

**Pickhill Bridge Farm Solar P.V
Wrexham.**

Landscape and Visual Impact Assessment

February 2015

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1.0 Introduction

- 1.1 Tirlun Barr Associates were appointed in December 2015 by Caulmert Ltd, acting on behalf of Earthworm Energy plc Ltd, to undertake a Landscape and Visual Impact Assessment (LVIA) of the proposed construction of a 6.8ha. Solar Array on land bordering the south of Wrexham Industrial Estate, in Wrexham County North Wales.
- 1.2 The assessment was undertaken by Mrs. Julie Barr BA, Dip LA CMLI, a Fully Chartered Landscape Architect with over 26 years' experience and Principal of Tirlun Barr Associates
- 1.3 Mrs. Barr holds Part I-IV of the Landscape Institute Professional Examinations and has practiced primarily in Wales and the North West of England for over 26 years and has extensive knowledge of the area surrounding the proposed development site.
- 1.4 The assessment of the landscape and visual impact of the proposed development has involved both desk and field analysis of both the existing site and the proposed development characteristics, together with a study of the baseline landscape, its' context, features, and character of the area in which the development is proposed.
- 1.5 This report assesses any landscape and visual impact that the proposed development may have upon the surrounding landscape which includes any nearby settlements, employment areas, public footpaths and upon both nearby and distant identified receptors with particular reference to sensitive and major viewpoints, any protected or recognised landscapes, properties, transport corridors, and areas which are publicly accessible such as public rights of way and areas of publicly assessable open space.
- 1.6 Details of the proposed development are contained within the report (Refer to Figure 2 of the appendices - Proposed Layout).
- 1.7 The study methodology is described within Section 3 of the report, whilst a description of the site and surrounding area and baseline condition is included within Sections 4 & 5.
- 1.8 An appraisal of the predicted visual and landscape impact of the proposed development is included within Section 6.
- 1.9 Section 7 describes the proposed mitigation measures undertaken at the design stage, whilst the conclusions of the Landscape and Visual Assessments are contained within Section 8.
- 1.10 Report figures are contained within the Appendices at the rear of this document.

2.0 Purpose and scope of the report

- 2.1 The Landscape and Visual Impact Assessments were undertaken in early January 2015 following an understanding of the scheme proposal and its content; together with familiarisation of the site context.
- 2.2 The assessments were undertaken by a Chartered Landscape Architect, and involved both desk top and field analysis at the optimum season for assessment whereby deciduous vegetation is devoid of leaf cover.
- 2.3 Seasonal difference and the prevailing weather conditions (which were dry and bright at the time of the survey) were taken into account when assessing the potential impact which is recorded within Chapter 6.
- 2.4 Existing vegetation, structures and features have been plotted from desktop analysis, Ordnance Survey datum provided by Ordnance Survey under licence, historical data and site observation; as well as aerial photography where access was unavailable.
- 2.5 The proposed solar development is located on farmland immediately to the south of the River Clywedog and the southern fringe of the existing Wrexham Industrial Estate which includes the adjacent U.K Category Class C Prison site due for completion in 2017.
- 2.6 Given the relatively small scale of the proposal and the existing developed landscape context of the site, (which contains no statutory designated landscapes or sensitive receptors), the report methodology is based upon standard guidelines advocated by the Landscape Institute and Institute of Environmental Assessment – Guidelines for Landscape and Visual Impact Assessment (Third Edition published in 2013).
- 2.7 Photographs of the proposed site and wider area are contained within the appendices to this report (Refer to Figure 3).
- 2.8 The assessment considers the likely landscape and visual impact of the proposed development upon the surrounding area, and describes its potential impact from major viewpoints, publicly accessible areas, including any identified areas of public open space and public rights of way, and any areas of open countryside or common land designated under the CROW Act.
- 2.9 Baseline information regarding the site it's context, features, and characteristics have been ascertained from field survey and desk top study.
- 2.10 The details of the proposed Photovoltaic Solar development are shown on Drawing 2204.PLG.03 Proposed Site Layout and 2204.PLG.04 Typical Section through proposed solar PV panels which are reproduced as Figure 2i and 2ii, of the appendices.

3.0 Methodology

- 3.1 The assessment is based upon guidance contained within 'Guidelines for Landscape and Visual Impact Assessment' published by The Landscape Institute and Institute of Environmental Management and Assessment (Third Edition 2013).
- 3.2 The assessment has involved both desktop and field research, and has involved visits to the site and surrounding area to establish the existing landscape context and level of predicted impact and where deemed appropriate or necessary, the assessment methodology has been shaped by the baseline findings.
- 3.3 The assessment has used Ordnance Survey datum mapping and height datum for the surrounding area, supplied under licence for the project by the client, and a detailed topographical survey of the proposed site, prepared to ordnance datum.
- 3.4 The assessment of the proposed development has been considered as a new feature in an existing landscape. Therefore, the evaluation assesses and compares the current visibility of the existing site as part of the baseline condition and also the level of impact that the proposed development may or may not create upon individual receptors and the immediate and wider landscape.
- 3.5 In line with guidance, the assessment considers the likely impact of the scheme on Day 1 following completion and then at Year 15 after completion; in addition, potential construction impacts, long term operational impacts and the effect of the proposed mitigation measures are also assessed.

Visual impact

- 3.6 Visual impact is definable as a function of the sensitivity of the affected landscape and types of view (and views) together with the magnitude of change that they will experience.
- 3.7 The likely visual impact of the proposed development has been assessed and categorised according to the following **Visual Impact Assessment** scale:

Substantial adverse Impact: where the scheme would cause significant change in the existing view, in areas of or to receptors of high or medium sensitivity and number, which would experience a moderate intrusion or change in character, or high magnitude change in an area of low sensitivity.

Moderate adverse Impact: where the scheme would cause a noticeable change in the existing view, in areas of or to receptors of high or medium sensitivity/number which would experience a moderate intrusion or change in character, or high magnitude change in an area of low sensitivity.

Slight adverse Impact: where the scheme would cause a perceptible change in the existing view, in areas of or to receptors of medium or low sensitivity high sensitivity/low number which would experience localised damage or loss to specific landscape elements/features, or minor intrusion over a more widespread area.

Neutral Impact: no discernible difference.

Slight Benefit: where the scheme would create a beneficial improvement in the existing view to a low number of receptors of medium or low sensitivity that would experience enhancement of the existing landscape, or contribution to specific landscape features.

Moderate benefit: where the scheme would assist in improving a poor or fragmented landscape, where certain detracting features can be improved or lost and cause an improvement in the existing view.

Substantial benefit: where the scheme would improve a degraded or damaged landscape, where detracting features can be improved or lost and cause a significant improvement in the existing view.

- 3.8 Under Landscape Institute and Environmental Assessment Guidelines people (or receptors) at their place of work, or people travelling through or past an affected area in cars or trains etc are the least sensitive of receptors, whose attention may be focused on their work or activity and who therefore may be potentially less susceptible to changes in the view.

The most sensitive receptors include:

- (i) Outdoor recreational facilities (including Public Rights of Way), whose attention or interest may be focused on the landscape such as from an AONB, Listed Buildings, Historic Landscape Area, Park or Garden of Historic Interest, CROW areas or long distance trails, etc.
- (ii) Communities where the development results in changes in the landscape setting or valued views enjoyed by the community.
- (iii) Occupiers of residential properties with views affected by the development.

Degree of magnitude

- 3.9 The magnitude or degree of the effect has been categorised as follows:

Negligible - Where the development or work or activity associated with the development is not discernible.

Low – Where only a small or minor component is visible or where the distance is such that only a part is discernible or appreciable, and consequently there is little effect upon the scene and which might be missed by casual observation.

Medium Low – The proposals constitute a visible and recognisable new element to the scene and may be readily noticed as a new element.

Medium High – The proposals form a significant and immediately apparent part of the view which affects and alters the character of the area.

High – Where the proposals become a dominant feature of the view and to a degree by which other elements are affected changing overall character.

- 3.10 Standard assessment methodology advocates as 1km radius for the site visual assessment, and this has been reviewed on site and felt to be appropriate in this instance as the site and existing landscape are well contained by existing landscape features such as vegetation, built development and topography, and the scale and nature of the proposed development is small and lies close to existing industrial development within the immediate area as well as the large scale prison development which is now commencing construction.
- 3.11 Therefore given the sites landscape context, the methodology and survey extent recommended by the Landscape Institute of 1km radius is considered appropriate in this instance
- 3.12 Above 1km the clarity, form, and detail of all proposed developments becomes less clear and distinguishable as receptor distance increases whereby atmospheric conditions begin

to affect visibility, and this is demonstrated within Figure 3 (Photographs of the site and surrounding area).

