and hedgerows, and to reinstate lost field boundaries as identified with the West Sussex Landscape Character Assessment. This should be maintained to at winter cut height of 2.5 - 3m to keep the open character of the landscape.

7.0 PREDICTED EVOLUTION OF BASELINE WITHOUT THE PROPOSED DEVELOPMENT

7.1 The application site is currently used for agriculture. There are no defined boundaries to the south and west. Woodland to the north and east are outside the site but define the boundaries and are in good health. The land is maintained as grassland with routine management. There is no reason to suggest this would change if no development were to proceed.

8.0 THE PROPOSED DEVELOPMENT

Construction and Layout

- 8.1 The proposed development involves construction of a solar park with associated infrastructure and equipment on grassland. The masterplan is illustrated in **Figure 12** and details of the panels, security fence and inverter housing are shown in **Figures 13-19**.
- 8.2 The park will be set out in rows of modular tables, lined from east to west and orientated to face the south in order to capture maximum solar energy. Sufficient space will be required between the rows to avoid one row of PV modules overshadowing the next.

- 8.3 The PV modules will be mounted on metal frames on posts which will be piled into the ground whilst maintaining the existing topsoil and vegetation in situ and causing minimal impact to the ground surface. The development will be fully removable on decommissioning. The modules will be a maximum height of 2.4 m comprising 4 panels mounted in landscape format on a backing plate (table), set at an angle of approximately 25 degrees from horizontal (see **Figure 13**).
- 8.4 The additional PV equipment will include 2 housing units for inverters/transformers, 2.6 m high, and a customer substation 3.4 m high in moss green, a DNO substation, 3.3 m high, again in moss green and located to the south western edge of the site. A customer Substation will also be placed next to the inverter housing. The application site will be protected with a 2 m high closed mesh security fence.
- 8.5 Infra-red CCTV will be installed on 3m masts but this will be discreetly located around the periphery of the development and at a distance of 1 per 50 m. Cameras will be fixed position and angled into the development and will avoid surveillance of third party private property. The application site will not be artificially lit.
- 8.6 All the boundary and internal hedgerows and trees will be retained. The external security fence will be off-set from the existing vegetation by a minimum of 5.0 m with the panels off-set internally from the fence by varying distances to allow for operational maintenance access. Where necessary, to reinstate disturbed ground following the construction phase, areas of bare ground under and around the panels will be sown with a grass mix containing additional wildflower content.
- 8.7 An access track will be provided to all on site buildings, with a surfacing of crushed stone.
- 8.8 New native hedgerows, shrubs and trees will be planted where necessary around the periphery of the development to visually screen the views towards the panels. This proposed mitigation planting is shown on the Landscape Masterplan in **Figure 12** and is described below in **Section 11** of this report.

Maintenance

- 8.9 Once the solar park is established the system will require minimal ongoing maintenance. Experience has shown that the PV modules are cleaned to a considerable degree by rainfall, but will also be thoroughly cleaned manually 3 or 4 times a year.
- 8.10 Activity at the park will be limited to periodic repair or maintenance. The grassland will be managed over the likely 30 year life of the installation by mowing/or strimming.

9.0 ASSESSMENT OF EFFECTS

- 9.1 This section reviews the landscape and visual impacts associated with the Site. A simplified set of landscape and visual amenity resource/receptors were defined and assessed using sensitivity, magnitude of change and significance criteria (see **Appendix A** for further details).

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- 9.2 **Sensitivity:** Each resource/receptor was assessed first in terms of its value and importance. This value was then combined with an assessment of each resource's/receptor's vulnerability to the changes proposed. This process provided the assessor with a rational basis on which to assign the resource/receptor a level of sensitivity to changes in the landscape or visual environment.
- 9.3 In a policy context the usual basis for recognising certain highly valued landscapes is via application of local or national landscape designations. A landscape can nonetheless be valued by different communities for many different reasons without any formal designation.
- 9.4 The assessment of landscape quality (condition) was based on judgements regarding the physical state of the landscape and about its intactness from visual, functional and ecological perspectives. It also reflected the state of repair of individual features and elements that made up the character in any one place.
- 9.5 It usually follows that higher quality landscapes have higher sensitivity to change, but this must also be assessed in conjunction with landscape value to give an overall assessment of sensitivity.
- 9.6 Landscapes covered by a national designation and which are of an exceptional scenic quality are often considered to be of high sensitivity. Landscapes which are covered by a district level designation and are attractive with some minor blemishes are considered of medium sensitivity whilst landscapes which are degraded or disturbed are of low sensitivity.
- 9.7 In terms of visual receptors, views from high or medium designated landscapes, parks and gardens, listed buildings and well-used PRoWs are considered to be very high / high. Views from a medium quality, non-designated but locally important landscape including outdoor sports and recreation are considered to be medium, whilst views from major roads, non-designated but local landscapes and less well used PRoWs are considered to be low sensitivity. Views from residential properties are dependent on the number of visual receptors as well as their proximity and the orientation of the building / garden and associated windows to the site.
- 9.8 **Magnitude of change:** The sensitivity level was then combined with the predicted magnitude of change to the resource/receptor arising from the development.
- 9.9 The nature of the effect, its duration and reversibility are all considered and used to determine the significance of the effect on each receptor resulting from the proposed development.
- 9.10 Magnitude of landscape change will be **Very High** where the proposal will cause either a significant improvement or irrevocable loss of key landscape elements/features, **High** where there is permanent loss or the strengthening of key elements/features, **Medium** where there is the medium to long term loss or introduction of some key elements/ features, and **Low** where the proposed development will cause either the retention or temporary loss of a low number of localised key features. The magnitude of landscape change will be negligible where the development introduces a barely perceptible improvement or deterioration of such features.
- 9.11 Magnitude of visual change is categorised as **Very High, Medium, Low to Negligible / No Change**. Receptors will be very high where there is a permanent loss of a highly valued
-

