

Ref. | YOR.2447.001

Date | March 2015



Landscape and Visual Impact Assessment

In relation to a proposed 1MW solar Photovoltaic (PV):

Knolton Farmhouse Cheese Solar Installation, Overton, Clwyd

For Active Renewables Limited

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1. Introduction

- 1.1. This Landscape and Visual Impact Assessment (LVIA) relates to the application for a proposed 1 MW PV farm at Knolton Farmhouse Cheese, Overton, Clwd.
- 1.2. It has been carried out by Pegasus Group for Active Renewables Limited and has been based on the development proposals set out within drawings Yor.2447_01-A Appendix D.
- 1.3. The assessment and associated site visit has been undertaken by Chartered Members of the Landscape Institute. The site visit was undertaken on 17th February 2015 during good weather and visibility conditions. The effects of winter leaf loss allowed a worst case visibility to be appreciated.
- 1.4. A photographic record of the site and representative viewpoints is presented in Figure 2 in Appendix C.

Landscape and Visual Impact Assessment

- 1.5. The methodology and assessment criteria for the LVIA assessment are presented in Appendix A. The LVIA has been guided by *The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (GLVIA3) (2013) but reference has also been made to the Landscape and visual impact assessment guidance presented by Hertfordshire Council.
- 1.6. The LVIA considers the potential effects of the proposals upon:
 - individual landscape features and elements;
 - landscape character; and
 - visual amenity and the people who view the landscape.
- 1.7. The main objectives of the LVIA are as follows:
 - to identify, evaluate and describe the current landscape character of the site and its surroundings and also any notable landscape features within the site;
 - to determine the sensitivity of the landscape to the proposed development;
 - to identify potential visual receptors (i.e. people who would be able to see the development) and evaluate their sensitivity to the proposed development;
 - to identify and describe any impacts of the proposed development in so far as they affect the landscape and/or views of it and evaluate the magnitude of change due to these impacts; and
 - to evaluate the residual landscape and visual effects.

2. Proposed development and likely impacts

The Site Location and Context

- 2.1. The site is approximately 1.7 hectares and lies directly to the south west of the Knolton Farmhouse Cheese factory to the south west of the village of Overton/ Owerton. The site access is from the B5069 which connects the A528 south of Overton to the A5 at Oswestry.
- 2.2. The site currently comprises an area of rough grass lying between the site access to the east and an area of woodland to the west. Separation from the B5069 is provided by a bunded area of rough ground which appears to be used for the storage of soil materials and a thick tall hawthorn hedgerow adjacent to the highway verge.

The proposed development

- 2.3. The proposed development includes approximately 4,120 no. 260 watt ground mounted panels laid out in south facing parallel arrays at an angle of approximately 25° (degrees) in order to capture maximum solar energy.
- 2.4. The front edge of the panels would be around 0.8m above ground, with the trailing top edge set at approximately 2.5m above the ground.
- 2.5. The metal framework that houses the modules would be supported at intervals by single mounted posts approximately 2m apart. The posts would be driven into the ground at a depth of between 1m to 1.5m. The associated cabling would be concealed in trenches.
- 2.6. There would also be a small number of inverter cabinets and a transformer/substation within the development associated with the grid connection elements of the proposals. Ground works would be required to accommodate these elements.
- 2.7. The arrays would be set within new deer fencing which would be offset appropriately from the existing boundary hedges and vegetation. CCTV would form part of the security provision for the site but there would be no lighting.
- 2.8. As part of the mitigation and site enhancements discussed below a new proposed hedgerow on the eastern boundary adjacent to the main cheese factory site access would provide a continuous vegetation screen around the perimeter of the proposed development. A small area of woodland copse is proposed for the northwest corner of the site where the existing woodland is at its thinnest. The rough grass between and beneath the panels would be managed as meadowland.
- 2.9. Vehicular access to the site would be via the existing Knolton Farmhouse Cheese factory access.

- 2.10. An indicative layout of the proposals is provided on the enclosed drawing 'Knolton Farmhouse Cheese - Proposed Solar Installation Plan' shown on drawing Yor.2447_01-A Appendix D.

Likely Key Effects

Effects During Construction

- 2.11. During construction, there would be potential short term landscape effects arising from the presence of activities on the site which include:
- Presence of equipment and materials on site and personnel undertaking activities related to installation.
 - Trench excavation to lay connection cables.
 - Construction of an access track from the main factory.
 - Presence of construction and additional delivery traffic on local roads and across the site, including heavy goods vehicles (HGVs).
 - For areas of advanced or early mitigation, the early and ongoing establishment of proposed mitigation measures (such as planting) during the construction.
- 2.12. The overall construction phase is estimated to last 8 weeks. Normal working hours during the construction phase would be 08:00–18:00, Monday to Saturday.

Effects at Completion

- 2.13. The permanent components of the proposed development which may give rise to effects on landscape and visual receptors are listed as follows:
- The solar PV panels (maximum height 2.2m) and ancillary infrastructure such as security fencing, CCTV, substation, welfare facilities and central invertors; and
 - Mitigation integrated into the proposed development, including new planting.
- 2.14. It is acknowledged that planting is likely to take a number of years to become mature and therefore effects are judged in the winter of year 1 following completion (with the effects of winter leaf loss being prevalent) and in the summer of year 15 following completion.

Landscape mitigation and site enhancements

- 2.15. The landscape and visual mitigation strategy is guided by the existing landscape, character and visual baseline. It seeks to minimise the landscape and visual effects of the proposed

scheme and wherever possible deliver landscape, visual, recreational and ecological benefits.

- 2.16. All of the mitigation measures proposed are located within the red line of the application site on land owned by the applicant. As such they can be secured through planning conditions. They have been taken account of in the assessment of landscape and visual effects as forming part of the proposal.

Retention and management of existing features

- 2.17. All existing mature hedgerows and hedgerow trees would be retained. Where any gaps have developed these would be repaired with new planting of suitable local species selected from those found within the existing hedgerow. Plant material would be of UK and preferably local provenance if available. It is not envisaged that any existing hedgerow would need to be removed in relation to site access.
- 2.18. The existing hedgerows to the south are currently approximately 3m plus in height and would continue to be maintained at this height (in line with the height of the leading edge of the voltaic panels) to provide screening to the proposal.

Proposed enhancements

- 2.19. It is proposed that a new species rich native hedgerow would be planted along the eastern edge of the proposed solar array and the western edge of the factory access to provide enclosure to the eastern boundary and partial screening in time from the south primarily in relation to the existing site access. The species composition would be appropriate to the locality and would provide biodiversity enhancements.
- 2.20. The existing rough grassland would be managed as a species rich meadow underneath the panels providing further biodiversity enhancements.

3. Planning context

- 3.1. A full and detailed consideration of planning policy is contained in the accompanying Planning Statement. This section provides an overview of the policies of particular relevance to the landscape and visual issues considered in this LVIA.

Designations

- 3.2. There are no national designations covering the site that recognise a particular landscape or visual importance. The nearest Area of Outstanding Natural Beauty (AONB) is the Shropshire Hills AONB located approximately 35km the south and the nearest National Park is the Peak District National Park located approximately 56km to the north east. The site lies within a Special Landscape Area (SLA) as identified in Policy EC5 of the current Wrexham Unitary Development Plan (Adopted February 2005). The site is located on the southern edge of the SLA which extends over a large part of the district. The policy states:

POLICY EC5 Wrexham UDP

Within SLA's priority will be given to the conservation and enhancement of the landscape. Development other than for 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.

- 3.3. Overton Conservation Area lies approximately 1km to the north east of the site at its closest point and Erbistock Conservation Area approximately 1km to the north west of the site at its closest point. The closest Listed Building is Barton's Bridge approximately 1km to the south west of the site. The nearest Scheduled Ancient Monuments is located approximately 3km to the south west.
- 3.4. The identification of these designations provides an indication of the value and quality of the wider landscape character as well as an indication of potential sensitive visual receptors. Whilst reference has been made however, it is acknowledged that the assessment of effects on sensitive cultural heritage features (including Conservation Areas, Listed Buildings and SAMs) are addressed elsewhere in the planning submission and do not form part of this assessment.

National Planning Policy

- 3.5. Planning Policy Wales (PPW) (Edition 7 adopted July 2014) sets out the land use policies of the Welsh Government. This is supplemented by 21 Technical Advice Notes (TANs).

- 3.6. Chapter 4 of PPW is concerned with planning for sustainable development. This chapter confirms the intention that sustainable development will be the central organising principle of the Welsh Government and that sustainability will be at the heart of the decision-making process. Section 4.4 outlines a number of sustainability objectives for the planning system to inform the preparation of development plans and in taking decisions on individual planning applications in Wales. Key amongst these with relevance to the LVIA include (inter-alia);
- The support and facilitation of low and zero carbon developments at all scales; and
 - Ensuring that development does not produce irreversible harmful effects on the natural environment through the conservation and enhancement of statutorily designated areas and of the countryside and undeveloped coast; the conservation of biodiversity, habitats, and landscapes”.
- 3.7. Sustainability through good design is promoted although it is acknowledged that “the visual appearance of proposed development, its scale and its relationship to its surroundings and context are material planning considerations” (para.4.11.9).
- 3.8. Chapter 5 is concerned with the conservation and improvement of Natural Heritage and the coast. Within this chapter the importance of trees and hedgerows as wildlife habitats and their contribution to landscape character is advocated (para.5.2.9), as is the LANDMAP information system which is identified as an important resource to inform local policy, guidance and decision making (para. 5.3.13).
- 3.9. Chapter 12 whilst supportive of renewable energy acknowledges that local planning authorities must ensure that international and national statutory obligations to protect designated areas, species and habitats and the historic environment are observed (para.12.8.10).