- 3.13 The Landscape and Visual Impact Assessment site work was undertaken in January 2015, in optimum conditions of visibility including the absence of deciduous tree canopy cover.
- 3.14 Due cognisance of leaf canopy absence, and the prevailing weather and light conditions at the time of survey were also taken into account when assessing potential existing and future impact.
- 3.15 Existing vegetation, structures and features have been plotted from desktop analysis, Ordnance Survey datum and site observation as well as aerial photography where access was unavailable.
- 3.16 Visual Impact Tables have been prepared for the study area to include main receptors, including residential areas, the Industrial estate site, publicly accessible areas such as playing fields and footpaths etc, which are contained within Appendix 6.
- 3.17 The visual assessment did not involve visiting the interior of individual properties or entering private land, although wherever possible views close to residential properties have been ascertained and predicted.

Landscape Impact

- 3.18 The **Landscape Assessment Methodology** is assessed and categorised in much the same manner as the Visual Assessment and categorised according to the following scale:

Substantial adverse Impact: where the scheme would result in effects that are at complete odds with the existing landform, land use, scale and pattern of the landscape, and cause permanent degradation and diminishing of the quality, and integrity of the landscape features elements and their setting, or cause a very high quality landscape to be permanently destroyed and overall quality reduced.

High/moderate adverse Impact: where the scheme would result in effects which would be substantially damaging to a high quality landscape, vary greatly with the existing landscape and would contribute to its degradation or cannot be fully mitigated against and may cumulatively amount to a substantial adverse effect.

Moderate adverse Impact: whereby the scheme would be out of scale with the existing landscape, or at odds with the local landscape pattern and landform and will result in an adverse impact upon a recognised landscape.

Slight adverse Impact: Where a proposal would not readily fit with the overall landform or landscape scale, and would affect a landscape of recognised landscape character

Neutral Impact: no discernible difference or whereby the proposal would complement the scale landform and pattern of the landscape and would not impact upon the existing landscape quality.

Slight Benefit: where the scheme would create a beneficial improvement that would involve enhancement of the existing landscape quality and character, or contribute to specific and appropriate landscape features. The pattern, landform and scale of the landscape are respected.

Moderate benefit: where the scheme would assist in improving a poor or fragmented

landscape, where certain detracting features can be improved or lost.

- 3.19 The capacity of a landscape to accept change can be either beneficial or adverse, with the lower the sensitivity the greater the capacity to absorb change in general.
- 3.20 Landscape quality and its value are based upon an evaluation of its components and the value and contribution that they create to form the landscape character of the area and whether the identified landscape elements or features can be replaced or substituted.
- 3.21 Landscape quality is assessed by considering planning policy, designations and subjective assessment of the quality by experienced practitioners.
- 3.22 The Landscape and Visual Impact Assessments are reported within Chapter 6.



Plate 1 – Aerial photograph of the industrial estate circa 1946.

4.0 Site Context and Baseline Condition

The existing site and landscape context.

- 4.1 The site of the proposed solar array is located on 6.8ha. of farmland located immediately to the south of the River Clywedog, approximately 200m from the developed boundary of Wrexham Industrial Estate , and approximately 4km southeast of Wrexham Town Centre, and to the east of the Wales and West Gas Plant.
- 4.2 The proposed site location is indicated on Figure 1 of the appendices and the National Grid Reference for the proposed development is SJ385485.
- 4.3 The nearest settlements to the proposed site are located some 1.1km distant to the north west of the site at Pentre Maelor and approximately 1.7km distant to the south west at Cross Lanes.
- 4.4 The River Clywedog meanders in a west to east direction directly north of the proposed site as a tributary of the River Dee some 100m distant from the proposed solar array.
- 4.5 Beyond the River Clywedog to the north is the southern fringe of the Wrexham Industrial estate including the recently commenced 200 inmate prison situated on land directly north of the proposed site, which is presently under construction and scheduled for completion in 2017.
- 4.6 The wider area generally was historically associated with agriculture and originally comprised small fields for stock grazing with extensive oak woodland on fertile alluvial soils associated with the adjacent River Clywedog, although modern farming practices have led to increased field sizes, arable crop production and loss of hedgerows.
- 4.7 Traditionally the River Clywedog formed an important focus in the area and records indicate that the population grew dramatically as the industrial revolution drew workers to the Wrexham area to serve the rapidly developing coalmines, lead mines, limestone quarries, ironworks and lead smelting works.
- 4.8 The demand for food to feed the increasing workforce meant that the fertile Clywedog floodplains, which had traditionally provided pasture, were replaced with corn mills and areas of hedgerow and woodland were cleared for growing crops and then subsequently developed for industrial useage leading to the landscape which is present today.
- 4.9 The landscape immediately around the proposed site extent is typical of a hinterland landscape in this historic context, with development along the river Clywedog although the immediate site locale is influenced by the later development of the Royal Ordnance Factory during World War II.
- 4.10 Then the site employed over 13,000 workers manufacturing Cordite as an explosive propellant for shells within scattered widespread buildings over a large area joined by a purpose built railway line and sidings linked to the wider railway network at Crewe.
- 4.11 After the closure of cordite manufacture in 1945, the redundant buildings attracted many small businesses whereby the site became known as Wrexham Trading Estate; and latterly with the larger scale and industrial development as Wrexham Industrial Estate covering over 550 hectares of land and with 700 employees in over 300 businesses.
- 4.12 Whilst the landscape fabric to the south and southwest of the proposed site is largely pastoral land with large blocks of woodland, the landscape to the north and west is heavily influenced by the proximity of the industrial estate and gas plant associated character of

this large scale built development.

- 4.13 The topography of the site area is low lying at 25-28m falling gently towards the River Clywedog in the north.
- 4.14 The wider landform rises northwards beyond the river to over 40m AOD towards Wrexham Town Centre and westwards towards Marchwiel and falls eastwards towards the River Dee Floodplain some 2km distant.
- 4.15 Marchwiel is a small linear village located circa 2.7km west of the proposed site and outside the 1km study area and zone of visual influence.
- 4.16 To the east there are scattered properties and rural agricultural buildings at Bowling Bank; the nearest settlement to the east being Shocklach Green, which is well beyond the visual influence of the site and over 5km distant.
- 4.17 The nearest residential properties are existing dwellings located along the proposed site access (Nant Cottage and Parkey Lodge) along an existing farm road at circa 200m to the south west, Parkey Farm at 400m to the south east and at Talwrn located at approximately 600m distant.
- 4.18 A single Public Footpath (Reference ABE/19) runs to the north and west of the site approximately 150-200m distant linking the industrial estate to the existing farm access road, and onward to the B5130 in the south.
- 4.19 Other than the public road network which comprises the B5130 to the south and minor roads linking towards the Industrial estate, there are no other areas of publicly accessible land within the study area and there are no areas of CROW Land. (Countryside Rights of Way)
- 4.20 The site area is presently grazing land, bounded by a well-established and well maintained Blackthorn hedge of circa 2.5m in height on all sides, and with numerous mature Oak hedgerow trees; further extensive vegetation follows the River Clywedog and its flood plain to the north.
- 4.21 There are many significant areas of woodland associated with the linear and riparian habitat of the River Clywedog, plantations associated with former estates and locally historic Halls, as well as former railway lines which provide distinct linear landscape features.
- 4.22 Land to the south of the proposed development contains further woodland in the form of the abundant field trees of mature Oak and Ash which, together with scattered hedgerow and hedgerow trees, providing distinct landscape features.
- 4.23 To the west former WWII Cordite sheds are visible from the Footpath ABE/19 together with glimpses of the Gas Plant and associated elevated structures such as the communication mast.
- 4.24 The area of the proposed solar site is well enclosed by established mature vegetation to the north, south, east and west - and a line of Pylons runs contiguous with the boundary of the proposed site in a north-south direction along its eastern flank.
- 4.25 Immediately to the south, established stands of woodland screen the site from receptors, whilst mature woodland blocks to the west assist in screening longer views towards the site from the Public Footpath.

- 4.26 Publicly accessible roads in the vicinity are confined to circa 0.5km distant to the north, south, east and west whereby existing features such as vegetation or built development allow limited glimpses towards the general site direction as described later.
- 4.27 Existing native vegetation mainly comprises Ash, Oak, Ivy, Holly and Sycamore with occasional Black Pine within the plantation areas and with predominant Hawthorn and Blackthorn hedging.
- 4.28 Within the River Clywedog valley flood plain the species are riparian comprising Willow, Alder and Poplar, with Elder and Hawthorn in places.
- 4.29 Photographs of the site and surrounding landscape context are contained within Figure 3 of the appendices whilst a site Landscape Context Plan is contained within Figure 4.