view, high where development is visually dominant, medium where the development is clearly visible but not prominent in the view and low where the development does not introduce any uncharacteristic features. The magnitude of change will be negligible where development will be barely discernible. Similarly the magnitude of change may result in beneficial effects based on the same scale.

- 9.12 **Significance criteria:** The significance of effects was assessed using the appropriate national and international quality standards and professional judgement. For clarity and transparency criteria have been used to attribute levels of significance. Broadly, the significance is a function of the magnitude of change and the number and sensitivity of receptors. The reversibility and duration of the effect are also important considerations.
- 9.13 As discussed above both options were assessed based on a set of simplified resource / receptors and a summary of each option is outlined in the tables below.

Perception of Solar Parks within the landscape

- 9.14 Large scale solar parks are comparatively new features within the British landscape and so are currently unusual and could be viewed by some as being out of character (or too industrial) in a rural setting, but the British landscape has evolved over time to adopt and adapt to new beneficial infrastructure. Motorways, railways and electricity pylons were once alien elements but the nation benefits from them and they are now part of the British landscape. Solar parks are not entirely industrial in terms of character and bear some similarities with glass houses, vineyards and other crops grown in or under polythene. The latter examples are low elements in lines which follow the contours of the ground and are temporary. In terms of visual impact a solar park lies somewhere between crops grown under polythene and horticultural glass houses.
- 9.15 Solar parks are most prominent when viewed from the south where the glass face of the panels faces the observer and generally only if they occupy south facing slopes. Solar parks are far less visible when viewed at an angle or from the rear where they appear as a series of dull lines within the landscape of light and shadow. If the site is almost flat only the first row of panels is visible the remainder screened by managing the existing hedge structure to a winter height of around 3 m.

Landscape quality and sensitivity of the site

- 9.16 There are few landscape features, which include rough grassland and mature shrubs on the boundaries. The landscape features present within the site are of good health with shrub panting being left to mature and grassland cut routinely. A lack of hedgerow to the south has resulted in a poorly defined field pattern.
- 9.17 In terms of landscape character and existing landscape features, the landscape sensitivity of the application site and its immediate surroundings is considered to be **high and local** as assessed in accordance with criteria in **Table A.1 (Appendix 1)**.
- 9.18 Although the proposal introduces uncharacteristic features into the landscape, it is considered that the application site can absorb a degree of change due to the depressed ground in which the site is located and due to extensive screening from mature vegetation around the site. The scale of the development is relatively small in comparison to the scale of the wider landscape and field patterns. The magnitude of change is, therefore, considered to be **low**.

Construction Effects

- 9.19 The solar installation will be staged over approximately 12 weeks and will include periods of site preparation, installation, testing and commissioning.
- 9.20 Principal construction effects on the landscape resource will include:
- Increased activity on site, along the track and along Fattening Ground Lane over the construction period;
 - Construction of a temporary compound to the east of the site for the storage of construction materials and contractor offices during construction. Including the temporary removal of topsoil;
 - Construction of a DNO substation, Inverter Housing and Customer Substation to the east of the site which will become permanent during the operational life of the development;
 - Upgrade of the existing track between to accommodate heavy vehicular traffic during the construction of the site and ongoing access throughout the operational life of the development;
 - Gradual change from an open grassland to a field mounted solar park.
- 9.21 Tree and hedge protection measures will be required to minimise construction effects. These should be implemented via a Construction Environment Management Plan as a matter of good practice.
- 9.22 Effects have been determined assuming the full retention of all shrubs, hedgerows and trees.
- 9.23 CEMP measures to avoid impacts on hedgerows should include:
- using the existing field access point,
 - installation of temporary protective fencing to delineate hedges, trees and understorey to ensure no construction machinery enters such areas, and
 - delineating and safeguarding root protection zones to all vegetation boundaries inside the site and on the site boundaries.
- 9.24 The increase in activity for a short period of time is not considered an issue in the wider context of the character area, and there is already some movement in the landscape associated with farming activity and users of roads around Barnham. Residents of Barnham Court and nearby properties may be mildly affected locally during weekly construction working hours. It is understood that construction work is not intended to be undertaken overnight or at weekends. The effect on the road users and users of PRoW are therefore unlikely to be more than slight for a limited period of time. Appropriate access management at the entranceway to the access track may be required when used for construction access.