Technical Advice note (TAN) 8: renewable energy (2005)

- 3.10. TAN 8 provides advice on land use planning in relation to renewable energy, paragraph 3.15 under Solar Thermal and Solar Photo-Voltaic (PV) states ‘other than in circumstances where visual impact is critically damaging to a listed building , ancient monument or conservation area vista, proposals for appropriately designed solar thermal and PV systems should be supported’.

Local Planning Policy

- 3.11. The current Wrexham Unitary Development Plan (UDP) 2005 was reviewed as part of the desk study. (This document is due to be replaced by the Wrexham Local Development Plan in March 2018). Key policies and guidance of reference to the site from a landscape and visual perspective include:

- EC4 – Hedgerows Trees & Woodland
- EC5 – Special Landscape Areas
- PS11 – Biodiversity
- PS12 – Renewable Energy
- Local Planning Guidance note No.7 Landscape & Development

3.12. Map 1 and Inset Map 29 Overton, of the Wrexham Unitary Development Plan (UDP) 2005 illustrates the extent of the Special Landscape Area policy, this is shown on Figure 1 – LVIA Plan.

4. Landscape Effects

- 4.1. The assessment of Landscape effects, deals with the changes to the landscape as a resource. Different combinations of the physical, natural and cultural components (including aesthetic, perceptual and experiential aspects) of the landscape and their spatial distribution create the distinctive character of landscapes in different places.
- 4.2. The landscape baseline provides an understanding of the landscape in the area that may be affected and includes its constituent elements, character, history, condition, the way the landscape is experienced and the value attached to it.
- 4.3. Landscape effects are assessed at three development phases. These include effects during construction, in the winter of year 1 following completion (with the effects of winter leaf loss being prevalent) and in the summer of year 15 following completion.

Landscape Features and Elements

Natural Landscape Features

- 4.4. The bedrock geology of the area lies within a transition between the Kinnerton Sandstone Formation – (Sandstone) and the Salop Formation – (Mudstone, Sandstone and Conglomerate) overlain with superficial deposits of largely Till, Devensian – Diamicton with some bands of Glacial fluvial Deposits. The site is located on the 75m AOD contour on a local plateaux incised by local rivers and widely 'pock marked' with numerous small scale ponds. The wider landscape is gently rolling, enclosed on the skyline by high ground and mountains to the north and west. The markedly sinuous River Dee 500m to the north cuts a valley which drops steeply to 25m AOD. One kilometre to the south west lies Shell Brook a tributary to the River Dee which has also cut a steeply sided valley. This site is located outside flood zones 1&2.
- 4.5. Soils in the area are identified as slowly permeable of moderate fertility and Graded 3/4 in the agricultural land classification. In terms of land cover the site comprises entirely of rough grassland. An area of woodland runs along the western boundary and is identified as ancient woodland. Woodland in the landscape is generally associated with the river valley sides. There are no individual trees within the site. An existing hedgerow is located to the south approximately 30m from the site boundary.

Cultural and Social Landscape Features

- 4.6. The land within the site appears little used, generally unmanaged and ungrazed by stock. Directly to the south is an area used for the storage of materials (mainly soils) separated from the adjacent highway by a tall hedgerow. Immediately to the north east is the Knolton Farmhouse Cheese complex including Knolton Farm. The wider landscape is generally pastoral with some limited areas of arable generally for the production of cereal.

Many fields in the locality particularly around residential properties are used to keep horses.

- 4.7. There are no buildings on the site and the area is generally sparsely settled. There are residential properties immediately to the east of the factory complex associated with Knolton Farm and the adjacent Ash Grove, and Gwalia Farm approximately 60m to the south west of the site. The village of Overton is the largest local settlement located 1km to the north east, other settlement generally comprises of individual farmsteads and small hamlets distributed along the local minor roads.
- 4.8. There are conservation areas at Overton approximately 1km to the north east and at Erbistock 1km to the north west. The closest listed buildings are the Grade II listed Gwalia Farmhouse and Byre/Stable Range 100m to the south west. Lightwood Farm Moated Site 2.5km to the east is the nearest Scheduled Ancient Monument. Two Historic parks and gardens are located Erbistock Hall and Rose Hill 2.5km to the north west.
- 4.9. Field patterns in the locality are randomly shaped with enclosure predominately provided by hedgerows which are generally dense and well maintained. Enclosure to the east of the site is provided by the adjacent woodland; to the south is a tall hedgerow beyond the site boundary. The northern and eastern boundaries are generally open to the factory complex and main drive however a small grassed bund is located to the northern and eastern perimeter and stored materials form a larger area of raised ground on the southern boundary.
- 4.10. Analysis of historic OS maps shows the proposal site and cheese factory site areas to be one large field containing a small pond typical of the local landscape in 1873. At this time the woodland surrounding this area to the north and west is identified as 'Blake's Wood'. Knolton Farm and the adjacent property Ash Grove are shown to the east with accompanying garden and orchard areas.

Perceptual and Aesthetic Landscape Features

- 4.11. In terms of cultural associations desk based research has not established anything significant specifically associated with the site. In the adjacent village of Overton twenty one very ancient yew trees are identified in a rhyme as forming one of the 'Seven Wonders of Wales'.
- 4.12. Sounds within and surrounding the site are mainly associated with the cheese factory, agriculture, tractor movements, and local traffic noises. During the fieldwork undertaken wild bird song and cocks crowing could clearly be heard.
- 4.13. The colour and texture of the green pastoral landscape with strong hedgerows, tree cover in the valleys and copses around houses is a dominant feature with buildings generally sparsely distributed. The cheese factory adjacent to the site comprises several large

buildings and a tall chimney forming a clearly industrial element in the predominantly agricultural landscape.

Landscape Value

- 4.14. As noted at Para 3.2 (designations), there are no national designations covering the site that recognise a particular landscape or visual importance however the site is identified locally as being within a 'Special Landscape Area (SLA)' as defined by Policy EC5 of the current Wrexham Unitary Development Plan (Adopted February 2005), indicating a high landscape value. Paragraph 5.5 of the UDP also states that *'much of the landscape's quality stems from the pattern of hedgerows, trees and woodland and other natural features such as ponds.'* none of which it is noted would be directly affected by the proposal.
- 4.15. The local landscape condition is generally good; hedgerows are well maintained providing strong (random) pattern and structure. The condition of the proposal site however is reduced, the rough grassland appears to receive little maintenance; it does not contain any key landscape features nor is it representative of the wider generally pastoral landscape. Landscape Character is discussed in more detail below, however the key characteristics of the landscape identified in the analysis of LANDMAP were generally found to be present in the wider landscape though the character of the immediate site is influenced by the adjacent cheese factory. The scenic quality of the site is not particularly strong either in comparison to the wider landscape.
- 4.16. The site forms part of the hinterland of the cheese factory. There are no listed buildings or identified historical interest associated with the site. The site is not accessible to the public for recreation purposes, no public footpaths pass over or immediately adjacent to the field.

Landscape Receptors

- 4.17. Based on the identification of landscape features and an assessment of their value the key landscape feature receptor is the land cover and or land use and the colour/texture pattern and form of the land cover and use. The surrounding woodland will not be affected by the proposal as suitable offsets from these features will be employed, nor would the topography

Land Cover/Land Use

- 4.18. Sensitivity – The susceptibility to change of the field is very low, as rough grassland it is a relatively static element but could accommodate changes to management regimes and the introduction of solar panels as an additional landscape element over its extent.
- 4.19. The landscape value of the field is relatively low in that it comprises entirely of rough grassland and contains no notable landscape features. Grassland is a common element in

this landscape, overall as a combination of susceptibility and value the nature (sensitivity) of the land use/land cover is **low**.

- 4.20. Magnitude – The installation of the solar panels would have minimal physical impact on the land, the metal framework which houses the panels is supported by posts approximately 2m apart driven into the ground 1m to 1.5m deep. The key physical effect would be the change of the land cover/use from rough grassland to a managed meadow overlain by the panels and bounded to the east by a new hedgerow. The key perceptual change would be changes to the colour and texture of the field from the introduction of the panels.
- 4.21. Overall the magnitude is judged to be **low** i.e. as set out in the methodology minor loss or alteration to part of an existing landscape feature. This change would be continuous through all of the project lifecycle resulting in a **minor** effect on land use/cover for the duration of the planning permission.

Receptor	Land Cover/ Land Use		
Sensitivity	Low		
Duration	Long Term (For the period of the planning permission)		
Reversibility of effect	Reversible		
	Construction	Year 1	Year 15
Magnitude of Change	Low	Low	Low
Level of effect	Minor	Minor	Minor

Landscape Character

LANDMAP

- 4.22. The all-Wales GIS based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent dataset has been consulted for the site. The 'Collector Survey' accompanying each mapped aspect area is abstracted below with an evaluation of the key features against the site and its local context.

