



Hilfield Solar Farm and Battery Storage

Landscape and Visual Impact Assessment

on behalf of Elstree Green Limited

Prepared by LDA Design | December 2020 |
Document Reference: R018



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This document has been prepared and checked in accordance with ISO 9001:2015.

1.0 Summary

This assessment describes the existing landscape and views, considers their sensitivity to change and identifies the changes likely to arise from the Proposed Development; providing judgements of the importance of effects arising.

The Proposed Development comprises the construction, operation, management and decommissioning of a grid connected solar farm with battery storage and associated infrastructure including landscape and biodiversity enhancements designed to integrate the development into its landscape context.

The Proposed Development locates solar arrays within the existing field structure and away from existing hedgerows and Public Rights of Way (PRoW) providing buffers to allow vegetation to mature and recreation amenity of paths to be maintained. As part of the iterative design process, solar arrays and other built elements have been pulled back from neighbouring residential properties, including those on Aldenham Road, Butterfly Lane and Watling Street. These areas will be managed for biodiversity and amenity benefit and include the creation of parkland, orchard and skylark habitat enhancement. Additional planting is also proposed to screen views.

Key structuring components of the Proposed Development include the creation of Hilfield Green Wedge, a substantial continuous tract of land remaining free of development and enhanced for biodiversity running from the A41 to Elstree Aerodrome and Aldenham Brook Green Corridor, a wide ecological corridor following the brook and with northern and southern offshoots connecting habitats within and beyond the Site. The corridor would be enhanced for biodiversity with two nature areas allowing engagement and learning with the natural environment and renewable, clean energy. In summary the following Green Infrastructure is proposed:

- Over 7.5ha of grassland and wildflower planting;
- 6.5ha of low intervention skylark habitat enhancement;
- 2.9ha of parkland;
- Two nature areas, including restoration of ponds and two new ponds;
- 0.7ha of orchard;
- 578m of permissive path linking to the Hertfordshire Way and an alternative route around Belstone FC football pitches; and
- 2.4km of green corridors.

Management of new and existing habitats proposed as part of the Proposed development is detailed within the Landscape and Ecology Management Plan (LEMP) (Document Reference R009) submitted as part of the application which will ensure successful establishment of new planting and secure the long-term future management of the Site.

It is acknowledged in paragraph 1.7.2 of the National Policy Statement for Energy (EN-1) the development of new energy infrastructure, at the scale and speed required to meet the current and future need, is likely to have some negative effects on landscape/visual amenity. However, it is considered it should be possible to mitigate satisfactorily the most

significant potential negative effects, using measures such as those proposed within the LEMP (Document Reference R009) and provide significant long-term environmental benefits for the duration of the Proposed Development and beyond.

1.1. Effects on Landscape Character

There are no landscape designations, such as National Parks or Areas of Outstanding Natural Beauty (AONB) within the Site or study area that would be potentially affected by the proposed development.

Effects on landscape character are greatest within the Site and its immediate context where the landscape would change from an agricultural character to containing built form, albeit retaining the fabric of hedgerows and agricultural ability for low intensity sheep grazing underneath and around solar arrays. Effects would diminish swiftly beyond this, as the Proposed Development would be largely screened by a network of established intervening vegetation including scattered woodland blocks set within the context of tall pylons and overhead power lines that traverse the area converging on the Elstree Substation.

The Proposed Development includes substantial new planting and landscape scale interventions, as set out above including the 'Hilfield Green Wedge' and 'Aldenham Brook Green Corridor'. The landscape fabric of the Site would also be retained and enhanced with re-instatement of historic hedgerows and general enhancement to existing hedgerows through relaxation of management allowing them to grow out providing greater biodiversity value. These enhancements will contribute substantially to the character of the Site and locality.

Effects on the Borehamwood Plateau Landscape Character Area in which the Site lies would be **Major- Moderate** and **Adverse** reducing to **Moderate** and **Adverse** in the **Long-term**.

Effects to all other character areas within the LVIA study area would be **Negligible in the Long-term**.

1.2. Effects on Visual Receptors

Visual effects resulting from the Proposed Development would be greatest for receptors within the Site namely PRow and its immediate vicinity (PRow, roads) Private residential dwellings that lie adjacent to the Site would also experience change to the visual amenity from these dwellings where the Proposed Development is likely to be visible through and over layers of intervening vegetation.

For receptors within and adjacent to the Site the solar panels have been set back from these receptors and new planting in the form of wildflower meadow, orchard, parkland, skylark habitat enhancement and screen planting is proposed to mitigate effects. In addition, the area benefits from a strong vegetative network that, in combination with the slightly undulating topography, helps to screen views. The existing vegetative network of the Site would be retained and enhanced with additional planting and relaxation of management regimes allowing vegetation to grow out and provide greater screening than at present.

Long-term effects would be **Major-Moderate** and **Adverse** for visual receptors within the Site (i.e. public rights of way).

For visual receptors in the immediate vicinity of the Site (i.e. within 150m) effects would range from **Moderate** to **Slight Adverse**.

All other visual receptors would experience **Negligible** visual effects.

2.0 Introduction

2.1. Background

LDA Design Ltd was commissioned in June 2020 to carry out a landscape and visual impact assessment (LVIA) of the proposed solar development at Land to the North East and West of Elstree Aerodrome ('the Site') on behalf of Elstree Green Ltd. It forms part of a suite of documents supporting the planning application for this development proposal. The structure of this report is set out in the table of contents.

This assessment defines the existing landscape and visual baseline environments; assesses their sensitivity to change; describes the key landscape and visual related aspects of the proposed development; describes the nature of the anticipated change upon both the landscape and visual environments; and assesses the effects during construction; the period following completion prior to the maturing of mitigation planting (short- to medium-term) and once the mitigation planting is mature (long-term) (the 'operational phase'); and the decommissioning phase.

The assessment has been carried out by William Brown and Ben Croot, Chartered Landscape Architects working for LDA Design Ltd. Both are experienced professionals with extensive experience of working on renewable energy schemes.

Supporting appendices have been prepared that supplement the sections regarding methodology, planning policy and baseline. The appendices are important to the assessment and should be read alongside this report.

2.2. The Site and Proposals

Figure 1 places the Proposed Development within its local context. The Site is approximately 130.6ha in size and is located on land to the north east and west of Elstree Aerodrome. The Site is split into two areas – the eastern land parcel and the western land parcel. Both are characteristic of the area, being predominantly in arable production with a network of established field boundaries.

The large settlement of Bushy lies approximately 250m to the west, Borehamwood 750m to the east and Radlett 790m to the north. The villages of Letchmore Heath lies approximately 530m to the north and Patchetts Green 1km to the northwest.

The Proposed Development comprises the construction, operation, management and decommissioning of a grid connected solar farm with battery storage and associated infrastructure. The Proposed Development would have an export capacity of up to 49.9MW. The battery storage facility would be utilised to reinforce the power generation of the solar farm, storing energy at times of low demand and releasing to the grid in periods of higher demand or when solar irradiance is lower, as well as providing balancing services to maintain National Grid stability.

An underground cable connection would link the two Site parcels which would then connect into the electricity substation at Elstree.

The Site is within the planning jurisdiction of Hertsmere Borough Council (HBC).

2.3. The Study Area

It is accepted practice within landscape and visual assessment work that the extent of the study area for a development proposal is broadly defined by the visual envelope of the proposed development site and the anticipated extent of visibility arising from the development itself, based on the Zone of Theoretical Visibility (ZTV) study.

In this case, a study area of 2 km has been used, being judged as appropriate to cover all potentially material landscape and visual impacts. The extent of the study area is shown on **Figures 1 to 6**.