Landscape policy

- 4.30 The extant Development Plan for the site and surrounding area is the 'Wrexham Unitary Development Plan' (UDP) 1996-2011 which was adopted in February 2005 and which will be replaced by the Wrexham Local development Plan in due course.
- 4.31 Within this planning framework proposed site area is not subject to any statutory protective landscape designation, however the southernmost 150m of the proposed site area is indicated as being within a Special Landscape Area (Policy EC5).
- 4.32 Land to the north (between the proposed site and the existing Wrexham Industrial Estate southern boundary extent) is excluded from this Policy whereas land following the River Clywedog further east is included within the Special Landscape Area and forms part of the River Flood Plain extent.
- 4.33 With regard to landscape assessment and future landscape protection, Natural Resources Wales (formerly CCW) have been undertaking a landscape qualitative assessment for the whole of Wales entitled LANDMAP which includes the county of Wrexham, in order to contribute to future mandatory policy.
- 4.34 The site and surrounding area has been assessed as part of this Landscape Assessment and the site extent is within the border of the Landmap Landscape Character Area 13a – Welsh Maelor Area, and close to Character Area 11 Wrexham Industrial Estate Area - displaying characteristics of both landscapes which, obviously, have transitional rather than precise boundaries and which was adopted in 2004.
- 4.35 The **Character area 13a - Welsh Maelor Landscape Area** is described and summarised as follows:

'This lowland rural area is similar to the English Maelor and Dee Terraces and to the Cheshire and North Shropshire Plain beyond the Wrexham boundary. However it is geographically and historically separated from the English Maelor by the River Dee, and former administrative boundaries, and is currently more affected by proximity to urban areas.'

- Undulating, mainly pastoral lowland farmland
- Well managed hedges with hedgerow trees and small woodlands
- Historic designed estates influence a large proportion of this area.
- Field ponds abundant on areas with clay soils
- Historic settlement pattern with remnants of medieval ridge and furrow
- Erddig estate important for tourism, recreation, nature conservation and heritage

- Wat's Dyke runs north south through area.
- Patches of valuable semi natural habitat, especially in Clywedog Valley
- Affected by urban pressures and economic changes to farming

4.36 The **Character area 11 – Wrexham Industrial Estate Area** is described and summarised as follows:

‘The industrial development dominates the landscape with the underlying physical landscape covered over or altered to a significant extent.

- Extensive area of mixed manufacturing and business uses
- Located on site of WW II munitions depot, formerly farmland
- Visible from afar, many of the buildings dwarfing the human scale
- Very valuable species rich grassland and wetland habitats
- Major focus for employment separate from Wrexham town

4.37 Within the Landmap detailed assessment coverage for the area of the proposed solar development, the area is located within the following Landmap character areas:

- **Visual and Sensory** Aspect Area Maelor south of Wrexham - (Code WRXHMVS052),
- **Landscape habitats** Aspect Area Eyton Grassland (Code WRXHMHO29)
- **Geological landscape** Aspect Area Cross Lanes (Code WRXHMGLO79)
- **Cultural Landscape** Aspect Area Wrexham Industrial Estate (North) (Code WRXHMCL014)
- **Historical** Aspect Area Wrexham Industrial Estate (Code WRXHMHL019)

4.38 The Landscape and Visual Summary Description of the Aspect area follows a 2003 assessment by CCW and was assessed before the construction of the new southern access road into the industrial estate and the consent for the Large Scale Prison on land directly north of the proposed Solar Site, and is cited as follows:

“An attractive archetypal rolling farmland landscape with elements of estate farming and a pleasant mix of small to medium field patterns and woodland blocks and copses. The area feels relatively settled and safe with a low proportion of out of scale or modern development. The area borders the southern and eastern areas of Wrexham yet Wrexham’s influence is rapidly lost and the area feels quite separate from it. The area occupies a gently rolling and undulating landscape bordered by the River Dee Valley to the south and east and Wrexham to the north. Visually and physically the area feels more closely associated with the English landscape of north Shropshire and Cheshire than the typical or archetypal Welsh landscape. The aspect is the transition zone and border between England and Wales again a visually similar (sic) to Cheshire and Shropshire plain, but uncommon landscape for Wales. Evidence of earlier cultures can be seen on pasture – ridge and furrow, moated site etc. not often associated with Wales.”

4.39 In respect of the proposed site due to its dominant visual relationship with the Industrial Estate on elevated land to the north and lack of visual connectivity with more pastoral landscape to the south that the landscape character is diluted and hence transitional in character.

4.40 There are no other designated or protected landscapes within the study area.



Plate 2 Aerial photograph of the area context and site location

5.0 Description of the proposed development

5.1 Details of the proposed development are shown within Figure 2i and 2ii of the appendices (Drawing 2204.PLG.03 Proposed Site Layout and 2204.PLG.04 Typical Section through proposed solar PV panels) which comprise the following proposed elements:

Permanent

- 6.8 hectares of new solar panels aligned on a series of rows on an east –west axis facing due south
- Perimeter security fencing of circa 2.4m height, constructed of dark green coloured Weldmesh type fencing and with three strands of barbed wire above, with matching gated access for national utilities security compliance
- Stockproof fencing around the existing pond to protect pond margins from grazing
- 4no. GRP Inverter Kiosks, circa 6.1m x 2.4m x 2.6m in height in a dark grey/green colour positioned in each corner of the site
- 2no 5m high CCTV cameras mounted on 5m high poles in the north eastern and south western corners of the site adjacent to the kiosks.

Temporary

- A temporary Construction compound on land to the west of the proposed site between the site and footpath for a period of circa 3 months
- A 5m section of existing hedgerow removal on the sites western boundary to facilitate temporary access(located to the south west of the permanent access position avoiding the retained oaks trees)

5.2 The structures are to be positioned as indicated within Figure 2 Site Layout around 26-28m AOD in parallel 8m spaced rows of panels of maximum circa 2.1m AOD on galvanized frames.

5.3 In visual terms the largest and potentially most visible elements of the system are the arrays of solar modules. (Solar modules are solid state semiconductor devices with no moving parts. They convert light directly into DC electricity silently and without emissions.)

5.4 The solar cells are made from silicon, which is treated to become a semiconductor – essentially a large light-sensitive diode.

5.5 The front surface of the solar modules is toughened glass with an anti-reflective coating to maximise the light captured by the solar cells. From the front, the modules look predominantly black in appearance, though from close-up a grid of silver contacts is visible.

5.6 It is understood that the solar panels are designed to absorb, not reflect, irradiation and hence are responsible for only limited levels of either glint or glare and are less reflective than glass-houses for example.

5.7 Glint may be produced as a direct reflection of the sun in the surface of the PV solar panel, but will be substantially reduced by the anti-reflective coating that the modules incorporate to maximise the light capture of the solar cells and the angle of the panels at 25°.

5.8 Glare is a continuous source of brightness, relative to diffused lighting which is not a direct reflection of the sun, but a reflection of the bright sky around the sun. Glare is significantly less intense than glint; Solar Panel systems are designed to avoid adverse effects from reflected light and thus to conform to the Air Navigation Order 2009.

- 5.9 Modules are framed with anodised aluminum, and are mounted as sub-arrays on frames of anodised aluminum and hot-dipped galvanised steel which are approximately 2.7m wide and 2.1m high with the base of each panel being approximately 0.8m above ground level with just over 5m between rows.
- 5.10 A Module consists of a length of panels supported by a support brace which is driven into the ground and which is removable after the life of the panels (which is currently approximately 25 years lifespan)
- 5.11 Access to the proposed development will be from the existing well defined access track that heads directly north from the B5130 and which joins a short length of Footpath ABE/19.
- 5.12 The proposed development will respect and retain the existing field pattern and will remain as grazed pasture.
- 5.13 2.4m high Security fencing will be erected as a secure boundary; situated 7m from the existing boundary hedge as indicated on the Proposed Site Layout.
- 5.14 The existing pond in the site will be retained, and a stock proof fence will be erected around it to protect the pond margins from poaching by livestock.
- 5.15 4no small kiosks form part of the proposal which are to be located in the corners of the site and a CCTV camera will be located in the south west and north east corners adjacent to the kiosks.
- 5.16 No new overhead connection infrastructure will be required as part of the proposal and it is considered that the land can easily be restored to agricultural use with no permanent effects if and when required.
- 5.17 Limited soft landscape mitigation is deemed necessary and any landscape mitigation targets are described further within Section 7 - Mitigation.

