



Glöyn Byw | Butterfly Solar Farm

Environmental Statement - Volume 2

Chapter 6.0 – Landscape and Visual Impact

Prepared for

RWE

RWE Renewables UK

September 2025
3456-02-ES-06



Document Control

Revision	Date	Prepared By	Reviewed / Approved By
3456-02-ES-06 v1	April 2025	CG and LH	JM
3456-02-ES-06 v2	September 2025	LH	JM

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6.0 LANDSCAPE AND VISUAL IMPACT

6.1 Introduction

6.1.1 This Chapter of the Environmental Statement presents the findings of an assessment of the likely significant landscape and visual impacts as a result of the Proposed Development.

6.1.2 The Proposed Development comprises a new solar photovoltaic electricity generating station (or 'solar farm') and associated on-site Battery Energy Storage Systems (BESS) and ancillary development, including a 132 kV substation, on land to the north of the B5426, Wrexham ('the Site'). The Proposed Development also includes the associated infrastructure and connection route options to the Legacy National Grid substation. A detailed description of the Proposed Development is provided in **ES Chapter 4: Proposed Development**.

6.1.3 The Proposed Development would enable the export of up to 99.9 megawatts (MW) of electricity, as well as the storage of electricity in the BESS.

6.1.4 The solar array is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively). The array areas are shown on the Indicative Landscape Masterplans provided as **ES Figures 6.6a-c** and are described in detail within **ES Chapter 4: Proposed Development**.

6.1.5 This chapter is accompanied by the following appendices:

- i) Appendix 6.1 – LVIA Methodology;
- ii) Appendix 6.2 – ZTV and Photomontage Methodology;
- iii) Appendix 6.3 – Landscape Character Baseline;
- iv) Appendix 6.4 – Effects on Landscape Character; and
- v) Appendix 6.5 – Effects on Viewpoints.

6.1.6 This chapter is also accompanied by the following figures:

- i) Figure 6.1 – Landscape Character and Designations;
- ii) Figure 6.2a – ZTV (all elements) and Viewpoints;
- iii) Figure 6.2b – ZTV (all elements) and Viewpoints 10 km;
- iv) Figure 6.2c – ZTV (Solar Array - whole site) and Viewpoints;



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- xiii) Figure 6.4a-g – Viewpoint Photomontages; and
- xiv) Figure 6.5a-c – Indicative Landscape Masterplans.

6.1.7 The following sections of this chapter include:

- i) A description of relevant legislation, planning policy and guidance which has informed the assessment;
- ii) A summary of consultation with stakeholders;
- iii) A description of the methodology for the assessment, including details of the study area and the approach to the assessment of effects;
- iv) A review of baseline conditions;
- v) Details of the measures to avoid or reduce environmental effects, including mitigation and design measures that form part of the Proposed Development (embedded mitigation);
- vi) An assessment of the likely significant landscape and visual impacts occurring during the construction, operation and decommissioning phases of the Proposed Development, taking into account the measures proposed to avoid or reduce effects;
- vii) A description of the inter-relationship of potential effects where other environmental topic effects could have a subsequent direct or indirect effect on landscape and views;
- viii) Identification of any additional mitigation measures or monitoring required in relation to likely significant effects;
- ix) A summary of the residual effects of the Proposed Development from implementation of any additional mitigation; and
- x) Assessment of any cumulative effects with other proposed developments.

Competence

- 6.1.8 Drawing on published standards and guidance, landscape and visual impact assessment relies on an element of reasoned professional judgement. This assessment has been undertaken by Chartered Members of the Landscape Institute (CMLI) with experience of assessing the landscape and visual effects of large-scale infrastructure developments.
- 6.1.9 The landscape competent expert holds a diploma degree in landscape architecture and CMLI status. The competent expert has over 19 years' experience working in the field of landscape architecture specifically landscape assessment and has worked on numerous large-scale infrastructure projects across the UK, including solar arrays and electrical grid connections.
- 6.1.10 Visualisations supporting the LVIA were completed by Andy Maw Design Limited, with approximately 15 years' experience in photomontage production, produced in accordance with the latest Landscape Institute guidance.



6.2 Legislation, Planning Policy and Guidance

National Planning Policy

Future Wales - The National Plan 2040

- 6.2.1 Future Wales¹ is the national development framework and spatial plan for Wales and sets the direction for development in Wales to 2040. Future Wales has development plan status and should be read alongside Planning Policy Wales discussed below.

Planning Policy Wales

- 6.2.2 National planning policy is set out in the Welsh Government's Planning Policy Wales, Edition 12 (PPW 12)², dated February 2024.
- 6.2.3 Paragraphs 3.9 and 3.10 discuss Character and identify that:

"The special characteristics of an area should be central to the design of a development. The layout, form, scale and visual appearance of a proposed development and its relationship to its surroundings are important planning considerations. A clear rationale behind the design decisions made, based on site and context analysis, a strong vision, performance requirements and design principles, should be sought throughout the development process and expressed, when appropriate, in a design and access statement.

In areas recognised for their particular landscape, townscape, cultural or historic character and value it can be appropriate to seek to promote or reinforce local distinctiveness. In those areas, the impact of development on the existing character, the scale and siting of new development, and the use of appropriate building materials (including where possible sustainably produced materials from local sources), will be particularly important."

¹ Welsh Government (2021). *Future Wales – The National Plan 2040*. Available online at: <https://www.gov.wales/future-wales-national-plan-2040>

² Welsh Government (2024). *Planning Policy Wales, Edition 12*. Available online at: <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf>

6.2.4 Paragraph 3.60 refers to Development in the Countryside. It states that:

“Development in the countryside should be located within and adjoining those settlements where it can best be accommodated in terms of infrastructure, access, habitat and landscape conservation. Infilling or minor extensions to existing settlements may be acceptable, in particular where they meet a local need for affordable housing or it can be demonstrated that the proposal will increase local economic activity. However, new building in the open countryside away from existing settlements or areas allocated for development in development plans must continue to be strictly controlled. All new development should be of a scale and design that respects the character of the surrounding area.”

6.2.5 Chapter 6, section 6.3 of PPW 12 refers to Landscape. Paragraph 6.3.3 of PPW12 states that:

“All the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places. Considering landscape at the outset of formulating strategies and policies in development plans and when proposing development is key to sustaining and enhancing their special qualities, and delivering the maximum well-being benefits for present and future generations as well as helping to deliver an effective and integrated approach to natural resource management over the long term. Collaboration and engagement with adjacent planning authorities, Natural Resources Wales (NRW), Cadw and the third sector will be necessary to draw on a wide range of expertise and evidence. This means:

- Ensuring Wales contributes to meeting international responsibilities and obligations for landscapes;*
- Ensuring statutorily designated sites are properly protected and managed;*
- Ensuring that the value of all landscapes for their distinctive character and special qualities is protected; and*
- Ensuring the opportunities landscapes provide for tourism, outdoor recreation, local employment, renewable energy and physical and mental health and well-*

being are taken into account and multiple well-being benefits for people and communities secured.”

6.2.6 Paragraph 6.3.4 states that:

“Where adverse effects on landscape character cannot be avoided, it will be necessary to refuse planning permission.”

6.2.7 Paragraphs 6.3.5 to 6.3.11 discuss the statutory landscape designations that apply in Wales, referring to National Parks and Areas of Outstanding Natural Beauty (AONB).

6.2.8 Paragraphs 6.3.12 and 6.3.13 refer to Special Landscape Areas (SLAs), which are non-statutory designations that define local areas of high landscape importance.

6.2.9 Statutory and non-statutory designations within the Site and its surroundings are discussed in **Section 6.5** below.

Local Planning Policy and Guidance

6.2.10 The Proposed Development Site is within the administrative area of Wrexham County Borough Council (WCBC).

6.2.11 The Wrexham Local Development Plan (2013 – 2028) (LDP) was initially adopted in December 2023 and consequently formed part of the Development Plan for the Authority Area. However, the status of the LDP has been subject to legal review which has fundamentally altered its status. The LDP is now an unadopted plan and the Wrexham Unitary Development Plan (1999 – 2011) (UDP), is instead the ‘adopted development plan’. The LDP can still however be given significant weight in the determination of applications for planning permission, where the policies of relevance more accurately reflect the prevailing national policy. As such the LDP is considered as a material planning consideration.

WCBC Unitary Development Plan 1996-2011

6.2.12 As mentioned above, the status of the UDP has in the last year reverted back to comprising a key component part of the Development Plan. The UDP was adopted in 2005 and comprises two parts – a Strategy that outlines the broad intentions for development in the area; and Specific Policies accompanied by reasoned

justifications. Those policies that are considered of most relevance to this LVIA include:

- i) UDP Policy PS11: Biodiversity;
- ii) UDP Policy GDP1: Development Objectives;
- iii) UDP Policy EC4: Hedgerows, Trees and Woodland; and
- iv) UDP Policy EC5: Special Landscape Areas.

6.2.13 **Policy PS11: Biodiversity** states that encouragement will be given to proposals which improve the biodiversity value of sites.

6.2.14 **Policy GDP1: Development Objectives** sets out eleven objectives for all developments to adhere to. The following objectives are of particular relevance to the Proposed Development:

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

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

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

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

f) Ensure the safety and amenity of the public and safeguard the environment from the adverse effects of pollution of water, land or air, hazards from industry and quarrying, and associated noise, odour or vibration arising from development.

h) Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest.

k) Secure the development of sustainable communities, through the promotion of the economic, social and environmental well-being of the area.”



6.2.15 **Policy EC4: Hedgerows, Trees and Woodland** requires that development proposals should provide for the conservation and management of (inter alia) hedgerows, trees, and woodland. New planting should be included to enhance the character of the landscape and townscape, whilst developments which result in the loss or significant damage to valuable trees, important hedgerows or woodland will not be permitted.

6.2.16 **Policy EC5: Special Landscape Areas** states that within Special Landscape Areas, *"priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints."*

Material Planning Considerations

Technical Advice Notes

6.2.17 Planning Policy Wales has issued several technical advice notes (TANs)³ which provide detailed planning advice. Local planning authorities take them into account when they are preparing development plans. TANs relevant to landscape and views include:

- i) TAN 12: Design (2014); and
- ii) TAN 5: Nature Conservation (2009).

6.2.18 **TAN 12: Design** provides advice on how *'Promoting sustainability through good design'* and *'Planning for sustainable building'* may be facilitated through the planning system.

6.2.19 Paragraph 4.8 states that:

"Appraising 'character' involves attention to topography; historic street patterns, archaeological features, waterways, hierarchy of development and spaces, prevalent materials in buildings or floorscape, architecture and historic quality, landscape

³ Planning Policy Wales, *Technical Advice Notes*. Available online at: <https://www.gov.wales/technical-advice-notes>

character, field patterns and land use patterns, distinctive views (in and out of the site), skylines and vistas, prevailing uses and plan forms, boundary treatments, local biodiversity, natural and cultural resources and locally distinctive features and traditions (also known as vernacular elements)."

6.2.20 Paragraph 4.11 states that:

"Appraisal of the landscape should focus on its quality in terms of geology and geomorphology, vegetation and habitats, visual and sensory quality and historic and cultural quality. 'LANDMAP' is one method of assessment which has the potential to provide a framework and information base from which good design and management can be developed...Further detailed site appraisals may also provide information on local hydrology, microclimate, soils, plant communities and features, and all visual qualities including views and vistas."

6.2.21 Section 4 of TAN 12 also identifies the key objectives of good design and how to respond to these objectives following an appraisal of the context with reference to the five aspects of good design - Access; Character; Community Safety; Environmental Sustainability; and Movement. Design solutions relating to Character objectives, such as sustaining or enhancing local character, refer to landscape design, scale, amount, layout of development and appearance.

6.2.22 **TAN 5: Nature Conservation** provides advice on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation.

6.2.23 TAN 5 states that *"The development control process is a critical stage in delivering the protection and enhancement of nature conservation required by PPW. The following can help to achieve these objectives:*

- *Identifying ways to build nature conservation into the design of new development."*

Wrexham Local Development Plan (2013-2028)

6.2.24 Local planning policy in the Wrexham Local Development Plan 2013 to 2028 (LDP), relevant to the Site and landscape and views, includes:

- i) Policy SP14: Natural Environment;
- ii) Policy SP19: Green Infrastructure;

- iii) Policy NE3: Trees, Woodlands and Hedgerows;
- iv) Policy NE4: Area of Outstanding Natural Beauty;
- v) Policy NE5: Special Landscape Areas; and
- vi) Policy DM1: Development Management Considerations.
- vii) Policy RE2: Renewable Energy Schemes

6.2.25 **SP14: Natural Environment** sets a requirement to only permit development that seeks to *“protect, conserve and enhance the natural environment”* with several features listed, including:

- *“Special Areas of Conservation, Special Protection Areas, and Ramsar Sites;*
- *Sites of Special Scientific Interest and National Nature Reserves;*
- *Protected Species and their habitat;*
- *Local Wildlife Sites;*
- *Special landscape areas;*
- *Natural landscape features and Green Infrastructure such as trees, hedges and woodland which contribute to the quality and diversity of the natural environment and play an important role in mitigating the impact of climate change;*
- *The quality of natural services including water, soundscape, air and soils; and*
- *Habitats and species of principal importance to Wales;”*

6.2.26 This LVIA takes account of this policy and its requirements by considering the landscape baseline of the Site and its surroundings within the 2.5 km Study Area, by appraising the effects of the Proposed Development on landscape features and landscape character, and by informing landscape and visual mitigation incorporated as part of the Proposed Development throughout the iterative design and assessment process.

6.2.27 **Policy SP19: Green Infrastructure** states that:

“Development will be required to maintain the extent, quality and connectivity of multifunctional green infrastructure on or near a site, and, where appropriate to enhance it by:

- *Creating new interconnected areas of green infrastructure between the proposed site and the existing network;*
- *Filling gaps in the existing network to improve connectivity;*



- *Protecting the features most valuable for both nature and people; and*
 - *In instances where loss of green infrastructure is unavoidable, provide mitigation and compensation for the lost assets on a site-specific basis."*
- 6.2.28 The Indicative Landscape Masterplans for each of the proposed solar arrays, included as **Figures 6.5a to 6.5c** show retained vegetation and proposed hedgerow and trees incorporated as part of the Proposed Development. Proposed planting, including two new orchards, has considered relevant management guidance for LCA13a: Welsh Maelor set out in Wrexham LANDMAP Supplementary Planning Guidance Note (2007) (discussed in **Appendix 6.3**) and would provide landscape and ecological benefits including increased habitat and habitat connectivity.
- 6.2.29 **Policy NE3: Trees, Woodlands and Hedgerows** states that:
- "Development will only be permitted where it does not cause unacceptable harm to trees, woodlands and hedgerows of significant public amenity, natural or cultural heritage value or those that provide important ecosystem services."*
- 6.2.30 **Policy NE3** also states that:
- "Where adverse effects cannot justifiably be avoided and sustainable integration is not possible then adequate mitigation will be required. In such cases development should include proposals for the planting of new trees, woodlands, and hedgerows within the site, ensuring connectivity between proposed and existing green infrastructure."*
- 6.2.31 This LVIA assesses any tree and hedgerow removal that would arise from the Proposed Development, (as set out in the arboricultural impact assessment (AIA) to accompany the planning application) and identifies and assesses new hedgerow and tree planting incorporated as part of the Proposed Development with consideration to this Policy.
- 6.2.32 **Policy NE4: Clwydian Range and Dee Valley Area of Outstanding Natural Beauty** states that *"Development proposals that are outside, but closely interlinked with the AONB must not have an adverse impact on the natural beauty of the AONB."*
- 6.2.33 This policy also states that *"Important views to and from the AONB will be protected."*



6.2.34 The CRDV National Landscape is outside of the 2.5 km Study Area, but this LVIA does consider the effect of the Proposed Development on this nationally designated landscape.

6.2.35 **Policy NE5: Special Landscape Areas** states that:

“Priority will be given to protecting, managing and enhancing the character and quality of the following Special Landscape Areas (SLAs) as shown on the proposal map...

...Within SLAs, development will only be permitted where proposals include measures to protect and enhance the character and quality of the particular landscape features for which the SLA has been designated having regard to:

a) the impact, including cumulative impact, of the proposed development on the key features, landscape character and quality of the SLA; and

b) the ability of the development to provide appropriate mitigation and enhancement measures.”

6.2.36 This LVIA assesses the effect of the Proposed Development on the SLA encompassing the most-eastern part of the Site and the south-eastern extent of the Study Area, as shown on **Figure 6.1** and considers appropriate mitigation and enhancement measures incorporated as part of the Proposed Development.

6.2.37 **Policy DM1: Development Management Considerations** states that:

“Development proposals, where relevant, must:

- i) Accord with or enhance the character, local distinctiveness and appearance of the site, existing building(s) and surrounding landscape/ townscape in terms of their siting, layout, scale, height, design, density, use of materials and landscaping;*
- ii) Not have an unacceptable effect on the amenity of the occupiers of nearby properties/land;...*
- iii) Safeguard the environment from the adverse effects of pollution of water, land, noise, light or air, or land instability, arising from development...”*

6.2.38 **Policy RE2: Renewable Energy Schemes** states that:

“Proposals to generate energy from renewable and low carbon sources will be supported. Proposals for solar farms <10MW will be directed to the solar local search areas (LSA) identified on the Proposals Map.”

6.2.39 Paragraph 4.222 states that LSAs are:

“... the preferred areas for solar but this would not necessarily preclude applications coming forward outside these areas if deemed appropriate and considered acceptable in accordance with other policies in the plan and PPW.”

6.2.40 Paragraph 4.223 states that:

“However not all of the land within the LSA’s will be technically, economically or environmentally suitable for solar/wind proposals, site constraints and cumulative impacts/landscape sensitivity will need to be addressed on a case by case basis at planning application stage with the onus on the applicant to demonstrate landscape impacts and sensitivity through the submission of a landscape visual impact assessment on a case by case basis.”