ASPECT: GEOLOGICAL LANDSCAPE

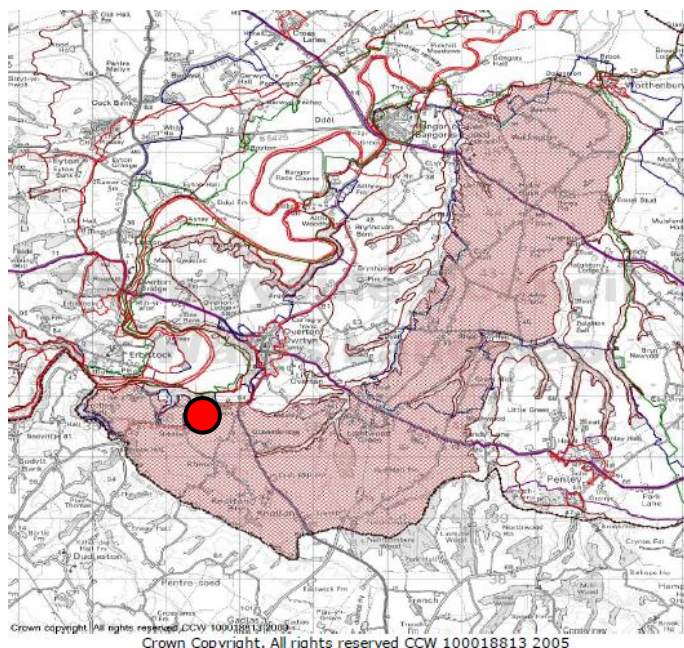
ID: WRXHMGL094

AREA NAME:

Wallington

CLASSIFICATION:

Lowland hills and valleys/Lowland glacial fluvioglacial deostional terrain/lowland till plain/field (level3)



Abstract of LANDMAP Collector Survey

**Observations against the site
its context and the proposal**

Summary

Central section of extensive glacial clay (Quaternary Pleistocene) dominated platform south of the Dee Valley in the Overton to Tallarn Green area. Forms a broadly NNE-SSW orientated area between the Millbrook and Emral Brook valleys, rising from around 15-20m above sea level in the N to around 60m in the S (nothern area is generally flatter however). Surface characterised by many small ponds. Includes a small area of river terrace adjacent to

The site is located on the edge of the north western portion of the aspect area on the 75m OAD contour. Whilst the surrounding landscape is characterised by many small ponds there are none located within the site.

The site is located approximately 7.7km from Wallington.

	the Emral Brook near Wothenbury.	
Evaluation	Moderate (No regionally significant sites/landforms noted during present survey and geology/geomorphology considered to be typical of feature/ process and is either widespread, better exposed elsewhere or not currently known to be exceptional).	
Recommendations	Ensure that no significant geological or geomorphological features are lost or damaged due to development.	None would be lost as part of the proposed development. The installation of the pannels would have minimal physical impact.

ASPECT: LANDSCAPE HABITATS

ID:

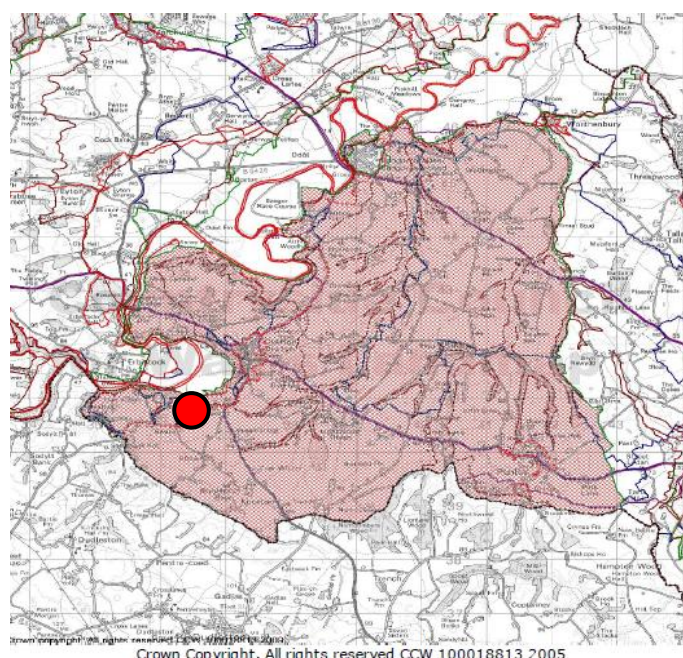
WRXHMLH053

AREA NAME:

Overton Grassland and Pond-scape

CLASSIFICATION:

Dry (Relatively)
Terrestrial Habitats/
Grassland &
Marsh/Improved
Grassland (Level 3)



Abstract of LANDMAP Collector Survey

Observations against the site its context and the proposal

Summary

An undulating area of clayey pastures and grassland southeast of the River Dee, with many wet habitats remaining suitable for great crested newts, barn owl.

The site is an area of rough grassland within a surrounding landscape of pasture. To the west is a significant area of woodland associated with the valley of the adjacent stream. Immediately to

		the north east is the industrial complex of the cheese factory.
Evaluation	High (This is a rich traditional agricultural area, on wet land in the valley of River Dee, with many wet habitats remaining suitable for great crested newts and many other more common species. The area merits a high tending to outstanding habitat value because of its variety of wet habitats, many of which are unusual in Wales).	
Recommendations	Maintain the ponds. Enhance gappy hedges and plant woodland to aid biological connectivity.	A new mixed hedgerow is proposed along the eastern edge of the solar farm adjacent to the main access to the cheese factory. The existing rough grassland would be managed as species rich meadow underneath the panels. (A small area of new woodland copse is proposed in the south western corner of the site adjacent to where the existing woodland thins slightly).

ASPECT: VISUAL AND SENSORY

ID:

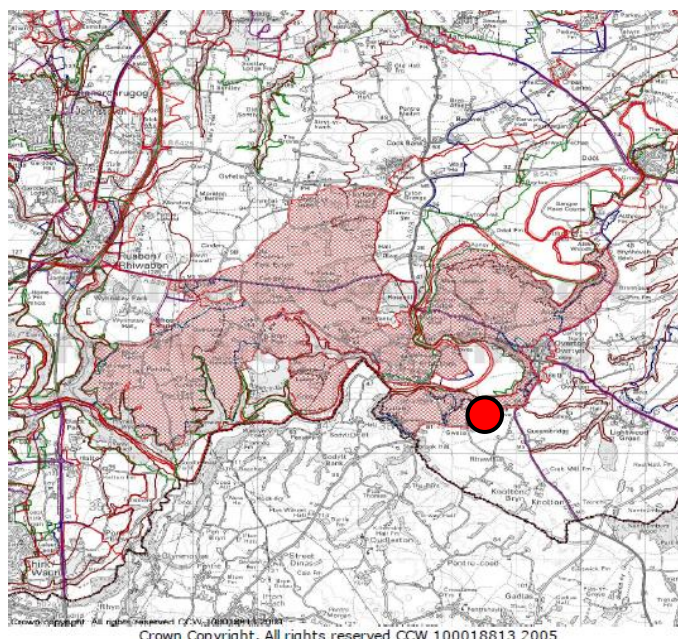
WRXHMVS049

AREA NAME:

Pentre, Erbistock,
Eyton and Brynypys

CLASSIFICATION:

Lowland/Rolling
Lowland/Mosaic
Rolling Lowland
(Level 3)



Abstract of LANDMAP Collector Survey

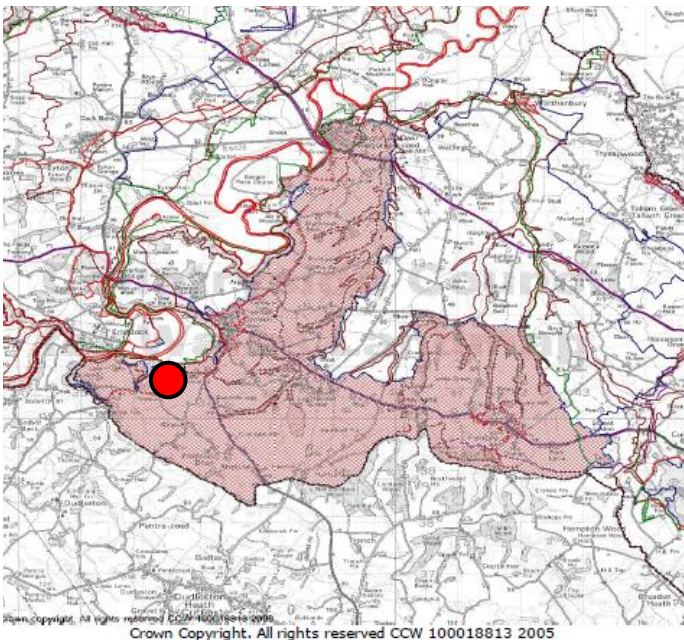
Observations against the site its context and the proposal

Summary

An attractive rolling traditional farming landscape with an attractive mix of small to medium size field pattern with well defined hedgerows with mature trees and woodland blocks and copses. There is a higher proportion of mature and established tree stock in this area to the adjacent aspects reinforcing the typical English characteristics of the farming landscape. Area feels settled, tranquil, attractive and has a strong historic landscape element in terms of its high number of former historic and landed estates. Many villages and older building are former estate buildings/dwellings and as such contribute to a common and traditional vernacular building style emphasis on brick with local stone in older and in buildings of higher status. Topography is one of gently rolling and undulating landscape bounded to the south by the Dee river valley with a high proportion of