6.0 Landscape and Visual Impact Assessment

- 6.1 A landscape and visual impact assessment of the existing site was undertaken in January 2015 by a fully chartered Landscape Architect with extensive knowledge of this area of Wales and the Borders and with over 23 years post chartered experience.
- 6.2 The assessment drew upon experience of similar developments in Wales and the prevailing weather at the time of the site survey work enabled the assessment to be undertaken in bright and dry conditions with clear visibility.
- 6.3 The landscape assessment is reported first and the visual assessment is reported thereafter.
- 6.4 The overall assessment considers the landscape and visual impact of the development proposals upon the surrounding area, and describes the impact from major viewpoints and publicly accessible areas, including any areas of public open space and public rights of way
- 6.5 No areas of openly accessible countryside exist and no common land with access under the CROW Act have been identified within the study area.
- 6.6 The assessment of the proposed development has been considered as a new feature in the landscape and, therefore, the evaluation assesses and compares the current landscape, including the land use and presence of existing development including the future Prison Site development as a baseline condition.

Landscape Assessment

Landscape Context

- 6.7 The existing wider landscape (where undisturbed) is typical of much of the Wrexham Maelor Area landscape type identified by the Landmap study, comprising relatively level river plain land with numerous established copses, mature field trees and field boundary vegetation.
- 6.8 Vegetation comprises mainly large blocks of deciduous woodland and plantations of predominantly Oak, Ash, Sycamore, remnant Elm, Hazel and Holly and riparian wetland vegetation associated with the meandering River Clywedog.
- 6.9 The landscape character of the site located along the fringe of the Industrial estate is heavily influenced by the visible and dominant presence of the industrial estate buildings to the north, which on slightly elevated ground dominate the skyline in this area.
- 6.10 To the west of the proposed site the presence of former military buildings and the Wales and West Gas Plant are visible in part further detracting from the natural character described within the Landmap Character Assessment which is more akin to land to the south of the proposed site.
- 6.11 The CCW Assessment of landscape types acknowledges the presence and visibility of existing large scale structures within the immediate landscape, which includes the Wrexham Industrial Estate Landmap Character zone 11.
- 6.12 The area of landscape immediately surrounding the proposed development site to the south and east are generally more intact with retained hedgerows, field trees ponds and traditional and vernacular landscape fabric components.

- 6.13 The Wrexham Industrial Estate buildings and internal road network are lit by high level lighting columns. This nearby lighting, together with existing lighting emissions generated by the Industrial Estate Units and The Gas Plant provide a significant night time disturbance in distinct contrast to the site and pastoral land to the south.
- 6.14 The proposed development will retain the existing pond, hedges and hedgerow trees and will respect the existing field pattern, and be located within the existing mature hedgerow, thereby enclosed by planting and largely screened and whereby the 5m section temporarily removed for construction access will be reinstated.
- 6.15 The riparian vegetation associated with the River Clywedog is a notable linear landscape feature which visually defines the River Corridor landscape and which restricts longer views of the proposed solar site from more distant viewpoints to the north as does plantation vegetation and woodland to all other orientations.

Predicted landscape impact proposals

- 6.16 It is predicted that due to its small scale and its limited visual influence (described later) the proposed solar P.V. development will not involve the loss or denigration of any existing landscape feature for both implementation and operational stages.
- 6.17 The overall landscape landform scale and context will be unaffected by the proposal as the development utilises the existing landform, field patterns and access, and it will not appear evidently incongruous or dominating within the wider landscape fabric.
- 6.18 As the surrounding landscape is well wooded, it has the ability to visually absorb and contain the proposed development without an expansive wider landscape influence, and the presence of developed land use nearby means that the landscape impact will be limited in extent and there will be no change in overall character.
- 6.19 A limited area of hedgerow planting is advocated between the site and public footpath to restore a section of damaged hedgerow (in addition to the reinstated hedgerow removed temporarily for construction access) and this will provide an appropriate landscape feature and screen.
- 6.20 As stated within Section 2, the degree of magnitude and sensitivity is primarily the ability of the landscape to accept the type, scale, extent and duration of the changes advocated.
- 6.21 The assessment has considered the baseline landscape type and quality together and the ability of the landscape to absorb the proposed change and assessed the impact of the proposals upon the landscape.
- 6.22 The baseline landscape quality recognises the presence of the nearby Wrexham Industrial Estate in the overall scene and its zone of visual influence, therefore the impact potential is reduced than from that of a totally intact landscape.

Conclusion of Landscape Impact

- 6.23 The landscape impact of the proposed development is considered to be **slightly adverse or neutral*** at **Day 1** and also at **Year 15**, as existing woodland, riparian vegetation etc continue to grow, reducing potential visibility, and will only exert a slightly adverse temporary impact when vegetation is leafless and when periods of any identified reflectivity occur which is not predicted to be often and hence normal landscape impact will remain as neutral.
- 6.24 Although it is an attractive landscape, it is not a statutory designated landscape, and it

must be recognised that there is already a significant degree of impact as a result of the presence of the Wrexham Industrial Estate and nearby Gas Plant thereby reducing the overall potential for change and resultant significance of the proposals.

- 6.25 The proposed development will not affect any existing landscape features and the associated mitigation works will replicate an indigenous landscape feature in restoring the hedgerow which exists at present and the development is temporary whereby the land can be wholly reinstated at the end of its lifespan without permanent effect.

Visual Impact Assessment

- 6.26 This section assesses the Visual Impact of the existing site as a baseline condition and then compares it with anticipated impact on Day 1 of completion of the proposed development, and at 15 years after completion, in line with the adopted assessment methodology.
- 6.27 The majority of photograph and receptor viewpoints referred to within the assessment, are contained within Appendix 3 of the appendices and which have been taken using a standard 50mm SLR focal length camera to represent the naked eye.
- 6.28 The lens and photographs provide an image that is extremely close to how the eye perceives a subject and a natural depth of field to replicate what is normally perceived and demonstrates the contents of the view and its immediate setting.
- 6.29 The lens has two high-refraction lens elements and optics, helping eliminate astigmatism and suppressing astigmatic differences.
- 6.30 The zone of visual influence for the proposed scheme has been ascertained from detailed field study and confirms that predominantly, views towards the proposed development are very well contained by the presence of established native vegetation and the relative distance of (and limited number) of receptors.
- 6.31 Views from the west are predominantly from the existing Public footpath ABE/19 which runs in a north south direction approximately 150m distant from the proposed site extent before continuing in an east west direction parallel with the Calypso Factory and southern Industrial Estate boundary approximately 200m to the north.
- 6.32 All other views from the north, south and east are restricted by existing topography and the presence of well-established existing vegetation including the vegetation associated with the River Clywedog and plantations such as Peter's Dingle, and Mill Wood.
- 6.33 To the north the large scale industrial units prevent longer elevated views southwards for the wider landscape, whilst existing woodland prevents views of the site for the closest properties such as Parkey Lodge and Nant Cottage
- 6.34 The predicted views are therefore likely to be very limited and the following section describes the predicted visual implications of the proposed development in more detail.

Visual impact of the existing site

- 6.35 The predicted visibility of the proposed solar development has been compared against the visibility of the existing site area to ascertain any overall increase in extent and type of predicted visual impact.
- 6.36 Where it is identified that the proposed development would affect the current view the impact of any changed view is assessed and categorised as defined within Chapter 2.

- 6.37 The proposed site area is presently visible as a distant field beyond existing hedgerows from Footpath ABL/19 and whereby little of the field grassland can be seen due to level differences of circa +/-2m AOD where the proposed solar site field is currently above or below the footpath general level and due to the distance between the receptor and site of circa 0.2km.
- 6.38 A distant view towards the site of over 1km was identified from the edge of the study area along Sun Lane whereby an elevated view of part of the site was potentially available from the upper floor windows of Top Farm House and rear gardens of Oakwood and Denwerra.
- 6.39 Here views encompass the wooded Clywedog valley and distant Industrial estate, and where the proposed site forms a very small component of the wider view and is not immediately apparent, and no further potential views were identified.
- 6.40 Other views of the proposed site are restricted to a short length of Oak Road looking to the south west from circa 0.8km where the proposed site is again a very small component within a well wooded landscape and not immediately apparent.
- 6.41 It is therefore predicted that the proposed site development will not form an obvious feature within the area due to its dark recessive appearance limited height and distance of receptors in the area, however, in the unlikely event that reflection should occur the development would be evident and a focal point for these receptors but for very short periods of time only.
- 6.42 Elsewhere it is predicted that views of the proposed development will be contained by topography, distance, vegetation or built development.
- 6.43 It should be noted that the existing vegetation is predominantly deciduous, but within the large plantation and hedgerows there are stands of Bramble, Holly and Ivy which are non-deciduous and which provide a more impermeable and year round screen assisting in reducing potential visibility.
- 6.44 From field observation it is predicted that there will be no views of the proposed solar site from populated areas such as Pentre Maelor, Bowling Bank or Shocklach or the nearest properties of Nant Cottage or Parkey Lodge.