6.2.41 The Wrexham LDP Proposal Map⁴, also recently unadopted includes the eastern part of the WAA, part of the southern and eastern extent of the CAA, and most of the EAA (excluding farmland in the most-eastern extent of the EAA), in a solar local search area (LSA).

Guidance

Wrexham Council Local Planning Guidance Notes

6.2.42 WCBC local planning guidance (LPG) notes⁵ of relevance to landscape and views include:

- i) LPG Note 7: Landscape and Development;
- ii) LPG Note 17: Trees and Development;

⁴ Wrexham County Borough Council. *Wrexham County Borough Local Development Plan 2013-2028. Proposals Map*. Available online at: <https://wrexham-consult.objective.co.uk/file/6264577>

⁵ Wrexham County Borough Council. *Local Planning Guidance Notes*. Available online at: <https://www.wrexham.gov.uk/service/development-plans-and-other-planning-policy/local-planning-guidance-notes>



- iii) LPG Note 26: Landscape and Industrial Development; and
- iv) LPG Note 32: Biodiversity and Development.

6.2.43 **LPG Note 7: Landscape and Development** (2003) clarifies landscape information requirements and helps applicants to have a better understanding of landscape issues.

“There is a diverse landscape character and settlement pattern within the County Borough, with rural landscapes of particularly high quality or special historic landscape interest designated as Special Landscape Areas in Wrexham's Unitary Development Plan. In these areas it is especially important for any development to fit in with its surroundings.”

6.2.44 **LPG Note 7: Landscape and Development** (2003) provides advice on landscape design information that should be included with planning applications, including guidance on hard and soft landscaping, landscape plans, implementation and maintenance of approved schemes and sustainable landscapes.

6.2.45 **LPG Note 17: Trees and Development** (2012) provides advice on the protection of trees and to highlight the benefit of trees as an integral part of development design.

“The planting of new trees, including the choice of species, planting locations and future maintenance needs and the integration of good quality existing trees and hedgerows is an integral part of the design process. Development must be planned around significant trees and hedgerows and where appropriate, to increase tree cover with new planting, thereby enhancing local amenity. For example, trees and hedgerows of considerable age, visual amenity, and ecological or historical value are not easily replaced and should be retained and safeguarded. Where development results in the loss of trees and hedgerows, new planting of at least equal number or canopy cover to those lost will usually be required to mitigate for the loss.”

6.2.46 **LPG Note 17: Trees and Development** (2012) also provides guidance on best practices for landscape surveying, planting and construction/after care.

6.2.47 **LPG Note 26: Landscape and Industrial Development** (2003) provides advice on how new developments can make a positive contribution to the landscape of the County Borough. This LPG provides general guidance on design actions which will make a big difference to industrial landscapes including signage, lighting and



opportunities for planting. The LPG is meant to supplement **LPG 7: Landscape and Development**.

- 6.2.48 **LPG Note 32: Biodiversity and Development** (2011) provides guidance on best practices for enhancing biodiversity through incorporating mitigation and enhancements and by securing long-term favourable management of biodiversity rich sites.

Wrexham Supplementary Planning Guidance Notes

Wrexham LANDMAP Supplementary Planning Guidance Note, 2007

- 6.2.49 The LANDMAP Supplementary Planning Guidance (SPG) Note supports the policies of the adopted Unitary Development Plan (UDP). The UDP seeks the conservation and enhancement of the landscape, and its natural and built features of significance and planning applications need to demonstrate how they have achieved this. This guidance forms a material consideration in the determination of all planning applications which could affect the form, appearance and setting of the built and natural landscape and its features.
- 6.2.50 The LANDMAP study was undertaken to identify the key elements and features which make up the landscape within the Wrexham Borough. The study identified 27 different Landscape Character Areas demonstrating the diverse and varied nature of Wrexham's landscapes.
- 6.2.51 The Wrexham LANDMAP SPG Note 6 identifies published Landscape Character Areas (LCAs) in the 2.5 km Study Area which are discussed in **Section 6.5** and are assessed in **Section 6.7**.

Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) Supplementary Planning Guidance Note

- 6.2.52 The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) Supplementary Planning Guidance (SPG) Note⁷ (dated 2018) is a material planning

⁶ Wrexham County Borough Council (2007). *Wrexham LANDMAP Supplementary Planning Guidance*. Available online at: https://www.wrexham.gov.uk/sites/default/files/2022-06/eng_-_wrexham_landmap.pdf

⁷ Denbighshire County Council, Flintshire County Council, Wrexham County Borough Council, and Clwydian Range and Dee Valley AONB (2018). *Supplementary Planning Guidance Note Clwydian Range and Dee Valley Area of Outstanding Natural*



consideration, considered by the local planning authority when making planning decisions within their respective AONB (now National Landscape) areas or which affect its setting.

6.2.53 The Site and 2.5 km Study Area are not in the boundary of the CRDV National Landscape. The CRDV National Landscape is approximately 3.5 km southwest of the closest solar array area, the WAA, at its closest point.

6.2.54 Section 8.4 of this SPG Note (page 25 onwards) however refers to Setting, which is in part relevant to the Site. Paragraph 8.42 states that:

“...new development outside the AONB but close to the boundary can impact on the setting of the AONB and its natural beauty. Consideration should therefore also be given, as stated in Planning Policy Wales (2016), to development outside the AONB which can have an impact on the designated area. The extent of the impact is likely to depend on scale and proximity to the boundary. In some instances, the accumulation of development can, over time, begin to have an adverse impact on setting. This is termed “cumulative impact” of smaller developments. Although a proposal by itself might not be significant, in combination with similar proposals in the vicinity, it has passed the threshold of acceptability.”

6.2.55 It is judged that the Site is not close to the boundary of the CRDV National Landscape. Consideration is however given in **Section 6.7** to the effect of the Proposed Development on the CRDV National Landscape with regard to views towards the Proposed Development from selected viewpoints (including from footpath viewpoints within this designated landscape) and with regard to views of the Proposed Development in the context of the CRDV National Landscape.

6.3 Assessment Methodology

Study Area

- 6.3.1 The Study Area for the LVIA has been determined with consideration to the areas of theoretical visibility of the Proposed Development, in particular the three proposed solar array areas, presented on **Figures 6.2a-j**.
- 6.3.2 **Figures 6.2a-j** show that theoretical visibility of the Proposed Development largely is within a 2.5 km radius from the three proposed solar array areas. There also are areas of theoretical visibility in the wider context of the Site extending over higher ground within the CRDV National Landscape in the wider western context of the Site.
- 6.3.3 A 2.5 km radius is proposed as the extent of the LVIA Study Area, with a localised extension to include the western end of the proposed grid connection route. The 2.5 km Study Area is the focus of this LVIA, the intention of which is to identify any significant landscape and visual effects that would arise as a result of the Proposed Development.
- 6.3.4 Areas of theoretical visibility within the CRDV National Landscape beyond the 2.5 km Study Area, also are assessed as part of this LVIA to assist with the assessment of effects on the designated landscape.

Scope of Assessment

- 6.3.5 The scope of the LVIA set out below reflects that proposed in the Scoping Report, modified as necessary to take into account the Scoping Direction, discussed in **Section 6.4** below:
- i) The introduction of new photovoltaic solar panels and associated support frames, central inverters and switchgear stations, Battery Energy Storage Systems (BESS) including battery storage containers, DC-DC converters and associated hybrid inverters, an electrical substation compound (132kV) comprising a new substation, control building and communications mast, site access and associated infrastructure, which would result in a direct change to the physical landscape elements of the Site.
 - ii) Views of the new structures from the surrounding area, affecting the visual amenity of local people including residents in their properties and users of the

public right of way network and long-distance walking routes such as the Wat's Dyke Way.

- iii) The influence of these upon the character of the surrounding landscape, with potential changes in the characteristics of those Landscape Character Areas (LCAs) where visibility is predicted.
- iv) The effect of the Proposed Development upon the identified purposes and qualities of landscape designations.
- v) Temporary activities associated with the construction of the Proposed Development, including the temporary presence of construction plant and compounds and the installation of proposed electrical cabling including electrical cabling to the National Grid Legacy Sub-Station.
- vi) Cumulative effects that would occur because of interactions between the Proposed Development and other existing, consented and proposed schemes.

6.3.6 The LVIA assesses the landscape and visual effects of the Proposed Development during its construction, operation and decommissioning phase.

6.3.7 The operational effects of the Proposed Development are assessed immediately after completion of construction (at Year 0 of operation, i.e. during the opening year of the Proposed Development prior to the maturing of any mitigation planting) and at Year 15 of operation, with consideration to the effects of the Proposed Development once planting has established and increased in maturity.

6.3.8 All proposed landscape and visual mitigation measures would be implemented by the year of opening (Year 0), with a mitigation design year at Year 15, which is the date by which proposed planting would have established to a point of maturity in contributing to mitigation objectives. For the purpose of assessment, mitigation planting growth and height assumptions have been defined in **Table 6-1** subsequently. The figures set out in this Table are based on experience of the competent expert and colleagues, including previous DCO and public inquiry experience. They are reasonable estimates of growth rates which are subject to the variables of ground conditions, general climatic influences and individual species growth rates.

Table 6-1: Mitigation Planting Heights

Planting Type	Year 0	Year 15
Hedgerow (5 plants per linear metre in double staggered row)	0.6 m	Minimum 3 m, maintained height (achieved by Year 5, based on an average growth rate of 0.5 m per year)
Trees (approximate locations shown on Figures 6.5a to 6.5c)	3-3.5 m	Typically, 7.5 - 8 m high (approximately 4-5 m growth over 15 years, based on an average growth rate of 0.3 m per year)

Assessment Methodology

- 6.3.9 The overarching approach to the ES is set out in **ES Chapter 2.0: EIA Methodology**.
- 6.3.10 LVIA is a tool used to systematically identify and assess the nature and significance of the effects of a proposed development upon the landscape and upon views and visual amenity. The purpose of the LVIA is to identify the level and nature of effect arising from a proposed development and if necessary, through an iterative design process, to inform changes to the development and evolution of mitigation strategies which minimise effects wherever possible.
- 6.3.11 This LVIA has followed a methodology which has been developed using the published good practice guidelines set out in the Guidelines for Landscape and Visual Impact Assessment⁸ (the GLVIA).
- 6.3.12 The LVIA also has been undertaken with regard to the following guidance documents produced by the Landscape Institute:
- i) Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA3)⁹ (TGN-2024-01);
 - i) Visual Representation of Development Proposals. Technical Guidance Note 06/19¹⁰ (TGN 06/19);

⁸ Landscape Institute and Institute for Environmental Management and Assessment (3rd edition 2013). *Guidelines for Landscape and Visual Impact Assessment*. Abingdon: Routledge

⁹ Landscape Institute (2024). *Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA3)* Available at: https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf

¹⁰ Landscape Institute (2019). *Visual Representation of Development Proposals. Technical Guidance Note 06/19*: Available at: <https://www.landscapeinstitute.org/visualisation/>

- ii) Infrastructure: Technical Guidance Note 04/2020¹¹ (TGN 04/20); and
 - iii) Assessing landscape value outside national designations. Technical Guidance Note 02/21¹² (TGN 02/21).
- 6.3.13 The GLVIA is the principal document setting out good practice guidelines in LVIA. The other documents listed above play a supplementary role and give further guidance on particular aspects of LVIA.
- 6.3.14 The detailed methodology followed in undertaking the LVIA is set out in **Appendix 6.1**.
- 6.3.15 The LVIA aims to establish the following:
- i) A clear understanding of the Site and its context, in respect of the physical and perceived landscape and of views and visual amenity.
 - ii) An understanding of the Proposed Development in terms of how this would relate to the existing landscape and views.
 - iii) An identification of the likely effects of the Proposed Development upon the landscape and upon views, throughout its life cycle, including cumulative interactions with other developments.
 - iv) Those mitigation measures necessary to reduce or eliminate any potential adverse effect on the landscape or views arising because of the Proposed Development.
 - v) A conclusion as to the residual likely significant effects of the Proposed Development.
- 6.3.16 As advocated by the GLVIA, the scope of the LVIA is proportionate to the anticipated likely effects of the Proposed Development.
- 6.3.17 Professional judgement is a very important part of the LVIA process at every stage of the assessment. This judgement is exercised within an assessment framework

¹¹ Landscape Institute (2020). *Infrastructure: Technical Guidance Note 04/2020*. Available online at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2018/01/LI-Infrastructure-TGN-FINAL-200924.pdf>

¹² Landscape Institute (2021). *Assessing landscape value outside national designations. Technical Guidance Note 02/21*. Available online at: <https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/>

that transparently sets out the steps in the assessment process which have led to the overall conclusions.

6.3.18 To ensure the transparency of the assessment and judgements made, the LVIA process follows a standard approach, namely:

- i) The establishment of the baseline conditions against which the effects of the Proposed Development will be assessed.
- ii) The determination of the nature of the receptor likely to be affected, i.e. its sensitivity.
- iii) The prediction of the nature of the effects likely to occur, i.e. the magnitude of impact/change.
- iv) An assessment of whether a likely significant effect would be experienced by any receptor, by considering the predicted magnitude of change together with the sensitivity of the receptor, taking into account any proposed mitigation measures.

6.3.19 The methodology followed in the production of visualisation materials included in the LVIA is set out in **Appendix 6.2**.

Assessment of Significance / Assessment Criteria

6.3.20 As described above, the landscape and visual effects of the Proposed Development have been determined by a consideration of the predicted magnitude of change together with the sensitivity of the receptor, taking into account any proposed mitigation measures. **Appendix 6.1** includes details of the criteria used to determine the sensitivity of each receptor and the magnitude of change that would occur upon each receptor.

6.3.21 The purpose of EIA is to determine the likely significant effects of a development proposal. Not all landscape and visual effects arising because of a particular proposal will be significant. It should be noted that there is no statutory definition of what constitutes a significant effect and there is often not a single, definitive, correct answer as to whether an effect is significant or not. However, it is considered that a significant effect is one which is likely to be a material factor in the decision-making process.

- 6.3.22 Where a significant effect is identified, this does not necessarily mean that such an effect is unacceptable to decision-makers. The acceptability or otherwise of effects is a matter to be weighed in the planning balance alongside other factors. What is important is that the likely effects of any proposal are transparently assessed and described in order that the relevant determining authority can bring a balanced and well-informed judgement to bear as part of the decision-making process.
- 6.3.23 The judgement for this LVIA is that greater than 'moderate' effects are more likely to be significant. This is because they would generally result from larger magnitudes of change on higher sensitivity receptors. This does not preclude a 'moderate' effect or lower being significant or a greater than 'moderate' effect not being significant. This judgment will depend on the specific circumstances being considered.
- 6.3.24 The methodology for the LVIA is informed by guidance contained within the GLVIA. Refer to **Appendix 6.1** for further details regarding the assessment of significance of effect, and as to how judgements relating to significance have been made in this LVIA.

Limitations

- 6.3.25 The assessment baseline has been ascertained in part from review of a series of published documents. These documents have been assumed to be accurate at the date of their publication but may not necessarily reflect more recent changes in the landscape or take account of more recent changes in policy or in best practice. Where identified and relevant, any post-publication changes are described in the LVIA.
- 6.3.26 Assessment work reflects the level of vegetation cover present at the time of the site visits undertaken in January, July and August 2024 and undertaken in February, July and September 2025. Viewpoint photography in the 2.5 km Study Area was captured in January 2024 and March 2025, when the leaves were absent from deciduous trees and hedgerow.
- 6.3.27 Fieldwork was undertaken from publicly accessible areas, except during the site visit in July 2025 when access onto the Site was agreed to allow a greater understanding of resident's views towards the CAA and EAA, which in turn informed landscape proposals to assist in minimising visual effects.

- 6.3.28 Professional judgement has been used to assess any impacts on residents at their property. This has been aided by fieldwork observations made from some field boundaries in the CAA and EAA and from public locations in the surrounding area as well as analysis of online aerial imagery.
- 6.3.29 Where distances and measurements are given, these are approximate and generally calculated from the nearest point of the Site boundary (or as otherwise stated) to the feature in question.

6.4 Consultation and Engagement

- 6.4.1 Prior to LVIA field assessment in February 2025, fourteen viewpoint locations in the 2.5 km Study Area were presented to WCBC to assist with agreeing the scope of the visual assessment. WCBC responded in February 2025 stating that with regards to the specific viewpoints, the Council cannot provide any further or specific advice on the appropriateness of the viewpoint locations at that point in time. It confirmed that once the application is received, the Council will assess this information and confirm if it is in agreement with the assessment and its findings as part of the overall consideration of the proposal.
- 6.4.2 A Scoping Report (**ES Appendix 2.1**) was submitted to Planning and Environment Decisions Wales (PEDW) on the 3rd of February 2025 to establish the content, approach and methods to be followed within this ES. The report sets out the findings of the scoping exercise and details the technical guidance, standards, best practice and criteria to be applied in the assessment to identify and evaluate the likely significant effects of the Proposed Development on landscape and views.
- 6.4.3 A Scoping Direction was received on 3rd April 2025 (**ES Appendix 2.2**). The feedback received from PEDW, WCBC and stakeholders within the Scoping Direction, and the Applicant's responses are presented in **ES Appendix 2.3**. The points relating to this Chapter are summarised in **Table 6-2** below.