3.0 Methodology

3.1 Overview

“Landscape and Visual Impact Assessment is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and people’s views and visual amenity.” GLVIA 3, para. 1.1).

Paras. 2.20-2.22 of the same guidance indicate that the two components (assessment of landscape effects, and assessment of visual effects) are *“related but very different considerations”*.

The assessment method for this LVIA draws upon the established GLVIA 3; An Approach to Landscape Character Assessment (Natural England, 2014), Landscape Institute Technical Information Note (LI TIN) 05/2017 regarding townscape character; and LI Technical Guidance Note 06/19 Visual Representation of development proposals, and other recognised guidelines.

The methodology is described in more detail in **Appendices 3 and 4**.

3.2. Assessment Terminology and Judgements

A full glossary is provided in **Appendix 1**. The key terms used within this assessment are:

- Susceptibility and Value – which contribute to Sensitivity of the receptor;
- Scale, Duration and Extent – which contribute to the Magnitude of effect; and
- Significance.

These terms are described in more detail below.

3.2.1. Sensitivity of the Receptor

Susceptibility indicates the ability of a landscape or visual receptor to accommodate the proposed development *“without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.”* (GLVIA3, para. 5.40).

High	Undue consequences are likely to arise from the proposed development.
Medium	Undue consequences may arise from the proposed development.
Low	Undue consequences are unlikely to arise from the proposed development.

Susceptibility of landscape character areas is influenced by their characteristics and is frequently considered (though often recorded as ‘sensitivity’ rather than susceptibility) within documented landscape character assessments and capacity studies.

Susceptibility of designated landscapes is influenced by the nature of the special qualities and purposes of designation and/or the valued elements, qualities or characteristics,

indicating the degree to which these may be unduly affected by the development proposed.

Susceptibility of accessible or recreational landscapes is influenced by the nature of the landscape involved; the likely activities and expectations of people within that landscape and the degree to which those activities and expectations may be unduly affected by the development proposed.

Susceptibility of visual receptors is primarily a function of the expectations and occupation or activity of the receptors (GLVIA 3rd version, para 6.32).

Landscape Value is *“the relative value that is attached to different landscapes by society”* (GLVIA3, page 157).

National / International	Designated landscapes which are nationally or internationally designated for their landscape value.
Local / District	Locally or regionally designated landscapes; also areas which documentary evidence and/or site observation indicates as being more valued than the surrounding area.
Community	‘Everyday’ landscape which is appreciated by the local community but has little or no wider recognition of its value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by the community.

Areas of landscape of greater than Community value may be considered to be ‘valued landscapes’ in the context of NPPF paragraph 170.

Sensitivity is assessed by combining the considerations of susceptibility and value described above. The differences in the tables below reflect a slightly greater emphasis on value in considering landscape receptors, and a greater emphasis on susceptibility in considering visual receptors.

Landscape Sensitivity

		Susceptibility		
		High	Medium	Low
Value	National / International	High	High-Medium	Medium
	Local / District	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Limited	Low	Low-Negligible	Negligible

Visual Receptor Sensitivity

		Susceptibility		
		High	Medium	Low
Value	National / International	High	High-Medium	Medium
	Local /District	High-Medium	High-Medium	Medium
	Community	High-Medium	Medium	Medium-Low
	Limited	Medium	Medium-Low	Low

For visual receptors; susceptibility and value are closely linked - the most valued views are also likely to be those where viewer’s expectations will be highest. The value attributed relates to the value of the view, e.g. a National Trail is nationally valued for access, not necessarily for the available views. Typical examples of visual receptor sensitivity are plotted in a diagram in **Appendix 2**.

3.2.2. Magnitude of Effect

Scale of effect is assessed for all landscape and visual receptors and identifies the degree of change which would arise from the development.

Large	Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed.
Medium	Partial alteration to key elements, features, qualities or characteristics, such that post development the baseline will be noticeably changed.
Small	Minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences.
Negligible	Very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences.

Duration of effect is assessed for all landscape and visual receptors and identifies the time period over which the change to the receptor as a result of the development would arise.

Permanent	The change is expected to be permanent and there is no intention for it to be reversed.
Long-term	The change is expected to be in place for 10-25 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Medium-term	The change is expected to be in place for 2-10 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.
Short-term	The change is expected to be in place for 0-2 years and will be reversed, fully mitigated or no longer occurring beyond that timeframe.

Most effects will be Long term or Permanent; however, Medium- or Short-term effects may be identified where mitigation planting is proposed or local factors will result in a reduced duration of effect (for example where maturing woodland will screen views in future). The effects arising from the construction of the development will usually be Short term.

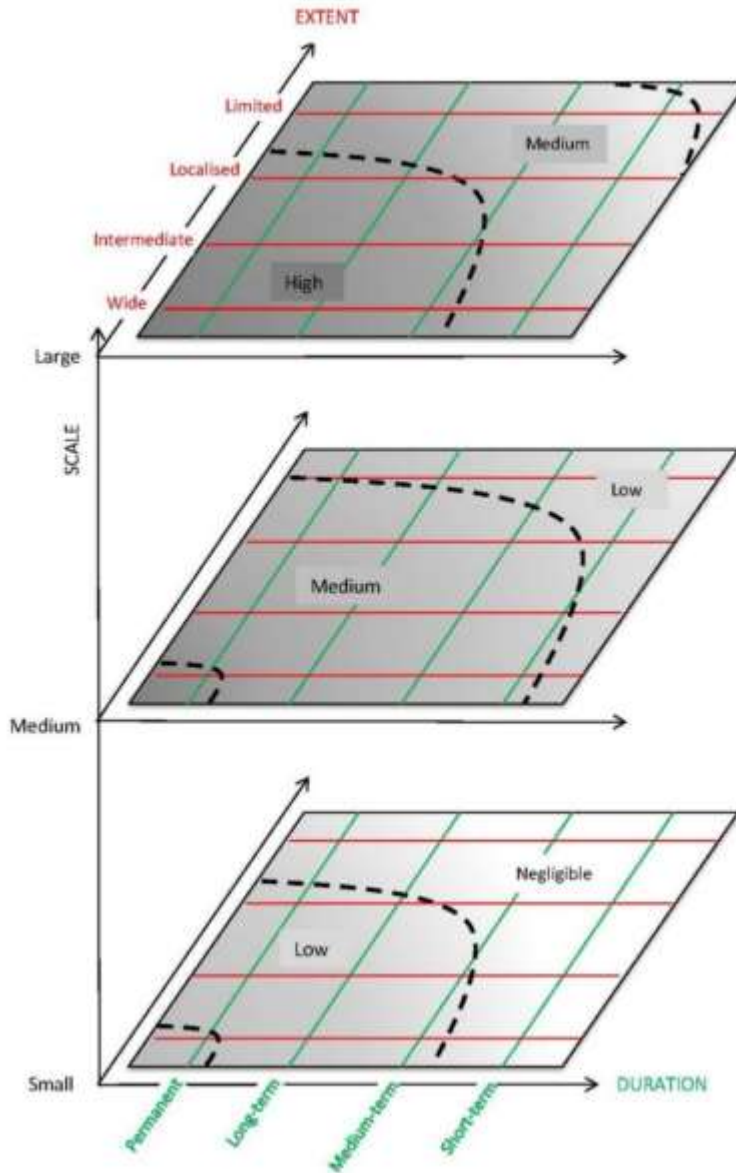
The Proposed Development is anticipated to be operational for up to 35 years and fully reversible upon de-commissioning. The 'Long-term' category is therefore used for operational duration with the acknowledgment given the 35-year timeframe they would be 'semi-permanent'.

Extent of effects is assessed for all receptors and indicates the geographic area over which the effects will be felt.

