Solar Photovoltaic Project
at Land at Heywood Grange, Dilhorne

Landscape and Visual Report

for Elgar Middleton

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Landscape and Visual Report: Non-Technical Summary

Proposed Solar Photovoltaic Project at Land at Heywood Grange, Dilhorne, Stoke-On-Trent.

This report and the accompanying plans and visualisations are an independent and impartial assessment of the landscape and visual effects of a proposed solar photovoltaic development at the Land at Heywood Grange, Dilhorne, Stoke-On-Trent, Staffordshire. The report has been prepared by Chartered Landscape Architects and follows recognised guidance and methods.

Site Context

The 13.5ha site is located to the east of Stoke-on-Trent and is accessed only by local roads serving the surrounding rural community. The A50 through route linking Stoke-on-Trent with Derby is situated 3km to the south-west. The village of Dilhorne is situated 1.25km to the south-east.

The landscape is often deeply incised and undulating with narrow winding watercourses. The strongest component of local character is derived from the underlying patterns created by the incised wooded valley topography, the spur of landform running north to south and the intricate mix of pasture and woodland land cover. Long-distance views into the wider landscape are generally restricted to elevated viewpoints and from the site are available to the east.

The proposed development would introduce an area of solar PV panels into a rural landscape defined by pastoral fields which are bordered on two sides by mature woodlands with gappy hedgerows and ditches. The two wooded margins are prominent features within the local landscape. The landscape does not currently contain renewable energy or field-scale solar PV projects. Near to and on the site, electricity pylons and a telecommunications mast are distinctive features. The Proposal would display some similarities to these as it contains engineered elements.

The field pattern of the site follows the topography and is north-south rectilinear. The south-facing panels would relate well to this pattern, and to the existing ditches and hedgerows which cross the site from east to west and north to south. The assessment concludes that the site and surrounding landscape has the capacity to accommodate the proposed development.

Summary of the Principal Landscape and Visual Effects of the Proposal

The principal effects would arise in the immediate vicinity of the site. Changes in landscape character would be evident within approximately 0.2 to 0.4km of the site. Further from the site,

changes in views brought about by the proposed development would be less noticeable and would be likely to be heavily filtered by intervening woodland or hedgerow vegetation.

Changes to views would be noticeable mainly only in close proximity to the site, including views from a public footpath to the south (Dilhorne footpath 24), which passes within approximately 120m of the site. A moderate change in view would arise for users of this path, with only the very south-western end of the development being in view beyond a line of existing trees and existing boundary woodland. In the long-term, a proposed hedgerow would screen this view. Slight changes in views would also be noticeable from the byway to the north (Dilhorne byway 19/footpath 9). Again, in the long-term proposed hedgerow improvements would screen this view.

There would be a moderate change in view for residents of Newhill Farm, which is 380m to the north, from where in particular the access track would be visible, and from where there would possibly also be views of the northern end of the development from upper storey windows. The planting-up of gaps in the northern boundary hedgerow would in the long-term mean that the extent of the development in view would reduce from this dwelling. Other farms to the north and west (e.g. Tickhill Farm, Hardiwick Farm, Oaktree Farm, Summerhill Farm) would be likely to experience no views, or much more limited views, due to screening from woodland and hedgerows on the site boundaries and in the wider landscape, and effects would at worst be slight or negligible and not significant.

There would be slight changes in views for residents of New Road and Godley Road in Dilhorne (1.3 to 1.5km distance). Changes in views would probably go unnoticed from most dwellings in this area and would be most likely to arise from more elevated parts of the settlement and from upper storey windows. In the long-term these effects would reduce slightly as maturing landscape mitigation and hedgerow management reduces the extent of the development in view. Users of the footpaths near Dilhorne (e.g., footpaths 1 and 20) could notice slight changes to views on a stretch of the horizon which is heavily wooded and which contains a cluster of electricity pylons.

No significant effects would occur on views in the wider area due to the characteristics of the surrounding landscape, where the incised and undulating topography combines with woodland and field boundary vegetation and the woodlands along the edge of the site, to screen the majority of views.

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Document information

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1. Introduction

1.1. This Report

Landscape Visual Limited was appointed by Elgar Middleton to produce an independent and impartial landscape and visual report for a proposed solar photovoltaic (PV) development on the Land at Heywood Grange, Dilhorne ('the site'). This report has been prepared to accompany a planning submission to Staffordshire Moorlands District Council (SMDC).

This work has been undertaken by Barrie Gannon DipUD MA CMLI and Angus Jeffery BSc PhD (Cantab) CMLI. The authors are landscape architects with over 40 years' combined experience of landscape and visual assessment of a wide range of development proposals throughout the UK.

1.2. The Proposed Development

The Proposal is for an 8.36MW solar PV development on 13.5ha of pasture land to the north-west of Dilhorne, Stoke-on-Trent. The site would be directly accessed off Tickhill Lane which runs to the west of the site. Further description of the Proposal is contained in **Section 3**.

1.3. Methodology

Detailed methodology relating to the landscape and visual impact assessment (LVIA) is contained in **Appendix 1**. Fieldwork was undertaken in January 2015.

This study was undertaken in accordance with the following key references:

- Landscape Institute and Institute of Environmental Management and Assessment (2013), *Guidelines for Landscape and Visual Impact Assessment: Third Edition.*[i]
- The Countryside Agency and Scottish Natural Heritage (2002), *Landscape Character Assessment – Guidance for England and Scotland.*[ii]

Further references are contained in **Appendix 6**.

1.4. Approach to this Study

The Proposal was screened by SMDC as non-Environmental Impact Assessment (EIA) development. This Landscape and Visual Report is a detailed study which aims to determine the *likely significant* effects of the Proposal.

The following work stages have been undertaken:

1. Desk study collating information on potential receptors (landscape and visual). Preparation of Geographic Information System (GIS)-based maps (see the figure list in **Appendix 5**).
2. Fieldwork to photograph viewpoints and assess the baseline landscape and visual environment.
3. Assessment of the value and quality of the surrounding landscape, landscape and visual receptor sensitivity, the potential magnitude of impacts and the significance of effects.
4. Assessment of direct and indirect impacts on the landscape and visual environment.

2. Landscape and Visual Baseline Conditions

2.1. Landscape Baseline

2.1.1. National Character Areas

The site lies in the *Potteries and Churnet Valley* National Character Area (NCA 64)[iii].

Key characteristics of the NCA are summarised in **Appendix 2**.

2.1.2. Staffordshire Landscape Character Types[iv]

At county level the site lies within the *Dissected Sandstone Cloughs and Valleys* Landscape Character Type (LCT) and is described as follows:

i. *'The landscape is characterised by its deeply incised wooded valleys running through a smoothly undulating upland pastoral landscape of regular and irregular fields. Hedgerow condition varies from well trimmed and intact to very gappy, with grown up individual trees. The proximity to the highlands is constantly reinforced throughout the landscape by the stone architecture, drystone walls and dominant views to higher ground.*
ii. *The scale of the landscape very much depends on the position from which it is being viewed. Small intimate wooded valleys alternate with distant views, although the narrow sunken nature of the lanes with extensive hedgebanks and tall hedges also often confines views when travelling through the area.*
iii. *Farming varies from large intensive pastoral sheep and cattle farms, to collections of smallholdings. Sand and gravel quarries are very much an obvious feature of the area and localised early industrial influences are important.*
iv. *The birch/oak woodlands characteristic of this area, especially on the steep valley sides away from the influence of farming, are now being added to in places by conifer plantations on the flatter areas.'*

Characteristic landscape features can be summarised as: '*Steeply sloping landform with incised valleys; broadleaved and conifer woodland; stone walls and buildings; small sunken enclosed lanes; low intensity pastoral farming.'*

2.1.3. Staffordshire Moorlands District Council Landscape Character Types[v]

At the district level the site also lies within the *Dissected Sandstone Cloughs and Valleys* LCT (**Figure 1178/01b**). The key characteristics of this LCT within Staffordshire Moorland District are described as follows:

i. *'Deeply incised wooded valleys with narrow winding watercourses.*

ii. *Historic parkland.*
iii. *Stone buildings and walls.*
iv. *Sheep and cattle farming with smallholdings.*
v. *Large broadleaf woodlands with newer conifer plantations.*
vi. *Narrow sunken lanes with hedgebanks and tall hedges that limit views.*
vii. *Dominant views to higher ground.*
viii. *Lowland heathland.'*

The *Dissected Sandstone Cloughs and Valleys* LCT is defined by incised wooded valleys running through a pastoral landscape with a gently undulating topography. The boundary of this LCT in the surrounding area tends to follow the A520 to the west linking Caverswall to the south and continuing south-east extending around Cheadle before extending north towards Leek in a horseshoe pattern. The eastern edge of this LCT links the hamlets and villages of Whitehurst, Godleybrook and Dilhorne before continuing south-east to complete the boundary.

Visible from the site to the east, beyond Whitehurst Lane and New Road, is the *Ancient Slope and Valley Farmlands* LCT, described as follows:

i. *'Strongly undulating or sloping landscape cut by small scale steep sided stream valleys.*
ii. *Small scale mainly ancient irregular fields bounded by trees and hedgerows.*
iii. *Extensive views from higher ground.*
iv. *Intimate wooded valleys.*
v. *Stone buildings and drystone walls towards uplands.*
vi. *Isolated properties.*
vii. *Narrow winding lanes.*
viii. *Parklands.*
ix. *Quarrying.'*

To the north-east and north-west beyond Heywood Grange and the A520 respectively is the *Settled Plateau Farmlands* LCT, described as follows:

i. *'Open large scale landscapes with extensive views from a rolling plateau.*
ii. *Low grade pasture farmland with overgrazed poorly drained fields with rushes and soft grass.*
iii. *Large scale regular and irregular field patterns with hedges and drystone walls.*
iv. *Hedges deteriorated to the extent that field boundaries marked by isolated trees, fencing and remnant thorn and holly.*

v. *Some blocks of mature broadleaf woodland.*
vi. *Heathland.*
vii. *Parkland.*
viii. *Dispersed settlements.*
ix. *Developing urban fringe character due to proximity to Stoke-on-Trent.*
x. *Busy road network surrounds the area; railway line.'*

To the south and continuing south-west of Cookshill is the *Settled Plateau Farmland Slopes* LCT, described as follows:

i. *'Gentle undulating landform with flat open valleys.*
ii. *Small scale hedgerow field pattern.*
iii. *Low lying wet fields with ponds and well vegetated streams.*
iv. *Views limited by hedgerow pattern and dense tree cover.*
v. *Urban fringe farming with horseyculture.*
vi. *Incongruous A50 dual carriageway corridor and mainline railway.'*

2.1.4. Landscape Character of the Site and Surrounding Area

The character of the surrounding area is illustrated by viewpoint photographs, **Figure 1178/05.** The site is shown in the site photographs (**Figure 1178/06**).

The site is approximately 13.5ha and used for grazing of horses and cattle 1.3km to north-west of Dilhorne. The site is made up of three rectangular medium-scale fields. Two fields form the northern part of the site creating an L-shaped layout. The site is situated on an elevated spur which continues north, running parallel with the route of Tickhill Lane to the west. The site gently falls from north to south at a gradient of approximately 1:30 with the two northerly fields cross-falling from north-west to south-east. The land-use consists of improved grassland. The landform falls steeply to the west from the site with more gentle gradients to the south and east. The site is accessed off Tickhill Lane along a field track to the north of Oaktree Farm. Stansmore and Dilhorne Woods, situated on the gently sloping landform, form the site's eastern boundary and contain mature birch/oak woodland together with a variety of pine species. A narrow woodland copse borders the site's western boundary growing along a steep embankment running down to Tickhill Lane. The northern boundary of the site consists of a paddock to the north-west behind which are agricultural buildings and Oaktree Farm with the agricultural buildings shown on **Figure 1178/06.03 (sheet 2 of 2)**. A pasture lies to the east of the farmhouse. On the

eastern boundary of this pasture is a shelter-belt containing oak, pine, birch and holly. A telecommunications mast is situated on the edge of this shelter-belt, which also contains a stand of Lawson's cypress. The mast is a local landmark as shown on **Figure 1178/06.06** and is particularly prominent when viewed from the east. The north-eastern site boundary is formed by a mature, gappy and un-managed hedgerow with open pasture land beyond. The southern and south-east boundary is defined in part by a mature line of beech trees and stock fencing.

The northern hedgerow boundary, running alongside a ditch flowing east, is tall, gappy and unmanaged, and contains holly and thorn with mature birch trees growing through it. Woodlands bordering the site to the east and west are all mature and likely to have been grown as plantation woodland. They have an overall height ranging from 15-20m. There are two hedgerows and drainage ditches separating the three fields within the site. These hedgerows are also gappy and unmanaged consisting principally of thorn and holly with occasional hedgerow trees. All hedgerow boundaries are reinforced with stock fencing as shown on **Figure 1178/06.04**. Overhead power lines cross the site from the north-west to the south-east and the electricity pylons are a feature in the landscape near the site as shown on **Figures 1178/06.03**, **1178/06.05** and **1178/06.06**.