Table 6-2 – Scoping Responses

Issue	Comment	Response
Clwydian Range and Dee Valley (CRDV) National Landscape	NRW highlight that their advice is related to the landscape character and visual amenity of the CRDV National Landscape (Area of Outstanding Natural Beauty) and its setting, and the statutory purpose of the designation to conserve and enhance its natural beauty.	Noted.
Landscape and Visual Impact Assessment (LVIA)	NRW agree with the general approach for the LVIA set out in the SR. They add that the guidance mentioned in the SR should be used together with 'Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment GLVIA3 Technical Guidance Note LITGN-2024-01' (August 2024).	Noted
Study Area and Zone of Theoretical Visibility (ZTV)	NRW notes that the boundary of the proposed search and study area for the LVIA and ZTV does not extend sufficiently to reach the CRDV National Landscape and therefore advise that the search and ZTV study area should be extended to include the CRDV National Landscape. PEDW recommends the applicant liaises directly with NRW and the LPA to agree	Advice on the scope of the LVIA was discussed with the Council at the pre-application stage. The Applicant has liaised directly with NRW to agree the LVIA study area and ZTV extents. As a result,

	an appropriate ZTV range and study area, ensuring this is clearly justified in the ES.	ZTV mapping has been extended to over 10km from the solar array areas and viewpoints in the CRDV National Landscape have been assessed.
Viewpoints	As there is no ZTV data for the CRDV National Landscape and no viewpoints currently proposed from within it, NRW are unable to rule out whether the statutory landscape may be affected. Therefore, if additional ZTV data indicated potential visibility of the site from within the CRDV National Landscape, NRW advise that viewpoints from within the National Landscape should be included in the LVIA to assess effects on the landscape and its setting.	As above, the Applicant has liaised directly with NRW. Extended ZTV mapping has been produced and viewpoints in the National Landscape have been assessed as part of the LVIA.
Cumulative Effects	NRW welcome the proposed inclusion of a cumulative assessment and agree with the methodology set out in Section 5.7 of the Scoping Report and Appendix 6.1: LVIA methodology. NRW concur with the 2.5 km study area for cumulative effects as shown in Figure 5.1.	Noted.

6.5 Baseline Landscape and Views

Data Sources

6.5.1 The following data relating to the 2.5 km Study Area is available including:

- i) Extant landscape character assessment studies published by Natural Resources Wales (NRW) and by Wrexham County Borough Council (WCBC).
- ii) Baseline photography from the proposed viewpoint locations, comprising winter photography from all locations in the 2.5 km Study Area.
- iii) Fieldwork to identify sensitive receptors.
- iv) Topographic and arboricultural surveys.

6.5.2 Further fieldwork was carried out in February 2025 to confirm if there have been any changes within the 2.5 km Study Area subsequent to 2024, to ensure a contemporary baseline. No notable changes in the landscape and viewpoint views were identified during the February 2025 site visits.

6.5.3 Further fieldwork was undertaken in July 2025 to review landscape proposals in the Site, with specific consideration to views towards the Site (and Proposed Development) from footpaths in and close to the Site and from residential properties

adjoining and close to the Site boundary, to maximise vegetation screening of the Proposed Development.

- 6.5.4 Fieldwork within the CRDV National Landscape was undertaken in September 2025 further to comments from NRW, discussed in **Section 6.4, Table 6-2** above.

The Site and its Surroundings

Overview

- 6.5.5 As set out in **ES Chapter 2: The Proposed Development**, the Site comprises three distinct solar array areas, namely the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively).
- 6.5.6 In addition, the Site includes the grid connection route that would link the WAA, CAA and EAA, and which would also link to the Legacy National Grid Substation. **Figures 6.5a-c Landscape Plan** show the Site boundary.
- 6.5.7 Further detail regarding the different solar array areas in the Site and their surroundings, is set out below under separate headings.

Western Array Area (WAA) and Surrounding Area

- 6.5.8 The WAA is located adjacent to the A483, which forms its western boundary. The WAA is separated from the road by a dense hedgerow. Other boundaries to the north, east and south are also formed by hedgerows. In these directions the WAA borders onto farmland.
- 6.5.9 The WAA comprises 6 irregular shaped fields of varied sizes, the boundaries of which are defined by hedgerows, some of which include mature trees. A farm access track runs through the centre of the WAA, and this is lined on both sides, by further hedgerows, which again include mature trees. A public right of way footpath (hereon referred to as a public footpath) follows the line of the track.
- 6.5.10 The WAA is undulating, with the highest parts towards the southern and western boundaries, and a slight fall in elevation towards the north and east.
- 6.5.11 The surrounding area is predominantly rural and agricultural. The A483 corridor is a major transport route. A 132 kV overhead line supported on electricity pylons runs

close to the northern boundary of the WAA and ultimately leads to the Legacy National Grid Substation.

6.5.12 A single property is located adjacent to the eastern boundary of the WAA at Hafod y Bont. Further properties are located at:

- i) Caretaker House (west of the A483, approximately 175 m away);
- ii) Hafod House (west of the A483, approximately 180 m away);
- iii) Eddisbury Grange to the south (approximately 300 m away);
- iv) Ty Coch Farm to the north (approximately 325 m away); and at
- v) Hafod y Bwch to the north (approximately 410 m away).

6.5.13 The village of Rhosllanerchrugog is approximately 750 m west of the WAA, on the opposite side of the A483, and west of Bonc-yr-Hafod country park and a railway line. This is a former coal mining community that has a very different character to the surrounding rural areas.

6.5.14 As noted above, a public footpath runs through the WAA. This runs northeast southwest and crosses the A483 via an overbridge. Approximately 375 m east of the WAA the public footpath connects with the Wat's Dyke Way, which is a promoted long-distance path that runs from Llanymynech on the England-Wales border in Shropshire, north to the Dee Estuary.

Central Array Area (CAA) and Surrounding Area

6.5.15 The CAA comprises 4 parcels of agricultural land which are divided by a minor road that runs north of the B5426 subdividing the CAA. Two parcels are located on each side of the minor road. Land parcels within the CAA vary in size, shape and topography. Field boundaries generally comprise mature hedgerows, some including mature trees. Some boundaries of the CAA east of the minor road are bound by Ancient Woodland (Well Wood, Oak Wood, and Yorke's Dingles) that runs along steep narrow valleys.

6.5.16 The landform of the CAA is undulating. The highest parts are towards the western boundary, with a fall in elevation of up to approximately 30 m between the western and eastern boundaries. A series of steep, narrow valleys cut into the landform, and it is these valleys (all outside the Site boundary) that divide the CAA into its constituent parcels.



- 6.5.17 The CAA generally borders adjacent farmland. The B5426 to the south is more developed, with a small settlement at Plas Eytton located along the road, and with further scattered properties along minor roads to the south. A further small cluster of properties and a large farmstead (The Groves) is located along the minor road that runs north-south through the CAA.
- 6.5.18 The surrounding area is predominantly rural and agricultural. The largest concentrations of built development are clusters of farm buildings. A line of 132 kV electricity pylons runs close to the northern boundary of the CAA and continues westwards to the Legacy National Grid Substation.
- 6.5.19 The nearest properties (7 no.) are located adjacent to the Site boundary along the minor road that runs through the CAA. Two further properties on the northern side of the B5426 also adjoin the Site. Approximately 35 further properties are located within approximately 200 m of the CAA boundary (mostly to the south).
- 6.5.20 A public footpath runs along part of the southern boundary of the CAA. A second public footpath runs westwards from part of the western boundary of the CAA. Other routes run through the fields in the surrounding area, and this network of public rights of way is denser to the south of the B5426.

Eastern Array Area and Surrounding Area

- 6.5.21 The EAA comprises 2 irregular shaped fields, the northern and central part of 2 large fields in the western extent of the EAA, (south of the B5130 Kiln Lane), and the northern part of a large field within the eastern most extent of the EAA. The boundaries of these fields are defined by mature hedgerow and/or trees or are open. The boundaries of the EAA that are adjacent to the property at Gerwyn Hall are more densely wooded. The proposed access would be run into the north-western part of the EAA off the B5130 (Kiln Lane).
- 6.5.22 The landform of the EAA falls north-west to south-east. A line of 132 kV electricity pylons runs through the southern part of the EAA and continues westwards towards the Legacy National Grid Substation.
- 6.5.23 The surrounding area is predominantly rural and agricultural. Scattered properties are located throughout, including adjacent to the Site boundary at Gerwyn Hall to the east and 3 properties along the B5130 to the north. Approximately 8 properties are located within approximately 200 m of the Site boundary.

- 6.5.24 The nearest settlement is at Cross Lanes approximately 675 m to the northeast of the EAA. Bangor-on-Dee is approximately 1.6 km to the east. Bangor Racecourse is approximately 1 km south of the EAA at its closest point.
- 6.5.25 A public footpath crosses the north-eastern part of the EAA, and a second public footpath runs along part of the southern boundary. Other routes run through the fields in the surrounding area, and this network of public rights of way is denser to the north of the EAA.

Grid Connection Route

- 6.5.26 As set out in **ES Chapter 2: The Proposed Development**, the proposed grid connection route would comprise underground cables, following the existing public highway network, between the three proposed solar array areas. The connection between the WAA and the existing Legacy National Grid Substation would follow one of two potential routes, both of which would also follow the public highway network, and which also would be installed underground. The grid connection routes follow sections of the B5130 and B5426 as well as smaller minor rural roads.

Designations

Statutory Landscape Designations

- 6.5.27 The CRDV National Landscape (previously known as an Area of Outstanding Natural Beauty) is approximately 0.8 km west of the western extent of the proposed grid connection at its closest point and is approximately 3.5 km southwest of the closest solar array area, the WAA, at its closest point. **Figures 6.1** and **6.2** show the Site in relation to the CRDV National Landscape.
- 6.5.28 National Landscapes are a statutory designation, first designated under the auspices of the National Parks and Access to the Countryside Act 1949. The primary purpose of a National Landscape, as set out in the Countryside and Rights of Way Act 2000, is to “*conserve and enhance the natural beauty*”.

6.5.29 The special qualities of the National Landscape are set out in the ‘Management Plan Review 2020 – 2025’¹³ and include the qualities listed below:

- i) Tranquillity.
- ii) Remoteness and Wildness, Space and Freedom.
- iii) Heather Moorland and Rolling ridges.
- iv) Broadleaved woodlands and veteran trees.
- v) River Valleys and the River Dee.
- vi) Limestone grasslands, cliffs and screes.
- vii) Historic Settlement and Archaeology.
- viii) Industrial Features and the World Heritage Site.
- ix) Historic Defence Features.
- x) Small historic features.
- xi) Traditional boundaries.
- xii) Iconic Visitor and Cultural Attractions.
- xiii) The Offa’s Dyke National Trail and Promoted Routes.
- xiv) The Built Environment.
- xv) People and Communities.

6.5.30 The Welsh Government intends to designate a new North East Wales National Park (NEWNP), incorporating the full extent of the CRDV National Landscape and extending further south to cover land that is presently undesignated. Consultation regarding this is ongoing, with statutory consultation anticipated to take place during autumn and winter 2025. Timescales for final designation are not known.

6.5.31 The purpose of a National Park is defined in the NPAC Act 1949 (as amended by the Environment Act 1995) and is to:

“Conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks; and promote opportunities for the understanding and enjoyment of the special qualities of the Parks by the public”.

6.5.32 The proposed boundary for the NEWNP would be no different to that of the National Landscape in the wider context of the Site shown on **ES Figures 6.1 and 6.2**. In

¹³ Clwydian Range and Dee Valley AONB Management Plan Review 2020 – 2025. Available at:
<https://www.clwydianrangeanddeevalleyaonb.org.uk/wp-content/uploads/2024/09/Management-Plan-EN.pdf>

landscape and visual terms, designation as a National Park would not provide any additional protection over and above that provided by the National Landscape designation, with the statutory requirement to conserve and enhance the natural beauty remaining unchanged. It is considered that any conclusions made in the LVIA regarding effects upon the CRDV National Landscape would remain equally applicable should the NEWNP ultimately be designated.

Non-statutory Landscape Designations

6.5.33 **ES Figure 6.1** shows land approximately 175 m south of the EAA at its closest point, designated as a Special Landscape Area (SLA), (a non-statutory local landscape designation). This SLA is from the now unadopted LDP referred to in **Section 6.2** above and discussed further in **ES Chapter 1**.

6.5.34 This SLA is identified in WCBCs 'Special Landscape Areas Study'¹⁴, dated January 2017 as **SLA 004: Lower Dee Floodplain**.

6.5.35 The summary description of **SLA 004: Lower Dee Floodplain** refers to:

"A broad and meandering aspect area defined by its fluvial farmed landscape of broad open fields centred and focused upon the meandering river course. The field pattern is well defined and boundaries reflect the sinuous nature of the river course within the floodplain. Hedgerow boundaries are well maintained with a high incidence of hedgerow trees. Built development is limited to scattered rural farmsteads. The area is a pleasant if relatively unremarkable landscape in terms of its uniformity and consistency in landscape type. However winter flooding, with large areas often inundated and reflections of trees and skies dominant, makes it a visually impressive seasonal landscape. The River Dee itself is also a barrier to communication and ensures that the area is relatively lightly populated and therefore appears in stable condition. Sensory perceptions include tranquillity, peacefulness, an efficient and industrious farming landscape, settled and relatively remote from population and industry."

6.5.36 The relevance of **SLA 004: Lower Dee Floodplain** against strategic criteria set out in the 'Special Landscape Areas Study' is as set out below:

¹⁴ TACP (2017). *Special Landscape Areas Study*. Available from Wrexham County Borough Council.

“Need

- *The principal river corridor within Wrexham County Borough and an important site for biodiversity designations including the River Dee SAC and SSSI and Old Pulford Brook Meadows SSSI to the north of the area. The SLA is defined by its unique (within WCBC) floodplain character with open and expansive views.*
- *It also displays a strong Historical and Cultural identity and importance within the county providing a defensive boundary along the Welsh/English boundary with fortified river crossings evident at Bangor-on-Dee and at Holt.*

Need for Integrity/cohesiveness

- *The integrity of the SLA is good and has a well maintained and managed appearance with a relatively diverse and attractive if domestic, vegetation pattern. The area is relatively unspoilt by development and due to its important role as the floodplain of the River Dee is unlikely to have large scale development in the future, however consideration should be taken of the possible visual and biodiversity impacts from changes in farming practices and settlement expansion at Bangor-on-Dee and Holt.*

Landscape criteria

- *Sense of Place: The SLA displays a strong sense of place with a unified and distinctive floodplain landform with well defined, settled field pattern. The area is unique within the county and its sense of place in times of seasonal flooding.*
- *Landscape Quality: The floodplain is a single unifying feature for the entire area and as such it provides a relatively simplistic landscape in terms of the landscape elements and features, however this also provides a harmonious and cohesive appearance of a domesticated and settled landscape.*
- *Scenic Quality: Views are attractive and far reaching but lack specific focus due to the wide angle of view. The area is at its most dramatic at times of flood.*
- *Setting of Protected Landscapes: The area is focussed on the River Dee and as such provides the setting for the River Dee SAC and SSSI. It also provides the essential setting for Rosehill Grade II listed parkland near Erbistock and includes the westerly extent of the Maelor Saesneg Landscape of Special Historic Interest.*

Consensus

- *SLA 004's principal designation is due to the presence of the River Dee SAC and SSSI. Southerly parts of the area were previously included as a part of the much wider less defined SLA Isycoed that covered much of southern WCBC. This*

provides a more defined area with clear boundaries forming a clear visual unit that reflect the historical and cultural importance of this borderland area.”

6.5.37 The special valued landscape qualities of the **Lower Dee Floodplain SLA (SLA 004)** and its features of key importance to planning policy and landscape management are set out in the ‘Special Landscape Areas Study’. The Study states, at page 63 onwards, that:

“Development and management proposals in the SLA and within its landscape setting should take account of the following special valued landscape qualities:

- “The SLA displays valued landscape qualities and is perceived as attractive, safe, with apparent remoteness and tranquillity in terms of the lack of intensive road network. Public access is limited other than by PROW, especially in time of flood. It is a settled, domestic landscape with a well-defined if simplistic field pattern and structure. The area appears wild, untamed and awe inspiring in times of flood.*
- There is a potential impact on rural character from commuter pressure, both in terms of settlement expansion and infrastructure capacity and provision.*
- Conservation and management of historic parks, gardens and boundary walls. Hedgerow and hedgerow tree conservation and restoration.*
- Impact of flood defence measures, both in terms of visual impacts and settlement boundaries – Bangor-on-Dee.*
- Impact on historic landscape and biodiversity features through agricultural practices. Including potential degradation of traditional buildings through conversion and potential loss of hibernating/roosting habitat for wildlife.*
- Effects of economic diversification and recreation in the countryside – changes in land management, public access and impacts on an otherwise little visited area.”*

Other Designations

6.5.38 There are a range of designated heritage assets within the LVIA Study Area, including Wat’s Dyke Scheduled Monument east of the WAA. These are shown on **ES Figure 7.2.**

6.5.39 Further details of these, and the assessment of effects upon them or their settings is set out in **ES Chapter 7.0: Historic Environment.**



- 6.5.40 The effect of the Proposed Development on the Maelor Saesneg historic landscape, (a Registered Landscape of Outstanding and of Special Interest in Wales) extending into the south-eastern extent of the 2.5 km Study Area, also is assessed in **ES Chapter 7.0: Historic Environment**.

Landscape Character

National Landscape Character

- 6.5.41 Forty-eight National Landscape Character Areas (NLCA)¹⁵ have been identified across Wales by NRW. The broad geographic reach of the NCLAs means that the key characteristics identified as typical of a particular character area may not necessarily apply to a specific location within that character area. However, they do provide background context for more detailed studies and assessments.
- 6.5.42 Most of the Site and Study Area is within **NLCA13: Deeside and Wrexham**, see **Figure 6.1**. The eastern-most part of the Site and Study Area is within **NLCA14: Maelor**. NLCA13 and NLCA 14 are discussed in detail in **ES Appendix 6.3**.

Local Landscape Character

- 6.5.43 The Natural Resources Wales (NRW) LANDMAP study is the formally adopted methodology for landscape assessment in Wales and, as such, forms the baseline for landscape character assessment.
- 6.5.44 The Wrexham LANDMAP Supplementary Planning Guidance (adopted 2007)¹⁶ uses LANDMAP data to subdivide the Borough into four broad landscape types and twenty-seven geographically distinct landscape character areas (LCA). Given this, the LCAs identified by WCBC will be used as the baseline against which to assess effects on landscape character.
- 6.5.45 Most of the proposed solar array areas and associated cable routes, and most of the Study Area, is within **LCA 13a: Welsh Maelor**, within the 'Rural Lowlands' landscape type, see **Figure 6.1**.