Operational Effects

- 9.25 Principal operational effects on the landscape resource in the area will include:
- Introduction of solar park on land currently in agricultural management, with solar arrays, CCTV camera, security fencing, inverter stations, customer substation and

DNO substation;

- Change of land use for the operational life of the proposed development from grassland to grassland with solar array;
- Increased, yet occasional, use of an access track along the Old Canal (PRoW 200/1) for routine maintenance of the DNO Substation and the solar PV array;
- Alteration to local landscape character;
- Alteration to visual amenity within the immediate vicinity of the site along the Old Canal (PRoW 200/1) to the north;
- Potential alteration to the visual amenity from the Listed Buildings at Barnham Court and from the Barnham Conservation Area.

Landscape Effects

Effect on topography and watercourses

- 9.26 The baseline identified the local importance of the flat topography of the area and the characteristic networks of watercourses across the landscape. The sensitivity of land use is assessed as **high and local**. The proposed development will make no changes to the topography of the land; the array will be constructed to follow the existing contours. The proposed frame foundations can be installed and removed without damaging the ground and so will not significantly affect the topography of the application site. There are no watercourses on the site and those which lie just beyond the site boundary will not be impacted by the development. The magnitude of change will be **negligible/ no change**. The development will cause **no change/ no significant** effects on the topography or watercourses.

Effect on land use

- 9.27 The baseline identified that the local land use was predominantly agricultural with some urban influence, characteristic of the local landscape. The sensitivity of land use is assessed as **high and local**. The development will result in a temporary and reversible change in land use from a small field into a field with a solar park. Considering the large scale of the surrounding agricultural landscape, the scale of the development is small. The magnitude of change will be **low**. Whilst considering the high sensitivity of the land use, the significant effects will be **minor adverse** due to intervening landform and vegetation making the changes barely perceptible. Further planting of a new hedgerow along the southern boundary and tree planting along the western edge will mitigate these effects by reducing the visibility and perceptibility of these changes further resulting in a **negligible adverse** significant effect.

Effect on landscape features

- 9.28 Landscape features on site are limited to just naturalised scrub on an earth bank along the northern boundary and a grassland field. Neither of these features will be changed. The access to the site will also follow an existing track and use the current field entrance. Woodlands which define the northern and eastern boundaries fall outside the site and will not be affected. The landscape features are assessed to be of **high and local** sensitivity. The magnitude of change will be **negligible/ no change**. Development will result in a **no change/ no significance** effect on landscape features.

- 9.29 The planting of new hedgerow along the southern boundary, together with allowing natural grassland to establish and by infilling gaps in the shrubs on the earth bank the development can strengthen and introduce new features into the site which are characteristic of the local landscape. Once matured this will have a **negligible beneficial** significant effect on the landscape features.

Effect on Landscape Character

- 9.30 The local landscape shares a number of the characteristics identified in the local landscape character assessments. In particular are the *“large-scale farming”*, *“low lying flat open landscape”*, *“a low density of hedgerows and hedgerow trees”*, and *“frequent urban fringe influences”*. The urban fringe influence is a notable characteristic which has, since the assessment in 2003, progressed further into the local landscape with the introduction of caravan parks, a new major road to the south near Flagham, the physical coalescence of villages to the north and the building of the Bilsham Solar Park to the southeast. Due to the increasing urban influence on the landscape, there is a need to maintain the character of a *“large-scale farming”* landscape. The landscape character would, therefore, be of **high and local** sensitivity to further change.
- 9.31 The only change to the landscape character will be the introduction of a solar park on agricultural land, introducing uncharacteristic features into the landscape. The scale of the development is, however, small and visually discreet. There will be no impact on the characteristic openness of the landscape as the solar array will sit low in the landscape due to a depressed topography. The site will not cause obstruction to locally important long distance views. As previously assessed there will be no change to landscape features, topography or water courses which are characteristic of the landscape.
- 9.32 Due to intervening landform and vegetation, changes to the landscape character will be barely perceptible and the magnitude of change **low**. Although landscape character is of high sensitivity this lack of perceptibility will result in a **minor adverse** significant affect.
- 9.33 Further new hedgerow planting along the southern boundary, the establishment of the grassland around the panels and new shrub planting will mitigate these effects by enhancing the features of the site which are characteristic of the local landscape. This will result also in a better screened development whereby the changes are less perceptible and the significant effects **negligible adverse**.

Effect on the setting of Listed Buildings and Conservation Areas

- 9.34 There are seven listed buildings within close proximity to the site including the Grade I Barnham Court and Parish Church of St Mary. These receptors are of **high and local** sensitivity. These are also located within the Barnham Conservation Area which will be of **medium and regional** sensitivity.
- 9.35 Due to intervening built form, topography and vegetation there is no inter-visibility between the Listed Buildings or the Conservation Area and the proposed development. During construction there will be a change in activity within the setting of the listed buildings and the conservation area with vehicles passing through Barnham village (Church Road). The changes will be short term and of **low** magnitude. During operation there will be infrequent maintenance checks causing a barely perceptible change to the setting. The magnitude of change will be **negligible**.