Wide	Beyond 4km, or more than half of receptor.
Intermediate	Up to approx. 2-4km, or around half of receptor area.
Localised	Site and surroundings up to 2km, or part of receptor area (up to approx. 25%).
Limited	Site, or part of site, or small part of a receptor area (< approx. 10%).

The **Magnitude** of effect is informed by combining the scale, duration and extent of effect. **Diagram 1** below illustrates the judgement process:

Diagram 1: Magnitude of Effect

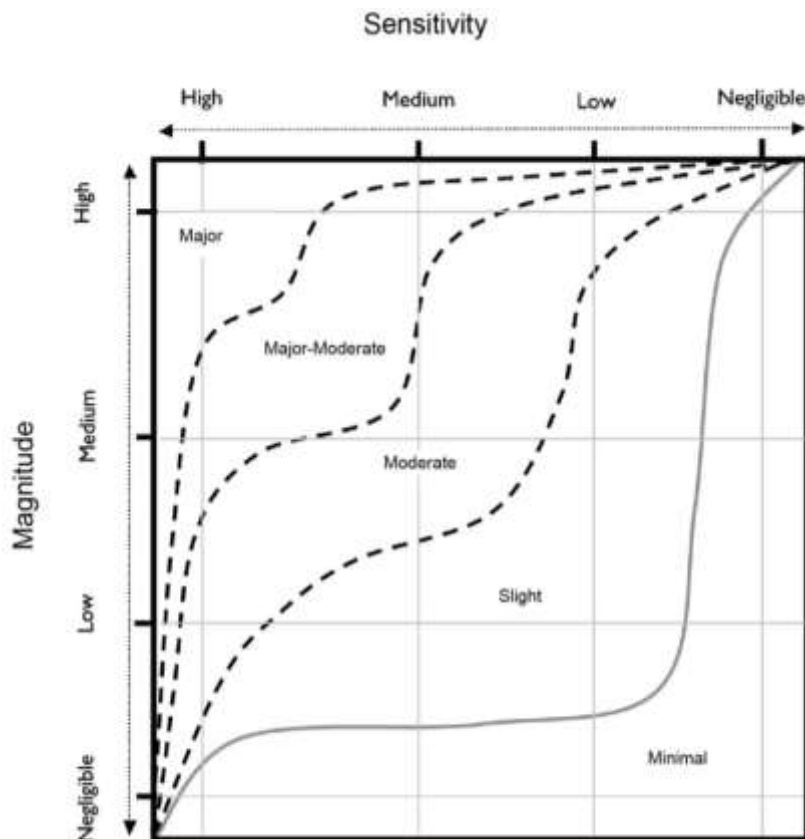


As can be seen from the illustration above, scale (shown as the layers of the diagram) is the primary factor in determining magnitude; most of each layer indicates that magnitude will typically be judged to be the same as scale, but may be higher if the effect is particularly widespread and long lasting, or lower if it is constrained in geographic extent or timescale. Where the Scale of effect is judged to be Negligible the Magnitude is also assumed to be Negligible and no further judgement is required.

3.2.3. Significance

Significance indicates the importance or gravity of the effect. The process of forming a judgement as to the degree of significance of the effect is based upon the assessments of magnitude of effects and sensitivity of the receptor to come to a professional judgement of how important this effect is. This judgement is illustrated by the diagram below:

Diagram 2: Significance



The significance ratings indicate a 'sliding scale' of the relative importance of the effect, with Major being the most important and Minimal being the least. Effects that are towards the higher level of the scale (Major) are those judged to be most important, whilst those towards the bottom of the scale are "of lesser concern" (GLVIA, 3rd edition, para 3.35).

Where intermediate ratings are given, e.g. "Moderate-Slight", this indicates an effect that is both less than Moderate and more than Slight, rather than one which varies across the range. In such cases, the higher rating will always be given first; this does not mean that the impact is closer to that higher rating, but is done to facilitate the identification of the more significant effects within tables. Intermediate judgements may also be used for judgements of Magnitude.

3.2.4. Positive / Adverse / Neutral

Effects are defined as adverse, neutral or positive. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both.

The decision regarding the significance of effect and the decision regarding whether an effect is beneficial or adverse are entirely separate. For example, a rating of Major and Positive would indicate an effect that was of great significance and on balance positive, but not necessarily that the proposals would be extremely beneficial.

Whether an effect is Positive, Neutral or Adverse is identified based on professional judgement. GLVIA 3rd edition indicates at paragraph 2.15 that this is a “*particularly challenging*” aspect of assessment, particularly in the context of a changing landscape.

3.3. Cumulative Assessment

Cumulative assessment relates to the assessment of the effects of more than one development. For each of the identified cumulative schemes within the study area agreement is reached with the Planning Authority as to whether and how they should be included in the assessment.

Developments that are subject to a valid planning application are included where specific circumstances indicate there is potential for cumulative effects to occur, with progressively decreasing emphasis placed on those which are less certain to proceed. Typically, operational and consented developments are treated as being part of the landscape and visual baseline. i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed.

No developments requiring cumulative assessment were identified in this instance.

3.4. Residential Amenity

This LVIA does not include a separate residential amenity assessment. It is considered that the effects resulting from the proposed development would fall below the Residential Visual Amenity Threshold referred to in LI TGN 02/2019 as visual effects “*of such nature and / or magnitude that it potentially affects ‘living conditions’ or Residential Amenity*”. The guidance note further indicates that “*It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook / visual amenity of a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before.*”

3.5. Glint and Glare

The detailed assessment of glint and glare is a specialist area of expertise that is outwith the scope of an LVIA. A comprehensive technical assessment of glint and glare has been prepared by Pager Power and is submitted as part of the planning application (Document Ref. R007). The LVIA and glint and glare assessment have been prepared in collaboration with findings from each informing both assessments.

The definition of glint and glare can vary. However, the definition used by Pager Power which is aligned with the Federal Aviation Administration (FAA) in the United States of America is as follows:

- Glint – a momentary flash of bright light typically received by moving receptors or from moving reflectors;
- Glare – a continuous source of bright light typically received by static receptors or from large reflective surfaces.

In context, glint will be witnessed by moderate to fast moving receptors whilst glare would be encountered by static or slow-moving receptors with respect to a reflector. The term ‘solar reflection’ is used in this report to refer to both reflection types i.e. glint and glare.

UK Planning Policy Context

UK planning guidance does not provide a specific methodology for assessing the impact of glint and glare.

The Planning Practice Guidance for Renewable and low carbon energy (2015) specifically regarding the consideration of solar farms at paragraph 013 states:

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

Particular factors a local planning authority will need to consider include [inter alia]:

- *the proposal’s visual impact, the effect on landscape of glint and glare (see guidance on landscape assessment) and on neighbouring uses and aircraft safety;*
- *the extent to which there may be additional impacts if solar arrays follow the daily movement of the sun.”*

3.6. Green Belt

Green Belt is a land use designation rather than one which indicates a valued landscape. However, landscape and visual matters can be considerations in the effects on openness.

As the site lies within Green Belt, an assessment of the potential harm to the five purposes of Green Belt as set out in paragraph 134 of the NPPF is provided in the separate Green Belt Report appended to the Planning Statement (Document Reference R003) which also considers the planning case in relation to Green Belt including Very Special Circumstances (VSC).

3.7. Distances

Where distances are given in the assessment, these are approximate distances between the nearest part of the Site and the nearest part of the receptor in question, unless explicitly stated otherwise.

3.8. Assumptions and Limitations

3.8.1. Desk-study & Fieldwork

The baseline conditions of the Site and the surrounding landscape described in the subsequent sections has been informed by desk-study and fieldwork (undertaken from

August to November 2020). This timeframe allows for both summer and winter conditions, where the screening effects of deciduous vegetation are smaller, to be considered.