¹⁵ Natural Resources Wales (2023). *National Landscape Character Areas*. Available at: <https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en>

¹⁶ Wrexham County Borough Council (2007). *Wrexham LANDMAP Supplementary Planning Guidance*. Available online at: https://www.wrexham.gov.uk/sites/default/files/2022-06/eng_-_wrexham_landmap.pdf

- 6.5.46 **LCA 14: Dee Floodplain** encompasses land within the south-eastern extent of the Study Area and **LCA 13b: English Maelor** encompasses a smaller area of this extent of the Study Area.
- 6.5.47 Most of the WAA is in **LCA 13a: Welsh Maelor**; but the western edge of WAA is included in **LCA 7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae**, which is within the 'Rural/Urban Villages' landscape type. The boundary between **LCA 13a: Welsh Maelor** and **LCA 7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae** largely runs parallel to the route of the A483 within the western extent of the Study Area.
- 6.5.48 The two route options for the proposed cable connection running towards Legacy substation, run through **LCA 7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae**. Legacy substation is located adjacent to the north-western edge of the Study Area.
- 6.5.49 **LCA 7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae** encompasses land within the western extent of the Study Area.
- 6.5.50 **LCA 11** encompasses Wrexham Industrial Estate, which is within the north-eastern extent of the Study Area. Due to the nature of existing development within this LCA and the absence of theoretical visibility of the Proposed Development within this LCA, as shown on **ES Figure 6.2**, this LCA is not considered further.
- 6.5.51 **ES Appendix 6.3** summarises the key characteristics and other relevant information for the WCBC LCAs within the Study Area.

Summary

- 6.5.52 The landscape character of the Study Area has been classified at a national level, and at local authority level based on LANDMAP data. The local authority level classifications published by Wrexham County Borough Council are the finest grain of all the various characterisation documents discussed above, and these form the basis for the assessment of effects on landscape character.
- 6.5.53 As the Wrexham LCAs have been identified by WCBC based upon LANDMAP data, it is considered that they provide an appropriate baseline that accords with the requirements of PPW 12.



6.5.54 The assessment also is informed by any changes in the landscape after the publication of the WCBC landscape character areas, and any 'in the field' observations that reflect the actual contemporary character of the Study Area.

6.5.55 Full regard also is had to the key characteristics of the relevant NLCA's identified above.

Landscape Elements

6.5.56 Landscape elements within the Site contribute to the landscape character of the wider area. The following provides a summary of the principal existing landscape elements within the Site.

Landform and Topography

6.5.57 Land within and between the proposed solar array areas generally falls west to east and land within the EAA falls southwards towards the Dee floodplain. The western edge of the WAA is at approximately 100 m above ordnance datum (AOD) and land within the most-eastern part of the EAA and Site overall falls to approximately 15 m AOD.

6.5.58 There are minor undulations within and between each proposed solar array area, and the topography of the Site is most complex within the CAA.

Land Use

6.5.59 The proposed solar array areas comprise rural agricultural land, including pasture grassland in the WAA and CAA and arable farmland in the CAA and EAA. Field sizes, shape and slope vary.

6.5.60 Some of the landcover therefore has a varying appearance over the year, with arable crop evident in summer, while in winter the fields are generally without vegetation cover and are bare, ploughed soil.

6.5.61 The condition and quality of the agricultural landscape is good and typical of the area. Its value associates with its contribution to the consistency in appearance of the character of the area.



6.5.62 Development in the Site and in its immediate context includes:

- i) A483 dual carriageway to the immediate west of the WAA, including a junction southwest of the WAA, an overbridge west of the WAA and associated traffic movement;
- ii) Several minor roads in the Sites context including the B5426 to the south; and
- iii) Electricity overhead lines running across the landscape of the Site and its surroundings, including:
 - a) Legacy to Oswestry 132kV overhead line running northwest southeast through the WAA (supported on trident wood poles);
 - b) 400kV overhead line and 132kV overhead line running parallel to each other and crossing the A483 near the south-western corner of the WAA; and
 - c) Legacy to Crewe 132kV overhead line (supported on lattice pylons) running through the EAA and running through the landscape north of the CAA.

Hedgerow and Trees

- 6.5.63 There is hedgerow cover throughout the Site, located on most field boundaries, and intermittent mature tree cover within hedgerows. With regards woodland cover, there are tree belts and small areas within the Site including Ancient Woodland in and adjacent to the CAA and EAA.
- 6.5.64 An arboricultural survey in accordance with BS:5837 Trees in Relation to Design, Demolition and Construction – Recommended Guidelines (2012) has been undertaken. The conclusions of the survey, (included in the Arboricultural Impact Assessment (AIA) prepared by Tree21 Limited, dated September 2025), supplement the landscape baseline described above.

Watercourses and Drainage

- 6.5.65 The River Dee meanders through the Study Area, and several tributaries drain the Site. Ditches and ponds are evident in the Site.



Visual Baseline

ZTV

- 6.5.66 Zone of Theoretical Visibility (ZTV) mapping at **ES Figures 6.2a-b** shows theoretical visibility of the following components of the Proposed Development in the 2.5 km Study Area and in the wider context of the Site up to 10 km from the proposed solar array areas.
- i) Proposed solar panels (maximum height 3 m) in the WAA, CAA and EAA.
 - ii) Proposed BESS structures (maximum height 3.4 m) in the WAA, CAA and EAA.
 - iii) Proposed substation structures in the WAA, with a maximum height of 4 m and 7 m.
 - iv) Proposed telecommunications mast (maximum height 15 m) adjacent to the substation in the WAA.
- 6.5.67 ZTV mapping at **ES Figures 6.2c-j** show theoretical visibility of the proposed solar panels in the 2.5 km Study Area and in the wider context of the Site up to 10 km from the proposed solar array areas. Separate ZTV mapping has been prepared for the proposed solar panels in the Site as a whole and for the WAA, CAA and EAA individually. Colour banding is used to indicate areas where more or fewer solar panels are predicted to be visible.
- 6.5.68 The ZTVs illustrate the degree to which the Proposed Development is likely to be enclosed visually by surrounding landform, built form and vegetation cover.
- 6.5.69 **ES Appendix 6.2** includes a detailed methodology explaining how ZTV mapping was produced and sets out any inherent limitations in the process.

Viewpoints

- 6.5.70 Following field assessment, including review of ZTV mapping onsite, sixteen viewpoint locations have been selected to assist in understanding the appearance and visual effect of the Proposed Development. Viewpoint locations are illustrated on ZTV mapping at **ES Figures 6.2a to 6.2j**.
- 6.5.71 Selected viewpoints predominantly are representative viewpoints (i.e. they represent the experience of receptors in the vicinity); and one viewpoint, **Viewpoint 1**, is a 'specific viewpoint' (a particular view).



6.5.72 **Table 6-4** below lists the sixteen viewpoints and identifies the key receptors that each represents, including persons on public rights of way and other public routes including Wat Dyke Way; road users, and local residents.

Table 6-4 - Viewpoint Locations

Viewpoint	Location	Receptor Type
1: Public footpath ESC/31, on the bridge over the A483	The bridge over the A483, immediately west of the WAA	<i>Specific</i> view available to walkers on the footpath, and local residents travelling on their access track
2: Public footpath RUA/119, near the eastern boundary of the WAA	The footpath near the eastern boundary of the WAA	<i>Representative</i> of the views available to walkers on the footpath
3: Wat's Dyke Way, near properties at Middle Sontley	Long-distance path, northeast of the WAA	<i>Representative</i> of the views available to walkers on the Wat Dyke Way, and to residents in nearby properties
4: Public footpath MAR/7, west and north of part of the CAA	The footpath to the west and north of the southern part of the CAA	<i>Representative</i> of the views available to walkers
5: Minor road running north south through the CAA	The road that runs through the CAA	<i>Representative</i> of the views available to road users
6: Minor road near Stryt-yr-hwch	The junction of two minor roads north of the CAA. The proposed grid connection corridor follows the line of the roads	<i>Representative</i> of the views available to road users
7: B5130, Bedwell	Road at the northern boundary of the EAA, close to properties	<i>Representative</i> of the views available to road users and residents in the nearby properties
8: Public footpath ERB/13, near Waterylane Wood	Footpath approx. 1 km south of the EAA	<i>Representative</i> of the views available to walkers
9: B5426, Royton Wood	Road approx. 0.5 km south of the EAA.	<i>Representative</i> of the views available to road users and residents in the nearby properties
10: Public footpath SES/9, along the southern boundary of the EAA	Footpath adjacent to the southern boundary of the EAA	<i>Representative</i> of the views available to walkers
11: Public footpath SES/6, adjacent to part of the eastern boundary of the EAA	Footpath adjacent to part of the eastern boundary of the EAA	<i>Representative</i> of the views available to walkers
12: Public footpath SES/6, east of the EAA	Footpath approx. 250 m from the boundary of the EAA	<i>Representative</i> of the views available to walkers

Viewpoint	Location	Receptor Type
13: Public footpath BAN/13, off Millbrook Lane	Footpath approx. 2.4 km from the EAA	<i>Representative</i> of the views available to walkers
14: Public footpath BAN/14, off Millbrook Lane	Footpath approx. 2.5 km from the EAA	<i>Representative</i> of the views available to walkers, and residents at the group of properties nearby, and glimpsed from Millbrook Lane
15: Public footpath on Ruabon Mountain, in the CRDV National Landscape	Footpath approx. 6.7 km from the WAA	<i>Representative</i> of the views available to walkers
16: Public footpath on Esclusham Mountain, in the CRDV National Landscape	Footpath approx. 7 km from the WAA	<i>Representative</i> of the views available to walkers

6.5.73 A description of the existing view at each viewpoint location is provided in **ES Appendix 6.6**. Baseline photography from each viewpoint location is presented as **ES Figures 6.3a to 6.3p**. Each sheet of **ES Figures 6.3a to 6.3p** illustrates a 90-degree field of view, with some viewpoints extending over more than one sheet.

6.5.74 **ES Appendix 6.2** provides the methodology explaining how photography was taken and how photography is presented.

Site Visibility in the 2.5 km Study Area

6.5.75 ZTV mapping at **ES Figure 6.2a-j** shows that theoretical visibility of the proposed solar arrays in the WAA and the CAA is localised with only small areas of theoretical visibility further afield in the 2.5 km Study Area, to the south and southwest in relation to the WAA and to the northeast and east in relation to the CAA.

6.5.76 Theoretical visibility of the proposed solar array in the EAA extends across a wider area compared to the WAA and CAA, predominantly south and southeast of the CAA.

6.5.77 ZTV mapping also indicates that there are very few locations outside of the Site boundary where more than 20% of any of the three proposed solar arrays are predicted to be visible.

- 6.5.78 The geographical separation of proposed solar array areas, and the intervening topography and vegetation screening between these areas restricts visibility of more than one of the proposed solar array areas from within the Sites context.
- 6.5.79 An exception to this is noted within the south-eastern extent of the Study Area, at **Viewpoints 9, 13 and 14**, (located on **ES Figures 6.2a, 6.2c and 6.2d**), where ZTV mapping shows theoretical visibility of the Proposed Development in both the CAA and the EAA. Field assessment has however determined that mature hedgerow and trees restrict visibility of the CAA from **Viewpoints 9, 13 and 14** and views of the Site (and Proposed Development) from these viewpoint locations are focussed on the EAA, discussed further as part of the visual assessment provided in **Section 6.7** and detailed in **ES Appendix 6.5**.
- 6.5.80 ZTV mapping at **ES Figure 6.2a** shows that the proposed BESS structures would be seen in combination with proposed solar panels although visible from a smaller area given that there are less BESS structures proposed than solar panels.
- 6.5.81 **ES Figure 6.2a** also shows that the taller components of the substation proposed in the south-eastern corner of the WAA theoretically would be visible from a limited number of locations in the western context of the 2.5 km Study Area, predominantly within close proximity to the proposed substation and from higher ground to the south and southwest where existing development likely would be seen closer in the view.

Site Visibility in the CRDV National Landscape

- 6.5.82 Theoretical visibility of the Proposed Development in the CRDV National Landscape over 2.5 km from the Site, is shown on **ES Figures 6.2b and 6.2g-j**.
- 6.5.83 **ES Figure 6.2j** shows that there is no (theoretical) visibility of the proposed solar panels in the EAA in the CRDV National Landscape and **ES Figures 6.2h-i** show that the WAA would be the most visible solar array area seen from within the CRDV National Landscape compared to the CAA.
- 6.5.84 **ES Figure 6.2h** shows that a notable area of theoretical visibility resulting from proposed solar panels in the WAA extends across higher ground in the CRDV National Landscape to the west and northwest of the Site, across Ruabon Mountain and Esclusham Mountain. Public right of way footpaths run across the open rising terrain within this area of theoretical visibility.

- 6.5.85 **ES Figure 6.2h** also shows that approximately 20-40% of proposed solar panels in the WAA would theoretically be visible from within most of the area of theoretical visibility shown in the CRDV National Landscape. Approximately 1-20% of proposed solar panels in the WAA would theoretically be visible from the remainder of this area of theoretical visibility.
- 6.5.86 **ES Figure 6.2b** shows that the taller components of the substation proposed in the south-eastern corner of the WAA would theoretically be visible across a similar area of theoretically visible as the proposed solar panels in the WAA. **ES Figure 6.2b** also shows that there is an additional area of theoretical visibility of the proposed substation components, in the areas shaded green, yellow and blue further west and south across Ruabon Mountain.
- 6.5.87 The red shaded areas in the CRDV National Landscape show that there are additional areas of theoretical visibility of the proposed BESS structures, in addition to the areas of visibility of the proposed solar panels in the WAA. The proposed BESS structures would be 3.4 m high, 0.4 m taller than the maximum height of proposed solar panels.

Viewpoints

- 6.5.88 Viewpoints selected within the ZTV for the Proposed Development, and verified during LVIA field assessment, form the basis of the detailed visual assessment, which is set out in **ES Appendix 6.5**. The detailed visual assessment includes a description of the existing view from each viewpoint and describes the visual effect of the Proposed Development during its operation.

Visual Receptors

- 6.5.89 Further to field assessment (including verification of ZTV mapping on site) and following the identification of assessment viewpoints, a summary of the visual receptors to be subject to the visual assessment in **Section 6.7**, is provided below.



Persons on Public Rights of Way and Other Public Routes

6.5.90 Persons on the following public footpaths, (referenced on Wrexham County Borough Council's Public Rights of Way Definitive Map¹⁷) are most relevant and are subject to the visual assessment provided in **Section 6.7** below:

- i) Public footpath ESC/31 following the farm access track that runs across the A483 overbridge (see **Viewpoint 1**) and public footpath RUA/119 that runs northeast through the centre of the WAA towards the gated entrance to the residential property at Hafod y Bont. At the gated entrance to the residential property at Hafod y Bont, there is a footpath sign and gate which directs walkers away from the definitive footpath route onto an adjacent field and towards the location of **Viewpoint 2** and beyond. Approximately 375 m east of the WAA, public footpath RUA/119 meets public footpath MAR/41 and the Wat's Dyke Way in the eastern context of the WAA;
- ii) Public footpath MAR/41 and the Wat's Dyke Way running north south to the east and northeast of the WAA, (see **Viewpoint 3**). The Wat's Dyke Way is a promoted long-distance footpath path that runs from Llanymynech on the England-Wales border in Shropshire, north to the Dee Estuary;
- iii) Public footpath MAR/7 running west of the minor road running north through the CAA with views south to the south-western parcel of the CAA, (see **Viewpoint 4**);
- iv) Public footpath MAR/5 running along part of the southern boundary of the CAA. Access at the western end of the footpath, off the minor road running north through the CAA, was restricted by overgrown roadside hedgerow and the eastern end of this footpath was not accessible. It is anticipated that few in any walkers travel along the route of the public footpath in this location;
- v) Public footpath MAR/13, (see **Viewpoint 8**) and public footpath SES/XG50 (see **Viewpoint 9**) south of the EAA;
- vi) Public footpath SES/9 running along part of the southern boundary of the EAA (see **Viewpoint 10**) running eastwards towards public footpath SES/6 which runs northwest southeast across sloping farmland and through the eastern part of the EAA in two locations, (see **Viewpoints 11 and 12**); and

¹⁷ Wrexham County Borough Council. *Public rights of way definitive map*. Available from: <https://www.wrexham.gov.uk/service/public-rights-way/public-rights-way-definitive-map>

- vi) Public footpath BAN/13 and public footpath BAN/14 off Millbrook Lane in the wider south-eastern context of the Study Area, approximately 2.5 km from the Site boundary at their closest point, (see **Viewpoints 13 and 14**).

6.5.91 The visual assessment provided in **Section 6.7** below also assesses the effect of the Proposed Development on walker's views from higher ground in the CRDV National Landscape at **Viewpoints 15 and 16**.

Persons at Leisure and Recreational Facilities

6.5.92 Plassey Leisure Park adjoins the south-eastern boundary of the CAA. Plassey Leisure Park was not visited as part of the LVIA field assessment; however it is judged that persons on the nature trail running parallel and close to part of the south-eastern boundary of the CAA and persons on the western and northern extent of the golf course likely would have some views beyond boundary hedgerow and trees towards part of the south-eastern extent of the EAA.

6.5.93 Bangor Racecourse is approximately 1 km southeast of the EAA at its closest point. Persons at Bangor racecourse are within an area of the theoretical visibility shown on **Figure 6.2** and are judged to have some open views out across the Dee floodplain and surrounding farmland towards the Site, specifically the eastern extent of the EAA. Visibility of the wider Site would be restricted by vegetation in the intervening landscape.

Road Users

6.5.94 Persons on the following roads are most relevant and are subject to the visual assessment provided in **Section 6.7** below:

- i) B5426, south of the proposed solar array areas;
- ii) Minor road running north south through the CAA, (see **Viewpoint 5**);
- iii) Minor road near Stryt-yr-hwch, north of the CAA, (see **Viewpoint 6**);
- iv) B5130 Kiln Lane, north of the EAA, (see **Viewpoint 7**); and
- v) Millbrook Lane, southeast of the proposed solar array areas, in particular the EAA, (see **Viewpoint 14**).