- 9.36 During construction the effects to Listed Buildings and Conservation Areas will be of **negligible adverse** significance and once operational there will be **no change/ no significance** effects.

Visual Effects during Operation

- 9.37 Visual receptors are limited to users of PRoW 200/1 (the Old Canal) and motorists, passengers and pedestrians along Fattening Ground Lane and Sack Lane. The changes to the views of the representative viewpoints and an assessment of the effect on visual amenity are outlined in table 7.1 and summarised under the effects of different visual receptors below. Viewpoints are located on **Figure 10**, with viewpoint photos shown in **Figures 11.1-11.6**.

Effect on the visual amenity of Public Rights of Way

PRoW 200/1 (Viewpoint 1,2,3 and 4. Figures 11.1 to 11.4)

- 9.38 The PRoW follows the Old Canal which makes this of local cultural and historic importance which is likely to be valued by local users. Users of the footpath will be moving at a slow pace and experience the views for longer periods of time. The sensitivity of the receptors is assessed at as **medium** for all viewpoints.
- 9.39 Viewpoint 1 is well screened by mature vegetation affording no view of the site. The magnitude of change is, therefore, **negligible** and the significance of **effect no change/no significance**.
- 9.40 Viewpoints 2 will afford partial views to the western edge of the array through bare stems and gaps in the vegetation and experience an increase in activity on site during construction. Users of the footpath will, however, be focussed on the crossing of the railway. The magnitude of change will be **low** resulting in a **minor adverse** significant effect in winter and a **negligible adverse** significant effect in summer when vegetation is in full leaf. The effect will lessen to **negligible adverse** in winter and **no change/ no significance** in summer once new tree planting along the western boundary of the site has matured.
- 9.41 Viewpoint 3 will be extensively screened by mature woodland affording filtered and glimpsed views to the array. The magnitude of change will be **low** and the significance of effect **negligible adverse** in winter, reducing to **no change/ no significance** in summer.
- 9.42 Viewpoint 4 will not have a view of the site due to intervening topography and vegetation. There will be a partial view to vehicular movement along the access track which lies behind a low earth bank. Although this will be most notable during construction, the magnitude of change will be **low**. Once operational the track will be infrequently used for routine maintenance checks and the magnitude of change, therefore, **negligible**. Construction will result in a **minor adverse** significance effect reducing to **no significance/ no change** during operation.

Effects on motorists, passengers and users on local roads

Fattening Ground Lane east of the site (Viewpoint 5, Figure 11.5)

- 9.43 The lane affords motorists, passengers and pedestrians with a view across attractive countryside. There are also partial views through to the Old Canal along PRoW 200/1, which is of local cultural and historical importance. The sensitivity of the receptor is **medium**.

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- 9.44 Due to intervening vegetation and landform there will be no view to the array at any time during construction or operation. There will, however, be a view during construction to an increase in activity along the access track which runs beyond the Old Canal and screened partially by a low bund. The magnitude of change during construction will be of **minor adverse** significant affect. Although mitigation has been proposed in the form of controlling movements outside working hours and introducing a phased programme of works, this will not be significant to further reduce the effects. During the operation there will be infrequent maintenance checks whereby the access track will be used. This will, however, cause **negligible** change and result in **no change/ no significance** effects.
- 9.45 Sack Lane southwest of the site (Viewpoint 6, Figure 11.6)
- 9.46 The lane is used locally by motorists, passengers and pedestrians for access to farm buildings and agricultural land and affords views across attractive countryside. The grade I listed property at Barnham Court, which is visible in the view, is of local historical importance. The sensitivity of receptors is assessed as **medium**. Due to the drop in landform and intervening vegetation there will be no view of the site and the magnitude of change will be **negligible/ no change**. There will be **no change/ no significance** effects.

Table 7.1: Assessment of visual effect for public views

VIEW No.	LOCATION	DESCRIPTION OF THE EXISTING VIEW	PREDICTED CHANGES TO THE VIEW AS A RESULT OF THE DEVELOPMENT	SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL EFFECT (without mitigation)	MITIGATION AND ENHANCEMENT	EFFECT ONCE MITIGATION IS EFFECTIVE
See Figure 10 for locations								
1	View from PRow 200/1 looking across to the site in a south-easterly direction.	Hedgerows and woodland in the foreground screen most of the views to the landscape beyond, with just a few glimpses through the bare winter stems of the hedgerow towards Fattening Ground Barn. In front runs a small track and the footpath. The site is not discernible within the view.	There will be no change to the view due to the intervening mature vegetation.	Medium View from a well-used PRow which follows the Old Canal which is of local cultural and historical importance.	Negligible/ No change	No change/ No significance	None proposed	No change/ No significance