A ZTV study (**Figure 4**) has been produced and used as tools to inform the professional judgements made in this LVIA during the iterative masterplan process and stages. The ZTV study has been modelled on the maximum development parameters but does not take into account smaller scaler, local screening features such as hedgerows, individual trees or micro topography.

4.0 Planning Policy

4.1 National Planning Policy

Relevant national planning policy is set out in **Appendix 4**.

4.2 Local Planning Policy

The site lies within Hertsmere Borough Council (HBC). Policies relevant to this LVIA are illustrated on **Figure 2**.

Current local planning policy is set out within Hertsmere Local Plan 2012-2027. This comprises the Core Strategy (2013) and Site Allocations and Development Management (SADM) Policies Plan, along with the Elstree Way Corridor Area Action Plan.

A small area within the south of the 2km study area lies within the London Borough of Harrow. This area is within a wider Special Landscape Area within Harrow Borough. However, as this area covers a small extent of the study area and is unlikely to be affected by the Proposed Development (refer to **Section 6**) no policy summary is provided within this LVIA.

No Neighbourhood Plans have been adopted by HBC although Radlett Neighbourhood Plan 2019-2026 has undergone independent examination and will be put to referendum for adoption in May 2021. This Plan covers the town of Radlett and its hinterland approximately 400m to the north of the Site at its closest boundary. Review of the Radlett Neighbourhood Plan has concluded no policies are relevant to this LVIA.

Policies of relevance to this LVIA are summarised below.

4.2.1 Hertsmere Local Plan Core Strategy (January 2013)

This document forms part of the statutory development plan for the Borough, setting out HBC's vision and strategy for the area. Those policies of relevance to this LVIA are summarised below.

- **Policy SP2 - Presumption in Favour of Sustainable Development**

“When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly, in particular through the preapplication process, to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.”

- **Policy CS12 – Enhancement of the Natural Environment**

“All development proposals must conserve and enhance the natural environment of the Borough, including biodiversity, habitats, protected trees, landscape character, and sites of ecological and geological value, in order to maintain and improve environmental quality, and contribute to the objectives of the adopted Greenways Strategy and the Hertsmere Green Infrastructure Plan. Proposals should provide opportunities for habitat creation and enhancement throughout the life of a development.”

- **Policy CS15 – Promoting recreational access to open spaces and the countryside**

“The Council will work with its partners and relevant agencies to safeguard, enhance and facilitate access to parks, open spaces, rural visitor attractions and to the wider local countryside.. Measures which secure the provision of safer and more secure car-free access including enhancements and additions to the rights of way / Greenways network as set out in the Council’s Greenways Strategy, will be actively sought where they do not present a risk to the biodiversity value and intrinsic environmental quality of the locality. The provision or enhancement of visitor and appropriate facilities in the countryside, including Watling Chase Community Forest Gateway Sites and Historic Parks and Gardens, will be encouraged...”

- **Policy CS22 - Securing a high quality and accessible environment**

In line with the Planning and Design Guide SPD the Council will require all development to be of high quality design, which ensures the creation of attractive and usable places. Development proposals should take advantage of opportunities to improve the character and quality of an area and conserve the Borough’s historic environment...”

4.2.2. Site Allocations and Development Management Policies Plan (November 2016)

This document provides further policy guidance in support of the Core Strategy. Relevant policies are summarised below:

- **Policy SADM11 - Landscape Character**

“Development will be managed to help conserve, enhance and/or restore the character of the wider landscape across the borough. Individual proposals will be assessed for their impact on landscape features to ensure that they conserve or improve the prevailing landscape quality, character and condition, including as described in the Hertfordshire Landscape Character Assessments. The location and design of development and its landscaping will respect local features and take opportunities to enhance habitats and green infrastructure links. Landscaping schemes should use native species which are appropriate to the area.”

- **Policy SADM12 - Trees, Landscaping and Development**

“Planning permission will be refused for development which would result in the loss, or likely loss, of:

(i) healthy, high quality trees subject to a Tree Preservation Order; or

(ii) any healthy, high quality trees and/or hedgerows that make a valuable contribution to the amenity or environment of the area in which they are located...

All development affecting trees, hedgerows and other plants or landscaping should be consistent with the Biodiversity, Trees and Landscape SPD and BS5837 (or any subsequent guidance). This includes the requirement for appropriate landscaping schemes and, if necessary, replacement trees.”

- **Policy SADM13 – The Water Environment**

“The natural environment of watercourses and areas of water will be improved wherever possible through Policy SADM16. Watercourses, including culverts, land adjacent to rivers, functional floodplains and flood storage areas should be restored to their natural state.”

- This policy is further supported by Policy **SADM16** which sets out further guidance in relation to watercourses and development.

- **Policy SADM28 - Watling Chase Community Forest**

“The Watling Chase Community Forest and its gateway sites are indicated on the Policies Map. The Forest Plan and supplementary planning guidance will be material considerations in the determination of planning applications in the Forest area. The Forest Plan also provides the framework for formulating and implementing projects in partnership with the Countryside Management Service, Natural England, Forestry Commission and the other local authorities.”

- Heritage Assets, including Registered Parks and Gardens are protected under Policy **SADM29**, including their setting.

- **Policy SADM30 - Design Principles**

“Development which complies with the policies in this Plan will be permitted provided it:

(i) makes a positive contribution to the built and natural environment;

(ii) recognises and complements the particular local character of the area in which it is located, and

(iii) results in a high quality design.

In order to achieve a high quality design, a development must:

(i) respect, enhance or improve the visual amenity of the area by virtue of its scale, mass, bulk, height, urban form; and

(ii) have limited impact on the amenity of occupiers of the site, its neighbours, and its surroundings in terms of outlook, privacy, light, nuisance and pollution.”

4.2.3. **Biodiversity and Trees Supplementary Planning Document (SPD) (2010)**

This document, adopted as SPD by HBC, provides overarching guidance in relation to biodiversity and trees within the Borough. Parts C and D specifically relate to trees and protected trees, woodlands and hedgerows respectively and set out practical guidance in relation to the considering these features in the planning and design process.

4.2.4. **Watling Chase Community Forest Supplementary Planning Guidance (SPG) (undated)**

This document provides overarching advice for landowners, developers and users to highlight the importance of the Watling Chase Community Forest and to explain how development proposals within it can help achieve its objectives. The main objectives of the Community Forest are identified as [inter alia]:

- *“creating a visually exciting and functionally diverse environment;*
- *regenerating the environment of the Green Belt and similar areas;*
- *protecting sites of nature conservation value and creating new opportunities for nature conservation;*

- *protecting areas of high quality landscape*
- *increasing opportunities for sport and recreation and improving access to the countryside;*
- *providing new opportunities for the educational use of the area"*

In relation to development proposals within the Forest the document states [*inter alia*]:

- *"measures to ensure that a development proposal has overall a beneficial impact on the Forest, for example by compensating for any loss of amenity caused, should be built into the development scheme."*
- *"other benefits to the Forest which could be achieved, for example improving public access or public enjoyment of the Forest, and which are relevant to the development proposal should be considered."*
- *"Provision for the long-term management of open space, planting etc. should be planned."*

4.3. Local Guidance

4.3.1. Climate Change and Sustainability: Interim Planning Policy Position Statement (Nov 2020)

This document sets out HBC's interim position in relation to planning applications in terms of meetings its commitment to achieving carbon neutrality until adoption of the new Local Plan. The document details a number of clarification and guidance points in relation to existing policy and how HBC will interpret these in light of it declaring a Climate Emergency. In essence this document strengthens further the need for all planning proposals to respond and contribute positively to the need to deliver sustainable development that assists in combatting climate change. In particular, Policy CS17 – Energy and CO2 reduction which states [*inter alia*]:

"The Council will also permit new development of sources of renewable energy generation subject to:

- *local designated environmental assets and constraints, important landscape features and significant local biodiversity;*
- *minimising any detriment to the amenity of neighbouring residents and land uses; and*
- *meeting high standards of sustainable design and construction."*

In addition, the document adds the following guidance text to Policies SADM11 Landscape Character and SADM12 Trees:

"The Council wish to see proposals for real and significant landscape and green infrastructure improvements integrated to all planning applications.