6.5.95 Road users along the A483 to the immediate west of the WAA are scoped out of the visual assessment as views of the WAA are oblique and fleeting (experienced at up



to 70 miles per hour) and are restricted by a tall, mature roadside hedgerow and trees.

People in Residential Properties

6.5.96 The Study Area is predominantly rural, and residential receptors generally comprise isolated farmsteads or small groups of properties in the areas surrounding the proposed solar array areas.

6.5.97 Residents at the following properties are most relevant and are subject to the visual assessment provided in **Section 6.7** of this LVIA:

- i) Property named Hafod y Bont adjacent to the eastern boundary of the WAA and a group of properties and an individual property at Middle Sontley, northeast of the WAA, (see **Viewpoint 3**);
- ii) Numerous properties adjacent and close to the CAA including;
 - a) Plas Eyton north of the B5426, adjacent to part of the south-western boundary of the CAA;
 - b) Semi-detached property north of the B5426, adjacent to part of the south-western boundary of the CAA;
 - c) Row of 4 bungalows north of the B5426 and south of part of the CAA, on the eastern side of the minor road that runs north south through the CAA;
 - d) Row of properties (including The Willows and Willows Barn at the northern end of the row) on the western side of the minor road that runs north south through the CAA, (between the south-western parcel of the CAA to the south and the north-western parcel to the north);
 - e) Residential property at The Groves, and the bungalow south of The Groves, on the eastern side of the minor road that runs north south through the CAA;
 - f) Residential property north of **Viewpoint 5**, on the eastern side of the minor road that runs north south through the CAA; and
 - g) Group of properties (including Oakley House) on the western side of the minor road that runs north south through the CAA (north of part of the CAA).
- iii) Numerous properties adjacent to and in the context of the EAA including;
 - a) Property off Bryn Afon Lane on the northern side of the B5130 (Kiln Lane) at Bedwell, north of part of the EAA, (see **Viewpoint 7**);

- b) Properties north of the B5130 (including the eastern property named Hunter's Moon), near the most-western corner of the EAA;
- c) Property named Rosemead accessed via a track off Pentre Nant Lane, southern boundary of the EAA;
- d) Property off Pentre Nant Lane, west of the EAA;
- e) Property named Bella Vista off the A528, near the junction with the B5130 and Cockbank Lane, west of the EAA;
- f) Gerwyn Hall adjoining part of the eastern boundary of the EAA, (see **Viewpoint 10** which shows partial visibility of this property);
- g) Plas-fron and residential properties at Porthwgan, southeast of the most eastern part of the EAA;
- h) The Kiln Bungalow off the B5130, north of the most eastern part of the EAA;
- i) Property on the B5130 Kiln Lane opposite part of the northern boundary of the EAA;
- j) Semi-detached property in the vicinity of **Viewpoint 9**, on the southern side of the B5426, south of the EAA;
- k) Property at Gerwyn-Fechan, south of part of the southern boundary of the EAA; and
- l) Residential properties including Cloy House on the northern side of Millbrook Lane, southeast of the EAA, (see **Viewpoints 13 and 14**).

Future Baseline

- 6.5.98 If the Proposed Development was not implemented, it is assumed that the Site would remain in agricultural use comprising a mix of pasture grassland, grazed by sheep, and arable farmland subject to typical farming practise and management.
- 6.5.99 Given that part of the Site is within a solar local search area (LSA), referred to under **Policy RE2: Renewable Energy Schemes** of the recently unadopted LDP, (discussed as a material planning consideration in **Section 6.2** above), it is likely that alternative solar farm proposals would come forward within some or all the Site, and/or in its surroundings.

6.6 Initial Development Design and Impact Avoidance/Reduction Measures

6.6.1 General design measures to avoid or minimise the potential for significant effects are described in **ES Chapter 3.0: Alternatives** and **ES Chapter 4.0: Proposed Development**.

6.6.2 Initial development design and impact avoidance/reduction measures can be broken down into three types as follows:

- i) Primary Mitigation: measures which form an inherent part of the project design.
- ii) Secondary Mitigation: measures that require further activity to achieve the anticipated outcome (e.g. details provided via planning condition).
- iii) Tertiary Mitigation: measures required by legislation or typical best practice.

6.6.3 Clarification 3(5) of LITGN-2024-01 is however, clear that:

“...Statements of significance should be reported post primary (designed-in) mitigation, and this includes considering effects during the growth of mitigation planting as set out in paragraph 4.31 of GLVIA3. Secondary mitigation that has not been designed into the scheme but consists of measures to be taken later (which is relatively rare for landscape and visual mitigation) should not be taken into account when reporting significant effects, although a final statement of residual effects (post-secondary mitigation) may be helpful”.

6.6.4 As set out in **Chapter 2 of the ES** all committed mitigation measures, whether primary, secondary or tertiary are considered as ‘initial’ or ‘incorporated mitigation’ that forms an intrinsic part of the Proposed Development, and whose presence is reflected in all conclusions made in **Section 6.11** regarding landscape and visual effects.

6.6.5 The design of the Proposed Development also includes a series of enhancement measures. These are not proposed to mitigate against adverse landscape and visual effects but rather are measures that would enhance the baseline condition of the landscape. Proposed enhancement measures are discussed in **Section 6.12** below following the assessment of residual effects.

6.6.6 Landscape and visual mitigation measures, and enhancement measures are described in turn below. Mitigation measures have been informed by 'Design for Renewable Energy in Wales'¹⁸.

6.6.7 No tertiary mitigation has been identified in relation to landscape and visual effects.

Primary Mitigation

6.6.8 A project-specific Outline Construction Environmental Management Plan (oCEMP) would be implemented and would include:

- i) Measures to retain existing vegetation as far as possible and to protect it from any potential harm resulting from proposed construction activities;
- ii) Planning and implementation of construction activities in such a way as to limit the need for any temporary closures and/or diversions to public rights of way;
- iii) Measures to minimise or eliminate any adverse effects resulting from temporary construction lighting; and
- iv) Measures to ensure that all temporary works are removed.

6.6.9 The Proposed Development incorporates the following primary mitigation measures:

- i) Containment of the Proposed Development within established field boundaries to retain the existing landscape pattern.
- ii) Provision of development-free buffers alongside existing landscape features, including hedgerow, trees and public rights of way and retention of existing vegetation cover (which defines character and provides visual screening), as far as possible.
- iii) New planting of mixed native hedgerow and tree species of local provenance to infill gaps in hedgerows, where consistent with landscape character in the Study Area and where it provides further screening.
- iv) New tree and hedgerow planting as shown on the Indicative Landscape Masterplans for each of the proposed solar array areas, provided as **ES Figures 6.6a to 6.6c**.

¹⁸ Design Commission for Wales (2023). *Designing for Renewable Energy in Wales*. Available from: <https://www.gov.wales/designing-renewable-energy-wales>

- v) Management of Site hedgerow to allow hedgerows to reach a minimum height of 2.5 metres in the locations identified in relation to the CAA (see **ES Figure 6.5b**) and to reach a minimum height of 3 m throughout the Site generally.
- vi) Muted mid-tone neutral paint finish to the main structural elements of the proposed substation to ensure that they are visually recessive within the landscape.
- vii) Use of anti-reflective material on solar PV modules to limit glint and glare effects.

Secondary Mitigation

- 6.6.10 A detailed Construction Environmental Management Plan (CEMP) would be implemented during the construction phase and would be a 'live' document specific to the Proposed Development.
- 6.6.11 The following secondary mitigation measures also apply to all three proposed solar array areas:
- i) Management and enhancement of existing vegetation cover that defines character and provides visual screening, including additional infill hedgerow and tree planting where appropriate, and allowing existing and proposed hedgerow to reach and/or be maintained at a minimum height of 3 metres generally throughout the Site.
 - ii) Preparation of detailed landscape proposal drawings, subject to a planning condition, based on the Indicative Landscape Masterplans for the Site.
 - iii) Implementation of a project-specific Landscape and Ecology Management Plan (LEMP), which would set out measures by which the aims and objectives of the Indicative Landscape Masterplan would be achieved over the operational life of the Proposed Development, including measures to manage and maintain all existing and proposed vegetation in the Site boundary.
- 6.6.12 A project-specific Decommissioning Environmental Management Plan (DEMP) would be implemented during the decommissioning stage. The DEMP would govern decommissioning activities and would include measures anticipated to be very similar in type and scope to those included in the oCEMP.

6.7 Assessment of Effects

- 6.7.1 This section assesses the level and significance of the landscape and visual effects of the Proposed Development during its construction, operation and decommissioning phases.
- 6.7.2 The assessment of effects during the operational phase of the Proposed Development is separated out into Year 0, (or the 'opening year' of the Proposed Development) and Year 15, when proposed mitigation planting referred to in **Section 6.6** above would have reached a reasonable level of maturity, as set out in **Section 6.3, Table 6.1** above.
- 6.7.3 This assessment follows the iterative design development process and takes account of relevant mitigation measures that would be implemented (the Initial development design and impact avoidance/reduction measures described at **Section 6.6**) and are therefore factored into the determination of residual significant effects.
- 6.7.4 The assessment of visual effects has adopted a worst-case approach with regards seasonal change throughout the year, with a worst-case of winter effects assumed throughout. Photomontage views provided as **ES Figures 6.4a to 6.4g** show the Proposed Development in winter views.

Construction Phase

Overview

- 6.7.5 **ES Chapter 2.0: Proposed Development** provides a description of the construction phase of the Proposed Development. Construction would be managed in accordance with an Outline Construction Environmental Management Plan (oCEMP). Temporary construction compounds would be sited in the locations listed below and as shown on the proposed layout drawings for each of the proposed solar array areas, (see **ES Figures 3456-01-02a to 02c**):
- i) In the south-eastern corner of the WAA, adjacent to the proposed substation compound;
 - ii) In the central part of the southern extent of the CAA; and
 - iii) In the north-eastern corner of the most western field within the EAA.

- 6.7.6 The construction period would last for between 9 and 12 months. Different activities would take place at different times during this period and, as such, landscape and visual effects would vary over time and would not occur on a consistent basis throughout the construction phase but likely would vary in intensity with specific effects of shorter duration occurring at different times.
- 6.7.7 Construction sites include distinctive elements that are likely to draw attention, including temporary signage and fencing, and site operatives wearing high-visibility clothing. Construction also, by necessity, requires the use of suitable vehicles and other plant, some of which would potentially be readily apparent by virtue of their colour, form and movement.
- 6.7.8 Temporary lighting would be required to ensure the health, safety and welfare of those on Site during poor light conditions, and in particular at the beginning and end of the working day in winter. This may require temporary lighting rigs or in some instances mobile task lighting. Some use of low-level lighting of compounds for security purposes may be required through the night. Measures to reduce or eliminate adverse effects upon amenity arising from such lighting are, as stated above, set out in the oCEMP.
- 6.7.9 Construction activities including traffic movements would be temporary, variable in their location and intermittent. Much of the construction plant and equipment would be relatively low in height and would not be visually conspicuous over a wide area.
- 6.7.10 As construction of certain areas and elements is completed, the operational landscape and visual effects of these areas would begin to be experienced alongside the construction activity and would be a precursor to the subsequent more static operational effects, experienced alongside ongoing construction of other elements and areas.

Effects on Landscape Elements During Construction

- 6.7.11 Consideration is given below to the direct, physical change to existing landscape elements in the Site that would arise during the construction of the Proposed Development.



Landform and Topography

- 6.7.12 In the most part there would be no change required to the underlying landform and Site topography given that proposed solar arrays would be secured to the ground using soft-piling techniques which would follow the existing contours.
- 6.7.13 Minor excavation works would be required to establish foundations for the solar transformers, inverters, and substation foundations, associated with proposed fencing and CCTV, and during the creation of access tracks, and associated with the installation of proposed underground cables. Minor ground levelling would be required to ensure proposed battery storage containers, installed on concrete platforms, sit on stable ground.
- 6.7.14 The installation of proposed foundations and underground cables would result in a minor localised change on landform and topography within the Site during construction, which typically would not be apparent during the operation of the Proposed Development.

Land Use, Buildings and Infrastructure

- 6.7.15 The Proposed Development would result in a change to the current land use from agricultural fields (comprising pasture grassland and arable farmland) to a solar farm under construction with associated human activity and built components.
- 6.7.16 The presence of construction plant, machinery, temporary buildings and construction compounds and material storage within the Site would have an adverse effect on the composition of local landscape elements, over and above that experienced during the operation of the Proposed Development. Construction operations would however be short-term and temporary.
- 6.7.17 The Proposed Development would result in the loss of arable farmland present in some of the fields of the Site (in the CAA and EAA). However, these fields, previously comprising arable crop, would be seeded with a species-diverse mix suitable for use as grazing pasture or to create species-diverse meadow grassland along field margins and proposed permissive path corridors.

Hedgerow and Tree Cover

- 6.7.18 Ancient Woodland adjoins part of the CAA and EAA, as shown on the Indicative Landscape Masterplans at **ES Figures 6.6a to 6.6c**. Proposed construction activity would not impact on Ancient Woodland and associated buffers.
- 6.7.19 The AIA prepared by Tree21 Limited and dated September 2025, identifies that none of the individual trees in the Site would need to be removed to facilitate the Proposed Development. Several trees around visibility splays may need crown lifting over the highway. Some sections of hedgerow throughout the Site and a section of a tree group in the WAA would need to be removed to facilitate the proposed access tracks and/or the proposed perimeter fence. Lengths of hedgerow proposed to be removed include:
- i) Approximately 105 linear metres of hedgerow in the WAA;
 - ii) Approximately 195 linear metres of hedgerow in the CAA; and
 - iii) Approximately 70 linear metres of hedgerow in the EAA.
- 6.7.20 Proposed works to existing hedgerow and trees in each of the proposed solar array areas are illustrated on the 'Tree Protection, Retention and Removal Plans' provided at Appendix A, B and C of the AIA. Tree Schedules identifying the actions and recommendations for each of the proposed solar array areas also are provided at Appendix A, B and C of the AIA.
- 6.7.21 Individual trees in the Site and most of the Site's hedgerow and tree groups would be retained and protected in accordance with the AIA, (in the form of tree protection barriers, where considered appropriate), to avoid and minimise impacts on these retained landscape elements.
- 6.7.22 Overall, hedgerow and tree loss in the Site would be limited, particularly in the context of the extent of the overall Site. New hedgerow and trees also would be planted throughout the Site on completion of proposed construction works to the extents shown on the Indicative Landscape Masterplans provided as **ES Figures 6.6a to 6.6c**. New planting would include approximately 3,400 linear metres of new hedgerow throughout the Site. This is approaching 10x the quantity of the existing hedgerows that would be lost.

Waterbodies and Drainage Features

- 6.7.23 The Proposed Development would retain and protect existing watercourses and ponds within the Site and there would be no impact on these landscape elements during construction.

Effects on Landscape Character During Construction

- 6.7.24 During construction, there would be increased activity on the site, which would have a short-term effect on landscape character at the Site and in its surroundings, perceived beyond the Site boundary to varying extents.
- 6.7.25 Construction work would involve the use of machinery in the Site, and minimal earthworks and would involve disturbance to pasture grassland and arable farmland. Temporary structures would include the temporary construction compounds, stockpiles for soil and stone, and perimeter security fencing.
- 6.7.26 As construction proceeds, the Proposed Development would become increasingly visible, altering the character of the Site comprising agricultural land to a site with increased human activity and a new solar farm with associated infrastructure including a substation. Existing hedgerow and trees in the Site, retained and protected during construction works, would provide some filtering and screening of proposed construction activity. Following construction activity, the Site would include newly seeded areas and new hedgerow and tree planting along field boundaries, where required and as shown on the Indicative Landscape Masterplans provided as **ES Figures 6.5a to 6.5c**.
- 6.7.27 The installation of proposed underground cables between proposed solar array areas and along the route of the grid cable connection would result in additional adverse effects on landscape character within the host LCAs, (particularly within LCA7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae within the western part of the Study Area), although effects would be localised along the route of the proposed underground cables.
- 6.7.28 The effect of the installation of proposed underground cables on landscape character would be limited and would be experienced for a short period of time during the construction phase of the Proposed Development. Following the installation of underground cables below ground and the reinstatement of the cables trench, (within

the highway corridor), the proposed underground cables would have no effect on landscape character during the operation of the Proposed Development.

6.7.29 Low-level construction activities would, in part, be screened by a combination of vegetation cover along field boundaries within the Site and in its surroundings.

6.7.30 The effects of construction within the proposed solar array areas would be similar in their extent and nature to the operational effects of the Proposed Development and would form a precursor to these effects as new structures are progressively introduced into the landscape and the views available across it.

6.7.31 Short-term construction phase effects upon the landscape character of the WCBC LCAs within the Study Area, is presented in **Table 6-5** below. Those LCAs which have been identified as being subject to a significant landscape effect during the construction of the Proposed Development are shaded yellow in the table below.

Table 6-5 – Construction Effects on Landscape Character Areas

Landscape Character Area	Sensitivity	Magnitude	Level of Effect	Significant Effect
LCA13a: Welsh Maelor	Medium/High (Medium susceptibility & medium/high value overall)	Medium	Moderate/Major (adverse)	Significant (short-term effect)
LCA14: Dee Floodplain	Medium/High (Medium susceptibility & medium/high value)	Negligible	Negligible	Not Significant
LCA13b: English Maelor	Medium (Medium/low susceptibility & medium/high value)	Negligible	Negligible	Not Significant
LCA7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae	Medium/low (Low susceptibility & Medium/low value)	Small (grid connection and WAA)	Minor adverse (grid connection and WAA)	Not Significant

Effects on Views During Construction

- 6.7.32 During construction visual effects would arise from construction activities including increased human activity on the Site, establishment of construction compounds including parking and storage of materials, temporary operation of machinery in the Site, construction of the proposed solar arrays and associated infrastructure including the substation in the south-eastern corner of the WAA, and the installation of proposed underground cables through the Site.
- 6.7.33 The effect of construction activity on visual amenity would be incremental and would vary during the construction period. Visual effects arising from construction activity would be short term and reversible. All construction works would be carried out in accordance with best practice to avoid and minimise the extent of adverse visual effects as far as possible.
- 6.7.34 The greatest change on views during construction would be experienced by people using the public footpaths that run alongside and/or through proposed construction activity in the CAA and the EAA, and by residents of properties in close proximity and with views of proposed construction activity in the CAA. These people would have a **High** or **High/medium** sensitivity to visual change and would experience the closest, most open views of proposed construction activity, which would be seen in a large or moderate proportion of the view. These adverse visual effects would however be experienced for the short-term during the construction stage of the Proposed Development. As such, adverse short-term effects on these visual receptors are judged to be **Not Significant**.
- 6.7.35 Installation of the proposed underground cables within the highway corridor between proposed solar array areas and along the route of the grid cables connection towards the existing Legacy substation would result in short-term and reversible adverse effects on people with views of the cables route. Visual effects would not be experienced following installation works and the reinstatement of the cables trench.