VIEW No.	LOCATION	DESCRIPTION OF THE EXISTING VIEW	PREDICTED CHANGES TO THE VIEW AS A RESULT OF THE DEVELOPMENT	SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL EFFECT (without mitigation)	MITIGATION AND ENHANCEMENT	EFFECT ONCE MITIGATION IS EFFECTIVE
2	View from the junction of PROW 200/1 and the Bognor Regis to Barnham Railway Line looking across to the site in a south-easterly direction.	The railway line dominates the foreground with mature trees and shrubs just beyond, screening the western part of the site. With vegetation not in leaf there are partial views through to the eastern part of the site and across agricultural land towards Fattig Ground Farm. There is also a long distance view towards Bilsham Solar Farm.	During construction there will be a visible increase in activity within the site. There will be a visible change and gradual change of land use from arable land to solar park. This will include the introduction of the array and security fencing.	Medium View from a well-used PROW follows the Old Canal which is of local cultural and historical importance.	Low The scale of the change will be small in the view and will be experienced by users of the footpath for a short time focusing on crossing the railway line.	Minor adverse in winter Negligible adverse in summer	New tree planting in the northwest corner to screen views of the array. New native hedgerow to be planted along the southern boundary to define the field boundary, to absorb the visual impact of the security fence and enhance local character. To be maintained to a winter cut height of 2.5-3 m. Grassland to be maintained and areas of bare ground seeded with species rich grassland mix to restore local habitat and enhance local character.	Negligible adverse in winter No change/ No significance in summer

VIEW No.	LOCATION	DESCRIPTION OF THE EXISTING VIEW	PREDICTED CHANGES TO THE VIEW AS A RESULT OF THE DEVELOPMENT	SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL EFFECT (without mitigation)	MITIGATION AND ENHANCEMENT	EFFECT ONCE MITIGATION IS EFFECTIVE
3	View from a woodland block on PRow 200/1 looking across to the site in a southerly direction.	The view is dominated by mature woodland with dense understory which, while not in leaf, affords partial views to the site and across to agricultural land beyond.	During construction there will be a visible increase in activity within the site. There will be a visible change and gradual change of land use from arable land to solar park. This will include the introduction of the array and security fencing.	Medium View from a well-used PRow which follows the Old Canal and which is of local cultural and historical importance.	Low Due to the extensive woodland the scale of the change will be very small in the view and most significant only in the winter.	Negligible adverse in winter No change/ No significance in the summer.	New native hedgerow to be planted along the southern boundary to define the field boundary, to absorb the visual impact of the security fence and enhance local character. To be maintained to a winter cut height of 2.5-3 m. Grassland to be maintained and areas of bare ground seeded with species rich grassland mix to restore local habitat and enhance local character.	No change/ No significance

VIEW No.	LOCATION	DESCRIPTION OF THE EXISTING VIEW	PREDICTED CHANGES TO THE VIEW AS A RESULT OF THE DEVELOPMENT	SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL EFFECT (without mitigation)	MITIGATION AND ENHANCEMENT	EFFECT ONCE MITIGATION IS EFFECTIVE
4	View from Hollinsworth Bridge on PRow 200/1 looking across to the site in a westerly direction.	The infilled canal and the bridge are prominent in the foreground bound by a mature hedgerow which affords partial views to the landscape beyond. The site is not discernible due to a drop in landform and intervening vegetation.	During construction there will be a visible increase in activity entering and exiting the site along the access track which lies behind the bund. There will be occasional routine visits to the site for maintenance which will use the access track.	Medium View from a well-used PRow follows the Old Canal and is located next to a bridge, both of which are of local cultural and historical importance.	Low during construction Negligible/ No change during operation.	Minor adverse during construction No change/ No significance during operation	Control movements outside working hours and use of floodlighting during construction especially during winter months. Introduce a phased programme of works to minimise disturbance.	Minor adverse during construction No change/ No significance during operation
5	View from Fattig Ground Lane looking across to the site in a westerly direction.	An open and long distance view across agricultural land. A line of trees and shrubs delineates the disused canal to the north. The site is not discernible due to a drop in landform and intervening vegetation.	During construction there will be a visible increase in activity entering and exiting the site along the access track which lies behind the bund. There will be occasional routine visits to the site for maintenance which will use the access track.	Medium View from a locally uses lane looking across open attractive countryside.	Low during construction Negligible/ No change during operation.	Minor adverse during construction No change/ No significance during operation	Control movements outside working hours and use of floodlighting during construction especially during winter months. Introduce a phased programme of works to minimise disturbance.	Minor adverse during construction No change/ No significance during operation