The site is located within a remnant of a medium sized field now largely occupied by the cheese factory. The surrounding field sizes are medium. Hedgerows around the site and surrounding fields are strong and well maintained. A woodland block is located to the immediate west. There are no buildings on the site, the cheese factory is a large industrial complex to the east with more traditional and vernacular buildings forming the original farm further to the east.

	tree cover.	
Evaluation	High The aspect area is in a good and apparently stable condition. Typified by small clustered, and scattered settlements with an attractive range of older and traditional style buildings in the vernacular style of North Shropshire and Cheshire. The area is largely unspoilt and devoid of areas on large scale or visually intrusive development. High due to the importance of the aspect on a regional scale. In terms of the North Wales context the traditional rolling farmland of a distinctly "English" character is unusual, as is the relative lack of large scale settlements and industrial/commercial developments. Attractive and traditional farming landscape that is of high quality, well managed and in relatively good condition.	The cheese factory adjacent to the site is a large scale (though well screened from the north) commercial development.
Recommendations	Conservation of traditional landscape features and landscape elements mature tree lined hedgerows, woodland blocks. Enhance species diversity and age range and where possible seek opportunity for habitat creation.	The existing hedgerows and woodland block would not be affected by the proposal. Species diversity would be expanded by the management of the rough grassland as species rich meadow. A new hedgerow is proposed for the eastern boundary and a new copse to the south west.

ASPECT: HISTORIC LANDSCAPE		
ID: WRXHMHL026	 Crown Copyright. All rights reserved CCW 100018813 2005	
AREA NAME: Brynhovah		
CLASSIFICATION: Rural environment/Agricultural/ Irregular Fields (Level 3)		
Abstract of LANDMAP Collector Survey		Observations against the site its context and the proposal
Summary	A large complex area of mixed irregular fields and discrete settlements lying to the east of the Dee... The fields are predominantly hedged although these have occasionally been replaced by post and wire fences, and are interspaced with a few small areas of woodland much of which lines small stream valleys... The settlement is dominated by the villages of Overton, BangorIsyCoed and Penley and the smaller hamlet at Lightwood Green... Overton and Bangor both have medieval origins, the former being in fact a small planned medieval borough rather than a village.	The hedgrows surrounding the proposed site are tall, thick and in good condition. The site is located some distance to the nearest SAM, listed building or conservation area.
Evaluation	Outstanding A complex area of field systems, settlement and residual archaeology dominated by medieval and later agriculture. Many elements surviving well and in good condition.	
Recommendations	None	

ASPECT: CULTURAL LANDSCAPE		
ID: WRXHMCL034	No Mapping available	
AREA NAME: Maelor Gymraeg South		
CLASSIFICATION: Influences/Material expressions/Rural/Agric ultural (Level 4)		
Abstract of LANDMAP Collector Survey		Observations against the site its context and the proposal
Summary	An area historically dominated by estates such as Wynnstay but which evidently experienced profound changes as a result of the estates" relinquishing control and appears to be doing the same again as farms are amalgamated and families move out. There is evidence for the employment of agricultural contractors.	
Evaluation	High (of regional value)	
Recommendations	Maintenance of historic buildings and landscape; encouragement to small businesses; search for imaginative and appropriate reuse functions for rural buildings.	There are no existing buildings on the site.

Wrexham LANDMAP Supplementary Planning Guidance

- 4.23. The Wrexham County Borough Council LANDMAP Supplementary Planning Guidance is a LANDMAP study that has been undertaken to identify the key elements and features which make up the landscape within the Wrexham Borough. It categorises and groups areas within 4 common broad landscape types (i.e. areas with broadly similar features such as settlement or landform) into Rural/Urban villages, Uplands, Urban, and Rural lowlands. It then further sub-divides the area into 27 detailed landscape character areas and introduces Key Landscape Issues for each landscape type.
- 4.24. The proposed site is located in landscape Character Area 13b English Maelor within the Rural Lowlands landscape Character Type. It is described as **'an area of undulating lowland farmland and small villages which retains evidence of historic landscapes**

and of alternating English and Welsh influence. Landscape sensitivity is discussed for this character area in the guidance and notes, ***'The integrity of the traditional English Maelor landscape is vulnerable to economic changes which threaten traditional farming, and to development of land use practices which do not take historical landscape features into account'.***

- 4.25. It is also noted in the LANDMAP Supplementary Planning Guidance study that the English Maelor can be subdivided into two main east west areas; the western part (within which the site lies) has been designated by Cadw as a Landscape of Special Historic Interest. Further detailed study has been undertaken by the Clwyd-Powys Archaeological Trust's Maelor Saesneg Study which identifies 17 detailed historical character areas. The site lies within Maelor Saesneg:Knolton (HLCA 1119). Review of the Historic Landscape Characterisation document identifies the key buildings of interest in the area and a description of the fieldscape but no specific references to the proposed site.

Summary of LANDMAP data in relation to the site

- 4.26. Analysis of the site and the surrounding landscape against the collector surveys for each aspect reveals that whilst the surrounding landscape is clearly representative of the data set; the character of the site is strongly influenced by the adjacent cheese factory. The land use is not currently part of the pastoral landscape in that it appears unmanaged and is not enclosed or grazed. The existing landscape structure surrounding the site i.e. the woodland and hedgerows would remain and be supplemented with additional hedgerow, woodland copse planting and wildflower meadow management. Whilst the area scores 'outstanding' in relation to historic aspects no features of note appear to have been recorded specifically for the site, and whilst it is located in a Landscape of Special Historic Interest, the site is not subject to any specific heritage designations.

Nature (Sensitivity) of landscape character

- 4.27. The sensitivity of landscape character reflects its susceptibility to change and any values associated with it, it is an expression of a landscape's ability to accommodate a particular type of change i.e. the introduction of a solar farm.
- 4.28. LAND MAP evaluates the surrounding area as follows in each of the aspects:

Aspect	Evaluation
Geological	Moderate
Landscape Habitats	High
Visual and Sensory	High
Historic	Outstanding
Cultural	High

- 4.29. The land map evaluations along with the location of the site within a 'Special Landscape Area (SLA)' as defined by Policy EC5 of the current Wrexham Unitary Development Plan (Adopted February 2005) indicate a high level of susceptibility to the introduction of

development in the form of solar panels and high value indicated by the local designation covering the site and surrounds. It is therefore concluded that the sensitivity of the local landscape character is **high**. (Though the location of the site directly adjacent to the cheese factory and the effect of this element on local character is noted).

Nature (Magnitude) of effects on landscape character.

- 4.30. Geological – **None**, there would be no physical alteration to any geological or geomorphological elements or features. There are no ponds typical of the area within the site.
- 4.31. Landscape habitats – **Very low**, there would be no negative alteration to the existing land cover of rough grassland, indeed the grassland would be positively managed for increased species diversity. A new hedgerow to the east of the area and copse to the south west would provide additional environmental benefits.
- 4.32. Visual and Sensory – **Low**, in the wider landscape in a less well screened position the introduction of solar panels would be of higher magnitude. However the character of the site is strongly influenced by the adjacent large scale form of the cheese factory and forms part of the complex. As discussed in the visual section below the site is also very well screened. All existing features surrounding the site i.e. the woodlands and hedgerows will be retained and supplemented with an additional hedgerow and woodland copse.
- 4.33. Historic Landscape – **None**, the existing field boundaries and hedgerows identified as a key element will be retained and supplemented with new planting. There will be no effects on the conservation areas of Overton or Erbistock and no effects on any listed buildings or scheduled ancient monuments.
- 4.34. Cultural Landscape – **Low**, The site is not identified as forming part of a specific historic landscape, (though it is located in a Cadw designated 'Landscape of Special Historic Interest') and there are no historic buildings on the site. The proposal is a form of agricultural diversification and the introduction of a low carbon energy source for the cheese factory complex.
- 4.35. The introduction of the solar panels would introduce a new element into the local landscape, replacing a section of rough grassland adjacent to the main entrance to the cheese factory, (and part of the factory complex) with the panels with managed meadowland below. As discussed in the visual section below the site is very well screened from the wider landscape.
- 4.36. It is assessed that as a combination of five aspects discussed above the magnitude of change to landscape character is **low**, in that there would be a minor alteration to an existing landscape feature (i.e. the cover of the rough grassland field), some minor new features into the landscape (the solar panels in relation to the scale of the existing cheese

factory), and a minor change to perceptual attributes (i.e. the pattern, colour and texture) of the proposal site. This magnitude would run through all stages of the project resulting in a **moderate** level of effect to landscape character, within a very well screened site (as discussed below) located adjacent to the cheese factory complex.

Overall assessment summary

Receptor	Landscape Character		
Sensitivity of character type	High		
Duration	Long term (For the duration of the planning permission)		
Reversibility of effect	Reversible		
	Construction	Year 1	Year 15
Magnitude of Change	Low	Low	Low
Level of effect	Moderate	Moderate	Moderate

5. Visual effects

- 5.1. The assessment of visual effects deals with changes in views and visual amenity. The aim is to establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity, (meaning the overall pleasantness of the views they enjoy of their surroundings).