Green infrastructure should be integrated as a key component of all schemes but in particular for major developments. Developers will be expected to include proposals for the management and maintenance of such infrastructure as part of their proposals."

4.3.2. Other Local Guidance

In addition to the policy documents identified above, there are a number of local guidance documents relevant to this LVIA, which are as follows:

- GreenArc Strategic Green Infrastructure Plan (with Hertfordshire) (2011).
- Hertsmere Borough Green Infrastructure Plan (2011).
- Watling Chase Forest Plan Review (2001).
- Hertfordshire Landscape Character Assessment: Hertsmere (2000).

These documents form part of the documented baseline.

These landscape character assessments are reviewed in **Section 5.4**.

5.0 Baseline

5.1. Introduction

An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors being provided alongside the assessment in **Section 6.0** for ease of reference.

This section provides a review of the key local guidance documents and identifies those landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are not taken forward for further assessment as effects *“have been judged unlikely to occur or so insignificant that it is not essential to consider them further”* (GLVIA3, para. 3.19).

Both this baseline section and the effects section describe townscape / landscape character and visual receptors before considering designated landscape. It is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation. It therefore makes a more natural reading sequence to draw together those aspects of character and views which relate to the designation if they have been described earlier in the report.

5.2. Key Local Guidance Documents

The following guidance documents provide advice relevant to the Site’s context and / or this assessment, as follows:

- GreenArc Strategic Green Infrastructure Plan (with Hertfordshire) (2011).
- Hertsmere Borough Green Infrastructure Plan (2011).
- Watling Chase Forest Plan Review (2001).
- Hertfordshire Landscape Character Assessment: Hertsmere (2000).

These are considered in turn below.

5.2.1. GreenArc Strategic Green Infrastructure Plan (with Hertfordshire) (2011).

This document provides overarching guidance for Green Infrastructure (GI) in Hertfordshire, mapping existing GI and identifying a number of key strategic GI interventions across the county. In relation to the Site and study area the document identifies the Site within the ‘woodland arc’ GI project area, which covers a large tract of land from Bushey in the southwest to Hoddesdon in the northeast where *“Recognition of the value of woodlands as a multi-functional & strategic GI asset, & to deliver aims & aspirations of related partners”* is sought including the linking of woodland and increasing the diversity of woodland habitats.

The document also identifies the aspiration to reconnect into wider GI networks within the study area by means of *“Reconnection of Rights of Way that have been severed by major barriers to the movement of people & wildlife (e.g. by rivers, canals & dual carriageways)”*, particularly those that connect into the All London Green Grid.

5.2.2. Hertsmere Borough Green Infrastructure Plan (2011).

This document supports the GreenArc Plan and provides further detail at a local borough level. In relation to the Site and study area, the document identifies opportunities for 'wetland habitat zones' along Hilfield Brooks and Addenham Brook, 'small scale conservation zones' between Letchmore Heath and Elstree Aerodrome and the opportunity to create green links to Hilfield Reservoir linking to the wider London Loop and London greenspace network.

5.2.3. Watling Community Forest - Forest Plan Review (2001)

This document provides a review and update of the Watling Chase Forest Plan from 1995. The document is now 19 years old and much of the information and analysis is out of date. The document does however form part of evidence base to the adopted Hertsmere Local Plan and identifies 'landscape character zones' with planting targets assigned to them.

5.2.4. Hertfordshire Landscape Character Assessment: Hertsmere (2000)

This document provides the main character analysis for the Borough and is used as the basis of assessment of landscape character for the LVIA. It is considered in more detail in **Section 5.4.**

5.3. Zone of Theoretical Visibility (ZTV) Study

The topography of the study area is illustrated in **Figure 3**. This analysis underpins the ZTV study which was generated based on the proposed design and has been used as a tool to inform the professional judgements made in this LVIA during the iterative masterplan process and stages.

The ZTV is shown on **Figure 4**, indicating areas of potential visibility of the Proposed development from the surrounding landscape for the eastern (purple) and western (blue) sites. The analysis was carried out using a topographic model that included settlements and woodlands (derived from NEXTMAP 25 surface mapping data) as visual barriers in order to provide a more realistic indication of the potential visibility.

The Proposed Development is modelled on the scheme as set out in the general arrangement drawing (Drawing HF2.0).

The ZTV study was used to determine which landscape and visual receptors are likely to be affected and merit detailed consideration in the assessment of effects.

It should be borne in mind that the ZTV represents a theoretical model of the potential visibility of the proposed development. In reality, landscape features such as trees, hedgerows, embankments, landform and / or buildings found on the ground, but not accounted for within the surface mapping dataset, are likely to combine to screen the Proposed Development to a greater degree. As a result, the extent of actual visibility experienced on the ground will be less than suggested by the ZTV study.

ZTV and Zone of Visual Influence (ZVI)

The ZTV study shown on **Figure 4** indicates that the theoretical visibility of the Proposed Development would be concentrated within a relatively narrow area of the surrounding countryside between Bushey, Radlett and Borehamwood, which is concentrated within 1-2km of the Site boundaries.

To the north, theoretical visibility does not extend beyond Radlett (approximately 1km from the eastern Site section) due to a band of higher ground to the east of the River Colne. Theoretical visibility is indicated for the eastern site on the fringes of Radlett around Butlers Green and the western site around Pound Bush and High Cross, with scattered theoretical visibility around Patchetts Green.

Theoretical visibility is confined to a limited area east of the Site, including Hilfield Aerodrome and a narrow band along Watling Street. A small pocket of theoretical visibility is also indicated further east at the very edge of the study area at Lyndhurst and Wood Hall Farm.

To the south, the ZTV is very limited on account of Hilfield Reservoir and woodland at Aldenham House Park which forms an effective barrier to views.

To the west, theoretical visibility is predominantly generated by the western site parcel indicating a small strip of land between the M1 and settlement edge of Bushey. In reality, views from this are heavily filtered by vegetation along the M1 and A41 allowing only glimpses of the Proposed Development. A small area at Calderton Hill is also highlighted in relation to the eastern site parcel.

The anticipated main area of visibility, refined through site visits and hereafter referred to as the 'Zone of Visual Influence' (ZVI), is described below and shown on **Figure 4**.

As with the ZTV, the ZVI is limited to areas immediately adjacent to the Site owing to the relatively flat topography and strong vegetative network of woodland blocks and field boundaries within the landscape.

Field study has confirmed there no views of the Proposed Development are possible in Letchmore Heath nor further north around Pound Bush and High Cross (**Figure 8.1 Illustrative viewpoint B and C**). Views from Patchetts Green are also not possible given intervening vegetation. Glimpsed views through intervening field boundary vegetation are possible from the footpath network in close proximity to the Site (**Figure 7.5**) but these are limited to the upper slopes of the western parcel.

Field study also confirms that visibility to south is limited to the immediate vicinity of the Site, principally along Butterfly Lane for the eastern site parcel, as a result of established woodland at Aldenham Park; and for the western site parcel Hilfield Reservoir and its associated vegetation which forms an effective barrier to potential views further south.