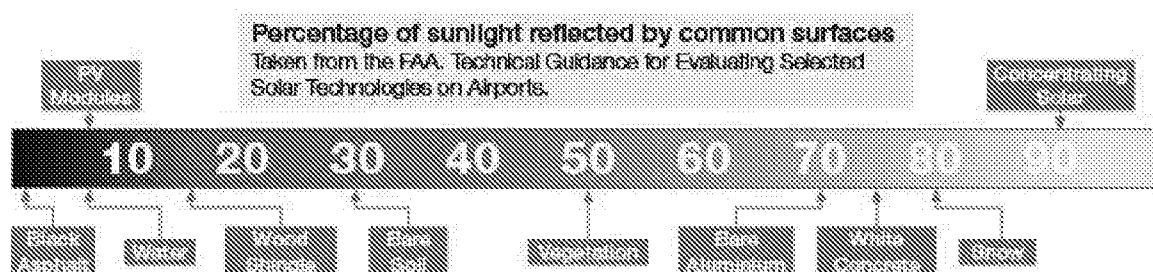
VIEW No.	LOCATION	DESCRIPTION OF THE EXISTING VIEW	PREDICTED CHANGES TO THE VIEW AS A RESULT OF THE DEVELOPMENT	SENSITIVITY	MAGNITUDE OF CHANGE	VISUAL EFFECT (without mitigation)	MITIGATION AND ENHANCEMENT	EFFECT ONCE MITIGATION IS EFFECTIVE
6	View from Sack Lane looking across to the site in a north-easterly direction.	A long distance view across agricultural land with intervening hedgerows and woodland affording partial views to the rooftops of properties along Highground Lane and Barnham Court. There are long distance views to rising land of the South Downs National Park. A drop in the landform removes the site from view.	There will be no visible changes to the view during construction or operation due to intervening vegetation and landform.	Medium View from a local lane with views across open attractive countryside. Listed properties at Barnham Court are of local importance.	Negligible/ No change	No change/ No significance	None proposed	No change/ No significance

Summary of visual impact

- 9.47 Overall the proposed development (without mitigation) will have at worst a minor adverse effect on immediate visual receptors along the PROW 200/1 to the north of the site. Such effects will be localised and temporary (and therefore reversible). If mitigation is applied, most significance effects will be reduced to negligible adverse during the winter months and further reduces to no change/no significance during the summer. The only residual minor adverse effect will be during construction with movements along the access track, which cannot be mitigated against. Due to the low lying nature of the landscape, the adverse effect on visual receptors reduces significantly at viewpoints further afield.

Glare

- 9.48 PV panels absorb sunlight and the glass is coated with translucent coating materials to improve light transmittance into the glass. Thus panels appear to have a dull sheen and do not reflect light as strong glint or glare. Studies into the likely impacts from glare on aviation have shown that glare from a photovoltaic installation is less than that from a similar sized water body, such as a lake.



- 9.49 Glint is a more intense, but intermittent direct reflection of the sun from reflective surfaces, which can occur on rare occasions when several environmental conditions coincide. The sun has to be at the right height in the sky (seasonal) and at the right angle (time of day) and there must be no cloud obscuring the sun. Assuming that there is no cloud cover, these circumstances would only result in glint impacts on each receptor for a short period of time each day and for a few days twice a year. With the added constraint of cloudy weather, and other variables such as the slight differences in the pitch of panels and undulations in topography, it is almost impossible to predict these impacts. Newly manufactured PV panels and their alloy frames may create glint initially but, with weathering and surface oxidation this will reduce over time.
- 9.50 Due to PROW 200/1 lying to the north of the site, users of the footpath will not be affected by glare. Receptors to the southwest at Sack Lane would be the only potential receptors of glare. Due to the low lying nature of the site there will be very little opportunity for glare and the proposed mitigation planting is considered to be appropriate for minimising the risk of any potential glint or glare. Overall the potential adverse effect from glint is considered to be temporary and of negligible significance given the distance away from the majority of properties and intervening vegetation. As such no additional glare-specific mitigation measures have been designed into the proposed development.

10.0 MITIGATION MEASURES

- 10.1 The proposed scheme includes inherent mitigation, in that existing trees and shrubs and field patterns are retained. The assessment has concluded the secondary landscape mitigation measures should be provided, and these details are summarised below:

Secondary mitigation measures

- New trees will be planted in the northeast corner to gap up views from PRoW 200/1 and the railway line. The quantity and location of trees is to be determined in the field.
- A new native hedgerow will be planted along the southern boundary and maintained to a winter cut height of 2.5 – 3 m
- New native shrubs will be planted to infill the gap in the northern boundary upon the earth bank.
- Maintain grassland and seed areas bare ground with a species rich grassland mix to restore local habitat and enhance local character.
- The separation and storage of topsoil and subsoil prior to the siting of the construction compound to preserve the structure and quality of the soil, replaced separately following the removal of the compound.
- Protection of all trees and shrubs during construction to BS 5837:2012
- Measures of “no dig” construction policy and sensitive working methodologies such as hand digging and ground inspections around trees and hedgerows close to the compound and proposed security fencing to avoid risk of damage to root protection zones.

- 10.2 **Figure 12** (Landscape Masterplan) shows the location of the recommended landscape mitigation.

Summary of visual effects once mitigation has established

- 10.3 New planting of hedgerows, trees and shrubs typically matures to provide full screening effect at 5 to 7 years after planting.
- 10.4 Successful implementation and establishment of the proposed mitigation measures will result in all landscape and visual impacts assessed being alleviated to the extent that the significance of residual impacts will be at worst **negligible adverse**.