Night-time Landscape and Visual Effects During Construction

- 6.7.36 Night-time construction effects resulting from lighting would be limited and would be **Not Significant**. Lighting would generally not be operational outside of normal working hours, other than low-level security lighting triggered by motion sensors. As set out above, the oCEMP includes measures to minimise any adverse effects of temporary construction lighting upon the landscape and visual amenity of the surrounding area.

Operational Phase

Effects on Landscape Elements During Operation

Landform and Topography

- 6.7.37 The Proposed Development would be installed across existing fields with some minor disturbance and alteration to existing ground levels and landform during the construction phase. However, during operation there would be no material change to the underlying landform and topography of the Site.

Land Use, Buildings and Infrastructure

- 6.7.38 The Proposed Development would result in a change to the current land use from agricultural fields to an operational solar farm with associated infrastructure, including a substation within the south-eastern corner of the WAA. The proposed substation includes the tallest components of the Proposed Development, the tallest being a 15 m high communications mast alongside existing mature hedgerow and tree cover along the south-eastern edges of the WAA. Existing development in the immediate context of the Site includes the A483 to the immediate west and southwest of the WAA, (including road bridges and a junction) and electricity overhead lines supported on wood poles and lattice pylons running through the Site, and beyond.
- 6.7.39 Whilst the Proposed Development would introduce new solar development onto farmland within the proposed solar array areas, the Proposed Development would retain the agricultural functionality of the Site due to continued sheep grazing within the proposed solar array areas and additional areas of sheep grazing where existing arable land in the Site would be replaced with a species-diverse grass mix suitable for use as grazing pasture. Proposed seeding also would allow for the creation of

species-diverse meadow grassland along field margins and along proposed permissive path corridors in the Site.

Hedgerow and Tree Cover

- 6.7.40 As set out above in relation to landscape effects during construction, no individual trees would be removed because of the Proposed Development and there would be a minimal loss of Site hedgerow overall and the partial loss of one tree group in the WAA to facilitate the creation of some access tracks and/or to construct the perimeter fence.
- 6.7.41 At Year 0 of operation, approximately 3,500 linear metres of new hedgerow and proposed tree planting would be in place to the extents illustrated on the Indicative Landscape Masterplans provided as **Figures 6.6a to 6.6c**. Proposed planting would however not yet be established or mature at Year 0.
- 6.7.42 At Year 15 of operation the establishment and maturing of proposed hedgerow and trees would reinforce and enhance the existing landscape structure of the Site and would contribute to the integration of the Proposed Development into its surroundings, providing increased screening of the built components of the Proposed Development and increased habitat connectivity.

Watercourses and Drainage Features

- 6.7.43 The Proposed Development would retain watercourses and field ponds within the Site and would enhance existing ponds as appropriate within the Site. No swales or attenuation basins are proposed as part of the Proposed Development. Attenuation storage for the proposed substation compound and the hybrid-inverter battery stations would be provided within the lined stone sub-grade of the compounds.

Effects on Landscape Character During Operation

- 6.7.44 Within the 2.5 km Study Area there are four WCBC LCAs identified for assessment. The sensitivity of each of the four LCAs to the Proposed Development is set out in **Appendix 6.4**, along with the detailed assessment of effects on landscape character within these LCAs.

Summary of Effects

6.7.45 The conclusions of the landscape assessment are summarised in **Table 6-6** below and in the subsequent text. Those LCAs which have been identified as being subject to a significant landscape effect during the operation of the Proposed Development are shaded yellow in the table below.

Table 6-6 – Effects on Landscape Character During Operation

Landscape Character Area	Sensitivity	Magnitude	Level of Effect	Significant Effect
LCA13a: Welsh Maelor	Medium/High (Medium susceptibility & medium/high value overall)	Y0: Medium Y15: Medium/Small	Y0: Moderate/Major adverse Y15: Moderate adverse	Y0: Significant. Y15: Not significant.
LCA14: Dee Floodplain	Medium/High (Medium susceptibility & medium/high value)	Y0 and Y15: Negligible	Y0 and Y15: Negligible (neutral)	Not significant.
LCA13b: English Maelor	Medium (Medium/low susceptibility & medium/high value)	Y0 and Y15: Negligible	Y0 and Y15: Negligible (neutral)	Not significant.
LCA7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae	Medium/low (Low susceptibility & Medium/low value)	Y0 and Y15: No change (grid connection) Negligible (WAA)	Y0 and Y15: No change (grid connection) Negligible (WAA) (neutral)	Not significant.

6.7.46 The Proposed Development would result in a **Moderate/major adverse** and **Significant** level of effect upon the character of the central part of LCA 13a: Welsh Maelor at Year 0. Following the establishment and maturing of proposed hedgerow and tree planting in the short and medium-term, the level of effect would reduce to **Moderate adverse** and **Not Significant** at Year 15.

6.7.47 The Proposed Development in LCA 13a: Welsh Maelor would have a limited influence on other LCAs in the 2.5 km Study Area and would not alter the

characteristics of these landscapes. As such, there would be a **Negligible and Not Significant** effect on landscape character within:

- i) LCA14: Dee Floodplain;
- ii) LCA13b: English Maelor; and
- iii) LCA7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae.

Effects on Views During Operation

6.7.48 The sensitivity of a visual receptor to the Proposed Development depends on the susceptibility to change in the receptor's view and the value of the view experienced.

Visual Susceptibility to Change

6.7.49 With reference to Table 4 of the LVIA Methodology at **Appendix 6.1**, views from the public footpaths identified in the Study Area for further assessment typically have **High** susceptibility to change as people's attention likely is focussed on the landscape these footpaths run through. The susceptibility of footpath views to change also is influenced by what is present in the existing view such that the visibility of existing built development, such as roads, pylons, or large-scale agricultural buildings may reduce susceptibility to the proposed visual change. This is considered further in the visual assessment below.

6.7.50 The susceptibility to change in views experienced by people at Plassey Leisure Park is assessed as **High**. Persons on the nature trail likely do have some appreciation of the surrounding landscape, as do people on the golf course who are otherwise engaged in playing the sport.

6.7.51 The susceptibility to change in views experienced by people at Bangor racecourse is assessed as **Low/medium**. People at Bangor racecourse are engaged in an outdoor sport or recreation however spectators in this location likely do have some appreciation of the views of the surrounding landscape.

6.7.52 The susceptibility to change in views experienced by road users typically would be limited as the receptor outlook inherently is that of the road along which they are travelling. The susceptibility to change in road users views typically is **Medium**.

6.7.53 People's views from residential properties associate with their sense of identity and place, and people tend to spend longer durations of time within their homes than in



other locations, such as recreational locations or their workplace. The susceptibility of such views to change therefore typically is considered to be higher, subject to the influence of what is present in the existing view. Visibility of existing built development, such as roads, pylons or large-scale agricultural buildings, may reduce susceptibility to the proposed visual change. Overall, views experienced by residents assessed in the 2.5 km Study Area have a **High** susceptibility to change, unless stated otherwise.

Value of the View

6.7.54 Most visual receptors that would see part of the operational Proposed Development (within a proposed solar array area) are in an undesignated rural agricultural landscape, with limited built development in their existing view. These views generally have moderate scenic value, and views of the Site and the surrounding area are assessed as being of **Medium** value. Exceptions to this include:

- i) People at and in the vicinity of **Viewpoint 1** with views towards the Site including the overbridge railings and wire mesh and the A483 dual carriageway running through the western context of the Study Area;
- ii) People travelling on minor roads where views of the surrounding landscape are screened by roadside hedgerow and visibility of adjacent farmland is limited to where there is a gap in roadside hedgerow predominantly at a field entrance;
- iii) People on the Wat's Dyke Way east and northeast of the WAA, with views west and southwest towards the Site where not restricted by field boundary hedgerow and trees; and
- iv) People with views from within the Lower Dee Floodplain SLA and looking across the SLA in the south-eastern context of the Study Area, including at Bangor racecourse, and on the local public footpath network looking southwards from **Viewpoints 11 and 12** and at and in the vicinity of distant **Viewpoints 13 and 14**.

6.7.55 It is assessed that views experienced by people at and in the vicinity of Viewpoint 1 are of **Medium/low** value. Views experienced by road users whose views of the surrounding landscape largely are restricted by roadside hedgerow also are assessed as being of **Medium/low** value.

- 6.7.56 Views experienced by persons at Plassey Leisure Park and at Bangor racecourse and experienced by walkers at and in the vicinity of **Viewpoints 11, 12, 13 and 14**, (which also include distant views of higher ground in the CRDV National Landscape to the west) are of **Medium/high value**.

Receptor Sensitivity

- 6.7.57 The susceptibility to change in views experienced by people on the surrounding footpath network, including on Wat's Dyke Way east of the WAA, and experienced by people at Plassey Leisure Park east of the CAA, is **High**. Where the value of these views is assessed as **Medium/high**, the sensitivity of these people to visual change is assessed as being **High**.
- 6.7.58 Where the value of the view is assessed as **Medium**, the sensitivity of these walkers is assessed as being **High/medium**.
- 6.7.59 Where the value of the view is assessed as **Medium/low**, the sensitivity of these walkers is assessed as being **Medium**.
- 6.7.60 The susceptibility to change in views experienced by people at Bangor racecourse is judged to be **Low/medium**, and the value of these views is assessed as **Medium/high**. The sensitivity of people at Bangor racecourse to visual change is assessed as being **Medium**.
- 6.7.61 Views towards the Site experienced by people on the surrounding road network, including B roads and rural lanes, would have **Medium** susceptibility to change. Where the value of these views is assessed as **Medium/low**, the sensitivity of road user's views to visual change is assessed as being **Medium/low**.
- 6.7.62 The susceptibility to change in views experienced by residents is **High**. Where the value of a resident's view is assessed as **Medium/high**, the sensitivity of these residents to visual change is assessed as being **High**.
- 6.7.63 Where the value of a resident's view is assessed as **Medium**, the sensitivity of these residents to visual change is assessed as being **High/medium**.
- 6.7.64 **Appendix 6.5** identifies the susceptibility to change, the value of the view and the sensitivity of the visual receptors at each assessed viewpoint. Judgements determining visual receptor sensitivity also are identified in **Tables 6-7 and 6-8** below.

Assessment of Effects on Receptors at Selected Viewpoints

- 6.7.65 A detailed assessment of visual effects from each of the sixteen viewpoints included in the LVIA is set out in **Appendix 6.5**.
- 6.7.66 Photomontage visualisations illustrating how the Proposed Development would appear, at Year 0 and at Year 15, have been prepared for Viewpoints 2, 4, 5, 7 and 10, as agreed as part of the scoping process. Additional photomontages have been prepared for Viewpoints 12 and 13 to support this LVIA. Photomontages are shown on **Figures 6.4 a to g** and **Appendix 6.2** provides the methodology explaining how photography was taken and how the visualisations were produced.
- 6.7.67 The conclusions of the assessment are summarised in **Table 6-7** below and the subsequent text. Those receptors which have been identified as being subject to a significant visual effect during the operation of the Proposed Development are shaded yellow in **Table 6-7** below.

Table 6-7 – Effect on Visual Receptors at Selected Viewpoints

Viewpoint Location	Sensitivity	Magnitude	Level of Effect	Significant Effect
1: Public footpath ESC/31, on the bridge over the A483	High/medium (High susceptibility and medium/low value)	Y0 & Y15: Small (winter) or negligible (summer months)	Y0 & Y15: Minor adverse or negligible	Not significant.
2: Public footpath RUA/119, near the eastern boundary of the WAA (Photomontage View)	High/medium (High susceptibility and medium value)	Y0: Small Y15: Negligible	Y0: Minor adverse Y15: Negligible	Not significant.
3: Wat's Dyke Way, near properties at Middle Sontley	High (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
4: Public footpath MAR/7, west and	High/medium	Y0: Small Y15: Negligible	Y0: Minor adverse Y15: Negligible	Not significant.

Viewpoint Location	Sensitivity	Magnitude	Level of Effect	Significant Effect
north of part of the CAA (Photomontage View)	(High susceptibility and medium value)			
5: Minor road running north south through the CAA (Photomontage View)	Medium/low (Medium susceptibility and medium/low value)	Y0: Small overall Y15: Small overall	Y0: Minor adverse overall overall Y15: Minor adverse overall	Not significant.
6: Minor road near Stryt-yr-hwch	Medium/low (Medium susceptibility and medium/low value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
7: B5130, Bedwell (Photomontage View)	Medium/low (road users) (Medium susceptibility and medium/low value)	Y0: Small Y15: Negligible	Y0: Minor adverse Y15: Negligible	Not significant.
8: Public footpath ERB/13, near Waterylane Wood	High/medium (High susceptibility and medium value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
9: B5426, near Royton Cottages	Medium/low (road user) (Medium susceptibility and medium/low value)	Y0 & Y15: No perceivable change.	Y0 & Y15: Negligible.	Not significant.
10: Public footpath SES/9, along the southern boundary of the EAA	High/medium (High susceptibility and medium value)	Y0: Large Y15: Large	Y0: Major adverse Y15: Major adverse	Significant.

Viewpoint Location	Sensitivity	Magnitude	Level of Effect	Significant Effect
(Photomontage View)				
11: Public footpath SES/6, adjacent to the eastern boundary of the EAA	High (High susceptibility and medium/high value)	Y0: Large Y15: Large	Y0: Major adverse Y15: Major adverse	Significant.
12: Public footpath SES/6, east of the EAA (Photomontage View)	High (High susceptibility and medium/high value)	Y0: Medium/small Y15: Small	Y0: Moderate adverse Y15: Minor adverse	Not significant.
13: Public footpath BAN/13, off Millbrook Lane (Photomontage View)	High (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
14: Public footpath BAN/14, off Millbrook Lane	High (walkers and residents) (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
15: Public footpath on Ruabon Mountain, in the CRDV National Landscape	High (walkers) (High susceptibility and high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.
16: Public footpath on Esclusham Mountain, in the CRDV National Landscape	High (walkers) (High susceptibility and high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible	Not significant.

- 6.7.68 People at and in the vicinity of 2 of the 16 viewpoints assessed in the LVIA would experience a **Significant** visual effect as a result of the Proposed Development, both at Year 0 and at Year 15. These viewpoints represent views experienced by walkers on sections of the local public right of way (footpath) network at and in the vicinity of **Viewpoints 10** and **11** on the boundary of the EAA.
- 6.7.69 The Proposed Development would introduce solar development in part of the EAA into a large proportion of the open close view available from:
- i) A section of public footpath SES/9 which runs along part of the southern boundary of the EAA (see **Viewpoint 10**); and
 - ii) A section of public footpath SES/6, which runs through the most eastern part of the EAA, see **Viewpoint 11**.
- 6.7.70 By Year 5 onwards, new hedgerow proposed along the northern side of public footpath SES/9 which runs along part of the southern boundary of the EAA would heavily filter and screen the Proposed Development in the view from **Viewpoint 10**. The large magnitude of change on the view at Year 15 would result from mature hedgerow and maturing trees close in the walker's view where the view previously was open across adjacent farmland. Proposed hedgerow and trees would however screen the Proposed Development in the view from and in the vicinity of **Viewpoint 10** on public footpath SES/9.
- 6.7.71 At and to the north of **Viewpoint 11**, solar development would be introduced to the immediate east and west of public footpath SES/6 which this viewpoint is located on. By Year 5, proposed hedgerow to both sides of this section of public footpath would provide screening of this part of the EAA. The large magnitude of change on the view at Year 15 would result from mature hedgerow close in the walker's view where the view previously was open across farmland and the surrounding landscape.
- 6.7.72 The level of effect on walkers at **Viewpoint 12** would be **Moderate Adverse** at Year 0 reducing to **Minor adverse** at Year 15, which is **Not Significant**. Persons at and in the vicinity of the other viewpoint locations would experience a **Minor Adverse** or **Negligible** level of effect at Year 0 and at Year 15, which is **Not Significant**.
- 6.7.73 The magnitude of change on the visual receptors referred to in **Section 6.5** above is considered below. The following assessment refers to the viewpoints assessed in **Appendix 6.5** where relevant.



Persons on Public Right of Ways and The Wat's Dyke Way

- 6.7.74 The Proposed Development in the WAA would be introduced into filtered views and an occasional open view at field entrances, from public footpath ESC/31 which runs across the A483 overbridge and from public footpath RUA/119 which runs northeast through the centre of the WAA, onto an adjacent field and beyond, (see **Viewpoints 1** and **Photomontage Viewpoint 2**). A **Medium/small** magnitude of change would be experienced at field entrances looking towards proposed solar panels. The adverse magnitude of change experienced by walkers elsewhere on these footpaths would be **Small** or **Negligible** depending on the level of field boundary hedgerow and tree screening in the view towards the Proposed Development.
- 6.7.75 The Proposed Development in the WAA also would be introduced into more distant filtered views from public footpath MAR/41 and the Wat's Dyke Way running north south to the east and northeast of the WAA, (see **Viewpoint 3**). The adverse magnitude of change experienced by walkers on this footpath and on part of the Wat's Dyke Way long distance route would be **Small** or **Negligible** depending on the level of field boundary hedgerow and tree screening in the view towards the Proposed Development.
- 6.7.76 The Proposed Development in the CAA would be most visible in open close views from public footpath MAR/5 running along part of the southern edge of proposed solar panels. The adverse magnitude of the visual change would be **Large** at Year 0 and at Year 15 of operation. The CAA also would be introduced into footpath views south and east from public footpath MAR/7 running west of the minor road running north south through the CAA, see **Photomontage Viewpoint 4**. No greater than a small proportion of the view would be affected and proposed planting would reduce effects to **Negligible** at Year 15.
- 6.7.77 The Proposed Development in the EAA would be introduced into open close views from public footpath SES/9 running along part of the southern boundary of the EAA (see **Photomontage Viewpoint 10**) running eastwards towards public footpath SES/6 and from public footpath SES/6 running northwest southeast through the most eastern part of the EAA on higher ground, (see **Photomontage Viewpoint 12**). The magnitude of the visual change experienced by persons on public footpath SES/6 would reduce with increased distance from the Proposed Development.