Views out into the wider landscape are apparent particularly to the east to elevated landform in the medium distance and beyond as shown on **Figures 1178/06.01** and **1178/06.04**, and to the south-west as shown on **Figure 1178/06.02**.

The key landscape and visual aspects of the site and surrounding area are summarised as follows:

- *Landform*: the topography of the surrounding area is shown on **Figure 1178/01a** and is defined by an undulating landform incised by steep valleys which generally run north to south. The site is situated on a ridge line above adjoining landform which is seen as a dominant linear feature when viewed from the east. Drainage of the area is by a series of ditches and streams which flow eastwards before then entering the River Tean which joins the River Dove at Uttoxeter.
- *Scale and enclosure*: the intimate mixture of pastoral fields and woodlands, which are larger in scale and often more continuous in the upland areas than on the valley floors, creates a medium-scale landscape. The combination of surrounding mature woodland and hedgerows results in limited views into the surrounding landscape from the site. Views from the site tend to be medium to long distance views into the

wider upland landscape particularly to the east and south-east.

- *Land cover pattern*: the field pattern is one of medium-scale rectilinear fields defined by gappy hedgerows and stock fencing. Woodlands, consisting of mixed deciduous and coniferous plantation woodlands, are particularly evident in steeper upland areas where soils are likely to be less productive for agriculture.
- *Settlement*: the more elevated residential properties within Dilhorne to the south-east are likely to experience limited views of the easterly edges of the proposed development at a distance of 1.3km from the site. Other surrounding farmhouses and dwellings are likely to have no or very limited visibility of the development site (see assessment in **Table 4.4**).
- *Landmarks/important landscape features/prominent built structures*: the telecommunications mast at Oaktree Farm and the two runs of electricity pylons which run north-west to south-east are the most dominant features on the skyline.
- *Skyline/connections with adjacent landscapes*: views to the south and north-east are of a gently undulating pastoral and wooded landform receding into the distance of the settled plateau farmlands. Views from northern sections of the site are to the east of a rising mid-to-far-distance landform comprising of woodlands and pasture of the upland fringes of the Peak District National Park.
- *Remoteness and tranquillity*: the area around the site has a rural character with tree-lined narrow lanes which are lightly trafficked. There are few through routes in the area. Distant traffic noise is sometimes audible. There is no public access to the site with the nearest footpath to the site (Dilhorne footpath 24) situated 120m to the south-west where it meets with Tickhill Lane. Views of the site from this footpath are limited due to the rising landform with the southern edge of the site situated along a crest line. There are a number of other footpaths near the site which tend to radiate from Dilhorne, or provide links over the ridgeline to the west of Tickhill Lane. The site and surrounding area contains features which detract from the quality of the underlying landscape, including electricity pylons and a telecommunications mast. Land use patterns are indicative of the presence of the edge of Stoke-on-Trent. For example, there are signs on Tickhill Lane warning against fly-tipping and illegal access to land for motorsports. The '*urban fringe farming with horseyculture'* (see **Section 2.1.3**) which is a key characteristic of the *Settled Plateau Farmland Slopes* LCT to the south/south-west also influences the character of the landscape near the site and in

the immediately surrounding area.

2.1.5. Designated Landscapes

There are no nationally designated landscapes in the vicinity of the site.

The site is however within a Special Landscape Area (SLA), which is a non-statutory district-level designation originating from the saved policies of the SMDC Local Plan (adopted September 1998)[ix]. The intention of the SMDC Core Strategy (adopted March 2014)[x] is to replace this local designation with a landscape character based approach: '*The continued use of the current Special Landscape Area designation is therefore not considered sufficiently sensitive to local landscape characteristics and it is proposed to address local landscape impact through the use of a Landscape Character Assessment instead*'. The SLA would be superseded by policies DC1/DC3/R1/SS7/SS6c/SS6a in the Core Strategy and is not therefore given further consideration in this assessment.

The site lies within Green Belt which is not *per se* a landscape designation. Consideration of landscape and visual effects on the purposes of the Green Belt is contained in **Appendix 3**.

2.2. Visual Environment

2.2.1. Potential Visual Receptors

Potential visual receptors in the study area include local residents or workers, those travelling through the landscape, and visitors or recreational landscape users. For brevity, potential visual receptors are introduced in the assessment of effects (**Section 4.4**) rather than in this baseline section.

3. The Proposed Development

3.1. The Solar PV Scheme

Details of the proposed solar arrays are provided on the application drawings and Aardvark EM **Figure 1462-D012 V1**. The panels would be arranged in four modules by 11 modules in landscape format with a back height of 2.9m. In addition there would be seven transformer buildings, one substation building, and one private switchgear building. The dimensions of the transformer building would be approximately 6.1m long by 2.6m high by 2.5m wide. The dimensions of the private switchgear building would be approximately 6.1m long by 2.9m high by 2.5m wide. The inter-row distance would be approximately 2.0m. Panels would be set at an angle of 20 degrees from the horizontal. Steel fencing (2.02m high) would extend around the whole of the site perimeter for security purposes. Fencing alignment would be on the inside of any existing fencing and hedges on the site perimeter, which would all be retained. CCTV masts 3m high would be located approximately every 50m along the perimeter fence.

3.2. The Potential Landscape and Visual Effects of the Proposal

This section describes the main aspects of the proposed development which could potentially affect landscape and/or visual amenity. It also identifies features of the proposals which would assist in mitigating landscape and visual impacts.

The main features of the solar array proposal which could potentially result in landscape and visual impacts are:

- Construction activity
- Changes to landform, use and pattern
- Loss of existing vegetation
- Access arrangements
- Hard surface areas
- New elements such as solar PV panels, lighting, fencing and signage
- New buildings including design and materials selection
- New planting areas.

It is noted that the proposed development is 3m or less in height. Therefore it could be screened by hedgerows, especially from lower-lying near-to-mid-distance valley locations where views are

filtered by woodlands and hedgerows, and in a landscape where near and elevated views are limited.

3.3. Potential Construction Impacts

Construction activities would include the creation of a temporary compound, the laying of access tracks, the excavation and construction of areas of hard standing to access inverter buildings and the Distribution Network Operator's substation, together with cable-trenching and laying activities.

Construction activities would not give rise to significant landscape or visual effects over and above those of the site when it is operational.

3.4. Mitigation Measures

Landscape mitigation measures are incorporated into the scheme design and include measures to reduce the visual prominence of the solar arrays (Aardvark EM **Figure 1462-D012 V1**). It is proposed that hedgerow gapping-up measures are carried out along the existing hedgerows separating the three fields and the hedgerow running along the northern boundary. A hedgerow approximately 300m long would be planted on the south, south-eastern and south-western site boundary to filter views from the public footpaths and Dilhorne in particular. The planting and improvement of approximately 300m of hedgerow would take place along the northern site boundary. A long-term hedgerow management regime would also be adopted to include cutting hedgerows to a minimum height of 4.0m, and to encourage them to grow denser and wider. A grass margin would also be established around the site perimeter and along all retained field hedgerows within the site. All grassland buffers would be a minimum width of 8m.

A landscape management plan would set out provisions for management of mitigation measures (Aardvark EM, February 2015, '*Landscape and Ecological Management Plan In support of a planning application for the installation of Standalone Solar PV modules and Associated Infrastructure on Land at Heywood Grange, Dilhorne*').

4. Impact Assessment

The impact assessment considers the changes which would result from the Proposal and judges their significance against the criteria set out in **Appendix 1**. Landscape and visual effects are determined by assessing the magnitude of impact against the sensitivity of the receptor. The significance of an effect is a function of the magnitude of the landscape or visual impact and the landscape or visual receptor's sensitivity (see **Table A1.5**).

In this assessment, potential effects are considered at the following timescales:

- **During construction**: focussing on construction-related landscape and visual effects.
- **On completion**: the effects when the construction phase is complete and the operational phase of the project starts.
- **Long-term**, taken to be 15 years post-completion: this timescale allows the assessment to consider effects once landscaping mitigation measures mature.

Landscape and visual effects of the Proposal are assessed against the existing landscape and visual baseline as described in **Section 2** of this report.

4.1. Landscape Evaluation of the Site and Surrounding Area

4.1.1. Landscape Value

The site and surrounding area does not fall within a nationally designated landscape. The site is however within land designated as Green Belt. Green Belt policy in SMDC safeguards the landscape in that, except in very special circumstances, there would be a presumption against inappropriate development (**Appendix 2**).

The strongest component of local character is derived from the underlying patterns created by the incised wooded valley topography, the spur of landform running north/south and the intricate mix of pasture and woodland land cover. Long-distance views into the wider landscape are generally restricted to elevated viewpoints and from the site are available to the east.

The site and surrounding area contains features which detract from the quality of the underlying landscape, including the prominent electricity pylons and a telecommunications mast. Land-use patterns and landscape character are also influenced to a degree by the urban fringe (see **Sections 2.1.3** and **2.1.4**).

On balance, the value of the local landscape is considered to be **medium**.

4.1.2. Landscape Susceptibility

The susceptibility of a landscape can be defined as '*its ability…to accommodate the specific proposed development without undue negative consequences*'[i]. Further explanation of susceptibility is contained in **Appendix 1**. **Table 4.1** summarises relevant factors with respect to the susceptibility of the site and surrounding area to the Proposal.

Table 4.1: Landscape Susceptibility

Factor	Analysis with respect to landscape susceptibility
Existing character	The site lies within a rural landscape accessed by narrow lanes and footpaths. The site character is influenced by its elevated open location and also by the immediately surrounding woodlands. The rural character is derived from its pastoral and woodland land uses. Urban fringe land use patterns influence character locally. With respect to this factor, the landscape of the site and surrounding area would have a **medium** susceptibility to the Proposal.
Visual context	There are middle-and-long-distance views of upland fringes to the east and north-east of the site and long-distance views to the south/south-east. Locally, the woodland fringe of the site provides a high degree of visual enclosure. With respect to this factor, the landscape of the site and surrounding area would have a **medium** susceptibility to the Proposal.
Landform	The pastoral farmland within the site and surrounding area is relatively enclosed by surrounding woodlands and hedgerows. The spur on which the site is situated is however generally not apparent from the west, with the exception of the adjacent scarp slope along Tickhill Lane. The valley landform to the east is more open. The landform could however accommodate a development of the type proposed with few near-distance views. With respect to this factor, the landscape of the site and surrounding area would have a **medium** susceptibility to the Proposal.
Landscape condition	The landscape is generally in good condition although some features such as the unmanaged hedgerows are dysfunctional and in decline. The fringe landscape also contains a recreational moto cross circuit in a former quarry to the south-west and heritage railway to the east. With respect to this factor, the landscape of the site and surrounding area would have a **low to medium** susceptibility to the Proposal.
Scale/field pattern	The simple and relatively enclosed rural landscape of medium-scale rectilinear fields, relative to areas of surrounding woodland, would have a **low** susceptibility to the Proposal.
Land cover pattern	The site lies within a rural area and is comprised of three fields in permanent pasture which are bounded on two sides by woodland, a hedgerow along the northern boundary, and an avenue of trees along the southern boundary. These areas of woodland and pastoral fields are both common features within the wider landscape. With respect to this factor, the landscape of the site and surrounding area would have a **medium** susceptibility to the Proposal.
Settlement pattern	The settlement pattern is one of farmsteads and isolated properties within the pastoral landscape. This pattern would have a **low to medium** susceptibility to the Proposal.

Factor	Analysis with respect to landscape susceptibility
Historic landscape features	The site field pattern is likely to originate from 18th or 19th Century enclosures. There are several listed buildings within the locality, including the grade II* Church of All Saints, Dilhorne, and the Bowl Barrow at St. Thomas's Trees (a Scheduled Ancient Monument (SAM)). Due to the separation distances from these assets and the limited views of the site from them, it is considered that the landscape and visual effects are unlikely to be significant. Further information is contained in the Historic Environment Assessment.

On balance, analysis of the above factors indicates that the site and surrounding area would have a **medium** susceptibility to the proposed development.

4.1.3. Landscape Sensitivity

The site has a **medium** value (**Section 4.1.1**) and a **medium** susceptibility to the type of development proposed (**Section 4.1.2**). This assessment concludes that the landscape of the site and surrounding area would have a **medium** sensitivity to the proposed development. Characteristics of the landscape such as landform, scale and enclosure, field and landcover pattern, do not identify particular landscape sensitivities to the proposed development.