Visual Impact Assessment of the Proposed Development.

- 6.45 The main predicted visual impact relating to the proposed development is the change in land use and any change in landscape character that may or may not be created, together with any increase in visibility extent.
- 6.46 The proposed solar array is not anticipated to be of a sufficient scale and content to appear as a readily noticeable visual detractor and will be largely non-evident to the majority of receptors due to the naturally well screened location the site affords.
- 6.47 Furthermore the proposed development will not be lit, and will support only low additional traffic movement and will therefore be a relatively static element akin to the agricultural movement which occurs on the site at present.
- 6.48 Figure 6 Visual Impact Tables (within the appendices) provides details of the existing receptors and their predicted level of visual impact.
- 6.49 It is estimated that **no new** receptors or locations will experience a view of the development on completion and any impact will only relate to existing receptors that will be affected and which include:

- Users of Footpath ABL/19 for a length of approximately 160m when travelling both north and southwards, but not as a major detractor and of limited visual significance due to distance and the presence of existing hedgerows between the receptor and site. Should any reflectivity occur in line with the footpath users orientation, the view when travelling northwards will result in the development being more readily apparent. However when travelling south the recessive fabric of the development components will not be readily apparent, and the 5m CCTV poles will be generally set against the backdrop of existing vegetation.
 - A partial view towards the site from circa 3no. properties along Sun Lane, potentially upper windows of Top House Farm, and the gardens of Oakwood and Denwerra which it is predicted would only be evident should reflectivity occur and which would be limited and unlikely given the respective orientations.
 - A limited view from Oak Road for a length of circa 170m when travelling north west and whereby the site would be a very small component of the wider view and generally not be readily apparent unless reflectivity occurred
- 6.50 For these receptors the impact will be greatest in winter months should any reflectivity occur but will not otherwise form a dominant feature of the wider landscape or view, or be immediately apparent and will therefore constitute **slight impact on Day 1** reducing to **no discernible impact at year 15** as further vegetation growth continues.
- 6.51 For receptors the magnitude of the proposal will be slight as the landuse change from agricultural to development may be slightly evident although any identified views also include the existing large scale buildings of the industrial estate as a backdrop (and will in the future include the proposed Prison with buildings of up to 17m AOD Height) and which all create a degree of light refraction at times under suitable atmospheric conditions.
- 6.52 Views from all other areas are precluded by the presence of extensive and established vegetation, or built development.
- 6.53 A short length of screen mitigation hedgerow planting proposed as part of the scheme will increase the traditional landscape in this area including both the potential capacity for the landscape to absorb the development for receptors using Footpath ABE/19.
- 6.54 **Overall** therefore, the visual impact of the proposed development is predicted to generate a very limited zone of visual influence impacting upon a low receptor number, and to a low degree of magnitude, and therefore the impact will be **slightly adverse on Day 1** of opening reducing to a neutral impact at **Year 15**.

Construction Impacts

- 6.55 The Construction Phase Visual Impact will initially relate to the construction of the site compound on land between the proposed site and Footpath ABE/19, the temporary access track linking to the site, and the temporary removal of a 5m length of the existing hedgerow for access.
- 6.56 Further works such as fencing and delivery of apparatus, whereby moving machinery will be evident and the associated noise, which will be tempered by the existing levels of noise associated with the Industrial estate operation.
- 6.57 It is estimated that the construction period will last approximately 3 months and is likely be carried out in Spring 2015 when leaf cover will assist in screening activity on site.
- 6.58 The most evident impact will be for users of footpath ABE/19 the properties of Parkey Lodge and Nant Cottage located along the access route and those working on the adjacent farm land or the industrial estate who may discern increased movement within

the site, however, these impacts will be both temporary and short term.

7.0 Mitigation

- 7.1 In developing the proposed layout of the proposed development, a number of factors have been investigated to 'design out' and avoid adverse landscape and visual impact wherever possible, and to help assimilate the proposals into their setting and the wider landscape character which reduces the need for subsequent post completion mitigation requirements by avoiding adverse impact.
- 7.3 The relatively small scale of the proposal and the selection of the proposed development area has meant the development is unlikely to require substantial post construction mitigation to avoid adverse visual impact.
- 7.3 However in preparing the proposal consideration of the following was an integral part of the design process:
- The overall layout has been kept to the minimum footprint achievable.
 - The proposed Security fencing will be dark green or black and located within the site behind the existing hedgerow.
 - The scheme has sought to use existing Electricity infrastructure, and has not therefore required the addition of new overhead apparatus
 - The layout has respected existing field boundaries, access and vegetation extent.
 - A short length of natural hedgerow will be repaired by additional native planting, in the form of Blackthorn hedging.
 - Structures such as the proposed kiosks are of scale and position on site selected to reduce adverse impact
- 7.4 The location of the proposed hedgerow planting is indicated within Figure 4 of the appendices.