Extent of visibility

- 5.2. A Zone of Theoretical Visibility (ZTV) map has been produced using digital terrain data to illustrate locations where views of the proposed development are theoretically available before the effect of screening elements such as buildings and vegetation are taken into account. It demonstrates the influence that the local topography has on theoretical views.
- 5.3. The ZTV has graphically modelled development across the site at a height of 3m. As such it represents a worst case scenario of the tallest potential features of the development. The ZTV is as much a tool to assist the assessor in determining locations where there will be no visibility so as to focus the assessment on those locations and receptors where visibility may be possible.
- 5.4. The extent of visibility was assessed on site using professional judgement and an understanding of the screening afforded by surrounding vegetation and built form. The site visit was conducted in winter when the effects of winter leaf drop allowed a worst case appreciation of visibility.
- 5.5. An approximate area of actual visibility identified following on site assessment demonstrates that views are extremely limited and likely extend only to approximately 100m from the site at the furthest point and generally along the B5069 only. Available views are limited to partial and filtered views by intervening vegetation and beyond approximately 100m are screened out entirely by intervening hedgerows.
- 5.6. General observations noted during the site visit are as follows:
- Views from locations to the north are screened out by the significant woodland clothing the valley side to the immediate west and north of the site. There is also a significant change in level between the site level of approximately 75m AOD and the valley bottom at approximately 30m AOD.
 - Views from locations to the east are screened out by the mass of the adjacent cheese factory and associated buildings.
 - Views from locations to the south are very limited by the 3m plus hedgerow adjacent to the highway and the adjacent woodland to the west. The woodland thins slightly in the

southern portion and there are three main breaks in the hedgerow; at the site entrance to the cheese factory, at an access point for the storage area to the south of the site and at a farm entrance east of the main access. The reduced woodland cover and hedgerow breaks allow very limited glimpsed and partial views of the site.

- Views from locations to the west are screened out by the woodland to the west of the site.

Visual receptor groups

- 5.7. A number of visual receptor groups are present within the wider landscape and those groups with potential visibility are assessed as part of the LVIA. The individual groups identified comprise a number of receptors of a particular type (e.g. residents) who share a similar visual relationship with the development site. The assessments made have been guided by professional judgements made in the field from publically accessible locations.

Residential receptors

- 5.8. The location of the site is near several individual properties and farmsteads. The properties to the east of the cheese factory are screen out by the mass of the associated buildings; no views are available from the village of Overton. Views from properties around Model Farm to the south are screened out by intervening hedgerows. Beyond Gwalia Farm views are screened out by the existing woodland to the west. Dwellings from which residents may experience views of the proposed development include:

- Residents in properties at Gwalia Farm

Users of PRow and cycle routes

- 5.9. There are no National Trails or National / Regional Cycle Routes within the study area, however the Maelor Way and Wat's Dyke Way are strategically important recreational routes located adjacent to the River Dee 500m to the north. It is also acknowledged that the existing public right of way network is likely to hold a degree of local recreational value. Fieldwork established that no views would be available from the long distance routes and any potential views from paths OVE/31, OVE/2, OVE/5 and OVE/13 would be screened out by intervening vegetation mainly in the form of hedgerows.

Users of local transport network

- 5.10. There are a number of roads present within the study area including the A528 which passes within 500m to the east and the B5069 to the immediate south of the site. A number of minor local roads also dissect the landscape. The strong network of hedgerows

screen potential views form the majority of these routes. Roads from which users may experience views of the proposed development include:

- B5069 to the south of the site (runs between Overton Cross and Oswestry)

Users of recreation, leisure and cultural sites

- There are no receptors that fall within this category of visual receptor that are anticipated to experience views of the proposed development. It is noted that the local landscape is popular for horse riding; these receptors are covered under users of public rights of way, residential receptors and the local transport network as appropriate.

Users of commercial, office, retail or educational establishments

- 5.11. There are no receptors that fall within this category of visual receptor that are anticipated to experience views of the proposed development beyond personnel employed at the cheese factory. Receptors engaged in employment activities who may experience views of the proposed development include:

- Knolton Cheese factory employees and people undertaking deliveries.

Photographic record

- 5.12. In order to demonstrate the anticipated visual impact, a number of representative photographs are included at Appendix C and referenced as appropriate in the assessment.

Assessment of visual effects

- 5.13. The assessment of visual effects begins with an assessment on the sensitivity of the visual receptor. In accordance with GLVIA 3 visual sensitivity has been determined with reference to the value associated with an existing view and the receptor's susceptibility to change.
- 5.14. An assessment is then made as to the magnitude of change which when combined with the sensitivity of the visual receptor assists in determining the relative level of effect.
- 5.15. Visual effects are assessed at three development phases. These include effects during construction, in the winter of year 1 following completion (with the effects of winter leaf loss being prevalent) and in the summer of year 15 following completion. The 'type' of effect is judged to be adverse unless stated otherwise.

Effects on visual receptor groups

Residential Receptors

Gwalia Farm

- 5.16. Gwalia Farm is a collection of farm buildings converted residential properties with horse paddocks. The properties are located to the immediate south west of the site (See photo location point 5). Windows of the properties are largely orientated south, though the main farmhouse building has windows at first floor level orientated north. The properties are enclosed by a combination of brick walls and recently planted hedgerows.
- 5.17. Changes to the view would be limited by the intervening woodland and hedgerows between the farm buildings and the site. Some very partial views may be possible from upper windows looking north east over the rows of proposed panels extending over the existing rough grass. The intervening woodland is at its thinnest between the site and the farm. Any available views of the proposal would be in the context of the cheese factory behind, with associated structures up to 9m high and would be mitigated over time by the proposed woodland copse planting. The magnitude of change is judged to be **very low** there would be a negligible change in views resulting in a **moderate/minor** effect over all stages of the project.

Sensitivity of Receptor	High (Residents at home)		
Duration	Long term (For the duration of the planning permission)		
Reversibility of effect	Reversible		
	Construction	Year 1	Year 15
Magnitude of Change	Very Low	Very Low	Very Low
Level of effect	Moderate/minor	Moderate/minor	Moderate/minor

Users of local transport network

B5069 (Between Overton Cross and Oswestry)

- 5.18. The B5069 is a connector road to the A5 trunk road at Oswestry. The road runs directly to the south of the site and forms the main access route for the cheese factory and consequently the immediate study area is host to large lorries making deliveries to and collections from the Knolton Farmhouse Cheese factory. The main potential views are only available from three gaps in the substantial and tall hedgerow along the northern edge of the highway (the southern boundary of the cheese factory complex) and from where the woodland surrounding the site to the west is slightly less substantial. (See photo location points 1,2 & 3) An area of stored materials and bunding between the site and the highway provides additional screening. A small area of solar panels currently exists to the east of the main cheese factory access which can currently be glimpsed through one of the gated gaps in the hedgerow.
- 5.19. Partial and glimpsed views of the proposed panels extending across the existing rough grass may be available from the farm and cheese factory entrance points. A proposed

hedgerow to the east of the site would as it matures largely screen out all remaining potential views. The magnitude of change would be **low**; there would be some change in the view (through the available gaps), reducing to **very low** as the proposed hedgerow to the east of the site matures. The type of effect is judged to be **neutral** in this case once the proposed hedge has matured.

Sensitivity of Receptor	Low to medium (Road users)		
Duration	Long term (For the duration of the planning permission)		
Reversibility of effect	Reversible		
	Construction	Year 1	Year 15
Magnitude of Change	Low	Low	Very low
Level of effect	Minor	Minor	Negligible

Users of commercial, office, retail or educational establishments

Knolton Cheese factory employees and people undertaking deliveries.

- 5.20. The factory complex is located to the north and east of the proposed site area. The main access road runs along the eastern side of the site. Current views are over an area of rough grassland towards the substantial woodland surrounding the western edge of the proposed site.
- 5.21. The key change of views would be from the access track and any buildings within the complex overlooking the rough grassland. Views of the rough grassland would be changed to views of an area of solar panels edged to the east by a new hedgerow. The magnitude is judged to be **medium** over the initial phases; i.e. some change in the view that is clearly notable and forms an easily identifiable component. The proposed hedge on the eastern boundary will limit views as it matures reducing magnitude to **low**; some change in the view. The sensitivity of receptors at the factory both personnel and delivery drivers is **very low** therefore the level of effect is judged to be **minor**.

Sensitivity of Receptor	Very Low (People engaged in commercial activities)		
Duration	Long term (For the duration of the planning permission)		
Reversibility of effect	Reversible		
	Construction	Year 1	Year 15
Magnitude of Change	Medium	Medium	Low
Level of effect	Minor	Minor	Negligible

6. Summary and Conclusion

Summary of Landscape effects

Landscape Features

- 6.1. The level of effects on landscape features is judged to be **minor**. The installation of the solar panels would have a minimal physical impact on the land. The rough grassland would be managed as meadow resulting in a benefit to biodiversity along with the new hedgerow and copse planting

Landscape Character

- 6.2. The level of effects on local character is judged to be **moderate**. The moderate rating however results principally from the sensitivity of the local landscape character being recognised as high from analysis of the Landmap data and the location of the site within a Special Landscape Area and Landscape of Special Historic Interest. It should be noted that the character of the actual site is more strongly influenced by the adjacent cheese factory than the wider landscape, as it is enclosed within the cheese factory site. The location of solar panels within the cheese factory complex would not be an uncomfortable fit nor an unacceptable effect on the local landscape character.