- 6.7.78 There would be limited visibility of the Proposed Development in the EAA from public footpath ERB/13 and public footpath SES/XG50 (see **Viewpoints 8 and 9**). The magnitude of change would be **Negligible**.
- 6.7.79 The Proposed Development in the EAA also would be introduced into more distant views from public footpath BAN/13 and public footpath BAN/14 off Millbrook Lane in the wider south-eastern context of the 2.5km Study Area, (see **Photomontage Viewpoint 13** and **Viewpoint 14**). The magnitude of change on these views would be **Negligible**.
- 6.7.80 The Proposed Development also has been assessed from public right of footpaths on higher ground in the CRDV National Landscape to the west and northwest of the Site, see **Viewpoints 15 and 16**. The Proposed Development in the WAA would result in a **Negligible** magnitude of change on walker's views.

Persons at Leisure and Recreational Facilities

- 6.7.81 The Proposed Development in the CAA would be introduced onto farmland adjoining part of the Plassey Leisure Park and would introduce solar panels into views available beyond intervening boundary hedgerow and trees. The Proposed Development would affect no greater than a moderate proportion of the view from the nature trail running parallel and close to part of the south-eastern boundary of the CAA and from the western and northern extent of the golf course. The adverse magnitude of change would be no greater than **Medium/small** in affected views reducing to **Small** at Year 15 once proposed planting along the intervening field boundary providing increased filtering and screening of the Proposed Development.
- 6.7.82 Persons at Bangor racecourse would have some open views out across the intervening Dee floodplain and farmland towards the EAA. Intervening vegetation would however provide some filtering and screening of the Proposed Development, and the magnitude of the visual change would be **Negligible** in affected views.

Road Users

- 6.7.83 The Proposed Development would be introduced into limited, transient, and typically oblique views from the following roads:
- i) B5426, south of the proposed solar array areas;



- ii) Minor road running north south through the CAA, (see **Photomontage Viewpoint 5**);
- iii) Minor road near Stryt-yr-hwch, north of the CAA, (see **Viewpoint 6**);
- iv) B5130 Kiln Lane, north of the EAA, (see **Viewpoint 7**); and
- v) Millbrook Lane, southeast of the proposed solar array areas, in particular the EAA, (see **Viewpoint 14**).

6.7.84 The greatest adverse magnitude of change (**Medium**) would be experienced by road users on the minor road running north south through the CAA where roadside hedgerow would be removed to accommodate new access tracks and visibility splays and would allow previously enclosed road user views to extend into adjacent fields where solar development is proposed.

6.7.85 Effects on road user views from the B5426 and B5130 relate to where new access is proposed into the Proposed Development on the south-western edge of the CAA and on the north-western edge of the EAA respectively resulting in an adverse visual effect experienced from a short section of these roads.

Residents

6.7.86 Resident's views towards the WAA from the property at Hafod y Bont adjacent to part of the eastern boundary of the WAA are limited by dense tree cover surrounding this property. Resident's views from their farm access track running through the centre of the WAA are considered as part of the assessment of effects on views from public footpath RUA/119 referred to above. There are potential filtered winter views southwest from Hafod y Bont towards the southern part of the WAA which would result in no greater than a **Small/negligible** magnitude of change at Year 0. Additional woodland planting is proposed along the eastern boundary of the southern extent of the WAA which would reinforce existing vegetation screening in resident's views. The worst-case magnitude of change would reduce to **Negligible**.

6.7.87 Due to distance and screening by intervening hedgerow and trees, a **Negligible** magnitude of change would be experienced by residents at the group of properties and at an individual property at Middle Sontley, northeast of the WAA, see **Viewpoint 3**.

6.7.88 The Proposed Development in the CAA would be introduced into a greater number of property views due to there being several properties adjoining and close to the



boundaries of the CAA. New hedgerow and tree planting has been incorporated into the Proposed Development to enhance and strengthen field boundaries along the edges of the CAA between these properties and the Proposed Development to assist in screening the Proposed Development. The magnitude of visual change on residents arising from the CAA are set out in **Table 6-8** below. The greatest adverse magnitude of change (**Medium**) would be experienced by the following residents at Year 0:

- i) Plas Eyton north of the B5426, adjacent to part of the south-western boundary of the CAA;
- ii) Semi-detached property north of the B5426, near part of the south-western boundary of the CAA;
- iii) Row of properties (including The Willows and Willows Barn at the northern end of the row) on the western side of the minor road that runs north south through the CAA, (between the south-western parcel of the CAA to the south and the north-western parcel to the north); and
- iv) Group of properties (including Oakley House) on the western side of the minor road that runs north south through the CAA (north of part of the CAA).

6.7.89 At Year 15, existing and proposed planting would provide increased screening of the Proposed Development in residents views identified above, which reduce the magnitude of visual change on these residents.

6.7.90 There also are several properties adjacent and close to the boundaries of the Proposed Development in the EAA. As mentioned in relation to the CAA, new hedgerow and tree planting is proposed to enhance and strengthen field boundaries and to create new field boundaries along the edges of the EAA to assist in screening the Proposed Development. The magnitude of visual change on residents arising from the CAA are set out in **Table 6-8** below. The greatest magnitude of change (**Medium**) would be experienced by residents at Gerwyn Hall adjoining part of the eastern boundary of the EAA. At Year 15, the magnitude of change on these residents would reduce to **Small/negligible** due to increased screening by existing and proposed boundary hedgerow and trees.

Effects on Visual Receptors

6.7.91 **Table 6-8** below sets out the assessment of the effects of the Proposed Development on visual receptors. Those receptors which have been identified as being subject to a significant visual effect during the operational stage of the Proposed Development are shaded yellow.

Table 6-8 –Effects on Visual Receptors

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
Users of Public Rights of Way			
Public footpath ESC/31 (VP1) and public footpath RUA/119 (VP1 and Photomontage VP2)	Medium (High susceptibility and medium/low value)	Y0 & Y15: Ranging from medium to negligible.	Y0 & Y15: Ranging from moderate adverse to negligible. Not Significant.
Wat's Dyke Way and public footpath MAR/41 (VP3)	High (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible. Not Significant.
Public footpath MAR/7, north of the south-western part of the CAA (Photomontage VP4)	High/medium (High susceptibility and medium value)	Y0: Ranging from small to negligible. The magnitude of change is influenced by the degree of field boundary hedgerow and tree screening in the view towards the Proposed Development. Y15: Negligible, due to increased screening and filtering by proposed infill hedgerow planting.	Y0: Ranging from minor adverse to negligible. Y15: Negligible due to increased screening and filtering by proposed infill hedgerow planting. Not Significant.
Public footpath MAR/5 running along part of the southern boundary of the CAA	High/medium (High susceptibility and medium value)	Y0 & Y15: Large	Y0 & Y15: Major/Moderate adverse Significant.
Public footpath ERB/13 and SES/XG50 (VP8 and VP9), between Eytonhall Lane in the south and the B5426 in the north.	High/medium (High susceptibility and medium value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
Public footpath SES/9, south of the EAA (Photomontage VP10)	High/medium (High susceptibility and medium value)	Y0 & Y15: Large (See Viewpoint 10 assessment at Appendix 6.5)	Y0 & Y15: Major/Moderate adverse Significant.
Public footpath SES/6 (VP11 and 12)	High (High susceptibility and medium/high value)	Y0: Ranging from large (VP11) to medium/small (VP12) Y015: Ranging from large (VP11) small (VP12)	Y0: Ranging from Major adverse (VP11) to Moderate adverse (VP12) Y015: Ranging from Major adverse (VP11) to Minor adverse (VP12) Significant and Not Significant effects on this footpath
Public footpath BAN/13, off Millbrook Lane (VP13)	High (High susceptibility and medium/high)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
Public footpath BAN/14 (VP14)	High (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
Public footpath on Ruabon Mountain, in the CRDV National Landscape (VP15)	High (High susceptibility and high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
Public footpath on Esclusham Mountain, in the CRDV National Landscape (VP16)	High (High susceptibility and high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
People at Leisure and Recreational Facilities			
People at Plassey Leisure Park	High (High susceptibility and medium/high value)	Y0:Medium/Small Y15:Small	Y0: Moderate Y15: Moderate/minor Not Significant.
People at Bangor Racecourse, south and southeast of the EAA	Medium (Low/medium susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
People Using Roads			
B5426, south of the proposed solar array areas (VP9)	Medium/low (Medium susceptibility and medium/low value)	Y0 & Y15: Ranging from small to negligible	Y0 & Y15: Ranging from minor adverse to negligible Not Significant.
Minor road running roughly north south through the CAA (Photomontage VP5)	Medium/low (Medium susceptibility and medium/low value)	Y0 & Y15: Ranging from Medium to small	Y0 & Y15: Ranging from Moderate/minor adverse to minor adverse Not Significant.
Bwgan-ddu Lane, near Stryt-yr-hwch (north of the CAA) (VP6)	Medium/low (Medium susceptibility and medium/low value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
B5130 Kiln Lane, north of the EAA (Photomontage VP7)	Medium/low (Medium susceptibility and medium/low value)	Y0 & Y15: Ranging from small to negligible	Y0 & Y15: Ranging from minor adverse to negligible Not Significant.
Millbrook Lane (south of VP14)	Medium/low (Medium susceptibility and medium/low value)	Y0: Negligible Y15: No change	Y0: Negligible Y15: No effect Not Significant.
People in Residential Properties			
Property at Hafod y Bont adjacent to part of the eastern boundary of the WAA	High/medium (High susceptibility and medium value)	Y0: Small/Negligible Y15: Negligible	Y0: Minor adverse Y15: Negligible. Not Significant.
Group of properties and an individual property at Middle Sontley, northeast of the WAA (VP3)	High/medium (High susceptibility and medium value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible. Not Significant.
Plas Eyton north of the B5426, adjacent to part of the south-western boundary of the CAA	High/medium (High susceptibility and medium value)	Y0: Medium (greatest change) Y15: Small (reduced due to increased boundary vegetation screening)	Y0: Major/moderate adverse Significant. Y15: Minor adverse Not Significant.
Semi-detached property north of the B5426, near	High/medium	Y0: Medium, open views northwards	Y0: Major/moderate adverse Significant.

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
part of the south-western boundary of the CAA	(High susceptibility and medium value)	beyond boundary hedgerow Y15: Small, due to existing screening by taller hedgerow and tree screening	Y15: Moderate/minor adverse Not Significant.
Row of 4 bungalows north of the B5426, on the eastern side of the minor road that runs north south through the CAA (south of part of the CAA)	High/medium (High susceptibility and medium value)	Y0: Medium/Small Y15: Small/negligible	Y0: Moderate/minor adverse Y15: Minor adverse/negligible Not Significant.
Row of properties (including The Willows and Willows Barn at the northern end of the row) on the western side of the minor road that runs north south through the CAA, (between the south-western part of the CAA to the south and the north-western part of the CAA to the north)	High/medium (High susceptibility and medium value)	Y0: Medium, on views from properties at the northern end of the row of properties (representing greatest change on views from this group of properties). Y15: Small Hedgerow planting proposed on the edges of the Proposed Development in views would reduce visibility of the Proposed Development.	Y0: Moderate/major adverse Significant. Y15: Moderate adverse Not Significant.
Residential property at The Groves, and the bungalow south of The Groves, on the eastern side of the minor road that runs north south through the CAA	High/medium (High susceptibility and medium value)	Y0: Medium/Small Y15: Small	Y0: Moderate/minor adverse Y15: Minor adverse Not Significant.
Residential property north of Photomontage viewpoint 5 , on the eastern side of the minor road that runs north south through the CAA	High/medium (High susceptibility and medium value)	Y0: Small (in views east and southwest) Y15: Small/negligible (in views east and south)	Y0 & Y15 Moderate/minor adverse Y15: Minor adverse/negligible Not Significant.
Group of properties (including Oakley House) on the western side of the minor road that runs north south through the CAA (north of part of the CAA)	High/medium (High susceptibility and medium value)	Y0 & Y15: Medium on views from properties at the northern and southern end of the row of properties.	Y0: Major/moderate adverse Significant. Y15: Moderate adverse Not Significant.

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
Property off Bryn Afon Lane on the northern side of the B5130 at Bedwell, north of part of the EAA (Photomontage Viewpoint 7)	High/medium (High susceptibility and medium value)	Y0: Small Y15: Small/Negligible	Y0: Moderate/minor adverse Y15: Minor/Negligible. Not Significant.
Properties north of the B5130 (including the eastern property named Hunter's Moon), near the most-western corner of the EAA	High/medium (High susceptibility and medium value)	Y0: Ranging from small to negligible (the greatest change on views southeast from Hunter's Moon closer to the EAA) Y15: Negligible, following the establishment and maturing of proposed hedgerow in the view.	Y0: Ranging from moderate/minor adverse to negligible, (the greatest effect experienced in views southeast from Hunter's Moon closer to the EAA) Y15: Negligible. Not Significant.
Property named Rosemead off Pentre Nant Lane, south of the EAA	High/medium (High susceptibility and medium value)	Y0: Medium/small Y15: Medium/small	Y0: Moderate adverse Y15: Moderate adverse Not Significant.
Property off Pentre Nant Lane, west of the EAA	High/medium (High susceptibility and medium value)	Y0: Small Y15: Small/negligible	Y0: Moderate/minor adverse Y15: Minor adverse Not Significant.
Property named Bella Vista off the A528, near the junction with the B5130 and Cockbank Lane, west of the EAA	High/medium (High susceptibility and medium value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
Gerwyn Hall adjoining part of the eastern boundary of the EAA (partly visible in Photomontage Viewpoint 10)	High/medium (High susceptibility and medium value)	Y0: Medium Y15: Small/negligible	Y0: Moderate adverse Y15: Minor adverse Not Significant.
Plas-fron and residential properties at Porthwgan, southeast of the most eastern part of the EAA	High/medium (High susceptibility and medium value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.
The Kiln Bungalow off the B5130, north of the most eastern part of the EAA	High/medium (High susceptibility and medium value)	Y0: Small Y15: Small/Negligible	Y0: Minor adverse Y15: Minor adverse/Negligible Not Significant.
Property off the B5139 Kiln Lane opposite part of the	High/medium	Y0: Small/Negligible Y15: Negligible	Y0: Minor adverse Y15: Negligible

Visual Receptor and Relevant Viewpoint (VP)	Receptor Sensitivity	Magnitude of Change	Level of Effect and Significance
northern boundary of the EAA	(High susceptibility and medium value)		Not Significant.
Semi-detached property in the vicinity of Viewpoint 9 , on the southern side of the B5426, south of the EAA	High/medium (High susceptibility and medium value)	Y0: Small Y15: Negligible, due to proposed hedgerow along the southern boundary of the western part of the EAA.	Y0: Minor adverse Y15: Negligible Not Significant.
Property named Gerwyn-Fechan, adjacent to part of the southern boundary of the EAA	High/medium (High susceptibility and medium value)	Y0: Medium/small Y15: Small	Y0: Moderate adverse Y15: Minor adverse Not Significant.
Residential properties including Cloy House on the northern side of Millbrook Lane, southeast of the EAA (VP13 and 14)	High (High susceptibility and medium/high value)	Y0 & Y15: Negligible	Y0 & Y15: Negligible Not Significant.

6.7.92 People who would experience a **Significant** level of visual effect as a result of the Proposed Development at Year 15 include:

- i) Walkers on public footpath MAR/5 running along part of the southern boundary of the CAA. It was however noted during field assessment that access onto this footpath was restricted at both its western and eastern ends. The Proposed Development would improve access onto the western end of this footpath and would enhance local footpath connectivity with the addition of a new permissive path off this footpath, as shown on the Indicative Landscape Masterplans included as **ES Figures 6.5a to 6.5c**, which also indicates an information board adjacent to this footpath;
- ii) Walkers on public footpath SES/9, running along part of the southern boundary of the EAA, see **Photomontage Viewpoint 10**. New hedgerow and trees introduced into foreground views from this section of public footpath SES/9, would heavily filter and screen views of the Proposed Development by Year 15
- iii) Walkers on public footpath SES/6, where it runs alongside solar development in the most eastern part of the EAA. **Viewpoint 11** shows the view looking across farmland in the most eastern part of the EAA. Views from other sections of public footpath SES/6, which run between the B5130 in the northwest and the A525 in the southeast, would either include the EAA in a smaller proportion of the view

or the Proposed Development would not be visible due to intervening hedgerow, tree and landform.

Night-time Landscape and Visual Effects During Operation

- 6.7.93 As set out in **ES Chapter 4.0: Proposed Development**, no lighting would be required during the operation of the proposed solar farm. Security lighting is proposed at the substation located in the south-eastern corner of the WAA. This security lighting would use infrared technology to prevent any nuisance or constant light spill and would only be activated during early morning and/or late afternoon visits to the substation during the winter months, if and when required.
- 6.7.94 Proposed substation lighting would have no notable effect on landscape character and views.