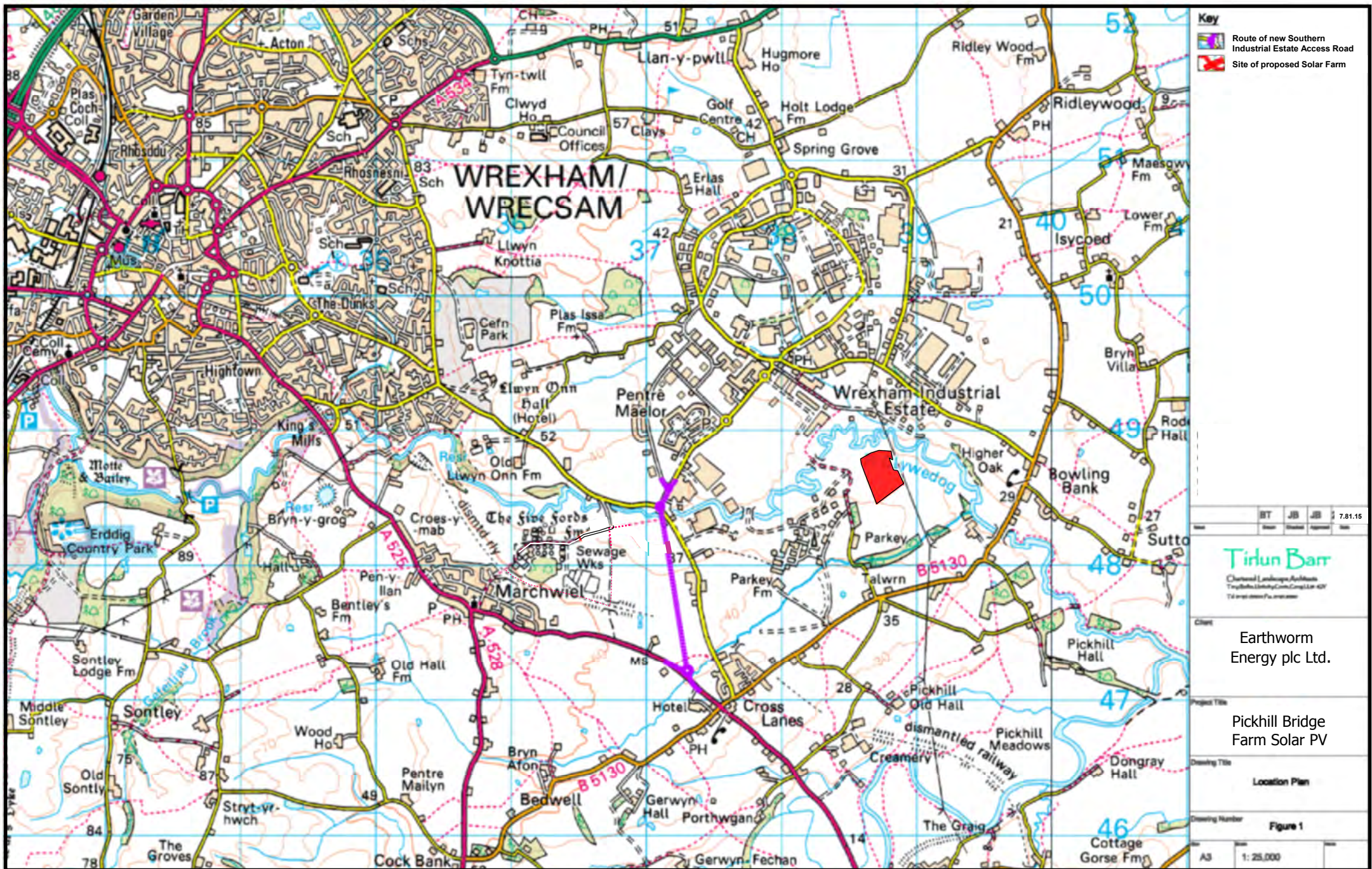
8.0 Summary and conclusion

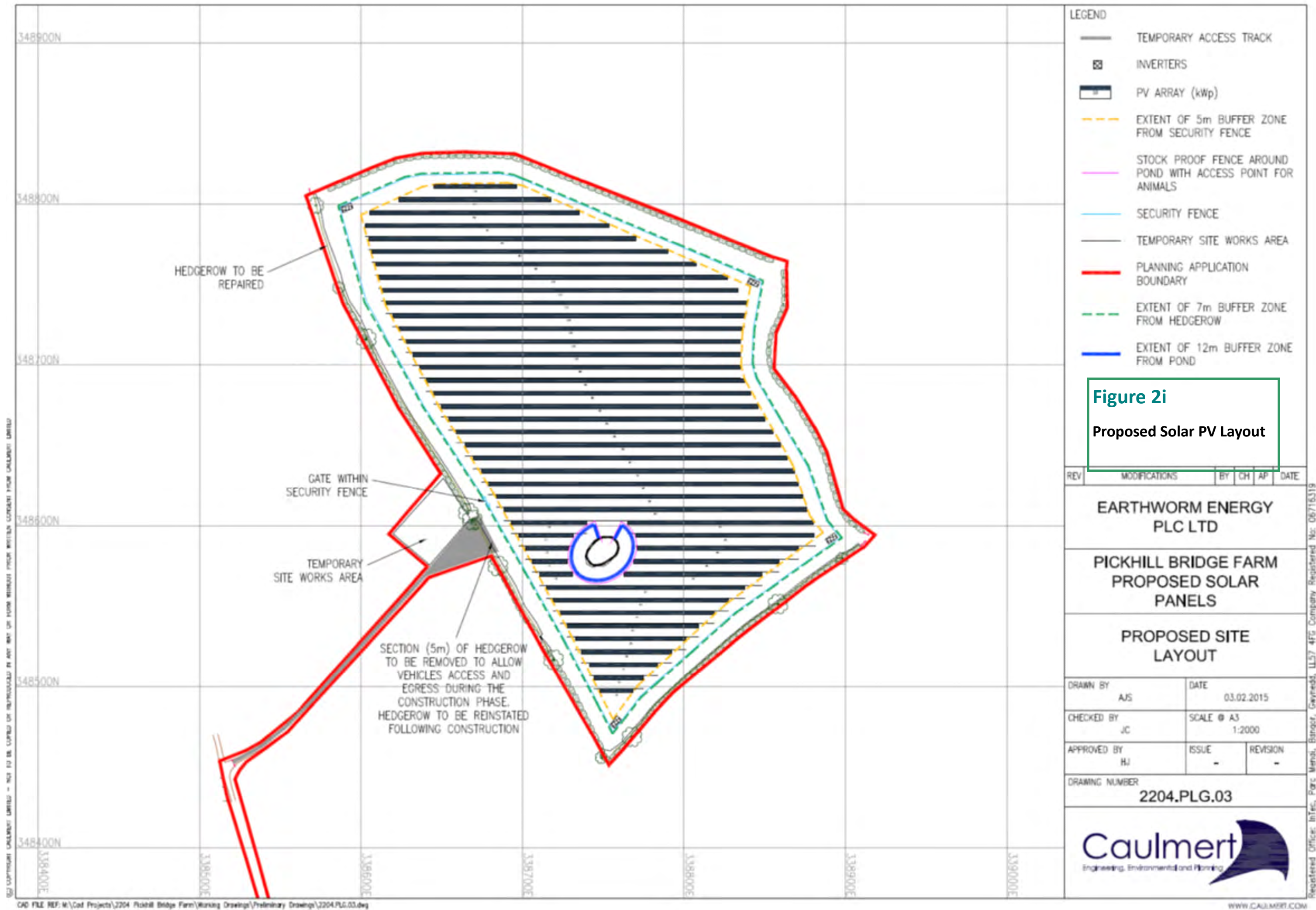
- 8.1 A landscape and visual impact assessment of the proposed Solar P.V. site has been undertaken in accordance with established methodology advocated by the Landscape Institute and Institute of Environmental Assessment, which has involved both background research and fieldwork in clear conditions by a practitioner with extensive knowledge of the area and content of similar schemes.
- 8.2 The proposed solar development would be located within a landscape type which is capable of absorbing the development without wider adverse landscape impact and although attractive, and with the exception of the southern site extent the landscape has no formal protective designation.
- 8.3 A small area of the proposed development field is included within the UDP Special Landscape Area (Policy EC5) along an arbitrary boundary which relates to approximately 150m of the southern site extent.
- 8.4 This extent is not visible from public vantage points, and is screened from the wider designated area to the south by virtue of its juxtaposition which is separated and screened by the presence of Peters Dingle (an extensive tract of mixed woodland) and topography rising slightly to the south.
- 8.5 Therefore the development will directly affect a very small and localised area and not visually or physically indirectly affect the wider extent of Special Landscape.
- 8.6 The proposal has sought to provide a scheme and site selection which through careful design has minimised the need for mitigation by avoiding nearby and long distance adverse Visual Impact.
- 8.7 The proposal has been assessed in its context, and it is predicted that the development will not necessitate any significant changing of levels, loss or creation of incongruous features, introduction of new landscape features or alteration of landscape type and, hence, there will be no adverse or permanent landscape change.
- 8.8 The scheme will not impact upon any key landscape characteristics identified in the Landmap survey of the surrounding landscape, and the landscape sensitivity is readily able to absorb the changes proposed, as similar man made components are already evident near to the proposed development site.
- 8.9 It is considered that given the low number of potential receptors, the mitigation measures proposed to further reduce immediate views, the landscape impact will be **neutral** and the long term impact of the proposals upon the landscape will remain as **neutral**.
- 8.10 The visual impact assessment of the proposed development has concluded that a very small number of receptors may experience a slight adverse impact on Day 1 and year 15 where a change in land use may be evident at times of any reflectivity, however for the majority of receptors however on **Day 1** and at **Year 15** the impact will be **neutral**

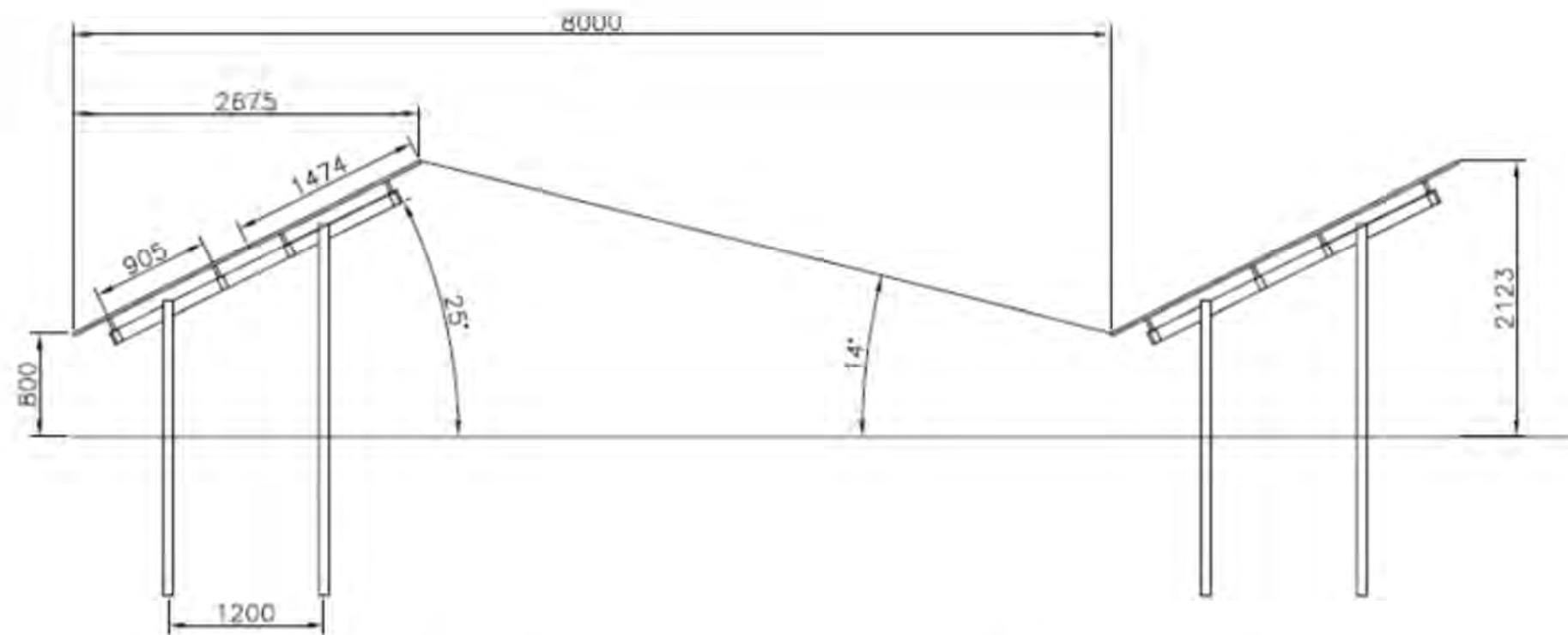
APPENDICES

List of Figures

- Figure 1** *Site location plan*
- Figure 2i** *Proposed Layout Plan* **2ii** *Proposed Section*
- Figure 3** *Photographs of the site and surrounding area* (Sheets 1-11)
- Figure 4** *Landscape Context Plan showing photograph location points and proposed hedgerow repair*
- Figure 5** *Visual Impact Tables*