Summary of Visual effects

- 6.3. The identified visual receptors are all located within very close proximity of the site, within 100m of the site boundary and comprise of a group of residential properties to the immediate south west, motorists passing the site on the B5069 and people engaged in work at the site. The site is very well contained by existing hedgerows surrounding the site and in the wider landscape. The local topography does not allow any elevated views into the site. It should also be noted that all available views (mainly of a partial and glimpsed nature) also contain the large cheese factory complex. Mitigation planting will largely 'plug' any remaining gaps in the visual envelope beyond the factory complex itself.

Conclusion

- 6.4. The site is appropriate in landscape and visual terms for the proposed solar farm development; it is well contained and forms part of the cheese factory complex rather than having a strong relationship with the wider highly valued local landscape. Views into the site are very limited and would be further reduced as the proposed hedgerow matures. Management of the rough grassland as meadow and introduction of additional planting would result in increased biodiversity.

7. References

7.1. The following documents are referred to in the text of this assessment or have been consulted during the preparation of this study:

- Council of Europe (2000) European Landscape Convention, Strasbourg: Council of Europe;
- Wrexham County Borough Council Wrexham Landscape Character Area Guidance Supplementary Planning Guidance adopted March 2007.
- LANDMAP (Natural Resources Wales 2013) GIS based landscape resource.
- Clwyd-Powys Archaeological Trust Historic Landscape Characterisation.
- Planning Policy Wales (PPW) (Edition 7 adopted July 2014
- Technical Advice note (TAN) 8: renewable energy (2005) Planning Policy Wales
- Wrexham Unitary Development Plan (UDP) 2005
- Institute for Environmental Management and Assessment (IEMA) (2004) The Guidelines for Environmental Impact Assessment, IEMA;
- Landscape Institute and IEMA (2013) The Guidelines for landscape and visual impact assessment (3rd ed.) London: Spon;
- Landscape Institute (June 2013) GLVIA3 Statement of Clarification 1/13, LI;
- Ordnance Survey (2012) Crew & Nantwich, no. 257, 1:25,000. Southampton: Ordnance Survey (Explorer series);
- Scottish Natural Heritage (SNH) (2002) Landscape Character Assessment Guidance for England and Scotland: Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity, Cheltenham: Countryside Agency and Battleby: SNH;
- Swanwick, C. And Land Use Consultants (2002) Guidelines for Landscape Character Assessment for England and Scotland, Cheltenham: Countryside Agency and Battleby: SNH.
- Natural England (2014) An approach to Landscape Character Assessment; Catalogue Code: NE579, Natural England.

Assessment methodology and criteria

Introduction

This appendix presents the assessment criteria adopted for the appraisal of landscape and visual effects arising from the proposed development.

The primary source of best practice for LVIA in the UK has recently been updated and is now *The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (GLVIA3) (Landscape Institute and the Institute for Environmental Management and Assessment, 2013). The assessment criteria adopted to inform the assessment of effects has been developed in accordance with the principles established in this best practice document. It should however be acknowledged that GLVIA3 establishes guidelines not a specific methodology. The preface to GLVIA3 states:

'This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand.'

The criteria set out below have therefore been specifically tailored for this assessment to ensure that the methodology is appropriate and fit for purpose.

The purpose of an LVIA when undertaken outside the context of an EIA is to identify and describe the relative level of any landscape and visual effects arising as a result of the proposals. As confirmed in GLVIA3 Statement of Clarification 1/13 (Landscape institute, 10th June 2013) an LVIA for development which has been screened as not requiring EIA should avoid concluding whether the effects are significant or not and this is the approach adopted in this LVIA.

An LVIA must consider both:

- effects on the landscape as a resource in its own right (the **landscape effects**); and
- effects on specific views and visual amenity more generally (the **visual effects**).

Therefore, separate criteria are set out below for the assessment of landscape and visual effects.

Nature (sensitivity) of landscape features

The nature or sensitivity of an individual landscape feature or element reflects its susceptibility to change and any values associated with it. It is therefore a function of factors such as its quality, rarity, contribution to landscape character, degree to which the particular element can be replaced and cultural associations or designations that apply. A particular feature may be more 'sensitive' in one location than in another often as a result of local values associated with the feature or in relation to its function as a key or distinctive characteristic of that local landscape. Therefore it is not possible to simply place different types of landscape features into sensitivity bands. Where individual landscape features are affected, professional judgement is used as far as possible to give an objective evaluation of its sensitivity. Justification is given for this evaluation where necessary.

The nature or sensitivity of individual landscape features has been described as **very high, high, medium, low or very low.**

Nature (sensitivity) of landscape character

The nature or sensitivity of landscape character reflects its susceptibility to change and any values associated with it. It is essentially an expression of a landscape's ability to accommodate a particular type of change, in this case the development of a solar farm development. It varies depending on the physical and perceptual attributes of the landscape including but not necessarily limited to: scale; degree of openness; landform; existing land cover; landscape pattern and complexity; the extent of human influence in the landscape; the degree of remoteness/wildness; perception of change in the landscape; the importance of landmarks or skylines in the landscape; inter-visibility with and influence on surrounding areas; condition; rarity and scenic quality of the landscape, and any values placed on the landscape including any designations that may apply.

In this assessment, the nature or sensitivity of landscape character is considered with reference to published landscape character areas/types. Information regarding the key characteristics of these character area/types has been extrapolated from relevant published studies where possible. Together with on-site appraisal an assessment of landscape sensitivity to solar energy

development has been undertaken employing professional judgement for relevant character areas/types.

The nature or sensitivity of landscape character has been described as **very high, high, medium, low or very low**.

Nature (sensitivity) of visual receptors

The nature or sensitivity of a visual receptor group reflects their susceptibility to change and any values associated with the specific view in question. It varies depending on a number of factors such as the occupation of the viewer, their viewing expectations, duration of view and the angle or direction in which they would see the site. Whilst most views are valued by someone, certain viewpoints are particularly highly valued for either their cultural or historical associations and this can increase the sensitivity of the view. The following criteria are provided for guidance only and are not exclusive:

- **Very Low Sensitivity** – People engaged in industrial and commercial activities or military activities.
- **Low Sensitivity** - People at their place of work (e.g. offices); short - medium stay patients at hospital, shoppers; users of trunk/major roads and passengers on commercial railway lines (except where these form part of a recognised and promoted scenic route).
- **Medium Sensitivity** - Users of public rights of way and minor roads which do not appear to be used primarily for recreational activities or the specific enjoyment of the landscape; recreational activities not specifically focused on the landscape (e.g. football); motel users.
- **High Sensitivity** – Residents at home; users of long distance or recreational trails and other sign posted walks; users of public rights of way and minor roads which appear to be used for recreational activities or the specific enjoyment of the landscape; users of caravan parks, campsites and 'destination' hotels; tourist attractions with opportunities for views of the landscape (but not specifically focused on a particular vista); slow paced recreational activities which derive part of their pleasure from an appreciation of setting (e.g. bowling, golf); allotments.
- **Very High Sensitivity** - People at recognised vantage points (often with interpretation boards), people at tourist attractions with a focus on a specific view, visitors to historic features/estates where the setting is important to an appreciation and understanding of cultural value.

It is important to appreciate that it is the visual receptor (i.e. the person) that has a sensitivity and not a property, public right of way or road. Therefore, a large number of people may use a motorway for example but this does not increase the sensitivity of the receptors using it. Conversely, a residential property may only have one person living in it but this does not reduce the sensitivity of that one receptor. The number of receptors affected at any given location may be a planning consideration, but it does not alter the sensitivity of the receptor group.

Where judgements are made about the sensitivity of assessment viewpoints, the sensitivity rating provided is an evaluation of the sensitivity of the receptor group represented by the viewpoint and not a reflection of the number of people who may experience the view.

Nature (magnitude) of effects – General note

The following discussion sets out the approach adopted in this LVIA in relation to a specific issue arising in GLVIA3 which requires a brief explanation.

Prior to the publication of GLVIA3, LVIA practice had evolved over time in tandem with most other environmental disciplines to consider significance principally as a function of two factors, namely: sensitivity of the receptor and magnitude of the effect (the term 'magnitude' being a word most commonly used in LVIA and most other environmental disciplines to describe the size or scale of an effect).

Box 3.1 on page 37 of GLVIA3 references a 2011 publication by IEMA entitled '*The State of EIA Practice in the UK*' which reiterates the importance of considering not just the scale or size of effect but other factors which combine to define the 'nature of the effect' including factors such as the probability of an effect occurring and the duration, reversibility and spatial extent of the effect.

The flow diagram on page 39 of GLVIA3 now suggests that the magnitude of effect is a function of three factors (the size/scale of the effect, the duration of the effect and the reversibility of the effect).

The proposed development is for a time limited period and would be largely reversible at the end of the scheme's operational period. This is a material consideration in the planning balance but does not reduce the scale of the effect

during the period in which the scheme is operational (ie the 'magnitude' of the effect in the traditional and commonly understood sense of the word). In this regard, it would be incorrect to report a lesser magnitude of change to the landscape or view as a result of the time limited period of the effect or the relative reversibility of the effect.