Effects on Landscape Designations

Clwydian Range and Dee Valley National Landscape

- 6.7.95 The Proposed Development would not be within the boundary or close to the boundary of the CRDV National Landscape. The characteristics of the landscape within the designation boundary therefore would be unaffected.
- 6.7.96 The boundary of the CRDV National Landscape is beyond the 2.5 km Study Area which is the focus of this LVIA, the intention of which is to identify any significant landscape and visual effects that would arise as a result of the Proposed Development. Further to consultation with NRW, discussed in **Section 6.4, Table 6-2** above, two viewpoints have however been assessed in areas of theoretical visibility extending over higher ground in the CRDV National Landscape in the wider western context of the Site, see **ES Figures 6.2**.
- 6.7.97 The assessment of visual effects on users of the footpaths assessed within the CRDV National Landscape, presented in **ES Appendix 6.5** and summarised in **Tables 6-7** and **6-8** above, identifies that the Proposed Development would result in a **Negligible** level of effect on these receptors, which is **Not Significant**.
- 6.7.98 Any intrusion resulting from the Proposed Development upon views towards the CRDV National Landscape from locations outside its boundary would be very limited, see **Viewpoints 3, 12, 13 and 14**.



6.7.99 None of the special qualities of the CRDV National Landscape would be affected by the presence of the Proposed Development in its wider context. Nor would the natural beauty of land within the designation boundary be affected by change resulting from the Proposed Development.

6.7.100 It is concluded that the statutory purposes of the CRDV National Landscape would not be affected by the presence of the Proposed Development.

Special Landscape Area 004: Lower Dee Floodplain

6.7.101 The Proposed Development, specifically EAA, would be sited outside of the Lower Dee Floodplain Special Landscape Area (SLA 004), which extends across the south-eastern extent of the 2.5 km Study Area and beyond.

6.7.102 The EAA would be partly visible in outward views from some locations within the wider SLA, as shown on ZTV mapping shown on **Figure 6.2a** and **6.j** and including from **Viewpoints 13** and **14** near the boundary of the 2.5 km Study Area. Persons at these locations however would experience **Negligible** visual effects as result of the Proposed Development in the EAA, see **Tables 6-7 and 6-8** above. The nature of views from these locations, looking out across the landscape designated as a SLA and beyond, would remain as existing overall.

6.7.103 Any intrusion due to the presence of the Proposed Development in views towards the Lower Dee Floodplain SLA from locations outside its boundary would be limited, see **Viewpoint 12** assessed in the visual assessment above..

6.7.104 The Proposed Development would not result in significant effects on the character of the landscape within the Lower Dee Floodplain SLA and the Proposed Development would not have an adverse effect on the special valued qualities of this designated landscape.

6.7.105 The EAA is proposed to the north of the River Dee, beyond farmland and the B5426, and is not directly associated with the River Dee, which is the key focus of the SLA designation.

6.7.106 The EAA also is set back beyond rising farmland and is partly enclosed by mature trees and hedgerow which would minimise the influence of the Proposed Development on the SLA designation. Proposed planting also would reinforce



screening along the edges of the Proposed Development once established and maturing.

- 6.7.107 The limited indirect effect of the Proposed Development on this local (non-statutory) landscape designation would be **Not Significant**.

Decommissioning Stage

Overview

- 6.7.108 The Proposed Development would be operational for a specified life span of 40 years, after which the Proposed Development would require decommissioning, except for the proposed substation in the south-eastern part of the WAA, which would remain in perpetuity.
- 6.7.109 **ES Chapter 4.0: Proposed Development** provides a full description of the decommissioning of the Proposed Development. The key activities undertaken during the decommissioning phase which are relevant to the assessment of landscape and visual effects are discussed below.
- 6.7.110 All solar PV modules, mounting poles, cabling within the proposed solar array areas, and BESS units, inverters and transformers, would be removed from the Site, and recycled or disposed of in accordance with good practice and market conditions at that time. The substation in the south-eastern corner of the WAA, and underground cables in the highway, between proposed solar array areas and along the grid connection route to Legacy substation, would be left in situ. This would avoid the temporary decommissioning effects resulting from the removal of the substation and the excavation and removal of the cables installed within the highway.
- 6.7.111 The activities involved in decommissioning of the Proposed Development would be similar to those involved in the construction phase with respect to the temporary disruption to the Site and Study Area.
- 6.7.112 Decommissioning largely would involve the presence of temporary site compounds and construction plant, vehicles and machinery. The decommissioning phase is expected to take between 9 and 12 months and would be undertaken in phases, which is considered to be short-term in assessment terms. After decommissioning, most of the Site would be returned to a condition suitable for return to its original use.

6.7.113 Key differences, however, between the construction and decommissioning phases of the Proposed Development are that the proposed substation would remain in-situ and proposed hedgerow and trees implemented at the end of the construction of the Proposed Development would be retained and would have reached a high level of maturity, leaving the Site and Study Area enhanced through the improvement to field structure as a result of proposed and managed hedgerow and tree planting.

Effect on Landscape and Views During and Post the Decommissioning Phase

6.7.114 Landscape and visual effects experienced during the decommissioning stage of the Proposed Development would be similar in nature and magnitude than to those that would occur during the construction of the proposed solar array areas, using plant similar to that utilised during construction.

6.7.115 As discussed in **ES Chapter 2.0: Proposed Development** and in **Section 6.6** above, decommissioning activities would be managed via a bespoke DEMP.

6.7.116 The decommissioning stage would result in a reversal of the effects associated with the operation of the proposed solar farm and associated infrastructure upon landscape character and upon views described above.

6.7.117 Most of the Proposed Development comprises the solar arrays, which would be removed without any alteration to the underlying landform or landcover, albeit affected fields in the Site would be returned to arable crop or pasture grassland by the landowner.

6.7.118 There would be a net benefit on Site hedgerow and tree cover at the decommissioning stage as all proposed hedgerow and tree planting would be retained.

6.7.119 In relation to landscape character, there would be short-term, reversible adverse effects during the removal of the Proposed Development which would be similar to those reported during construction.

6.7.120 The proposed substation in the south-eastern corner of the WAA would be the only above ground development that would remain in perpetuity, in a very small part of LCA13a: Welsh Maelor. Localised and limited adverse effects on landscape character would be **Not Significant**. At the end of decommissioning there would be a beneficial effect on landscape character as there would be enhanced field structure



within the Site due to the mature hedgerow and tree cover left by the Proposed Development.

- 6.7.121 With regard to visual effects, there would be temporary adverse effects during the removal of the Proposed Development which would be similar to those reported during construction. This essentially comprises some temporary significant visual effects on users of public footpaths which are either within or directly adjacent to the Site.
- 6.7.122 The proposed substation, retained in the south-eastern corner of the WAA, would have a limited effect on visual amenity in perpetuity, beyond the life of the proposed solar farm. Any longer-term adverse visual effects arising from this component of the Proposed Development alone would be **Not Significant**.
- 6.7.123 At the end of decommissioning, there would be **beneficial** effects on visual receptors as the Proposed Development would be removed from views. The Proposed Development would leave enhanced field structure within the Site due to the mature hedgerow and tree cover left by the Proposed Development, which would primarily comprise a benefit to landscape character, while, aside from users of some footpaths in close proximity to the Site, in the most part this would not alter the overall view experienced by receptors.

6.8 Inter-relationship of Potential Effects

Glint and Glare Effects

- 6.8.1 Potential glint and glare impacts are caused by the reflection of sunlight from solar PV modules and how this may affect receptors that have views of this. A Glint and Glare Assessment is provided at **ES Appendix 4.4**.
- 6.8.2 Planting proposals indicated on the Indicative Landscape Masterplans at **ES Figures 6.5a to 6.5c** in addition to existing vegetation and intervening terrain would result in no significant Glint and Glare impacts.

Heritage Effects

- 6.8.3 There are heritage assets in the vicinity of the Site, including Wat's Dyke Scheduled Monument east of the WAA. Changes in the view have the potential to affect the setting of heritage assets. A change in view does not however automatically imply an equivalent effect on setting. Effects on affected heritage assets including where relevant their setting, are assessed in **ES Chapter 7.0: Historic Environment**.

6.9 Cumulative Effects

- 6.9.1 There is the potential for the effects of the Proposed Development to interact with the effects of other projects in the surrounding area. These are 'inter-project' cumulative effects and includes projects that are approved but awaiting implementation, and projects awaiting determination within the planning process with design information in the public domain. Such projects are required to be within a geographical scope where environmental impacts could act together to create a more significant overall effect on a receptor and where sufficient environmental information is available.
- 6.9.2 The method for identifying other projects is provided within **ES Chapter 2.0: EIA Methodology**; this includes a list of the specific projects identified. The cumulative effects Study Area and the locations of the other projects are illustrated on **Figure 2.1**.
- 6.9.3 NSIP Advice Note 17 (AN17) is clear that the criteria by which projects included in a cumulative assessment should be determined should have regard to relevant guidance (i.e. the GLVIA in the case of cumulative landscape and visual effects) and is also clear that professional judgement may be used to supplement this. The inclusion of projects within the cumulative landscape and visual assessment, as set out below, accords with this approach.
- 6.9.4 The cumulative landscape and visual assessment is concerned with the effects of the Proposed Development introduced into a cumulative baseline scenario where, in addition to existing development and any development under construction (which form part of the LVIA baseline), other consented development and development that is the subject of a formal planning application (or where formal Pre Application Consultation has commenced in the case of DNS schemes) is considered.
- 6.9.5 **Table 6-9** below provides a summary of each of the cumulative developments set out in **ES Chapter 2.0: EIA Methodology** and draws a conclusion as to whether cumulative landscape and visual effects would occur, and if so whether these would be significant effects. Further commentary is provided in the text following **Table 6-9**, where deemed necessary.

Table 6-9 – Projects for Consideration in Cumulative Assessment

Reference on Figure 2.1	Application Details	Significant Cumulative Effect
1	DNS/3253253 Plas Power Estate Solar Farm Pre-Application (EIA Development)	<p>The Proposed Development, specifically the proposed solar arrays, would be over 2.5 km south-south-east and southeast of the proposed Plas Power Estate Solar Farm beyond existing development including the A483 dual carriageway with associated vegetation. The Proposed Development would be introduced into a different Wrexham LCA that encompasses <i>“attractive undulating lowland farmland south of Wrexham town and west of the River Dee, containing a number of large estates”</i></p> <p>The Proposed Development also would not be visible in people’s views that would be affected by the Plas Power Solar Farm.</p> <p>The Proposed Development in combination with the Plas Power Solar Farm would not give rise to cumulative landscape and visual effects.</p>
2	P/2020/0363 Glasshouse with packing facility and offices, energy centre, recovery plant and reservoirs. Allowed at Appeal (Non-EIA)	<p>The Proposed Development would be introduced into the same LCA (LCA 13a: Welsh Maelor) as the Glasshouse development. However, the Proposed Development would be to the south and southwest of the Glasshouse development within the central part of LCA 13a not the northern part of LCA 13a, as defined by WCBC.</p> <p>The Glasshouse development would be in the north-eastern extent of the 2.5 km Study Area, adjacent to Wrexham Industrial Estate (which is in LCA 11), in an area where there would be no visibility of the Proposed Development due to intervening topography, buildings and vegetation. As such, the Proposed Development would not be visible in people’s views that would be most affected by the Glasshouse development.</p> <p>The Proposed Development in combination with the Glasshouse development would not give rise to notable cumulative landscape and visual effects.</p>
3	P/2022/0541 9.9MW Little Llwyn Onn Solar Farm Approved (Non-EIA)	<p>The location and scale of the Little Llwyn Onn Solar Farm in the north-eastern context of the 2.5 km Study Area is such that the introduction of the Proposed Development to the south and southwest (beyond existing development and</p>

		<p>farmland with field boundary vegetation) would not result in significant cumulative landscape and visual effects.</p> <p>ZTV mapping shown on Figure 6.2 also shows that there would be no visibility of the Proposed Development from within the area that would be most influenced by the Little Llwyn Onn Solar Farm.</p> <p>The Proposed Development in combination with the Little Llwyn Onn Solar Farm would not give rise to notable cumulative landscape and visual effects.</p>
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- 6.9.6 The Proposed Development in combination with the above cumulative developments would not result in significant cumulative effects on landscape character or views.

6.10 Further Mitigation

- 6.10.1 No further mitigation measures are deemed necessary to avoid, reduce or offset adverse effects unavoidable through design, over and above those described in **Section 6.6** above.

6.11 Residual Effects and Conclusions

Residual Effects

- 6.11.1 In the absence of any further mitigation measures, as set out in **Section 6.10** above, residual effects would be as described in **Section 6.7** above.

6.12 Enhancement Measures

- 6.12.1 Enhancement measures are included as part of the Proposed Development and are shown on the Environmental Enhancement Plans (**ES Figure 1.4a-c**) and in part on the Indicative Landscape Masterplans (**ES Figures 6.6a to 6.6c**) for each of the three proposed solar array areas.
- 6.12.2 Enhancement measures would provide further benefits to the scheme and/or local environment and include:
- i) Planting of diverse wildflower meadows within buffer zones along field boundaries to increase biodiversity and encourage pollinators to the Site;
 - ii) Two new community orchards in the southern part of the CAA;
 - iii) Creation of new permissive footpaths to link up existing routes, filling gaps in the existing network and creating loops where possible, to enhance appeal to users and to improve connectivity; and
 - iv) Information Boards within the CAA and EAA to provide information about the public routes available and the social and natural history of the Site and its surroundings; and
 - v) Numerous bird and bat boxes, hedgerow and insect or bee hotels and reptile hibernacula throughout the Site and a minimum of five hibernacula or log piles to be created in proximity to existing ponds in the Site.

6.13 Conclusions

- 6.13.1 The above ground components of the Proposed Development (proposed solar arrays and associated infrastructure including a substation in the south-eastern corner of the WAA), would be introduced into the predominantly rural and agricultural landscape south of Wrexham, north of the B546, east of the A483 dual carriageway and west of the meandering River Dee. The landscape is undulating and low-lying and generally falls eastwards towards the River Dee floodplain. Existing development includes the local road network including the A483 dual carriageway to the immediate west of the WAA; 132kV overhead lines running through and in the immediate context of the proposed solar array areas and dispersed farmsteads, groups of properties and small settlements in the Study Area.
- 6.13.2 The Proposed Development would include three solar array areas with associated infrastructure, including a new substation in the south-eastern corner of the WAA. Proposed solar array areas would be up to 3 m in height. Built components within the proposed substation would be the tallest structures introduced onto the Site, including a 15 m high communications mast. The proposed substation has been sited to benefit from existing screening provided by mature hedgerow and trees along the south-eastern edges of the WAA in a location with few potential visual receptors.
- 6.13.3 The influence of construction activity upon landscape character and upon views would be limited by vegetation cover within the Site and in its surroundings. The effects of construction typically would be very similar in their extent and nature to the operational effects of the Proposed Development, concluded on below, and would form a precursor to these effects as new structures are progressively introduced into the landscape and the views available across it.
- 6.13.4 Effects on the host LCA would be **Significant** at Year 0 and **Not Significant** at Year 15. Effects on landscape character within other LCAs in the Study Area would be **Not Significant**.
- 6.13.5 The Proposed Development would introduce solar development into the predominantly rural, agricultural landscape resulting in a noticeable change to character within the Site. The Proposed Development would however result in only a limited and generally localised influence on landscape character beyond the proposed solar array areas. The separation of the Proposed Development into three geographically separate solar array areas would avoid a concentration of solar

- development in the landscape and would utilise available screening by mature vegetation and topography. The key characteristics of the surrounding landscape would not be altered as a result of the Proposed Development.
- 6.13.6 Visual effects at Year 15 (for the long-term) would be **Significant** where the Proposed Development would be introduced into open close views experienced by persons on public footpaths which would run alongside and/or through the Proposed Development, referring to:
- i) Persons on public footpath MAR/5 running along part of the southern boundary of the CAA;
 - ii) Persons on public footpath SES/9, running along part of the southern boundary of the EAA (**Photomontage VP10**); and
 - iii) Persons on public footpath SES/6 running through the most eastern part of the EAA (**Viewpoint 11**).
- 6.13.7 Visual effects on other receptors assessed would be **Not Significant**, referring to persons on public footpaths and Wat's Dyke Way; local road users; persons at Plassey Leisure Park and at Bangor-on-Dee racecourse and residents at properties in the Site's surroundings.
- 6.13.8 Proposed solar arrays and associated infrastructure largely would be relatively low scale, and the Proposed Development would benefit from filtering and screening by existing field boundary hedgerow and trees, and by adjacent woodland, which would limit the extent to which views would change. Landscape proposals indicated on the Indicative Landscape Masterplans at **ES Figures 6.5a to 6.5c** also include new hedgerow and tree planting to enhance and reinforce the existing landscape framework of the Site to minimise adverse effects on landscape and views, in particular on open close (public and private) views, as far as possible.
- 6.13.9 None of the statutory purposes or special qualities of the CRDV National Landscape would be materially affected by any change in landscape character or visual change arising as a result of the Proposed Development. Nor would the natural beauty of land within the designation boundary be affected by change resulting from the Proposed Development.
- 6.13.10 Effects on the character of the landscape within the Lower Dee Floodplain SLA and on the special valued qualities of this designated landscape would be **Not Significant**.

- 6.13.11 Cumulative landscape and visual effects assessed would be **Not Significant**. The presence of the Proposed Development in combination with identified cumulative developments would not result in any notable or significant cumulative effects on landscape character or views.
- 6.13.12 Decommissioning of the Proposed Development after 40 years of its operation, phase would result in a reversal of the effects associated with the operation of most of the Proposed Development. The proposed substation, in the south-eastern corner of the WAA, would remain in perpetuity, beyond the life of the proposed solar farm. The proposed substation would however have a limited effect on landscape and visual amenity benefitting from existing vegetation and proposed planting along the south-eastern edges of the WAA.
- 6.13.13 The beneficial effect of proposed hedgerow and tree planting and enhancement measures set out in **Sections 6.6** and **6.12** above would remain.

Appendix 6.1 – LVIA Methodology



Appendix 6.2 – ZTV and Visualisations Methodology



Appendix 6.3 – Landscape Character Baseline



Appendix 6.4 – Effects on Landscape Character



Appendix 6.5 – Effects on Viewpoints