Typical Part Section (Side Elevation) Through Arrays

NOTES

Figure 2ii

Typical Section through
proposed Solar PV Panels

REV	MODIFICATIONS	BY	CH	AP	DATE
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EARTHWORM ENERGY PLC
LTD

PICKHILL BRIDGE FARM
PROPOSED SOLAR PANELS

TYPICAL SECTION
THROUGH PROPOSED
SOLAR PV PANELS

DRAWN BY AJS	DATE 04.02.2015
CHECKED BY JC	SCALE @ A3 1:50
APPROVED BY HJ	ISSUE P
REVISION -	

DRAWING NUMBER
2204.PLG.04

Caulmert
Engineering, Environmental and Planning

Registered Office: Intec, Parc Menai, Bangor, Gwynedd, LL57 4FG Company Registered No: 06716319

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Plate 1– Photograph taken from Oak Road looking west-south west towards the proposed site
 Distance from site : Circa 0.6 km Visibility : Bright Height circa 32m AOD Date 09/01/15



Plate 2– Photograph taken from Oak Road looking west-south west towards the proposed site
 Distance from site : Circa 0.9km Visibility : Bright Height circa 32m AOD Date 09/01/15

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.



Plate 3— Photograph taken from the B5130 looking west towards the proposed site
 Distance from site : Circa 0.9km Visibility : Bright Height circa 32m AOD Date 09/01/15



Plate 4— Photograph taken from the B5130 at Pickhill Bridge looking north west towards the proposed Solar P.V. site

Distance from site : Circa 0.8km Visibility : Bright Height circa 15m AOD Date 09/01/15

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.

Tirlun Barr Associates
Pickhill Bridge Farm Solar P.V. LVIA.

February 2015
FIGURE 3
Site Photographs Sheet 2



Plate 5– Photograph taken from B5130 adjacent to the public seat at Talwrn junction looking north towards the proposed Solar P.V. location

Distance from site : Circa 0.7km Visibility : Bright Height circa 34m AOD Date 09/01/15



Plate 6– Photograph taken from the route of Footpath ABE/19 between Nant Cottage and Parkey Lodge looking north

Distance from site : Circa 400m Visibility : Bright Height circa 33m AOD Date 09/01/15

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February 2015

FIGURE 3

Site Photographs Sheet 3



Plate 7– Photograph taken from the access road to the Wales and West Gas Plant looking north east towards the proposed site

Distance from site : Circa 0.9km Visibility : Bright Height circa 40m AOD Date 09/01/15



Plate 8– Photograph taken from Footpath ABE/19 looking through along the route of the proposed access towards the proposed site

Distance from site : Circa 150m Visibility : Bright Height circa 30 m AOD Date 09/01/15

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.

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Pickhill Bridge Farm Solar P.V. LVIA.

February 2015
FIGURE 3
Site Photographs Sheet 4



Plate 9– Photograph taken from within the proposed site looking north west towards the route of the Public Footpath
 Distance from site : Circa 0.00m Visibility : Bright Height circa 26 m AOD Date 09/01/15



Plate 10– Photograph taken from the route of the proposed access track looking east towards the hedgerow boundary of the proposed site
 Distance from site : Circa 100m Visibility : Bright Height circa 28m AOD Date 09/01/15



Plate 11– Photograph taken from within the site looking south east over the River Clywedog flood plain
 Distance from site : Circa 0.0km Visibility : Bright Height circa 27m AOD Date 09/01/15

N.B. ALL PLATES TAKEN USING A 50MM LENS TO DEMONSTRATE SITE CONTEXT BUT REDUCED FOR PRINTING PURPOSES.

Tirlun Barr Associates
Pickhill Bridge Farm Solar P.V. LVIA.

February 2015
FIGURE 3
Site Photographs Sheet 5

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.



Plate 12– Photograph taken from within the existing site looking west towards the Wales and west Gas Plant

Distance from site : Circa 0m Visibility : Bright Height circa 27 m AOD Date 09/01/15

N.B. ABOVE PLATE TAKEN USING A 50MM LENS TO DEMONSTRATE SITE CONTEXT BUT REDUCED FOR PRINTING PURPOSES.



Plate 13– Photograph taken from within the existing site looking south towards Peters Dingle Woodland Plantation

Distance from site : Circa 0.m Visibility : Bright Height circa 26m AOD Date 09/01/15

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Pickhill Bridge Farm Solar P.V. LVIA.

February 2015

FIGURE 3

Site Photographs Sheet 6

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.



Plate 14– Photograph taken from the proposed access track looking towards Public Footpath ABE/19

Distance from site : Circa 100m Visibility : Bright Height circa 28m AOD Date 09/01/15



Plate 15– Photograph taken from Footpath ABE/19 looking north east towards the proposed site

Distance from site : Circa 300m Visibility : Bright
Height circa 29m AOD Date 09/01/15

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FIGURE 3

Site Photographs Sheet 7



Plate 16– Photograph taken from the route of the Public Footpath ABE/19 looking south towards the proposed site and length of hedgerow to be repaired.

Distance from site : Circa 100m Visibility : Bright Height circa 25m AOD Date 09/01/15



Plate 17– Photograph taken the Public Footpath ABE/19 looking towards the proposed site from a gap in the existing hedge (to be repaired)

Distance from site : Circa 120m Visibility : Bright Height circa 25 m AOD Date 09/01/15

Plate continued from above

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.

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FIGURE 3
Site Photographs Sheet 8



Plate 18—Photograph taken from the pavement of Oak Road looking west –south west towards the proposed Solar PV site

Distance from site : Circa 1.0km Visibility : Bright Height circa 33 m AOD Date 09/01/15



Plate 19– Photograph taken from Oak Road within the existing Industrial Estate looking south west towards the proposed site

Distance from site : 0.7km Visibility : Bright Height circa 35m AOD Date 09/01/15

All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.

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FIGURE 3
Site Photographs Sheet 9



Plate 20– Photograph taken from Footpath ABE/19 located adjacent to the Calypso factory on Spectrum Industrial Estate looking south towards the proposed site over the riparian vegetation of the River Clywedog

Distance from site : 300m Visibility : Bright Height circa 24m AOD Date 09/01/15



Plate 21– Photograph taken from Footpath ABE/19 looking south south-east towards the proposed site

Distance from site : 250m Visibility : Bright Height circa 25m AOD Date 09/01/15

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FIGURE 3

Site Photographs Sheet 10



Plate 22– Photograph taken from Footpath ABE/19 at the River Clywedog crossing point looking south towards the proposed site

Distance from site : 0.3km Visibility : Bright Height circa 24m AOD Date 09/01/15



Plate 23– Photograph taken road adjacent to housing at Pentre Maelor within the existing Industrial Estate looking south west towards the proposed site with the Prison Site under construction in the foreground

Distance from site : 1.1km Visibility : Bright Height circa 35m AOD Date 09/01/15