For clarification, the approach taken in this LVIA has been to consider magnitude of effect solely as the scale or size of the effect in the traditional sense of the term 'magnitude'. Having identified the magnitude of effect as defined above the LVIA also describes the duration and reversibility of the identified effect before drawing a conclusion on the overall level of effect taking all of these factors into account.

In the context of the above discussion the following criteria have been adopted to describe the magnitude of effects.

Nature (magnitude) of effects on landscape features

Professional judgement has been used as appropriate to determine the magnitude of direct physical effects on individual existing landscape features using the following criteria as guidance only:

- **Very Low Magnitude of Change** - No loss or alteration to existing landscape features;
- **Low Magnitude of Change** - Minor loss or alteration to part of an existing landscape feature;
- **Medium Magnitude of Change** - Some loss or alteration to part of an existing landscape feature; and
- **High Magnitude of Change** - Major loss or major alteration to an existing landscape feature.
- **Very High Magnitude of Change** - Total loss or alteration to an existing landscape feature.

Nature (magnitude) of effects on landscape character

The magnitude of effect on landscape character is influenced by a number of factors including: the extent to which existing landscape features are lost or altered, the introduction of new features and the resulting alteration to the physical and perceptual characteristics of the landscape. Professional judgement has been used as appropriate to determine the magnitude using the following criteria as guidance only. In doing so, it is recognised that usually the landscape

components in the immediate surroundings have a much stronger influence on the sense of landscape character than distant features whilst acknowledging the fact that more distant features can have an influence on landscape character as well.

- **Very Low Magnitude of Change** - No notable loss or alteration to existing landscape features; no notable introduction of new features into the landscape; and negligible change to the key physical and/or perceptual attributes of the landscape.
- **Low Magnitude of Change** - Minor loss or alteration to existing landscape features; introduction of minor new features into the landscape; or minor alteration to the key physical and/or perceptual attributes of the landscape.
- **Medium Magnitude of Change** - Some notable loss or alteration to existing landscape features; introduction of some notable new features into the landscape; or some notable change to the key physical and/or perceptual attributes of the landscape.
- **High Magnitude of Change** - A major loss or alteration to existing landscape features; introduction of major new features into the landscape; or a major change to the key physical and/or perceptual attributes of the landscape.
- **Very High Magnitude of Change** - Total loss or alteration to existing landscape features; introduction of dominant new features into the landscape; a very major change to the key physical and/or perceptual attributes of the landscape.

Nature (magnitude) of effects on views and visual amenity

Visual effects are caused by the introduction of new elements into the views of a landscape or the removal of elements from the existing view.

Professional judgement has been used to determine the magnitude of impacts using the following criteria as guidance only:

- **Very Low Magnitude of Change** - No change or negligible change in views;
- **Low Magnitude of Change** - Some change in the view that is not prominent but visible to some visual receptors;
- **Medium Magnitude of Change** - Some change in the view that is clearly notable in the view and forms an easily identifiable component in the view;
- **High Magnitude of Change** - A major change in the view that is highly prominent and has a strong influence on the overall view.

- **Very High Magnitude of Change** – A change in the view that has a dominating or overbearing influence on the overall view.

Using this set of criteria, determining levels of magnitude is primarily dependant on how prominent the development would be in the landscape, and what may be judged to flow from that prominence or otherwise.

For clarification, the use of the term 'prominent' relates to how noticeable the features of the development would be. This is affected by how close the viewpoint is to the development but not entirely dependent on this factor. Other modifying factors include: the focus of the view, visual screening and the nature and scale of other landscape features within the view. Rather than specifying crude bands of distance at which proposed development would be dominant, prominent or incidental to the view etc, the prominence of the proposed development in each view is described in detail for each viewpoint taking all the relevant variables into consideration.

Duration of effect

For the purposes of this assessment, the temporal nature of each effect is described as follows:

- **Long Term** – over 5 years
- **Medium Term** – between 1 and 5 years
- **Short Term** – under 1 year

Reversibility of effect

The LVIA also describes the reversibility of each identified effect using the following terms:

- **Permanent** – effect is non reversible
- **Non permanent** – effect is reversible

Level of Effect

The purpose of an LVIA when produced outside the context of an EIA is to identify the relative level of effects on landscape and visual amenity arising from the proposed development. The judgements provided within the LVIA may then inform the planning balance to be carried out by the determining authority.

In this LVIA, the relative level of the identified landscape and visual effects has been determined by combining judgements regarding the sensitivity of the

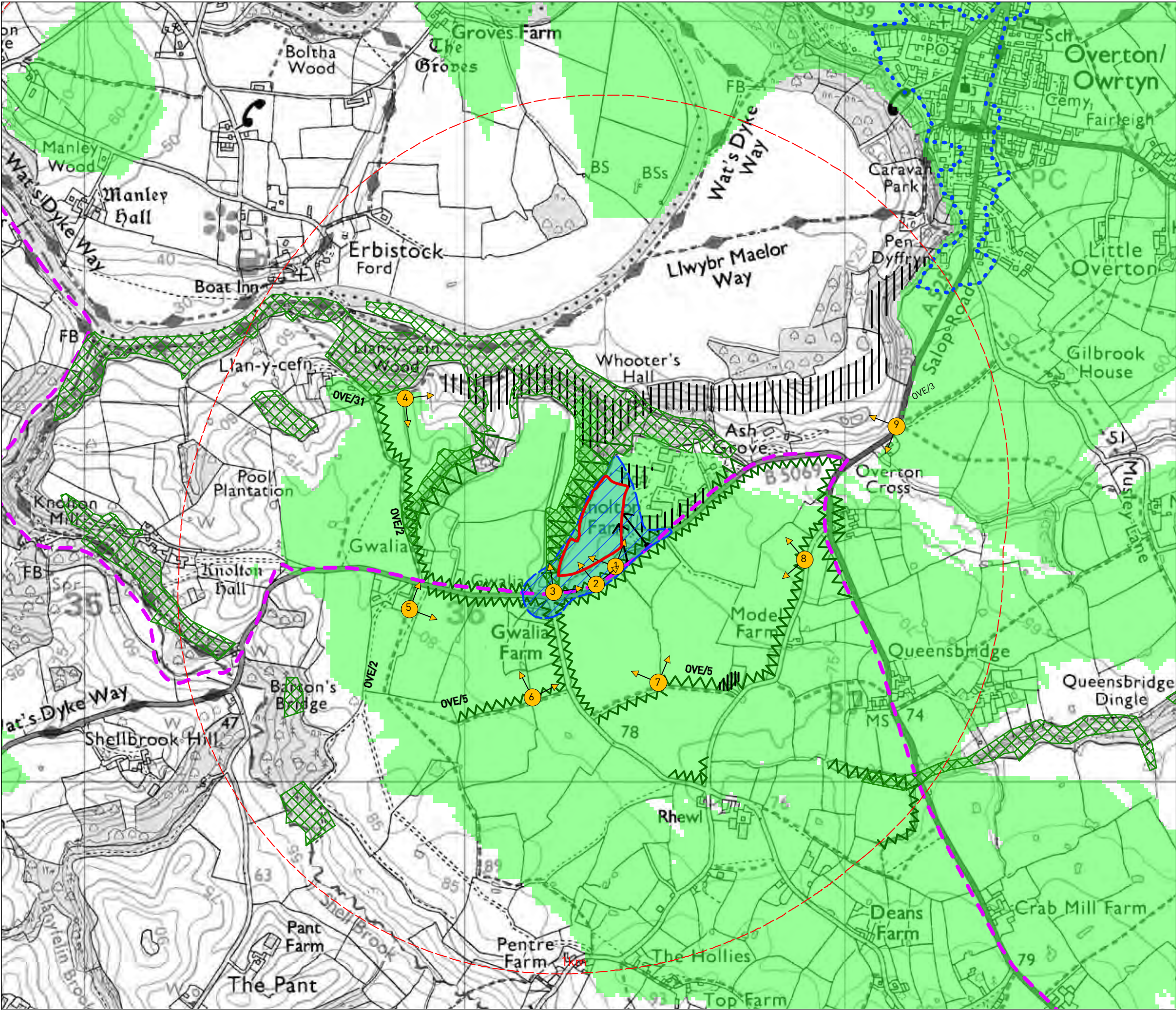
landscape or view, magnitude of change, duration of effect and the reversibility of the effect. The level of effect is described as **Major, Major/Moderate, Moderate, Moderate/Minor or Minor. No Effect** may also be recorded as appropriate where the effect is so negligible it is not even noteworthy. It is recognised that such judgements represent subjective opinion, hence why judgements which may affect the outcome of a planning application should be expressed as in this case by a competent, experienced and appropriately qualified professional assessor.

As recommended by the Landscape Institute, this LVIA does not conclude whether any of the identified landscape or visual effects are 'significant' or not. However in order for the LVIA to have a meaningful output the determining authority will need to understand which effects are deemed by the authors to be a material consideration in the planning balance.

In this regard, effects described as **Major, Major/Moderate** and in some cases Moderate may in the opinion of the authors be regarded material in the planning balance.

Type of Effect

The assessment identifies effects which may be '**beneficial**', '**adverse**' or '**neutral**'. Where effects are described as 'neutral' this is where the beneficial effects are deemed to balance the adverse effects.