To the east, vegetation along Watling Street forms an effective barrier to views further west. Field study has confirmed no views are possible further west from higher ground around Lyndhurst and Woodhall Farm (**Figure 8.4 Illustrative viewpoint G**) nor from the settlement edge of Borehamwood.

Vegetation and intervening road infrastructure also form effective visual barriers to visual receptors in the west. Glimpsed views through to parts of the western Site parcel are possible from the fringes of Bushey (**Figure 7.10**) although even close range views from local elevated vantage points such as the footbridge over the M1 (**Figure 8.2 Illustrative viewpoint D**) views are screened by intervening vegetation of the A41 and Hilfield Reservoir. Further west, vegetation, topography and built form of Bushey combine to screen views from these areas.

In areas between the two site parcels at Elstree Aerodrome (**Figure 8.1 Illustrative view A**), the flatter land of this local plateau, the falling topography and intervening field boundary vegetation obstruct views. This area between the Sites would be the route of the underground cable connecting the eastern site parcel with the western site parcel. Construction would be temporary and the cable site underground therefore no substantial visual intrusion is anticipated to receptors in this area.

Based on fieldwork observations, it is judged that effects on landscape or visual receptors outside the ZVI described above would experience **Negligible** change and are not assessed in further detail in this report.

5.4. Landscape Character

Paragraphs 5.13-5.15 of GLVIA, 3rd edition indicates that landscape character studies at the national or regional level are best used to “*set the scene*” and understand the landscape context. It indicates that Local Authority Assessments provide more detail and that these should be used to form the basis of the assessment of effects on landscape character – with (appropriately justified) adaptation, refinement and interpretation where required.

Relevant assessments are:

- Natural England Character Area Profiles (2014)
- Hertfordshire Landscape Character Assessment: Hertsmere (2000)

Copies of relevant maps and character assessment descriptions of areas taken forward for assessment in **Section 7.2** are included in **Appendix 5**.

5.4.1. National Landscape Character Area (NCA) Profiles

At a national level, the Site is situated entirely within National Character Area (NCA) 111: Northern Thames Basin as identified in Natural England’s National Character Area Profiles.

The Northern Thames Basin Heaths NCA occupies a large area to the north of Greater London from Watford eastward to Southminster and Southend on Sea. Land within the east of this NCA forms part of the Metropolitan Green Belt. In the west of this NCA, 20th-century development has given rise to large and densely settled conurbations including built forms of Watford, Enfield and Chigwell. Further east, including the Site, settlement is more dispersed although large towns such as Brentwood, Billericay and Brentwood are present. The far east of the NCA sees the transition into the coastal lowlands of the east coast.

Key characteristics of relevance to the Site and study area include [*inter alia*]:

- *“The landform is varied with a wide plateau divided by river valleys. The prominent hills and ridges of the ‘Bagshot Hills’ are notable to the northwest and extensive tracts of flat land are found in the south.”*
- *“Characteristic of the area is a layer of thick clay producing heavy, acidic soils, resulting in retention of considerable areas of ancient woodland.”*
- *“Diverse landscape with a series of broad valleys containing the major rivers Ver, Colne and Lea, and slightly steeper valleys of the rivers Stour, Colne and Roman. Numerous springs rise at the base of the Bagshot Beds and several reservoirs are dotted throughout the area.”*
- *“The pattern of woodlands is varied across the area and includes considerable ancient semi-natural woodland. Hertfordshire is heavily wooded in some areas as are parts of Essex, while other areas within Essex are more open in character. Significant areas of wood pasture and pollarded veteran trees are also present.”*
- *“Mixed farming, with arable land predominating in the Hertfordshire plateaux, parts of the London Clay lowlands and Essex heathlands.”*
- *“The diverse range of semi-natural habitats include ancient woodland, lowland heath and floodplain grazing marsh and provide important habitats for a wide range of species including great crested newt, water vole, dormouse and otter.”*
- *“Rich archaeology including sites related to Roman occupation, with the Roman capital at Colchester and City of St Albans (Verulamium) and links to London. Landscape parklands surrounding 16th- and 17th-century rural estates and country houses built for London merchants are a particular feature in Hertfordshire.”*
- *The medieval pattern of small villages and dispersed farming settlement remains central to the character of parts of Hertfordshire and Essex. Market towns have expanded over time as have the London suburbs and commuter settlements, with the creation of new settlements such as the pioneering garden city at Welwyn and the planned town at Basildon.”*

The NCA profiles also include Statements of Environmental Opportunity (SEO). Of relevance to this LVIA, opportunities within this NCA include [*inter alia*]:

- *“SEO 1: Manage rivers and river valleys to protect and improve water quality and help to alleviate flooding in the downstream urban areas, while also helping to improve aquifer recharge and provide a sufficient store of water to meet future need, especially with predicted climatic changes. Conserve the riparian landscapes and habitats, for their recreational and educational amenity for their internationally significant ecological value.”*
- *“SEO 2: Manage the agricultural landscape and diverse range of soils which allow the Northern Thames Basin to be a major food provider, using methods and crops that retain and improve soil quality, water availability and biodiversity.”*
- *SEO 3: E Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for habitat restoration and sustainable development, ensuring high design standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between*

rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits.”

- *“SEO 4: Manage and expand the significant areas of broadleaf woodland and wood pasture, and increase tree cover within urban areas, for the green infrastructure links and important habitats that they provide, for the sense of tranquillity they bring, their ability to screen urban influences and their role in reducing heat island effect and sequestering and storing carbon.”*

The Site and the immediate surrounding area are not specifically referenced within the NCA publication. NCAs provide useful contextual background to the assessment. However, due to their scale they are insufficiently detailed to provide a detailed understanding of local landscape character suitable for assessment.

5.4.2. Local Landscape Character

Hertfordshire Landscape Character Assessment (2001)

This document identifies landscape character areas at the local level and is used as the basis of assessment for this LVIA. The following landscape character areas are within the 2km study area (**Figure 5**):

- Aldenham Plateau;
- Borehamwood Plateau;
- Bushey Hill Pastures;
- Bushy Swards;
- Elstree Ridge and Slopes; and
- High Cannon Valley and Ridges.

The Site lies within the Borehamwood Plateau Landscape Character Area (LCA) and therefore this LCA is taken forward for detailed assessment in **Section 7.3**.

The ZTV (**Figure 4**) also indicated visibility to the Aldenham Plateau character area immediately adjacent to the north of the Site and this character area is also taken forward for further assessment in **Section 7.3**.

Other character areas have very limited to no theoretical visibility and would not be affected by the Proposed Development. Whilst there is theoretical visibility indicated in the ZTV (**Figure 4**) to the Elstree Ridge and Slopes LCA at the eastern settlement edge of Bushey, these views are heavily filtered (**Figure 7.10**) and no other areas of this character are indicated as having visibility.

The scale of changes to these LCAs as a result of the Proposed Development would be no greater than **Negligible** and therefore are not considered further as part of this LVIA.

5.5. Visual Receptors

Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA, 3rd edition, para 6.3). In order to identify those groups who may be significantly affected the ZTV study, baseline desk study and site visits have been used.

The different types of groups assessed within this report encompass local residents; people using key routes such as roads; cycle ways, people within accessible or recreational landscapes; people using PRoW; or people visiting key viewpoints. In dealing with areas of settlement, PRoW and local roads, receptors are grouped into areas where effects might be expected to be broadly similar, or areas which share particular factors in common.

Twelve representative viewpoints have been selected to assess the effects on visual receptors and agreed with HBC (**Appendix 6**). In addition, specific viewpoints may be identified where there are key promoted viewpoints within the study area, or illustrative viewpoints to “*demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations*” (GLVIA, 3rd edition, para 6.19).