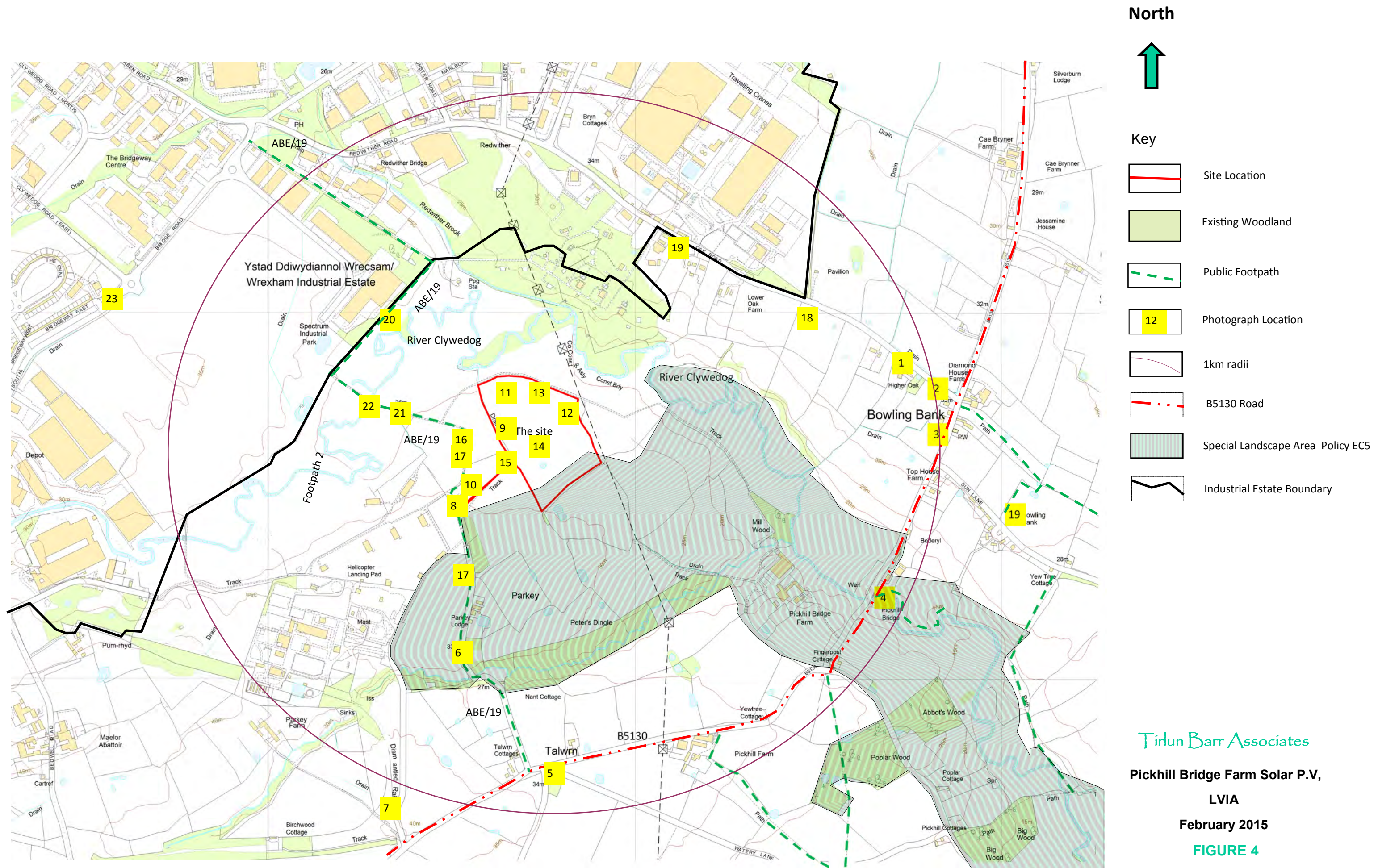
All photographs taken with a Standard 50mm lens and assembled using Photoshop unless indicated otherwise.

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FIGURE 3

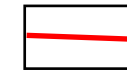
Site Photographs Sheet 11



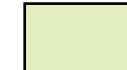
North



Key



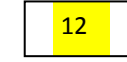
Site Location



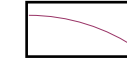
Existing Woodland



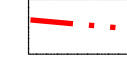
Public Footpath



Photograph Location



1km radii



B5130 Road



Special Landscape Area Policy EC5



Industrial Estate Boundary

Tirlun Barr Associates

Pickhill Bridge Farm Solar P.V,

LVIA

February 2015

FIGURE 4

Landscape Context

Scale = 1:10000m at A3

Proposed Pickhill Bridge Farm Solar PV, Wrexham

FIGURE 5

PREDICTED VISUAL IMPACT (Day 1) and after MITIGATION (Year 15)

Location	Viewpoint reference	Description/notes	Distance (At closest point)	Magnitude	Sensitivity of receptor	Nature of impact				Impact Year 1	Impact Year 15 with mitigation
						st	lt	r	ir		
World heritage sites		None									
Designated landscapes		None									
	-										
Historic Landscape areas	-	None									
Long distance routes		None									
Settlements	Cross Lanes	Clustered village centred at crossroads to the south west of the proposed site and beyond 1km. Village and proposed site physically and visually separated	+ 1.2km	Low	High					n	n
	Bowling Bank	Linear cluster of houses at road junction. No views of site dues to distance topography small scale of development and well established vegetation	0.9km	low	high					n	n
Public Footpaths											
	Footpath ABE/19	PF 337 Footpath ABE/19 runs to the west of the proposed site some 0.2km distant. Views of the CCTV columns will be visible in part above the existing hedge line. Other structures are largely below the existing hedge. Views currently include large scale built form of the Industrial estate when travelling northwards The Solar Array will	200m	Med/low	High					sla for affected length only all other areas no change	slan for affected length only all other areas no change

Proposed Pickhill Bridge Farm Solar PV, Wrexham

FIGURE 5

PREDICTED VISUAL IMPACT (Day 1) and after MITIGATION (Year 15)

		not be a conspicuous element of the landscape or immediately apparent even in winter months due to juxtaposition of viewer and site and the presence of established abundant natural vegetation									
	Footpaths, SES/20, ISY/14, ISY/16, SE/19, SES/14	No views due to distance and presence of established dense vegetation	+1km	Low	High					n	n
Other access public areas		Seating at Cross Roads Talwrn No view	0.8km	Low	High					n	n

Transport routes	Plate ,	B53130 Views of the site are not available and are restricted by existing dense mature plantations and woodland vegetation	600-800m	Low	Low					n	n
	Plate	Oak Road Views towards the proposed site are limited by the built development of the Industrial estate for much of its length from a distance of circa 0.4km. occasional glimpses of the site are available from the eastern length albeit filtered through existing vegetation. The site may be apparent should any glint or glare occur which is considered unlikely	0.5-0.8km	Low	Low					sla	n
		Redwither Road No views available due to relative topography, distance built development and the presence of existing riparian vegetation alongside the River Clywedog	+0.5km	Low	Low					n	n
		Bridge Road No views from this road located within the industrial estate as existing vegetation and relative topography prevents views	+0.8km	Low	Low					n	n
Sun Lane		No view due to juxtaposition and presence of existing vegetation	+1.0km	low	Low					n	n
Southern industrial estate access road	-	Dunster Road Abbey Road Marlborough Road. No views of the existing or proposed site due	0.7km	low	Low					n	n

Proposed Pickhill Bridge Farm Solar PV, Wrexham

FIGURE 5

PREDICTED VISUAL IMPACT (Day 1) and after MITIGATION (Year 15)

		to distance, vegetation and the presence of existing built development within the Industrial estate between receptors and the site									
Watery Lane		No views due to distance and presence of substantial vegetation	0.9km	low	Low					n	n
Individual named properties or groups along Lanes											
Talwrn Cottages		No views from this area due to vegetation distance and juxtaposition	0.8km	low	high					n	n
Nant Cottage		No views from this area due to vegetation orientation and juxtaposition	0.4km	low	High					n	n
Parkey Lodge	-	No views from this area due to vegetation orientation and juxtaposition	0.4km	Low	High					n	n
Parkey Farm	-	No views from this area due to vegetation distance and juxtaposition	0.9km	Low	High					n	n
Yewtree Cottage	-	Potential views screened by existing vegetation and orientation no predicted views	0.8km	low	High					n	n
Pickhill Upper Farm	-	No existing or predicted views	0.65km	low	High					n	n
Fingerpost Cottage	-	No existing or predicted views	0.8km	low	High					n	n
Pickhill Bridge Farm	-	No existing or predicted views due to southern access road raised levels and vegetation	0.6km	Low	High					n	n
Talwrn House	-	No existing or proposed views due to juxtaposition, distance and existing vegetation	0.7km	Low	high					n	n
Oakwood		No views due to juxtaposition of development and dense vegetation between	0.9km	low	high					n	n

Proposed Pickhill Bridge Farm Solar PV, Wrexham

FIGURE 5

PREDICTED VISUAL IMPACT (Day 1) and after MITIGATION (Year 15)

[illegible]

Proposed Pickhill Bridge Farm Solar PV, Wrexham

FIGURE 5

PREDICTED VISUAL IMPACT (Day 1) and after MITIGATION (Year 15)

Impacts Key:

Impact	Nature of impact	Magnitude and sensitivity
sa = Substantial adverse impact	st = short term	N = Negligible
ma = Moderate adverse impact	lt = long term	L = Low
sla = Slight adverse impact	r = reversible	ML= Medium low
n = Neutral impact	lr = irreversible	MH = Medium high
sba= Slight beneficial impact		H = High
mb = Moderate beneficial impact		
sb = substantial beneficial impact		