Knolton Farmhouse Cheese
Proposed Solar Installation

LVIA Plan

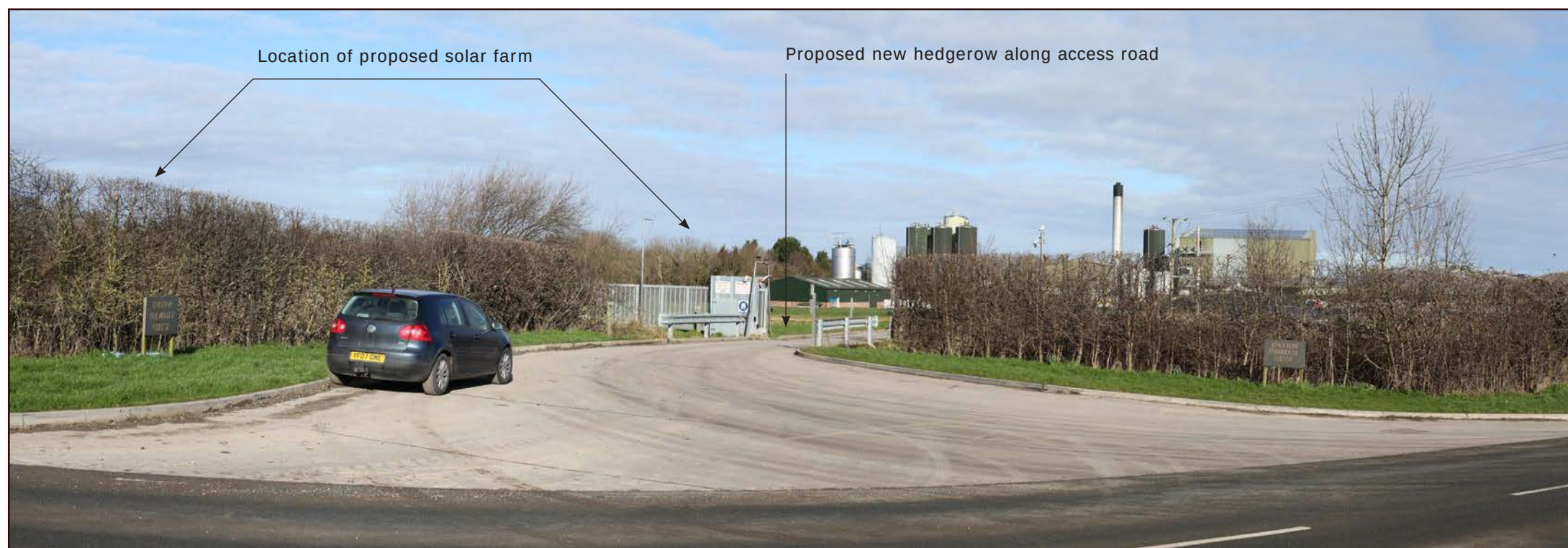
- KEY
- Site boundary
 - 1km radii from site boundary
 - Zone of Theoretical Visibility
 - Actual key zone of visibility
 - English / Welsh border
 - Ancient semi-natural woodland
 - Conservation areas
 - Special Landscape Area
 - Significant vegetation barriers
 - Significant physical barriers
 - Views
 - Partial / glimpsed views
 - Photograph locations
 - Footpath references

N.B. The Zone of Theoretical Visibility (ZTV) image illustrates the theoretical extent of where the development would be visible from, assuming 100% visibility. It is generated using terrain data only and does not take into account any screening that vegetation or the built environment may provide. It is, as such, 'a worst case' ZTV and the actual extent of visibility is likely to be much less extensive than indicated.

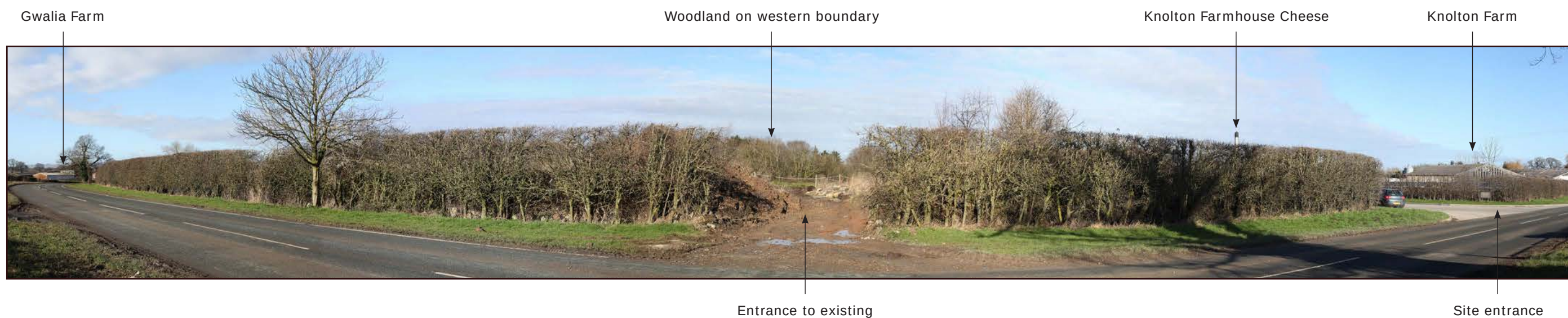
Date: 20.03.2015 YOR.2447.002

Drawn by: SE Checked by: KC





Photograph 1 - From the entrance to Knolton Farmhouse Cheese



Photograph 2 - Of site extents (behind garage and storage area) from B5069 west of site entrance

Proposed site located behind existing woodland

Western extent of storage area



Photograph 3 - From opposite Gwalia Farm on B5069

Knolton Cheese factory



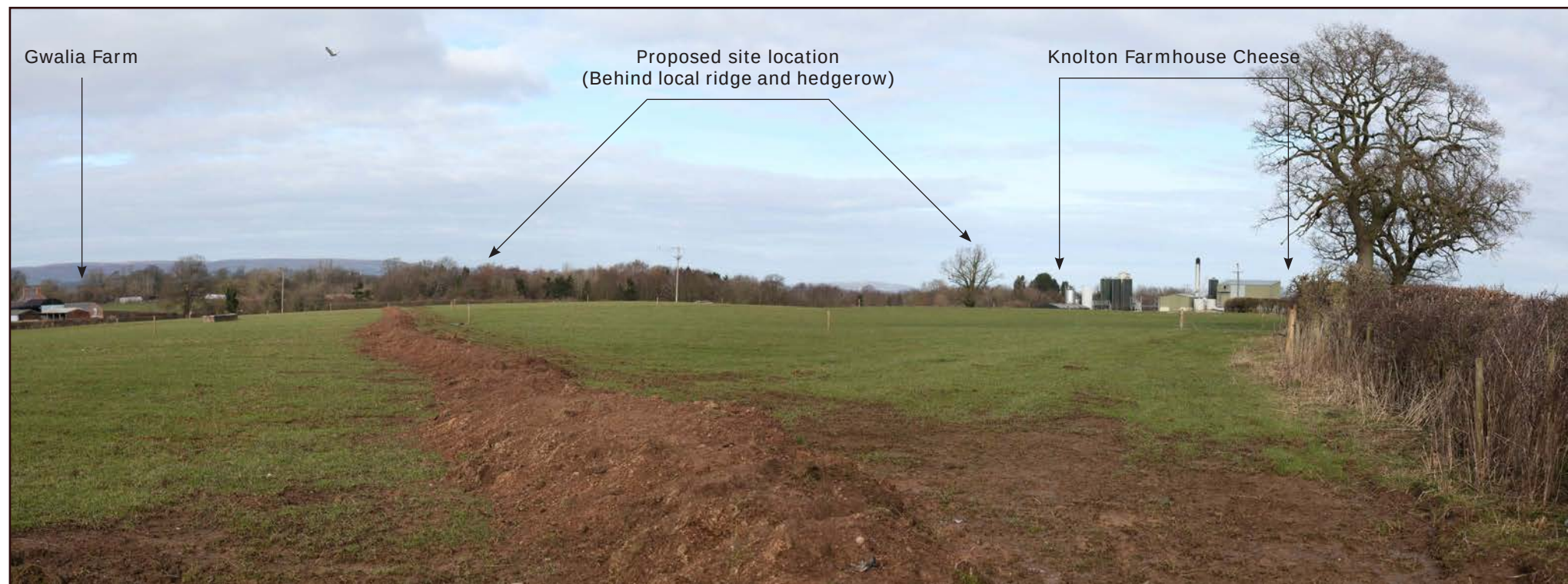
Photograph 4 - From footpath OVE/31 adjacent to Llan-y-Cefn wood (Proposed site cannot be seen)



Photograph 5 - From footpath OVE/2 at Gwalia Barn (Proposed site field cannot be seen)



Photograph 6 - From footpath OVE/5 south of Gwalia Farm (Proposed site field cannot be seen)



Photograph 7 - From footpath OVE/5 south east of Gwalia Farm (Proposed site field cannot be seen)



Photograph 8 - From lane between A528 and Rhewl (Proposed site field cannot be seen)



Photograph 9 - From Overton Cross adjacent to “The Berwyns” (Proposed site cannot be seen)