4.2. Effects on On-site Landscape Features

The following direct effects would arise during construction:

- The replacement of approximately 13.5ha of pasture with a field-scale solar PV development.

No hedgerows or trees would be removed to enable construction access. On completion, effects on on-site landscape features would result in a planned field-scale solar PV development, as described in **Section 3.1**. Key aspects of the landscaping treatment of the site are shown in the Landscape and Ecological Management Plan (Aardvark EM **Figure 1462-D012 V1**), and include:

- The management of existing hedgerows (notes A1 to A3 on Aardvark EM **Figure 1462-D012 V1**);
- An 8m wide grassland perimeter around the whole site (note B);
- The planting of a total of roughly 500m of native woodland belts along the northern edge of the site and along the northern end of the southern site field (notes C1 and C2);
- Gapping-up measures and the restoration of an approximate 300m hedgerow between the north-western and north-eastern field (note C3);

- Gapping-up measures and the planting of a fruiting shrub hedgerow in a strip approximately 300m long, on the south and south-eastern boundary of the site, and in an area of roughly 0.25ha midway up the western site boundary (note C4);
- The planting of approximately 130m of holly hedgerow along the north-western boundary (note C5); and
- Various other ecological measures such as wet scrape areas and owl boxes as shown on Aardvark EM **Figure 1462-D012 V1**.

The effect on on-site landscape features would relate primarily to the change in land-cover to renewable energy development. There would be minimal disturbance to existing landscape features. Characteristics of the landscape such as landform and field pattern would not be altered by the development, with almost all important features such as hedgerows and ditches remaining intact. In the long-term, land-cover could revert to a pastoral use were all the elements of the solar PV development to be removed (including solar panels, buildings, and fencing). The Proposal includes landscape mitigation measures which would reduce the impact of the Proposal and enhance the landscape in the long-term.

The overall direct effect on on-site landscape features would be **medium** magnitude. For a **medium** sensitivity landscape, these effects would be of **moderate adverse** significance.

4.3. Landscape Character Effects

Besides the direct effects on landscape as described above in **Section 4.2**, the Proposal would bring about effects on the landscape character of the host LCT.

The proposed development would be situated within the *Dissected Sandstone Cloughs and Valleys* LCT. Locating a solar PV development in this landscape would introduce a modern low-level engineered element into a medium-scale pastoral and wooded landscape within a rural part of Staffordshire that is also influenced by its location near Stoke-on-Trent. The solar PV development would be a contrasting element in the context of the pastoral/woodland land cover. As a development which contains strongly linear elements, the Proposal would relate well to the rectilinear field pattern of the *Dissected Sandstone Cloughs and Valleys* LCT. Locally, the development would abut woodland to west and east, which provides a high degree of enclosure.

Scale and enclosure: The surrounding area is a medium-to-large-scale landscape, which is relatively enclosed further to the west and north and more open to the south and east. The scale and enclosure of the landscape can accommodate a solar PV development of the size proposed.

Landform: Locally, the proposed development would be situated on an upland valley spur within wooded margins along the western and eastern slopes draining to the east. Landform to the east falls and rises to upland fringes beyond. The site landform slopes gently from north to south with a cross fall from north-west to south-east in the northern part of the site. The site can accommodate the proposed development without adverse effects on landform.

Landscape pattern: The Proposal would be situated within a relatively enclosed part of the *Dissected Sandstone Cloughs and Valleys* LCT due to the pattern of pastures and woodlands. The medium-scale fields which make up the site are rectilinear and are capable of accommodating low-level development which also has strongly linear components.

Skylines: There would be a negligible impact on the skyline, as the proposed low-level development would be contained by mature woodland to the east and west. Views from the north and south are also restricted. From the north the boundary hedgerow would filter views and from the south a new hedgerow below the existing avenue of trees would assist in filtering views. While there may be some more distant views from the east, the panels would appear below a horizon marked by blocks of woodland and a cluster of electricity pylons.

Built features/landmarks: The landscape contains features which relate to rural, agricultural land use but is also influenced by the overhead power lines crossing the site and the telecommunications mast to the north.

Extent of landscape character effects

In this landscape, the proposed development would not be a prominent or a defining feature beyond the immediate area of the site.

Landscape effects would reduce with distance. Within approximately 0.2 to 0.4km of the proposed development, the landscape character effects during construction and on completion would be of up to **medium** magnitude and of **moderate adverse** significance. Effects during construction and on completion would reduce with increasing distance from the site, and beyond approximately 0.5km would be of **slight adverse** significance.

In the long-term, the landscape mitigation which forms part of the Proposal would mature, reducing the effects on landscape character. The long-term effects within approximately 0.2 to 0.4km of the site would be **low** magnitude and **slight adverse** significance. Beyond approximately 0.5km, the long-term effects on landscape character would be of **negligible/slight adverse** significance.

The overall long-term effect on the character of the *Potteries and Churnet Valley* NCA would be **negligible**.

Landscape character effects, including effects on the surrounding LCT, are summarised below:

Table 4.2: Summary of Landscape Character Effects

LCT	Relevant Key Characteristics[v]	Effect and Significance
Dissected Sandstone Cloughs and Valleys LCT Host LCT *Medium to high sensitivity*	*'Deeply incised wooded valleys with narrow winding watercourses.* *'Historic parkland.* *'Stone buildings and walls.* *'Sheep and cattle farming with smallholdings.* *'Large broadleaf woodlands and newer conifer plantations.* *'Narrow sunken lanes with hedgebanks and tall hedges that limit views.* *'Dominant views to higher ground.* *'Lowland heathland.'*	Direct effects on features in this LCT would arise, as described in **Section 4.2**. Effects on character would result from the installation of the solar PV development. Locating a solar PV development in this landscape would introduce a modern low-level engineered element into a medium-scale pastoral and woodland landscape in a rural setting. The solar PV development would be a contrasting element in the context of the pastoral/woodland landcover. The elevated site, situated on a ridgeline, is bounded by woodlands on two sides. The Proposal would relate well to the field pattern found within the *Dissected Sandstone Cloughs and Valleys* LCT. During construction, the indirect effects on landscape character outside of the development boundary would relate to the movement of construction vehicles. Construction activity on site would be noticeable within close proximity of the site. Effects of up to **medium** magnitude and **moderate adverse** significance would arise. On completion, effects of **medium** magnitude and **moderate adverse** significance would arise. In the long-term as landscape mitigation measures mature, effects would reduce to **low** magnitude and **slight adverse** significance. Indirect effects would be concentrated within 0.2km of the site, and would reduce with increasing distance from the site. Effects would not be noticeable beyond approximately 1.5km from the site. For much of the LCT even within 0.5km, effects would be very limited due to the incised valley topography and woodland cover. From some west or north-west facing slopes, such as those offering views to the site from near Dilhorne, **slight** indirect effects would occur on landscape character. These effects would not be considered significant due to the separation distance from the site, and the context of the site and surrounding area.

LCT	Relevant Key Characteristics[v]	Effect and Significance
Ancient Slope and Valley Farmlands LCT Adjoining host LCT to east *Medium to high sensitivity*	*'Strongly undulating or sloping landscape cut by small scale steep sided stream and valley.* *'Small scale mainly ancient irregular fields bounded by trees and hedgerows.* *'Extensive views from higher ground.* *'Intimate wooded valleys.* *'Stone buildings and drystone walls towards uplands.* *'Isolated properties.* *'Quarrying.'*	There may be slight indirect effects arising on this LCT, relating to slightly altered views to the site from the east. Due to the undulating topography there is potential for west-facing slopes to contain views to the site. However, due to the pastoral landcover, with woodland and hedgerows, views of the site are in practice very limited. Indirect effects on landscape character could occur within approximately 1 to 1.5km of the site, but would not be considered significant. During construction, on completion and in the long-term, indirect effects would be of **negligible** magnitude and significance.
Settled Plateau Farmlands LCT Adjoining host LCT to north *Low sensitivity*	*'Open large scale landscapes with extensive views from a rolling plateau.* *'Low grade pasture farmland with overgrazed poorly drained fields with rushes and rough grass.* *'Hedges deteriorated to the extent that field boundaries marked by isolated trees, fencing and remnant holly.* *'Developing urban fringe character due to the proximity of Stoke-on-Trent.*	There may be slight indirect effects arising on this LCT, relating to the southern-most extent of the LCT near Heywood Grange and Summerhill. The LCT lies almost entirely outside of the ZTV (**Figure 1178/03a**) and it is likely that only very limited indirect effects on landscape character would occur. This would not be considered significant. During construction, on completion and in the long-term, indirect effects would be of **negligible** magnitude and significance.
Settled Plateau Farmland Slopes LCT Adjoining host LCT to south *Low sensitivity*	*'Gentle undulating landform with flat open valley.* *'Smalls scale ancient hedgerow field pattern.* *'Low lying wet fields with ponds and well vegetated streams.* *'Views limited by hedgerow pattern and dense tree cover.* *'Urban fringe farming with horseyculture.* *'Incongruous A50 dual carriageway corridor and mainline railway.'*	This LCT lies upwards of 1.5km from the site to the south. There is a narrow channel of theoretical visibility from the northern edge of Forsbrook/Blythe Bridge, but in practice, landscape features would screen views and at the distances involved, the development would not be noticeable. Indirect effects on the LCT would not be significant. During construction, on completion and in the long-term, indirect effects would be of **negligible** magnitude and significance.

4.4. Visual Effects

The following aspects of the surrounding landscape are factors influencing views near the site:

- The undulating wooded landform to the west of the site restricts views from the west

from the *Dissected Sandstone Cloughs and Valleys* LCT.

- West or north-west facing slopes near Dilhorne in the *Dissected Sandstone Cloughs and Valleys* LCT may offer views towards the site.
- Open large-scale landscapes with extensive views from a rolling plateau to the north of the site would contain no views due to intervening topography and vegetation within the *Settled Plateau Farmlands* LCT.
- Within the *Ancient Slope and Valley Farmlands* and *Settled Plateau Farmland Slopes* LCTs, views across the landscape are restricted by patches of woodland, field boundary hedgerows with trees, or by the undulating topography. West-facing slopes may offer occasional long-distance views to the site from the *Ancient Slope and Valley Farmlands* LCT. From the south, north-facing slopes may offer distant views from the *Settled Plateau Farmland Slopes* LCT.

4.4.1. Zone of Theoretical Visibility

The bareground Zone of Theoretical Visibility (ZTV) of the proposed development is shown in **Figures 1178/03a** and **03b**. The ZTVs are based on Ordnance Survey Terrain 5 data which includes detailed modelling of significant features such as roads, railways, quarries and lakes. The ZTV is strongly influenced by the local topography. Interpretation of the ZTV should be with reference to the methodology in **Appendix 1.**

Within 1km of the Proposal

Within 1km, the ZTV indicates widespread theoretical visibility of the Proposal within the *Dissected Sandstone Cloughs and Valleys* LCT. This theoretical visibility is mainly to the south-east and south, separated by a wide tract of sloping landform showing no potential visibility. This intervening land is screened by the surrounding crest line of the site. More distant views across the valley could arise, for example from open slopes near Dilhorne. Intervening woodland and mature hedgerows would often restrict views from a large extent of this area.

Within the *Dissected Sandstone Cloughs and Valleys* LCT and *Settled Plateau Farmland* LCT to the north or west of the site, significant visual effects are unlikely to arise from the areas of theoretical visibility beyond 0.3km from the site due to the topography.

Beyond 1km of the Proposal

To the east of the site up to approximately 5km distance, there are areas of theoretical visibility within elevated areas of *Ancient Slope and Valley Farmlands*. In practice, the intervening landscape,

which is strongly undulating with intimate wooded valleys, would restrict visibility to the site. Views would be possible from elevated west-facing slopes.

To the south of the site within approximately 3km, areas of theoretical visibility lie within the *Settled Plateau Farmland Slopes* LCT. In practice, field boundary vegetation and woodlands combine with the undulating topography to restrict views from these areas.

4.4.2. Viewpoint Assessment

The viewpoint assessment describes the visual effects of the Proposal from seven viewpoints in the study area. The assessment is undertaken following the methodology and magnitude and significance criteria contained in **Appendix 1**. The full viewpoint assessment is contained in **Table 4.3**, below. Assessment viewpoints are referred to where relevant in the analysis of effects on visual receptor groups in the following **Section 4.4.3**.

Assessment viewpoint locations are shown on **Figure 1178/04**. Photographs of existing views are shown on **Figure 1178/05**.