No specific views have been identified for this LVIA however 6 illustrative views have been identified (**Figure 4**) as field verification of the ZTV to demonstrate where no visibility is possible.

5.5.1. Visual Environment of Existing Site

As shown in **Figure 1** the Site is located in an area of land between the towns of Bushey, Radlett and Borehamwood. The area in general is characterised by large scale settlement, agricultural land and a relatively strong vegetative network of field boundaries and woodland blocks.

The eastern site parcel occupies a gently undulating (**Figure 3**) area of the Borehamwood Plateau and comprises agricultural fields used for arable and rough grazing. There is a strong network of vegetation within and near to the Site which serves to limit views including the scrubby vegetation along the Aldenham Brook, internal field boundaries, vegetation along Butterfly Lane (including Aldenham Park) and vegetation aligning Watling Street and Aldenham Road. Scrubby vegetation is also present on the former landfill site within the Site (Field 20). The presence of powerlines, small scale light industry at Slades Farm, and sports complex buildings and floodlighting of Aldenham School and Haberdashers’ Aske’s school are visible from within the locality.

Views are generally restricted to the north by field boundary vegetation, to the east by vegetation along Watling Street, to the south by vegetation along Butterfly Lane and to the west by vegetation along Aldenham Road.

The western site parcel is characterised by its bowl like landform as it rises up to Elstree Aerodrome (**Figure 3**). Vegetation of along the A41 and Hilfield Lane serve to restrict views of the lower fields, which gently undulate eastward, although the central fields on the slope of the bowl are more visually open where longer distance views to tall buildings in Watford are possible. An established belt of vegetation forms an effective visual screen along the eastern boundary of the western site parcel.

Views are also generally limited to the north by field boundary vegetation and topography of the landform, to the east by field boundary vegetation, to the south by vegetation at Hilfield Castle and reservoir and the west by vegetation along the A41 and M1.

5.6. Visual Receptor Groups

Visual effects are assessed for groups of visual receptors within close proximity of each other and that are judged to experience similar visual effects arising from the proposed development. These are referred to as ‘visual receptor groups’ and include motorists on local roads, users of rights of way and local residents or visitors to settlements.

The following visual receptor groups have been identified within the extent of the ZVI (described in **Section 5.3**) and are taken forward for detailed assessment in **Section 7.4**. The extents of the Visual Receptor Groups described below.

It is judged that for those visual receptors located outside of the ZVI there would be little to no visibility of the proposed development, and that effects would be **Negligible** at most. Visual receptors located outside of the ZVI are not taken forward for detailed assessment.

Table 1: Visual Receptor Groups taken forward for assessment

Visual Receptor Group Name	Location / Description
(1) Receptors within the Site	Users of PRoW within the eastern and western site parcels. (Bushey 036, 037, 038, 046, Aldenham 014, 030, 032, 040, 042, 043 and 044.)
(2) Hilfield Lane, Hilfield Castle and Elstree Aerodrome	Residents, industrial employees at Hilfield Farm and local road users on Hilfield Lane. Users of Elstree Aerodrome.
(3) Letchmore Heath Southern Fringes	Users of PROW to the south of Letchmore Heath. (Aldenham 014, 029, 030),
(4) Bushey Eastern Settlement Edge	Residents on the eastern settlement edge at Bushey. Users of PRoW (Bushey 033, 035, ,040, 068).
(5) Butterfly Lane, Slades Farm and Conygree Cottages	Private residents on Butterfly Lane, industrial employees at Slades Farm and local road users on Butterfly Lane.
(6) Aldenham Road	Private residents on Aldenham Road, Aldenham School and local road users on Aldenham Road.
(7) Watling Street	Private residents on Watling Street, those engaged in outdoor recreation at Belstone football club and local road users.

5.6.1. Key Routes

Figure 1 shows that there are several key routes within the study area, which are as follows:

- M1 (175m west of the western site parcel);

- A41 (adjacent to the west of the western parcel; and
- Thameslink London to St Albans Midland Railway Line (660m east of the eastern site parcel).

The ZTV study (**Figure 4**) and field study (**Figure 8.2 viewpoint D**) has confirmed there would very limited, glimpsed visibility from these receptors given the intervening vegetation. At most a **Negligible** scale of change would occur to receptors on these routes and no further assessment is required.

Long Distance Walking Routes

The Hertfordshire Way is a 194 mile (312km) circular route around the county of Hertfordshire. Running to the north of the eastern site parcel, it joins Watling Street from Kendall Hall Fall brushing the northeast corner of the Site before turning west towards Battlers Green approximately 70m north of Little Kendals Wood

The ZTV study (**Figure 4**) indicates that there would be limited visibility of the Proposed Development from the Hertfordshire Way, primarily in area to the north of Little Kendals Wood and also further east at Lyndhurst. Field study has shown that at both of these locations intervening field boundary vegetation forms and effective barrier to views (**Figure 8.1: viewpoint B and Figure 8.4: viewpoint G**). A **Negligible** scale of change is concluded, and no further assessment is required.

National and Regional Cycles Routes

There are no national or regional cycle routes within the LVIA study area.

5.6.2. Accessible and Recreational Landscapes

Figure 6 illustrates the following accessible landscapes and the following recreational landscapes within the study area:

- Aldenham Country Park (530m, south of the eastern site parcel)
- Stanmore Common (1.4km, south of the western site parcel)

The ZTV study (**Figure 4**) and field study confirms there is no visibility of the Site or Proposed Development from neither Aldenham Country Park nor Stanmore Common and therefore they are not considered further as part of this assessment.

No caravan parks or fishing lakes have been identified from Ordnance Survey Mapping within the study area.

5.6.3. Specific Viewpoints

No specific viewpoints have been identified for this LVIA.

5.7. Landscape Designations and Value

5.7.1. Designated Landscapes

There are no designated landscapes within the study area.

5.7.2. Local Landscape Value

Within the study area there are a range of features that contribute to the value of the local landscape. These features include:

- Watling Chase Community Forest – a large area promoting woodland planting and GI (see **Section 4.2.4**);
- Aldenham House (adjacent to the south of the eastern site parcel) - a Grade II Registered Park and Garden;
- Aldenham Country Park (530m, south of the eastern site parcel);
- Hilfield Reservoir (150m south of the western site parcel) – a local nature reserve;
- Aldenham Reservoir (950m south of the eastern site parcel) - the Hertsmere Landscape Character Assessment notes *“The lakesides at Aldenham and Hilfield are some of the county’s most valued landscapes...Otherwise, the area is largely unremarked upon for distinctiveness”*.
- A distribution of woodlands and well-treed and established network of field boundaries; and
- A network of PRoW including the Hertfordshire Way.

Given the presence of these features within the Borehamwood Plateau landscape character area it is considered within this assessment to be of **District** value. This is reflected in the character assessment of the Borehamwood Plateau in **Section 7.3.1**.

6.0 The Proposed Development

6.1 The Proposal

As set out in the **Section 2.2**, the Proposed Development comprises rows of solar panels configured as a fixed tilt system mounted on a structure made of galvanized steel or aluminium and set into the ground by direct piling or screw piling. The panels are non-reflective and are arranged in east-west rows and are tilted southwards at approximately 20-30 degrees from the horizontal, with an approximate maximum height above ground of 3m to the top of the panel frame on level ground. The panels and frames can be completely removed when the site ceases operation. The lower edge of the array varies in height above ground, but is generally around 800mm minimum above the ground level.