11.0 COMPLIANCE WITH PLANNING POLICIES

- 11.1 The proposed development is compliant with adopted and emerging Local Plan Policy.
- 11.2 With particular reference to landscape and visual effects, the location, design and layout of the solar park has been informed by adopted Local Plan Policy (section 3 of this report refers).

- 11.3 The LVIA also demonstrates that the proposed development will not have an unacceptable adverse effect on designated areas, assets and features.
- 11.4 The LVIA demonstrates that the proposed development will not cause unacceptable impacts on the amenity of neighbouring residents and that proposed mitigation measures will ensure that there are no significant visual impacts on views from residential properties. Overall the proposed mitigation measures will improve views by enhancing landscape features and local character.

12.0 CUMULATIVE EFFECT

- 12.1 There are a number of existing and proposed solar parks within a 3 km radius of the site (**Figure 3** refers), the closest being the operational Bilsham Solar Park 1 km to the southeast. To the west are the permitted Solar Parks near Shripney, 1.9 km away, and Decoy Farm 2.7 km away.
- 12.2 Although there is the potential for a cumulative effect in landscape and visual terms, due to the low lying nature of the landscape, the majority of sites above will be visible only from higher ground within the South Downs National Park, which is some 4 kilometres away. At this distance, and set against the wide panorama of the coastal plain and the nearby expanses of glass houses and polytunnels, the cumulative effect will be minimal. The site is also located in a dip and screened extensively by mature vegetation to the north, further removing any potential cumulative views.
- 12.3 Viewpoint 2 (**Figure 11.2**) is the only viewpoint with a view of the site and Bilsham Solar Park in combination. The Solar Park, however, forms only a small part of the composition of the view. The planting of hedgerow trees to the southwest corner of the site will help to mitigate views of Bilsham Solar Park by affording only partial views in the winter (the exact location and quantity of trees required will need to be verified in the field **Figure 12** refers.) Also, once proposed mitigation along the western boundary of the site matures the view of the proposed development will be significantly screened. Users of the PRoW will only experience the view for a short period of time, and will be focussed on the crossing of the railway line rather than the view.
- 12.4 Thus the effect of the proposed scheme, in terms of cumulative impact, is considered to be **negligible adverse** in winter, to **no change/ no significance** in summer.

13.0 CONCLUSION

- 13.1 The proposed development is temporary and will be constructed in such a way that it will not have any adverse effect on the landscape once it is decommissioned and removed. While operational the development will initially have a **minor adverse** visual effect on a PRoW running to the north of the site. These effects are localised and only parts of the site are visible. Once the proposed mitigation has established, adverse effects should reduce to **negligible adverse/no change**.
- 13.2 Overall, the proposed development is considered to be acceptable in landscape and visual terms.

APPENDIX A

Assessment Methodology

APPENDIX A: Assessment Methodology

Assessing the Nature of Landscape Receptors (Sensitivity to Change)

- A1.1 Assessment of landscape sensitivity is concerned with the relative value that is attached to different landscapes sensitivity refers to the degree to which a particular landscape feature or character area is able to accommodate change without significant effects on its components or overall character. and susceptibility
- A1.2 In a policy context the usual basis for recognising certain highly valued landscapes is via application of local or national landscape designations. A landscape can nonetheless be valued by different communities for many different reasons without any formal designation.
- A1.3 The assessment of landscape quality (condition) is based on judgements about the physical state of the landscape and about its intactness from visual, functional and ecological perspectives. It also reflects the state of repair of individual features and elements that make up the character in any one place.
- A1.4 It usually follows that higher quality landscapes have higher sensitivity to change, but this must also be assessed in conjunction with landscape value to give an overall assessment of sensitivity.
- A1.5 This study assigns a degree of sensitivity to landscape features and to each landscape character area identified (Table A.1 refers).

Table A.1: Landscape Quality/Sensitivity

LANDSCAPE SENSITIVITY	DEFINITION	TABLE A5 DEFINITION
Very high/ International	Landscape of exceptional scenic quality, harmonious and unified with pleasing landscape patterns and combinations of landscape features. Demonstrates strong landscape structure, characteristics, patterns, balanced combination of landform and land cover, distinct features, and land under appropriate management. Has no or very few detracting features and is typically considered very attractive by most people. These landscapes are highly valued and often designated of international importance such as World Heritage sites. They are extremely susceptible to small changes.	Very High
High/ National	Landscape of exceptional scenic quality, harmonious and unified with pleasing landscape patterns and combinations of landscape features. Landscape containing many attractive features and no visually intrusive or incongruous features. Vegetation in good condition and where appropriate, well maintained. Typically considered very attractive by most people. Designated landscapes of international or national importance. Qualities typically found within Areas of Outstanding Natural Beauty and National Parks.	High
Medium/ Regional	An attractive landscape but with some minor blemishes, such as unattractive buildings. Vegetation generally in good condition and well maintained. Designated landscapes of regional, county or district importance. A quality typically exhibited by Areas of Great landscape Value.	
High/Local	A reasonably attractive landscape with a mix of attractive features but only a few intrusive elements. Vegetation condition varies in quality. Typical of many landscapes throughout Britain	Medium
Medium/ Local	A pleasant but ordinary landscape with numerous blemishes, such as industrial areas and pylons. Vegetation structure and management poor. Typically an urban fringe landscape.	Low
Low/Local	A degraded or disturbed landscape with a severely damaged landscape structure, for example many hedges removed. Many unattractive and intrusive features. Typical of urban fringe landscapes in need of restoration	Negligible