Table 4.3: Viewpoint Assessment

Viewpoint	Receptor	Sensitivity	Description and potential visual impacts	Impact Magnitude	Significance of Effect
1. Dilhorne footpath 24, adjacent to Tickhill Lane 395949, 344342 120m to the south-west of the site	Footpath users	Medium	This viewpoint is from the footpath to the east of Tickhill Lane and to the south-west corner of the site. A continuous mature treed boundary runs alongside Tickhill Lane and limits views into the site. Views from the footpath towards the site look up across an area of sloping pasture with the edge of the site visible behind a mature line of beech trees. Only the south-western corner of the site is in view. Further views into the site are restricted by the change in landform gradient at the boundary of the site. To the west of the site there is a dense elongated plantation woodland block continuing northwards, consisting of pine, oak and birch. The electricity pylons are dramatic feature on the skyline. Receptors at this viewpoint would be local footpath users. Construction activity on site may be visible from this viewpoint. On completion, glimpsed views of south-facing solar panels would be possible through the field boundary trees. Even in winter, the woodland along the western boundary is a dense screen and the solar panels would only be visible beyond the beech trees on the southern boundary. The development proposals would be at a low level relative to the woodland vegetation, which would filter views of the western and southern margins of the site. By year 15, hedgerow establishment and management works put in place along the site's southern boundary would reduce visual effects (note C4 Aardvark EM **Figure 1462-D012 V1**).	Construction: Medium	Construction: Moderate adverse
				Completion: Medium	Completion: Moderate adverse
				Year 15: Low	Year 15: Slight adverse
2. Dilhorne footpath 25, adjacent to Hardiwick 395619, 344379 420m to the west of the site	Footpath users	Medium	This viewpoint is to the south-west of the site on a farmtrack and footpath (Dilhorne 25) linking Tickhill Lane with Handley Banks. Views towards the site are obscured by intervening woodland vegetation forming a dense filter running north to south. Receptors at this viewpoint would be footpath users, who would have a brief, glimpsed and filtered view of the Proposal. On completion, the development would potentially be visible through the trees aligning the footpath. The rows of solar panels would potentially be visible end-on. In this context, it is likely that the development would tend	Construction: Very low	Construction: Negligible/slight adverse
				Completion: Very low	Completion: Negligible/slight adverse
				Year 15: Negligible	Year 15: Negligible

Viewpoint	Receptor	Sensitivity	Description and potential visual impacts	Impact Magnitude	Significance of Effect
			to go unnoticed. The assessment was undertaken in the winter when vegetation was bare. In the summer months, it is probable that vegetation would entirely screen the development.		
3. Dilhorne byway 19 396777, 345261 425m to the north of the site	Footpath users	Medium	This viewpoint is taken from the junction of Dilhorne byway 19 and the Dilhorne footpath 9 to the north-east of the site. Views are across a gently sloping and undulating medium-scale pastoral landscape towards the northern boundary of the site. The intervening fields are defined by sections of un-managed mature hedgerow, and post and rail and wire stock fencing. Receptors at this viewpoint are likely to be locals using the byway for recreational purposes or agricultural workers using the byway to access fields. From this viewpoint, byway users would have views of the northern boundary hedgerow with views into the site. There would be limited views of the nature conservation buffer, the site access track and the security fence. On completion the rear aspect of the rows of solar panels in the north-western site field would be visible beyond the security fence. By year 15, woodland establishment works put in place along the site's northern boundary would reduce visual effects (note C1 Aardvark EM **Figure 1462-D012 V1**).	Construction: Low to medium	Construction: Slight to moderate adverse
				Completion: Low to medium	Completion: Slight to moderate adverse
				Year 15: Very low to low	Year 15: Negligible/slight adverse
4. Tickhill Lane adjacent to Foxfield Railway 396128, 343519 880m to the south of the site	Road users	Low	This viewpoint is further south than *viewpoint 1* on Tickhill Lane. Views towards the site are across an undulating small-scale wooded and pasture valley landscape where fields are bordered by hedgerows and woodland blocks. Receptors at this viewpoint would be road users. The viewpoint may represent views for those travelling on the Foxfield heritage railway. From this viewpoint a very narrow, glimpsed view of the southern edge of the site would be possible. The development would be a recessive component of the view, and would tend to go unnoticed. In the long-term, the extent of the site in view would be reduced further by the maturing	Construction: Negligible	Construction: Negligible
				Completion: Negligible	Completion: Negligible
				Year 15: Negligible	Year 15: Negligible

Viewpoint	Receptor	Sensitivity	Description and potential visual impacts	Impact Magnitude	Significance of Effect
			proposed hedgerow on the southern boundary (note C4 Aardvark EM **Figure 1462-D012 V1**).		
5. Dilhorne footpath 1 396950, 343323 1330m to the south-west corner of the site	Footpath users	Medium	This viewpoint is from Dilhorne footpath 1 to the west of Dilhorne. The footpath continues in a north-westerly direction and joins up with Tickhill Lane to the south of the site (near *viewpoint 1*). Views towards the site are of a rising, medium-scale wooded and pastoral landscape. Woodland blocks for the most part form the mid-distance skyline. Fields are bounded by gappy hedgerows and mature trees. The power lines and electricity pylons form dominant features receding to the north-west. Receptors at this viewpoint are likely to be locals using the footpath for recreational purposes. Development proposals at the south-east corner of the site would be visible with development further to the north screened by Stansmore and Dilhorne Woods. On completion there would be oblique views of the south-facing rows of solar panels beyond the boundary security fence. This view would be screened partially by existing field boundary vegetation and the vegetation in the rough pasture immediately to the south-east of the site. By year 15, hedgerow establishment and management works put in place along the site's southern boundary would reduce visual effects (note C4 Aardvark EM **Figure 1462-D012 V1**). Changes in views would be unlikely to be noticed from this viewpoint.	Construction: Low	Construction: Slight adverse
				Completion: Low	Completion: Slight adverse
				Year 15: Very low	Year 15: Slight/negligible adverse
6. Dilhorne footpath 20, Bowl Barrow at St. Thomas's Trees 397338, 343198 1650m to the south-west corner of the	Footpath users	Medium	This hilltop viewpoint is from Dilhorne footpath 20 to the east of All Saints Church, Dilhorne at the Bowl Barrow at St. Thomas's Trees. Views towards the site are across a valley with Dilhorne village nestling at the bottom within a woodland fringe. The topography rises up to the site which is at a similar elevation to the viewpoint. The valley is a medium-scale wooded and pastoral landscape. Woodland blocks for the most part form the mid-distance skyline. Fields are bounded by gappy hedgerows and mature trees. The power lines and electricity pylons form dominant features receding to the north-west.	Construction: Low to medium	Construction: Slight to moderate adverse
				Completion: Low to medium	Completion: Slight to moderate adverse

Viewpoint	Receptor	Sensitivity	Description and potential visual impacts	Impact Magnitude	Significance of Effect
site			Receptors at this viewpoint are likely to be locals using the footpath for recreational purposes. Development proposals at the south-east corner of the site would be visible together with northern parts of the two fields to the north. The central part of the development would be screened by Stansmore and Dilhorne Woods. There would be an 8m buffer which would be managed for nature conservation situated behind a security fence and within the northern part of the site, a perimeter access road. On completion there would be oblique views of south-facing rows of solar panels at the northern and south-eastern ends of the development. Visible parts of the development would comprise a small part of the horizontal field of view (HFV), appearing in narrow gaps in the woodland on the horizon in an area which is dominated by a cluster of pylons. Particularly as landscape mitigation matures in the long-term (e.g., notes C3 and C4 Aardvark EM **Figure 1462-D012 V1**), this would represent a slight effect, which in this context would easily go unnoticed.	Year 15: Low	Year 15: Slight adverse
7. Bate Lane 398919, 344871 2400m to the north-east corner of the site	Road Users	Low	This viewpoint is from Bate Lane to the west of the site. Views are across an open valley with foreground pastures changing to woodland, which forms a largely continuous feature on the skyline in the direction of the site. The site is screened by this woodland. The power lines and pylons stand on the horizon above the woodland. Dilhorne is visible to the south-west, with the wooded knoll of Blakelybank Wood beyond. Within the intervening middle distance is the Foxfield Wood Colliery industrial heritage site which is conspicuous in the landscape by its pit-head winding gear and high roofline. Immediately to the south-west of the colliery are a number of grassed conical mounds and evidence of restored spoil heaps. No change in view would be noticed at this viewpoint. This area lies within part of the bareground ZTV (**Figure 1178/03a**) where it is indicated that there would be widespread theoretical visibility of the site. This viewpoint illustrates the effectiveness of Dilhorne and Stansmore Woods in screening the site, apart from from the most elevated viewpoints to the east (e.g. *viewpoint 6*).	Construction: Negligible	Construction: Negligible
				Completion: Negligible	Completion: Negligible
				Year 15: Negligible	Year 15: Negligible

4.4.3. Effects on Visual Receptor Groups

In this section of the report, principal effects on the following visual receptors are considered:

- Residents of nearby settlements (**Table 4.4**)
- Users of footpaths and the recreational landscape (page 31)
- Users of the transport network (page 32).

Settlements/Residential Areas[1]

No significant effects would arise on views from nearby dwellings or settlements.

Table 4.4: Visual effects on settlements and local residents

Receptor / distance and direction from the site	Description and potential visual impacts	Impact magnitude	Significance of effect
Oaktree Farm 130m to the north of the site *High sensitivity*	Oaktree Farmhouse is the nearest dwelling to the Proposal. The front of the farmhouse has a south-easterly aspect. There are two connected agricultural buildings situated between the farmhouse and the site. Hedgerow and woodland planting is also situated along the eastern boundary of the farmstead. Views of the development would be unlikely to arise in this context. Proposed mitigation would ensure **negligible** effects in the long-term (notes C1 and C5 Aardvark EM **Figure 1462-D012 V1**).	Construction: Negligible	Construction: Negligible/slight adverse
		Completion: Negligible	Completion: Negligible/slight adverse
		Year 15: Negligible	Year 15: Negligible
Newhill Farm 380m to the north of the site *High sensitivity*	Newhill Farm offers relatively open views to the south, towards the northern end of the site. The farmhouse lies just outside of the ZTV (**Figure 1178/03b**) at ground level, but it is possible that there would be views to the northern end of the solar PV development from upper storey windows. During construction, the access track would be visible from upper storeys. At 380m distance, the solar PV development would form a small feature in wider views from the farmhouse. In the long-term, woodland planting would reduce the extent of the development in view (note	Construction: Low	Construction: Moderate adverse
		Completion: Low	Completion: Moderate adverse
		Year 15: Very low	Year 15: Slight adverse

[1] This section of the visual assessment is not intended to be a full assessment of visual aspects of residential amenity, which would normally be a separate study to the LVIA, and would not normally be undertaken unless specifically requested by the planning authority, and not unless significant effects would be predicted. The section is an appraisal of potential effects arising on views from private dwellings. A number of methods have been used in preparing this assessment, including the use of ZTV models and site work, including views from the site towards dwellings, and views in the surrounding area. An LVIA normally considers effects on publicly accessible viewpoints (LI and IEMA, 2013; paragraph 6.17). The individual dwellings considered in this section are private and have not been visited. The appraisal takes a precautionary worst-case approach to the assessment of potential effects on views from private dwellings. Effects may be described in terms of being 'probable', 'possible', or 'unlikely'.

Receptor / distance and direction from the site	Description and potential visual impacts	Impact magnitude	Significance of effect
	C1 Aardvark EM **Figure 1462-D012 V1**).		
Stansmore Hall 400m to the south of the site *High sensitivity*	Stansmore Hall is located to the south of the site and has a southerly aspect. It lies on the very edge of the ZTV, indicating that in bareground terms, in theory the southern edge of the development could be visible. In practice, vegetation around the dwelling and in the landscape would screen views.	All phases: No change	All phases: No effect
Tickhill and Hardiwick 180-400m to the west of the site *High sensitivity*	Tickhill and Hardiwick are located to the west of the site. Views from these dwellings to the site are filtered by intervening woodland vegetation, including the woodland which fringes the western site boundary and the woodland immediately to the east of Tickhill and Hardiwick. Changes in views could possibly arise from upper storey windows. In the long-term, the management of boundary vegetation may increase the effectiveness of screening slightly (note C4 Aardvark EM **Figure 1462-D012 V1**).	Construction: Very low	Construction: Slight adverse
		Completion: Very low	Completion: Slight adverse
		Year 15: Negligible	Year 15: Negligible/slight adverse
Stonewalls Farm 650m to the north-east of the site *High sensitivity*	Stonewalls Farm is located to the north-east of the site and its main orientation is across the valley to the south-east. The dwelling is heavily filtered by intervening topography and vegetation. Changes in views would not arise.	All phases: No change	All phases: No effect
Godley Lane 1.3km to the east of the site *High sensitivity*	There are several dwellings near the School and Whympney Farm on Godley Lane between Godleybrook and Dilhorne from where the ZTV indicates theoretical views to the site. Due to intervening woodland, roadside, field boundary, and garden vegetation, it is likely that there would be very limited views to the Proposal, probably only from upper storey windows. Effects would not be significant.	Construction: Negligible	Construction: Negligible/ Slight adverse
		Completion: Negligible	Completion: Negligible/Slight adverse
		Year 15: Negligible	Year 15: Negligible
Dilhorne 1.3 to 1.5km to the south-east of the site *High sensitivity*	There are a number of dwellings situated along New Road to the south-east of the site, both around Home Farm and near the Church of All Saints, which lie within the ZTV. Views towards the site are filtered by intervening woodland within the landscape and it is thought that there would only be limited views of the Proposal, and mainly only from upper storey windows. As illustrated by *viewpoints 5* and *6*, Stansmore and Dilhorne Woods are effective in screening the central part of the site from the area near Dilhorne. While the south-eastern and northern parts of the site may be visible, this is in the context of the woodland and the electricity pylons, and the solar PV development would not represent a marked change in view. It is probable that for many receptors, the change in view would go unnoticed in	Construction: Very low to low	Construction: Slight to moderate adverse
		Completion: Very low to low	Completion: Slight to moderate adverse
		Year 15: Negligible	Year 15: Negligible/slight adverse

Receptor / distance and direction from the site	Description and potential visual impacts	Impact magnitude	Significance of effect
	the wider view.		
There are a number of farms in the surrounding area which lie entirely outside of the ZTV, including: Ward Hill Farm (420m to the west of the site); Little Summerhill Farm and Summerhill Farm (0.6 to 0.7km to the north of the site); Whitehurst Farm (1.1km to the north-east); and Heywood Grange and Cottage (0.5 to 0.7km to the north of the site). **No change** would arise for views from these dwellings.			

Public rights of way/Recreational landscape

Users of the public footpath to the south of the site (Dilhorne footpath 24) would have the nearest view of the site (*viewpoint 1*) from a distance of approximately 120m. On completion, glimpsed views of south-facing solar panels would be possible through the field boundary trees and a **medium** magnitude effect of **moderate adverse** significance would arise for users of the footpath (medium sensitivity receptors (MSRs)). Effects would reduce to **slight adverse** significance by year 15 as boundary landscaping matures (note C4 Aardvark EM **Figure 1462-D012 V1**). Almost the entire length of this path lies outside of the ZTV due to topography (**Figure 1178/03a**).

From *viewpoint 3* on Dilhorne byway 19 and Dilhorne footpath 9 (roughly 425m to the north-east), there would be views of the rear aspect of solar panels at the northern end of the site. During construction, the access track would also be in view. During construction and on completion, **low to medium** magnitude effects of **slight to moderate adverse** significance would arise. These effects would reduce in the long-term to **negligible/slight adverse** significance as the boundary landscaping matures (note C1 Aardvark EM **Figure 1462-D012 V1**). This is a localised effect for a small area between Newhill Farm and Stonewalls Farm and for most of these routes, there would be no view of the Proposal due to topography.

Views to the site from the paths which climb or cross the slopes to the west of Tickhill Lane are very limited due to the woodland on the site's western boundary and woodland to the west of Tickhill Lane. This is illustrated by *viewpoint 2* at Hardiwick, which is on Dilhorne footpath 25, from where **negligible/slight adverse** effects are predicted on completion, reducing to **negligible adverse** in the long-term. From the footpath from Tickhill north to Ward Hill Farm, there may be some views of the western edge of the development. These views would be heavily filtered by trees on the western site boundary and changes in views would not be significant.

Viewpoints 5 and *6* are located on footpaths near Dilhorne at 1.3 to 1.6km distance from the site. From *viewpoint 5* (Dilhorne footpath 1), there would be views of a part of the south-eastern corner of the site. **Low** magnitude effects of **slight adverse** significance would arise on completion for path users (MSRs). In the long-term these effects would reduce to **negligible/slight adverse** significance. From *viewpoint 6*, which is located on Dilhorne path 20 at the Bowl Barrow at St. Thomas's Trees, the south-eastern and northern ends of the development would comprise small parts of the wide HFV, appearing in narrow gaps in the woodland on the horizon in an area which is dominated by a cluster of pylons. In this context the change in view would easily go unnoticed. On completion, the effect would be of **low to medium** magnitude and **slight to moderate adverse** significance, reducing to **low** magnitude and **slight adverse** significance in the long-term as boundary and hedgerow plantings would reduce the extent of the site which would be visible (notes C3 and C4 Aardvark EM **Figure 1462-D012 V1**).

Transport network

Views from the surrounding road network would not be widespread. Often views would be screened by topography, or by roadside vegetation. Users of Tickhill Lane to the west of the site, and Caverswall Road and New Road in Dilhorne would have views towards the proposed development.

Tickhill Lane runs parallel to the western boundary of the site but has a very enclosed character, passing alongside woodland and roadside hedgerows. Users would have glimpsed views of the western edge of the site for a short duration only (see *viewpoints 1* and *4,* which illustrate the worst-case views of the site from Tickhill Lane). Views would tend to be filtered by the woodland along the steep slope on the western site boundary. Particularly in summer, the rows of panels, which would be viewed end-on, would tend to go unnoticed from Tickhill Lane. From *viewpoint 1*, for road users (low sensitivity receptors (LSRs)) the effect would be of *up to* **medium** magnitude and **slight adverse** significance. In the long-term, these effects would reduce to **negligible adverse** significance. Effects for road users would be less marked, for example, than for users of the footpath at *viewpoint 1*, due to the speed of travel and the more transient nature of the view, which is to the side of the direction of travel.

Viewpoint 5 is located on a footpath adjacent to New Road and Caverswall, Dilhorne, and represents views from these nearby roads. During construction and on completion, **low to medium** magnitude effects of **slight adverse** significance would arise for users of New Road

(LSRs). In the long-term, as landscaping mitigation measures establish (e.g., note C4 Aardvark EM **Figure 1462-D012 V1**), the effect would reduce to **low** magnitude and **negligible/slight adverse** significance.

No significant effects are predicted for users of other roads in the study area.

4.5. Effects on Designated Landscapes

The site is situated within the Green Belt which is shown on **Figure 1178/01c**.

The effects described in **Sections 4.2, 4.3** and **4.4** would all arise on landscape and visual receptors within the Green Belt.

Separate consideration of landscape and visual effects arising in relation to the Green Belt purposes is contained in **Appendix 3**.

5. Conclusion

5.1. Landscape Effects

5.1.1. Effects on On-site Landscape Features

There would be no loss of hedgerows or trees. 13.5ha of pastoral land would be replaced with the solar PV development. The overall effect on landscape features in this medium sensitivity landscape would be of **moderate adverse** significance.

Section 4.2 details effects on on-site landscape features.

5.1.2. Effects on Landscape Character

The proposed development would be situated within the *Dissected Sandstone Cloughs and Valleys* LCT and this is the only LCT which would be affected by the development. Locating a solar PV development in this landscape would introduce a modern low-level engineered element into a medium-scale landscape with deeply incised wooded valleys. The solar PV development would be a contrasting element in the context of the pastoral and woodland landcover. The development, which contains strongly linear elements, could be accommodated in the topography and rectilinear field pattern of the LCT. Locally, the development would abut woodlands to the west and east, which provide a high degree of enclosure.

Within approximately 0.2 to 0.4km of the proposed development, the landscape character effects during construction and on completion would be of **moderate adverse** significance.

In the long-term, the landscape mitigation which forms part of the Proposal would mature, reducing the effects on landscape character (see Aardvark EM **Figure 1462-D012 V1**). The long-term effects within approximately 0.2 to 0.4km of the site would be of **slight adverse** significance. Beyond approximately 0.5km, long-term effects on landscape character would be of **negligible/slight adverse** significance.

Effects on the adjacent LCTs, *the Ancient Slope and Valley Farmlands, Settled Plateau Farmlands,* and *the Settled Plateau Farmland Slopes*, would be **negligible** for all phases assessed.

Section 4.3 details effects on landscape character.

5.2. Visual Effects

The primary determinant of views in the surrounding area is the topography. From the north and west, views would only be available up to approximately 0.4km from the site. From the east

and the south, more distant views would be possible. Landscape features would, however, restrict views to the site from all directions. The woodland on the eastern and western boundaries of the site also screen views of the site from the surrounding area. The landscape context is such that there would not be widespread views of the Proposal from the surrounding area.

Section 4.4 details potential visual effects and considers representative viewpoints in the surrounding area as illustrated by **Figure 1178/05**. The following sections summarise effects for the main visual receptor groups.

5.2.1. Settlements/Residential Areas

No significant visual effects would arise for residential receptors (HSRs).

Newhill Farm, 380m to the north, has the most open views of the nearby farmhouses to the site, and would have views of the access track and would possibly have partial views of the northern end of the development from upper storey windows. The assessment concludes an effect of **moderate adverse** significance on completion, which would reduce to **slight adverse** significance in the long-term as boundary landscape management measures are implemented (note C1 Aardvark EM **Figure 1462-D012 V1**).

The nearest dwelling to the site is Oaktree Farm (130m to the north). Views would be unlikely to arise due to the screening effects of nearby garden and field boundary vegetation, and farmyard buildings. At all assessment stages, worst-case effects of **negligible/slight adverse** significance would occur. Proposed mitigation would ensure **negligible** effects in the long-term (notes C1 and C5 Aardvark EM **Figure 1462-D012 V1**).

The nearest dwelling to the west is at Tickhill, which is approximately 180m from the site. Views from here and the nearby Hardiwick Farm, would be screened or heavily filtered by woodlands to the west of Tickhill Lane and just outside the western site boundary. On completion, effects of up to **slight adverse** significance would arise. These effects would reduce to **negligible/slight adverse** significance in the long-term.

From dwellings in Dilhorne, including those on New Road, and those on Godley Lane near the School, which are all between approximately 1.3 and 1.5km distance from the site, there would potentially be partial views of the south-eastern and northern ends of the site. Effects would not be widespread, and in the context of wider views, at this distance, the change in view would bring about effects of no greater than **slight to moderate adverse** significance on completion

for residents (HSRs). These effects would reduce to no greater than **negligible/slight adverse** in the long-term.

5.2.2. Public Rights of Way/Recreational Landscape

No significant visual effects are predicted for users of footpaths or recreational areas in the surrounding landscape. The most noticeable effect would arise from Dilhorne footpath 24, which passes within 120m of the south-west corner of the site. Effects for footpath users (MSRs) would be **moderate adverse** on completion, and **slight adverse** in the long-term as the proposed hedgerow along the southern edge of the development matures (note C4 Aardvark EM **Figure 1462-D012 V1**). Other public footpaths would potentially offer views of the site:

- A localised area of Dilhorne byway 19 and Dilhorne footpath 9 near Newhill Farm and Stonewalls Farm (e.g., *viewpoint 3,* 425m to the north-east) from where there would be narrow views of the northern end of the site and rear aspect of the panels, bringing about **slight to moderate adverse** effects on completion, and **negligible/slight adverse** effects in the long-term.
- Dilhorne footpath 25, and other nearby paths on the slopes to the west of Tickhill Lane, would, at worst, have heavily filtered views of the western edge of the development and effects would be **negligible/slight adverse** on completion, reducing to **negligible** in the long-term.
- Dilhorne footpath 1 (near New Road) and Dilhorne footpath 20 (at St. Thomas's Trees) would offer views at 1.3 to 1.6km distance. The south-eastern and northern ends of the site would potentially be visible, but in a context of a skyline containing woodland and a cluster of pylons, the PV development would easily go unnoticed. Effects on completion would be up to **slight to moderate adverse** significance. In the long-term, effects would be up to **slight adverse** significance.

5.2.3. Transport Network

No significant visual effects are predicted for road users in the study area.

The nearest road to the site is Tickhill Lane (near *viewpoint 1*). Views would tend to be filtered by the woodland along the steep slope on the western site boundary. Particularly in summer, the rows of panels, which would be viewed end-on and to the side of the direction of travel, would tend to go unnoticed from Tickhill Lane. From *viewpoint 1*, for road users (LSRs) the effect would be of *up to* **slight adverse** significance. In the long-term, these effects would reduce to

negligible adverse significance.

While the development could be glimpsed from roads in Dilhorne (e.g., New Road or Godley Lane), it is highly likely that the development would go unnoticed from these roads, due to their distance from the site and the speed and orientation of travel of road users.

5.3. Effects on Designated Landscapes

The effects described above and in **Sections 4.2, 4.3** and **4.4** would all arise on landscape and visual receptors within the Green Belt.

Separate consideration of landscape and visual effects arising in relation to the Green Belt purposes is contained in **Appendix 3**; the main conclusions being that the development is well-sited with respect to landscape and visual factors, and that the Green Belt purposes would not be harmed.