Assessing the magnitude of change to landscape features

- A1.6 The magnitude of the change to existing landscape character and features is assessed in accordance with the criteria set out in Table A.2. These criteria can be applied to both positive and negative impacts.

Table A.2: Magnitude of change to the Landscape

LANDSCAPE IMPACT MAGNITUDE	DEFINITION
Very high	The proposed development will either cause a large improvement or complete loss of or major alteration to key elements/features/characteristics. Or introduction of elements considered entirely characteristic or totally uncharacteristic.
High (dominant)	The proposed development will cause either a significant improvement or deterioration of one or more key elements/features/characteristics or introduction of elements that may be considered to be substantially uncharacteristic or characteristic.
Medium (prominent)	The proposed development will cause a noticeable improvement or deterioration of/minor loss to one or more key elements/features/characteristics or the introduction of elements that are uncharacteristic or characteristic.
Low (present)	The proposed development will cause a barely perceptible improvement or deterioration to one or more key elements/features/characteristics, or introduction of elements that are characteristic or uncharacteristic.
Negligible/No Change	The proposals will cause no actual change or no discernible change.

Analysis of Visual Receptors

Assessing the Sensitivity of Visual Receptors to Change

- A1.7 The sensitivity of visual receptors depends on its location and context, the expectations and occupation or activity of the viewer and on the importance of the view (the latter is derived from the receptors popularity or frequency of use)
- A1.8 The purpose of describing the baseline visual environment is to identify the most important sensitive visual receptors around the site which have views to or across the proposed development. A visual receptor is essentially any viewer who would be likely to be affected as a result of the proposed development. The sensitivity of any receptor is categorised in Table A.3 below.

Table A.3: Visual Receptor Sensitivity

VISUAL RECEPTOR SENSITIVITY	INDICATIVE DEFINITION
Very high	Views from within internationally and nationally designated high quality landscapes (National Parks, AONB), scheduled monuments or Grade 1 listed buildings and their setting, where views from, or near to public rights of way/public roads (where the attractive nature of the environment is a significant factor in the enjoyment of the visit typically National Trails and Long Distant Footpaths.). Views from large numbers of residential properties in the same location (typically 100+)
High	Views from within high or medium high quality regionally designated landscapes (Areas of Great Landscape Value), parks or gardens listed in the National Gardens Register, Grade II* and II listed buildings and their settings. Views from well used public rights of way (where the attractive nature of the countryside is a significant factor in the enjoyment of the walk). Views from a numerous residential properties within a similar location (typically between 10-100)
Medium	Views from within medium quality non-designated but locally important landscapes, outdoor sports or recreation (where the landscape is not a factor in the enjoyment of the sport). Views from public rights of way used locally and passing through attractive rural landscapes. Views from or near to residential properties, from passenger trains, or people within cars on local roads. Views from single or small groups of residential properties (less than ten)
Low	Views from within medium-low non-designated but locally important landscapes. Views from less well used public rights of way which pass through less attractive landscapes or townscape and are not used for enjoyment of the scenery. Views from or near to motorways, major roads, or business premises.
Negligible	Views from within unattractive non-designated landscapes of local importance.

Assessing the Magnitude of Visual Change

- A1.9 The magnitude of change to the current (baseline) visual environment depends on a combination of factors, such as the size of change, the nature of change and the ability of the viewer to appreciate the change. Table A.4 provides definitions for the magnitude of both positive and negative impacts.

Table A.4: Magnitude of Visual Change

VISUAL IMPACT MAGNITUDE	DEFINITION
Very high	The proposed development will either cause complete loss of the view or a very large improvement in the view.
High (dominant)	The proposed development will either be visually dominant and intrusive and will disrupt views or will result in a significant improvement or deterioration of the view.
Medium (prominent)	The proposed development will be visually prominent within the view and will result in either a noticeable improvement or deterioration of the view.
Low (present)	The proposed development will either cause barely adverse or barely positive change within the view.
Negligible/No Change	The proposed development will cause no actual change or no discernible change within the view.

Assessment of Significance

- A1.10 The significance of effects is assessed using the appropriate national and international quality standards and professional judgement. For clarity and transparency, criteria have been used to attribute levels of significance. Broadly, the significance is a function of the magnitude of the effect and the number and sensitivity of receptors. The reversibility and duration of the effect are also important considerations.
- A1.11 For each assessment factor the sensitivity of the effect is combined with magnitude to give an overall score for the significance of the effect.