5.4. Residual Effects

No likely significant, adverse, long-term landscape or visual effects would arise.

5.4.1. Landscape Effects

On completion, the Proposal would bring about direct and indirect effects of **moderate adverse** significance on the host *Dissected Sandstone Cloughs and Valleys* LCT.

In the long-term, as landscape mitigation matures, the Proposal would bring about effects of **slight adverse** significance on the host LCT.

The Proposal would have limited direct effects on landscape features such as hedgerows. The Proposal includes a landscape mitigation plan to improve the quality of existing boundary hedgerows, and to create new woodland strips, hedgerows and grassland buffers (see Aardvark EM **Figure 1462-D012 V1**).

In the long-term, the landscape effects of the Proposal would be reversible. The Proposal would not change the existing field pattern or landform. In the long-term, removal of all elements of the Proposal, including solar panels, fencing, and transformer buildings, would allow the existing pastoral land use and land cover to be reinstated.

5.4.2. Visual Effects

On completion, the Proposal would bring about visual effects of between **negligible/slight** and **moderate adverse** significance for nearby residents with views of the site. In the long-term, these effects would reduce to between **negligible/slight** and **slight adverse** significance.

On completion there would be effects of between **negligible/slight** and **moderate adverse** significance for users of the various footpaths in the surrounding area. The overall effects would reduce in the long-term to between **negligible** and **slight adverse**.

On completion there would be effects of up to **slight adverse** significance for local road users. In the long-term, the overall effects would reduce to **negligible adverse** significance.

Appendix 1: Methodology

The assessment has been undertaken in accordance with the relevant guidance on landscape and visual assessment contained in the following publications:

- Landscape Institute and Institute of Environmental Management and Assessment (2013), *Guidelines for Landscape and Visual Impact Assessment 3rd Edition*[i].
- The Countryside Agency and Scottish Natural Heritage (2002), *Landscape Character Assessment – Guidance for England and Scotland.*[ii]

The Nature of Landscape and Visual Effects

Visual impact assessment considers the potential effects of a project on views and visual amenity. Landscape assessment looks at a project's likely effects on landscape features, designated landscapes and the character of the wider landscape.

Direct and Indirect Effects

The landscape and visual resource of an area can be affected both directly and indirectly. Visual impacts are always direct because an object needs to be seen for a visual impact to arise. Landscape impacts on the other hand can be either direct or indirect. Change which affects onsite physical features (i.e. vegetation, buildings and landform), or the character area in which the site is located, is direct, whereas an impact on the character of surrounding landscape character areas is indirect. Indirect impacts are less significant than direct ones.

In general the scope of the LVIA is:

- Direct (primary) effects on landscape features, the character of the site, and views; and
- Indirect (secondary) effects on the surrounding landscape character.

Other factors to consider as part of the impact assessment process include:

- Sensitivity of the landscape and visual resource
- Magnitude of effects
- Significance of effects.

Assessment Timescales

In this assessment, potential effects are considered according to the following timescales:

- **During construction**: focussing on specific construction-related landscape and visual effects.
- **On completion**: the effects when the construction phase is complete and the operational phase of the project starts.
- **Long-term**, taken to be 15 years post completion: this timescale allows the assessment to consider effects once landscaping mitigation measures mature.

Assessment Criteria and Significance of Effects

Landscape and visual effects are determined by assessing the magnitude of impact against the sensitivity of the receptor. The **significance of an effect** is a function of **magnitude of landscape or visual effect** and the **landscape or visual receptor's sensitivity** (see **Table A1.5**). Each of these three factors is determined by a combination of quantitative (objective) and qualitative (subjective) assessment using professional judgement.

Landscape Value

The value of an area of landscape can be defined by its importance at international, national, regional and local levels and is often reflected in the application of landscape policy and designations. A detailed assessment of the value of the landscape as perceived by the general public is beyond the scope of most LVIAs and therefore the assessment is based on landscape designations and character assessments. The following criteria illustrate the types of judgements made in assessing landscape value.

Table A1.1: Landscape Value

Value	Typical criteria	Typical scale	Typical examples
Exceptional	High importance (or quality) and rarity. No or limited potential for substitution.	International, National	World Heritage Site, National Park, Area of Outstanding Natural Beauty (AONB), Heritage Coast.
High	High importance (or quality) and rarity. Limited potential for substitution.	National, Regional, Local	National Park, AONB, Heritage Coast, Area of Great Landscape Value (AGLV)
Medium	Medium importance (or quality) and rarity. Limited potential for substitution.	Regional, Local	Undesignated, but value perhaps expressed through non-official publications or demonstrable use

Value	Typical criteria	Typical scale	Typical examples
Poor	Low importance (or quality) and rarity.	Local	Areas identified as having some redeeming features and possibly identified for improvement
Very Poor	Low importance (or quality) and rarity.	Local	Areas identified for recovery

Receptor Sensitivity

Landscape Receptors

The sensitivity of landscape receptors can depend on:

- **Character**: what contribution does the site make to the character of the wider landscape in its undeveloped state? Is it part of a recognisable pattern of elements specific to the area? Does the site contribute to the area's sense of place and distinctiveness?
- **Quality**: what is the condition of the landscape?
- **Value**: is it valued by people, the local community or visitors? Are there special cultural associations, perhaps in relation to literature or art? Is the area covered by a landscape, ecological or historical designation? Is the landscape recognised locally, regionally or nationally?
- **Capacity**: what scope is there for change in the existing landscape character?
- **Susceptibility**: the Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA) (2013)[i] emphasize that the sensitivity of landscape receptors depends in particular upon the *susceptibility* of the receptor to the proposed change and the *value* attached to the landscape. Susceptibility can be defined as '*the ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences*'. Low susceptibility to change would therefore indicate a high ability to accommodate the specific proposed development without undue negative consequences. Low susceptibility would indicate a less vulnerable landscape more able to accommodate the Proposal with a low risk of harm. High susceptibility to change would indicate a low ability to accommodate the specific proposed development without undue negative consequences. High susceptibility would indicate a more vulnerable landscape less able to accommodate the Proposal with a low risk of harm.

In accordance with the LI and IEMA (2013), receptors are assessed on a case-by-case basis and the thinking in relation to judgements is recorded in the assessment. **Table A1.2** illustrates the judgements made in assessing landscape receptor sensitivity.

Table A1.2: Landscape Sensitivity

High	A quality landscape with valued features and of positive character, which is particularly susceptible to the proposed change. A landscape of importance or rarity on a regional, national or international scale. Minor changes cannot be accommodated without impact on value and/or loss of character or no more than minor changes can be compensated by replacement or substitution.
Medium	A landscape of generally positive character but there may have been degradation or erosion of features resulting in areas of more mixed character or reduced overall value. A landscape of medium importance or rarity on a regional or local scale. A landscape of moderate susceptibility to the proposed change in which minor to moderate change may be tolerated although this may be detrimental if inappropriately dealt with. Minor changes can be accommodated without impact on value and/or loss of character or moderate changes can be reduced or eliminated by replacement or substitution and/or are beneficial to value and character.
Low	A landscape of few valued features which has a low susceptibility to the proposed change. An area of low importance and rarity at a local scale. Moderate changes can be accommodated without impact on value and/or loss of character or substantial changes can be reduced or eliminated by replacement or substitution and/or are beneficial to value and character.

Visual Receptors

The sensitivity of visual receptors can depend on:

- Their distance from the proposed development
- The nature of the development and its size
- The angle, elevation and context of the viewpoint
- The activity of the receptor and the expectation of the view this brings
- The importance of the view with respect to the number of people affected
- The popularity of the view – whether it appeals to locals, visitors, or whether it is cited in books, guides and maps
- Their susceptibility to change, which is mainly a function of the occupation or activity of people experiencing the view, and the extent to which their attention or interest may be focussed on the view.

In accordance with LI and IEMA (2013), receptors, or groups of receptors are assessed on a case-by-case basis and the thinking in relation to judgements is recorded in the assessment. **Table A1.3** illustrates the judgements made in assessing visual receptor sensitivity.

Table A1.3: Visual Receptor Sensitivity

High	Viewpoints in a high value landscape, recognised in published maps or guides (e.g., visitors to nationally designated areas of public and private open space – National Parks, AONBs, Heritage Coasts, etc.). Views from residential properties or communities where views contribute to the landscape setting enjoyed by residents. Receptors who are engaged in leisure activities intrinsic to which is an appreciation of the landscape or surroundings, for example users of national trails, long-distance paths or local footpaths through high-valued landscapes. Visitors to heritage assets or other important attractions where views are important to the experience. Receptors who would have a high susceptibility to the proposed development.
Medium	Viewpoints in a medium value landscape (e.g., visitors to locally designated areas of public and private open space – AGLVs or Country Parks, etc.). Individuals who have a moderate interest in their surroundings whilst working or engaged in leisure activities, for example those engaged in outdoor sports such as fishing or golf, or using local footpaths through moderately valued landscapes, or users of local roads designated as National Cycle Routes or national trails. Travellers on road, rail or other routes may fall into an intermediate category depending on whether travel involves appreciation of the landscape. Receptors who would have a medium susceptibility to the proposed development.
Low	Viewpoints in a low value landscape. People involved in outdoor sport or recreation not involving appreciation of views in the landscape. People at places of work where landscape setting is not important to quality of working life. Individuals who have a transient interest in the surrounding landscape whilst engaged in other activities, for example while working or travelling through an area on an occasional basis (e.g., users of major roads, employees of businesses and industry, users of local rights of way associated with highways or local routes whose primary function is access between two places). Receptors who would have a low susceptibility to the proposed development.

Effect Magnitude

The magnitude of effect of a particular proposal on landscape and visual receptors will depend on a number of factors including:

- The nature of the proposed development compared with existing context – the loss of key elements of the pre-development landscape or view
- The introduction of elements into the receiving landscape or the alteration of the overall composition of the view and the extent to which the scale, massing, layout and colour of materials contrast with the pre-development situation
- The perceived change compared with the existing situation
- The duration and reversibility of change
- The number of observers affected and their distance from the development.

Table A1.4 illustrates the judgements made when assessing the magnitude of landscape and visual effects.

Table A1.4: Magnitude of Effect

	Magnitude of Effect	
	Landscape	**Visual**
	The magnitude of change in relation to ***physical elements and/or landscape character****:*	*The magnitude of change in relation to* ***views and/or visual amenity as generally perceived by observers*** *– this is related to the degree of landscape impact magnitude:*
Negligible	Indiscernible or barely discernible change - project components would tend to go unnoticed in the wider landscape.	Indiscernible or barely perceptible change - project components would tend to go unnoticed in views.
Very Low	Very low levels of change – project components would generally be perceived as a background element in the wider landscape.	Very low levels of change - project components would be a background element in views and would very easily go unnoticed.
Low	Low levels of change - project components would be present in the landscape but would generally be perceived as a background component of the wider landscape.	Low levels of change to views - project components would be present in the landscape but as a background component of views and would easily go unnoticed.
Medium	Medium levels of change – project components would be relatively prominent in the landscape but would generally appear subservient to, or in equilibrium with, the prevailing landscape characteristics.	Medium levels of change to views - project components would be relatively prominent but generally subservient, or in equilibrium with, the prevailing landscape characteristics, and would easily be noticed.
High	High levels of change – project components would be prominent in the landscape and would generally be perceived as a determining factor of local character.	High levels of change to views - project components would be prominent, perceived as a determining factor in views, and would be difficult not to notice.
Very High	Very high levels of change – project components are very prominent in the landscape and are the determining factor of local character.	Very high levels of change to views – project components would be very prominent, perceived as the determining factor in views, and would be extremely difficult not to notice.

Significance of Landscape and Visual Effects

LI and IEMA (2013) emphasize that the significance of each potential effect on landscape and visual receptors should be judged on a case-by-case basis.

Significance of Landscape Effects

Circumstances will vary with the location, landscape context and the type of proposal. The spectrum of the significance of landscape effects can be illustrated by these extremes:

Likely to be most significant	Major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes
Likely to be least significant	Reversible negative effects of short duration, over a restricted area on elements and/or aesthetic and perceptual aspects that contribute to but are not key characteristics of landscapes of community value

Significance of Visual Effects

More likely to be significant	Effects on people who are particularly sensitive to changes in views and visual amenity
	Effects on people at recognised and important viewpoints or from recognised scenic routes
	Large-scale changes which introduce new, uncharacteristic or discordant or intrusive elements
Less likely to be significant	Effects on people who are less sensitive to changes in views and visual amenity
	Effects on people at local incidental viewpoints, or from local routes, the primary purpose of which is to connect two places
	Small-scale changes which introduce forms which are already present and characteristic, or unobtrusive elements

Significance Matrix and Significance Criteria for Landscape and Visual Effects

The significance of an effect is a function of the **magnitude of landscape or visual effect** and the **landscape or visual receptor's sensitivity**, as illustrated by **Table A1.5** with judgements made on a case-by-case basis as to how sensitivity and magnitude combine to influence significance. **Table A1.6** illustrates the spectrum of criteria which are applied to decisions about significance. The assessor will make informed decisions to adjust the level of significance where appropriate.

Effects of moderate/major or major significance (shaded grey in **Tables A1.5** and **A1.6**) would potentially be considered to be **significant** in an EIA context (EIA Regulations, 1999). This assessment is for non-EIA development. Effects of moderate/major or major significance are identified as 'significant' in that they are *the principal landscape or visual effects of the Proposal*: this is the definition of 'significant' adhered to in this report.

Table A1.5: Significance Matrix

Magnitude	**Sensitivity**		
	High	**Medium**	**Low**
Very High	Major	Major	Moderate/Major
High	Major	Moderate/Major	Moderate
Medium	Moderate/Major	Moderate	Slight
Low	Moderate	Slight	Negligible/Slight
Very Low	Slight	Negligible/Slight	Negligible
Negligible	Negligible/Slight	Negligible	Negligible

Table A1.6: Significance Criteria

Significance of Effect	Landscape Resource	Visual Resource / Amenity
Major	Changes would be sufficiently large or uncharacteristic to substantially alter a nationally important landscape feature/valued aspect of landscape.	Changes would be sufficiently uncharacteristic or intrusive to substantially alter a nationally important view, or view of high scenic quality.
Moderate/ Major	Changes would be noticeably out of scale with the underlying character of an area or substantially alter a locally important landscape feature/valued aspect of landscape.	Changes to views would be noticeably out of scale with the existing view and/or substantially alter a locally important view, or view of scenic quality.
Moderate	Changes would be apparent and out of scale with the underlying character of an area or noticeably alter a landscape feature or aspect of landscape.	Changes to views would be apparent and out of scale with the existing view or noticeably alter a view.
Slight	Changes would be apparent but intermittent and at slight variance with the underlying character of an area and its landscape features.	Changes to views would be apparent but intermittent and at slight variance with the existing view.
Negligible/slight	Changes would have a barely discernible effect on the character of an area and its landscape features.	Changes would have a barely discernible effect on views/visual amenity.
Negligible	Changes would have an indiscernible effect on the character of an area and its landscape features.	Changes would have an indiscernible effect on views/visual amenity.
None	No effect.	No effect.

Valency of Effects and Objective Assessment

Individual and cumulative landscape effects can be assessed objectively and quantitatively as either **adverse**, i.e. loss of valuable landscape elements, degradation of landscape character or loss of integrity in terms of designated landscapes, or **beneficial**, i.e. removal of inappropriate or damaging landscape elements, enhancement of key landscape elements and landscape character, or introduction of positive landscape elements. **Neutral** effects would occur where there is a balance of beneficial and adverse impacts. Judgements on the valency of effects are made separately following the assessment of the magnitude and significance of effects.

Whether the landscape and visual effects of a proposed development are adverse, beneficial, or neutral is influenced by a variety of issues including personal preference, interests, and exposure to similar developments. This is perhaps particularly the case where the assessment is of a Proposal for which architectural and landscape design strategies have been progressed.

In accordance with the Landscape Institute and the Institute of Environmental Management and

Assessment (2013)[i], this assessment determines whether landscape and visual effects are adverse, beneficial, or neutral, in conjunction with providing a statement on the sensitivity of receptors to the proposed development, the predicted magnitude of impact and significance of effect. With respect to effects being adverse or beneficial, it should be borne in mind that there will usually be a contrary opinion, which should be afforded due consideration and respect.

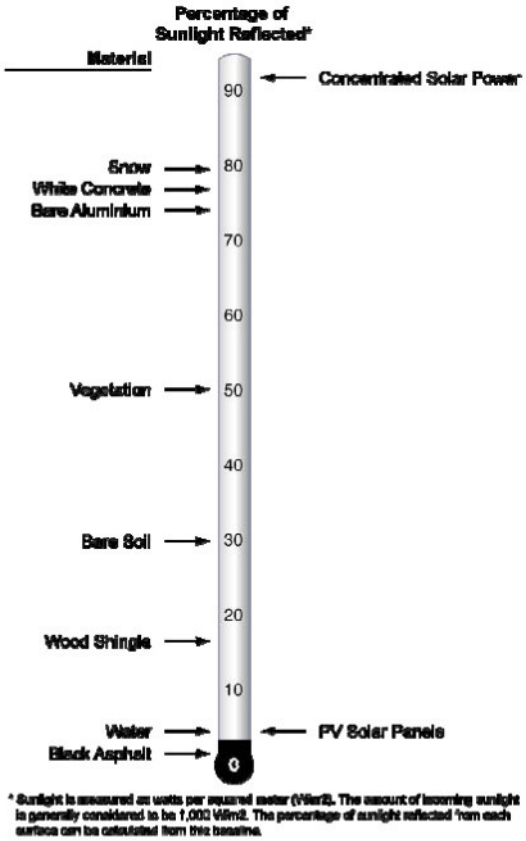
Notwithstanding the above, it is important to note that judgements in this LVIA are made independently and with impartiality, and are based on professional experience and opinion, and informed by best practice guidance.

Glint and Glare

There is a perceived issue of glint and glare surrounding the reflectivity of solar PV panels and potential consequences such as distractions to motorists, aircraft and other sensitive receptors. Poly-Crystalline Solar Panels, the most commonly used type, are designed to absorb the sun's energy and directly convert it to electricity (not to reflect it). PV modules of this type absorb approximately 82 to 90 per cent of the light received.

The level of glare and reflectivity from solar PV panels is considerably lower than the level of glare and reflectance of common land or other surfaces (see **Figure A1.1**). PV panels reflect only approximately 10 to 18 per cent of energy which is less than typical rural environments which have a reflectivity of approximately 15 to 30 per cent. Solar PV panels have the same or less glint and glare than a white concrete or bare soil.

Figure A1.1: Reflectivity Produced by Different Surfaces (from Federal Aviation Administration, 2010)[vi]



Methodology for Zone of Theoretical Visibility Plans

The bareground ZTV (**Figures 1178/03a** and **03b**) was prepared using GRASS modules within gvSIG. A digital elevation model of the study area was prepared using OS Terrain 5 data. The digital elevation model was modified to take account of earth curvature and light refraction using the GRASS *r.ecurv.comp* module. ZTV maps were prepared using the modified terrain model and the *r.cva* script. Eight reference points 3.0m above existing ground level on the proposed development site were selected at random. Viewer height was assumed to be 2.0m.

The ZTVs discussed in this report are, unless otherwise stated, bareground ZTVs and do not take account of the screening effects of local vegetation or the built environment. They present a worst-case scenario of visibility of the Proposal. The following should be borne in mind when interpreting the information presented in the ZTVs:

1. Areas shown as having no visibility will have no visibility.
2. Only areas shown as having theoretical visibility may have visibility of the development, however, local features such as trees, hedgerows, embankments or buildings could screen views. Where settlements are shown as lying within areas of visibility, it is only likely to be the edges of the settlements which would theoretically have views to the proposed development.
3. Only randomised reference points at 3.0m above existing ground level on the site have been modelled, so these may be the only parts of the proposed development which are visible. Near the edges of areas of theoretical visibility, it is more likely that only these highest points on the development would be visible.
4. The ZTV is shown to 5km from the reference points. Potential visual effects tend to reduce with distance.
5. The ZTV is based on OS Terrain 5 data, which includes detailed modelling of significant features such as roads, railways, quarries and lakes. Root mean square error varies between 1.5m in urban areas and along major communication routes, to 2.5m in rural, mountain and moorland areas.
6. This ZTV is one of a number of tools used in visual assessment. It gives a worst-case illustration of the theoretical visibility of the Proposal. Viewpoint photographs indicate the characteristics of the local landscape and how these may affect views (**Figure**

1178/05).

Methodology for Photography

Photographs were taken using a Canon 5d mkIII digital SLR with a 35mm x 24mm (full frame) CMOS sensor. A Canon EF 50mm f/1.8 II normal lens was used. The camera was mounted on a stable tripod at 1.6m height. The tripod was levelled using a three-way levelling plate with built-in spirit level. A hand-held spirit level was placed on the front of the lens to double check the camera was level. The tripod was equipped with a 360 degree panoramic head, with the interval between shots set at 20 degrees (landscape orientation) or 15 degrees (portrait orientation). The head was adjusted to the nodal point of the lens. Photographs were taken with maximum depth of field. An indicative co-ordinate was taken at each camera point using a mobile phone using GPS Essentials Software.

Camera RAW data images were stitched together using Abobe Photoshop CS6 software. Settings were adjusted for the specific lens and images were stitched using a cylindrical projection. 70 degree HFV images were produced for use in photographs of existing views.

Appendix 2: Policy Context and Additional Baseline Information

National Planning Policy

National Planning Policy Framework (NPPF)[vii] was published on 27th March 2012. At the heart of the NPPF is a presumption in favour of sustainable development unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF taken as a whole, or where specific policies indicate development should be restricted (paragraph 14). The 12 Core Planning Principles of the NPPF include:

- Conserving and enhancing the natural environment and reducing pollution; and
- Recognising the intrinsic character and beauty of the countryside and supporting rural communities within it.

Planning Practice Guidance for Renewable and Low Carbon Energy

Planning Practice Guidance for Renewable and Low Carbon Energy[viii], provides guidance to Local Authorities on the matters to consider when determining applications for large-scale solar parks. Such matters include visual impacts on the local landscape and the enhancement of the local character with native screen planting. Each of these matters is addressed within the report.

Staffordshire Moorlands Local Plan (Adopted September 1998) Saved policies[ix]

Policy N1 – Landscape Protection:

'The open countryside in the plan area and its cultural heritage will be rigorously protected. Only development which is essential to agriculture or forestry or uses which can be demonstrated as appropriate to a rural setting will be granted planning consent.'

The local character of the landscape has been fully considered in this assessment with a number of mitigation measures recommended.

Policy N2 – Green Belt:

'Except in very special circumstances there will be a presumption against inappropriate development in the Green Belt including the construction of new buildings other than.

A) Agriculture and forestry etc…….'

The principal aims of the Green Belt are to check unrestricted urban sprawl and to assist in safeguarding the countryside. This report contains an appraisal which concludes that the

proposed development would not adversely affect the open character or visual amenity of the Green Belt (**Appendix 3**).

Policy N7 – Landscape Protection:

'Development which would injure the visual amenity of the Green Belt by virtue of its siting, materials or design will not be permitted in locations which are within or visually conspicuous from the Green Belt.'

This assessment demonstrates that the proposed development would not cause harm to the visual amenity of the Green Belt.

Policy N8 – Special Landscape Area:

'In the Special Landscape Area permission will not be given for development which would materially detract from the high quality of the landscape because of its siting, scale, design and materials, and associated traffic generation…'

See **Section 2.1.5** for information on how the SLA is dealt with in this assessment.

Policy N9 – Design Standards:

'Within the Special Landscape Area the local planning authority will promote and require especially high standards of design for development.'

Staffordshire Moorlands Core Strategy (Adopted March 2014)[x]

The above saved policies in the Staffordshire Moorlands Local Plan (Adopted 1998) have been incorporated into this document. The following policies are relevant:

Policy DC1 – Design Considerations:

'All development shall be well designed and reinforce local distinctiveness by positively contributing to and complementing the special character and heritage of the area in line with the Council's Design SPD. In particular, new development should:

- *be of a high quality and add value to the local area, incorporating creativity, detailing and materials appropriate to the character of the area;*
- *be designed to respect the site and its surroundings and promote a positive sense of place and identity through its scale, density, layout, siting, landscaping, character and appearance…'*

Policy DC3 – Landscape and Settlement Setting

'The Council will protect and, where possible, enhance local landscape and the setting of settlements in the Staffordshire Moorlands by:

1. *Resisting development which would harm or be detrimental to the character of the local and wider landscape or the setting of a settlement and important views into and out of the settlement as identified in the Landscape and Settlement Character Assessment;*
2. *Supporting development which respects and enhances local landscape character and which reinforces and enhances the setting of the settlement as identified in the Landscape and Settlement Character Assessment;*
3. *Supporting opportunities to positively manage the landscape and use sustainable building techniques and materials which are sympathetic to the landscape…'*

Policy R1 – Rural Diversification

'All development in the rural areas outside the development boundaries of the towns and villages will be assessed according to the extent to which it enhances the character, appearance and biodiversity of the countryside, promotes the sustainable diversification of the rural economy, facilitates economic activity, meets a rural community need and sustains the historic environment.

Appropriate development should not harm the rural character and environmental quality of the area or any sites designated for their nature conservation, or historical interest by virtue of the scale, nature and level of activity involved and the type and amount of traffic generated or by other effects such as noise and pollution.

Wherever possible development should be within suitably located buildings which are appropriate for conversion. Where new or replacement buildings are involved, development should have minimal impact on the countryside and be in close proximity to an existing settlement.

Within the Green Belt, inappropriate development which is otherwise acceptable within the terms of this policy, will still need to be justified by very special circumstances.

Priority will be given to the re-use of rural buildings for commercial enterprise, including tourism uses, where the location is sustainable and the proposed use does not harm the building's character and/or the character of its surroundings.'

National Character Area 64: Potteries and Churnet Valley

The key characteristics of the host NCA are as follows:

- *'Dissected hills and small plateaux, cut by river valleys and steep ravines, contrasts with the industrial and densely settled conurbation of the Potteries.*
- *Sandstones from the Millstone Grit Group and Coal Measures produce prominent, and roughly north-south ridges. Softer mudstones with poorly drained and seasonally waterlogged soils and peaty soils form the intervening moorland plateaux, and mudstones and siltstones from the Triassic Mercia Mudstone Group underlie the generally lower-lying ground on the margins of the Needwood Basin.*
- *The well-wooded character throughout the Churnet Valley contrasts strongly with the urban, sparsely wooded landscapes of the Potteries. Many of the woodlands in the south consist of conifer plantations managed for commercial forestry.*
- *Deep, fast-flowing rivers Churnet, Trent, Dove and their tributaries drain the area. Riffles, scour ponds, subsidence pools and numerous small ponds provide ecological connectivity.*
- *Hedgerow banks with hedgerow oaks confine small pastures in the Churnet Valley; in the north, hedgerows are gappy and hedgerow trees are few. At higher elevations, drystone walls replace hedgerows and fields are larger and rectilinear.*
- *Agriculture is predominantly permanent pasture for grazing and stock rearing with some dairying; flatter areas are used for silage production and some arable cropping in the south, mainly cereals.*
- *Ancient semi-natural woodland occurs predominantly in the valleys with grasslands and grazing marsh within valley bottoms, especially the lower reaches of the Churnet and in the Dove Valley; there is heathland on higher ground and significant areas of open mosaic habitat on restored industrial land within urban areas.*
- *There is a rich heritage associated with iron production, coal mining, silk production and, most notably, pottery; the area is characterised by industrial and residential development in the Potteries and water powered flint mills and foundries in the Churnet Valley, linked by historic trade routes.*
- *Historic heathland habitats remain with their smallholdings – rare surviving examples of rural–industrial landscapes.*
- *Historic parklands are characterised by woodland belts enclosing grassland with parkland trees and avenues with vistas. Some ancient wood pastures and squatter enclosures occur – once a common feature of the landscape, they provided shelter, pasture and fodder for livestock. Red brick manufactured from the local Etruria Marl and sandstone from the Coal Measures are predominantly used as building materials in lowland areas; Millstone Grit is used in upland areas*

in farmhouses and drystone walls. Plain clay and large numbers of Staffordshire blue tiles or Welsh slate are used for roofing.

- *There is a contrast between the settlement pattern of valley-bottom villages with scattered farmsteads and hamlets on the valley slopes in the east and the sprawling conurbation of the Potteries in the west.*
- *Major transport infrastructure includes several A roads (A34, A50 and A52) and the Stoke-on-Trent to London railway. The Caldon Canal and Trent and Mersey Canal link the conurbation with the Churnet Valley.*
- *The Sabrina Way, a section of the National Cycle Network and the Staffordshire Way pass through the area. Alton Towers is the most popular tourist destination in the NCA, together with a number of parks and gardens and pottery visitor centres.'*

Appendix 3: Green Belt Appraisal

This Appendix provides an appraisal of landscape and visual aspects of the five Green Belt purposes, which are to:

- check the unrestricted sprawl of large built-up areas;
- prevent neighbouring towns merging into one another;
- assist in safeguarding the countryside from encroachment;
- preserve the setting and special character of historic towns; and
- assist in urban regeneration, by encouraging the recycling of derelict and other urban land.[xi]

The Green Belt is shown on **Figure 1178/01c**.

Table A3.1 contains an assessment of the perceived visual impact on the Green Belt purposes from the assessment viewpoints.

Table A3.1 Perceived visual impact on the Green Belt purposes

Viewpoint	Green Belt Aim	Appraisal
1. Dilhorne footpath 24, adjacent to Tickhill Lane 395949, 344342 120m to the south-west of the site	Check the unrestricted sprawl of large built-up areas	No sprawl would be perceived in this view. The development would be contained within existing field boundaries, which would be improved as part of the landscape mitigation plan. Solar PV development would be viewed at the southern end of the site on completion. In the long-term, the proposed southern boundary hedgerow would screen this.
	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	The development would be filtered by existing trees. In the long-term, the proposed southern boundary hedgerow would screen views of the PV development. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.
2. Dilhorne footpath 25, Adjacent to Hardiwick 395619, 344379	Check the unrestricted sprawl of large built-up areas	No sprawl would be perceived in this view. Solar PV development would tend to go unnoticed in this view due to screening vegetation.
	Prevent neighbouring towns merging	No perceived impact.

Viewpoint	Green Belt Aim	Appraisal
420m to the west of the site	Assist in safeguarding the countryside from encroachment	The development would be heavily screened by existing trees and woodland. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.
3. Dilhorne byway 19 396777, 345261 425m to the north of the site	Check the unrestricted sprawl of large built-up areas	No sprawl would be perceived in this view. The development would be contained within existing field boundaries, which would be improved as part of the landscape mitigation plan. Solar PV development would be viewed at the northern end of the site on completion. In the long-term, the maturing of the repaired/reinforced northern boundary hedgerow would screen this.
	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	The development would be contained within the existing landscape pattern. In the long-term, the proposed northern boundary hedgerow would screen views of the PV development. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.
4. Tickhill Lane adjacent to Foxfield Railway 396128, 343519 880m to the south of the site	Check the unrestricted sprawl of large built-up areas	From this viewpoint, only a very narrow, glimpsed view of the southern edge of the site would be possible. The development would tend to go unnoticed. In the long-term the proposed southern boundary hedgerow would ensure screening. No sprawl would be perceived.
	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	The development would be contained within the existing landscape pattern. In the long-term, the proposed southern boundary hedgerow would screen views of the PV development. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.

Viewpoint	Green Belt Aim	Appraisal
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	No applicable to this site.
5. Dilhorne footpath 1 396950, 343323 1330m to the south-west corner of the site	Check the unrestricted sprawl of large built-up areas	Perceived visual effects arising from the development at this viewpoint would be slight (see **Table 4.3**). The south-eastern and northern ends of the site would be visible in gaps in the woodland on the horizon. The development would appear below a cluster of roughly nine electricity pylons. The change in view would not be perceived to be contributing to unrestricted sprawl.
	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	The development would be contained within the existing pattern of the landscape. In the long-term, proposed mitigation measures would screen the development. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.
6. Dilhorne footpath 20, Bowl Barrow at St. Thomas's Trees 397338, 343198 1650m to the south-west corner of the site	Check the unrestricted sprawl of large built-up areas	Similar to *viewpoint 5*, perceived visual effects arising from the development at this viewpoint would be slight (see **Table 4.3**). The south-eastern and northern ends of the site would be visible in gaps in the woodland on the horizon. The development would appear below a cluster of roughly nine electricity pylons. The change in view would not be perceived to be contributing to unrestricted sprawl.
	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	The development would be contained within the existing pattern of the landscape. In the long-term, proposed mitigation measures would screen the development. No encroachment would be perceived.
	Preserve the setting and special character of historic towns	No perceived impact. See **Table 4.1**.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.
7. Bate Lane 398919, 344871	Check the unrestricted sprawl of large built-up areas	The development would not be visible from this viewpoint due to the existing woodland along the site's eastern edge (Dilhorne Wood and Stansmore Wood). No sprawl would be perceived.

Viewpoint	Green Belt Aim	Appraisal
2400m to the north-east corner of the site	Prevent neighbouring towns merging	No perceived impact.
	Assist in safeguarding the countryside from encroachment	No perceived impact.
	Preserve the setting and special character of historic towns	No perceived impact.
	Assist in urban regeneration, by encouraging the recycling of derelict and other urban land	Not applicable to this site.

Conclusions of the Green Belt Appraisal

None of the viewpoints show any significant impacts on the Green Belt purposes. This is primarily because of the following factors:

- The layout respects the existing landscape structure of pastures bounded by hedgerows and woodlands.
- Dilhorne and Stansmore Woods to the east provide a high level of visual containment, meaning there are only limited views of the small parcels of the site from the surrounding area.
- Topography and woodland provide containment of views from the north and west.
- Landscape mitigation has been proposed which in the long-term would improve the structure of the landscape and reduce landscape and visual effects.

The above factors mean that there would be no perceived sprawl, merger, or encroachment from viewpoints near the site or in the surrounding area. This is particularly due to the separation from Stoke-on-Trent (above 2km to the west and totally outside of the ZTV (**Figure 1178/03a**)) and Cheadle (approximately 3.5km to the east and largely outside of the ZTV), which are the nearest towns. The site is topographically separate from these nearest settlements and due to the containment provided to the development by the surrounding landscape, there would be no perceived contribution to sprawl or merger.

With respect to landscape and visual aspects of preserving the setting and special character of historic towns, the development is well-contained and would not be extensively visible from

historic settlements with the exception of Dilhorne, from where the development could easily go unnoticed (see **Table A3.1**, *viewpoints 5* and *6*). The fifth Green Belt purpose would not be applicable to this site, which is currently grazing pasture.

The appraisal concludes that, the development is well-sited with respect to landscape and visual factors, and that the Green Belt purposes would not be harmed.

Appendix 4: Abbreviations

AGLV	Area of Great Landscape Value
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
CAS	Cumulative Assessment Scheme
EA	Environment Agency
EIA	Environmental Impact Assessment
GIS	Geographic Information System
HFV	Horizontal Field of View
HLC	Historic Landscape Character
HSR	High Sensitivity Receptor
IEMA	Institute of Environmental Management and Assessment
LCA	Landscape Character Area
LCT	Landscape Character Type
LI	Landscape Institute
LNR	Local Nature Reserve
LSR	Low Sensitivity Receptor
LVIA	Landscape and Visual Impact Assessment
MSR	Medium Sensitivity Receptor
NCA	National Character Area
NPPF	National Planning Policy Framework
PROW	Public Right of Way
PV	Photovoltaic
SAM	Scheduled Ancient Monument
SCC	Staffordshire County Council
SLA	Special Landscape Area
SMDC	Staffordshire Moorlands District Council
ZTV	Zone of Theoretical Visibility

Appendix 5: Figures

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Figure 1178/01a: Topography and Landscape Character Areas

Figure 1178/01b: Landscape Character Types

Figure 1178/01c: Green Belt

Figure 1178/02: Cultural Heritage and Access

Figure 1178/03a: Zone of Theoretical Visibility of Solar Array (1:50,000 basemap)

Figure 1178/03b: Zone of Theoretical Visibility of Solar Array (1:25,000 basemap)

Figure 1178/04: Assessment Viewpoints

Figures 1178/05.01 to 1178/05.07: Assessment Viewpoint Photographs

Figures 1178/06.01 to 1178/06.06: Site Photographs

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Figure 1462-D012 V1: Landscape and Ecological Management Plan

Appendix 6: References

[i] Landscape Institute and Institute of Environmental Management and Assessment (2013), *Guidelines for Landscape and Visual Impact Assessment: Third Edition.*

[ii] The Countryside Agency and Scottish Natural Heritage (2002), *Landscape Character Assessment Guidance for England and Scotland.*

[iii] National Character Area Profile. Natural England (2013), *64: Potteries and Churnet Valley.*

[iv] Staffordshire County Council (2000), *Planning for Landscape Change: Supplementary Planning Guidance.*

[v] Staffordshire Moorlands District Council (2011), *Landscape and Settlement Character Assessments.*

[vi] Federal Aviation Administration (2010), *Technical Guidance for Evaluating Selected Solar Technologies on Airports.*

[vii] Department for Communities and Local Government (2012), *National Planning Policy Framework.*

[viii] Department for Communities and Local Government (2013), *Planning Practice Guidance for Renewable and Low Carbon Energy.*

[ix] Staffordshire Moorlands District Council (adopted 1998), *Staffordshire Moorlands Local Plan (saved Policies).*

[x] Staffordshire Moorlands District Council (adopted March 2014), *Staffordshire Moorlands Core Strategy.*

[xi] Department for Communities and Local Government (2014), *National Planning Policy Framework.*