Within the solar farm are other small structures namely inverter and transformer stations and a substation. Inverters and transformers will be housed in small single storey buildings known as central inverters measuring 12m (L) x 2.4m (W) x 2.9m (H). A substation with transformer, switchgear and metering equipment is also required close to the site access point. This comprises a weather-proof cabinet measuring 12.5m (L) x 5.5m (W) x 4.2m (H).

The battery storage units located next to the site substation in the western site parcel would be housed in shipping containers measuring 12m (L) x 2.4m (W) x 2.9m (H).

The materials, colour and finishes of the ancillary infrastructure would be agreed with the Local Planning Authority before commencement of works.

A fence up to 2.2m high is required around the perimeter of the solar farm. The fence would be timber post and wire deer fencing to integrate with the landscape. Inward facing CCTV security cameras would be located around the perimeter of the site along the fence line.

No permanent lighting is proposed. Manually operated lights may be attached to the substation and transformer and/or inverters in the event of an emergency maintenance visit being required in the hours of darkness.

It is anticipated the solar farm would be in operation for a up to 35 years. When it ceases to be operational, all elements can be removed and the site reinstated to its former agricultural condition.

Further details of the proposed development are described in the accompanying planning application drawing pack (Document Reference R002) and Design and Access Statement (Document Reference R004).

6.2 Site Fabric

The Proposed Development would not result in the loss of any of the existing hedgerows and individual trees (that form the existing field boundary network within the Site) as suitable offset buffers have been provided. Internal maintenance tracks of crushed stone utilise existing access and gateways to avoid vegetation loss. All established trees and hedgerows which form the boundaries of the fields that comprise the Site would be retained and enhanced with new planting and / or a relaxation of the management regime providing greater biodiversity benefits.

6.3. Design approach in respect of landscape and visual matters

LDA Design has shaped the iterative design process from the beginning of the project facilitating a landscape led approach allowing key mitigation to be embedded as part of the design process and allowing the Proposed Development to be sensitively assimilated into the existing landscape.

Key embedded mitigation (primary mitigation) includes:

- **Aldenham Brook Green Corridor**

Following the Aldenham Brook river southwest to northeast, Aldenham Brook Green Corridor is the main GI structuring feature of the eastern site parcel. Comprising a generous green corridor ranging between 30 to 95m in width, the corridor will be managed for biodiversity, including enhancement planting and selective scrub clearance of the river channel to improve riparian habitat.

Spurs running north and south from Aldenham Brook Green Corridor utilising existing hedgerows and enhanced with additional planting will provide ecological connections through the Site, connecting Little Kendals Wood in the north to ancient woodland at Aldenham Park in the south.

- **Hilfield Brook Green Wedge**

Hilfield Brook Green Wedge is the principal GI structuring feature of the western site parcel. Running from the A41 to the Elstree Aerodrome, the green wedge provides a continuous tract of countryside from the urban edge of Bushy, maintaining continuous views and connectivity to the wider countryside to the east.

The land will be managed as tussocky grassland with wildflowers providing habitat for skylark, amphibians reptiles, small mammals and pollinators and other invertebrates.

- **Parkland**

Two areas of parkland totalling just over 2.9ha is proposed in Fields 15 and Field 7 to maintain the visual amenity of neighbouring private dwellings. These areas will be punctuated by individual native oak trees that will, over time, mature to large specimen trees reflective of parkland at Aldenham House Registered Park and Garden to the south.

These areas would be seeded to a grassland mix and maintained through low intensity grazing.

- **Orchard**

The creation of an orchard is proposed in Field 7. This would comprise the planting of traditional fruit and nut trees (apple, pear, damson, plum, cherry, hazel, cob nut, walnut) in an informal arrangement. The existing footpath would remain allowing people to walk through and experience the orchard.

Opportunities for local groups, including Hertfordshire Wildlife Trust, to take an active role in the maintenance of the orchard will be explored.

- **Low Intervention and skylark enhancement area**

Located on former landfill, a large area (6.5ha) of Fields 18, 19 and 20 is given over for low intervention management for skylark habitat enhancement. This rough pasture area with scattered scrub will be remain low intensively managed with low intensity grazing maintaining a low grassland sward for skylark nesting, avoiding grazing in the peak nesting season of April to June, and avoiding the use of fertilizers or herbicides.

- **Offsetting from PRow and Field Hedgerows**

A buffer offset of at least 5m either side of PRow and existing hedgerows has been used as standard across the Proposed Development.

Secondary mitigation:

- Landscape and Ecology Management Plan (Document Reference R009) – incorporation of new landscape features to benefit landscape fabric, character and biodiversity. Commitment to net biodiversity gain. Implementation of management plan to secure long term sustainable management.
- New planting along boundaries to enhance screening of the Proposed Development.

Further details are provided in the Design and Access Statement (Document Reference R004) and LEMP (Document Ref. R009) and Landscape and Ecology Enhancement Plan (LEEP) (Drawing 7533-012) which illustrates these features spatially.

6.4. Glint and Glare

In considering the potential for glint and glare it is noted that:

- Solar panels are purposely designed to absorb rather than reflect light. The surface of solar panels is intentionally rough to reduce reflection and facilitate absorption of the maximum quantity of sunlight. A study of solar panels demonstrated that at an angle of 30 degrees solar panels reflect only 3-5% of incoming sunlight compared to steel at c. 46%, standard glass at c. 10% and smooth water at c. 5% (SunPower Solar Module Glare and Reflectance Technical Notification, T09014, September 2009).
- The panel frames and racking are likely to be aluminium and steel with a matt finish to minimise solar reflection.
- Both glint and glare attenuate with distance, with glare reducing rapidly, thus affecting a relatively localised area.
- Glint and glare only occur in bright conditions, and at certain angles of the sun and times of year, so the frequency and the duration of any effects will be relatively limited throughout the year.

6.5. Construction

The total anticipated construction period would be approximately 40 weeks.

7.0 Landscape and Visual Effects

7.1. Introduction

This section sets out the effects that the Proposed Development would have on both landscape and visual receptors. Landscape and visual effects would occur during the 35-year operational lifetime of the solar farm, gradually decreasing over time as planting matures. At the end of its lifespan, the solar farm will be decommissioned, and the site restored to its former use and field structure but with proposed mitigation planting retained.

The only receptor likely to experience construction and decommissioning effects that are markedly different to the operational effects is the Site itself, which would temporarily (in the short-term) take on the character of a construction site. These effects would be very different in nature to those experienced once the Proposed Development is complete, but similar in terms of their magnitude and significance.

The construction and eventual decommissioning of the solar panels would be short-term activities involving the movement of vehicles, localised excavations and the installation/removal of the panels using small scale machinery. It should be noted construction of solar farms is comparatively 'light touch' in relation to construction of residential or infrastructure projects requiring a greater degree of engineered/foundation earthworks. Neither construction nor decommissioning activities would give rise to notable landscape character or visual effects over and above those of the operational site. The assessment therefore only focusses on the operational effects.

Effects are assessed during the period following completion, when construction is complete but before mitigation planting is fully mature. During this period the effects will gradually reduce as planting along site boundaries and within the Site matures. It is during this early period that effects to the landscape and visual resource are likely to be at their greatest.

As additional planting is proposed as part of the scheme, effects, once the vegetation has matured, are assessed as **Long-term / Semi-Permanent** effects. Up to this point effects are described as **Medium-term**. In the **Short-term**, there will also be effects arising during the construction (and decommissioning) phase, resulting from temporary activities involving the movement of vehicles and the Site taking on the character of a construction Site resulting in effects of similar in magnitude, if different in nature, and no greater than for subsequent phases.

7.2. Effects on Landscape Character

The Site comprises an agricultural landscape of generally medium to large fields located within a well-established vegetative context, linked by a network of generally well-established field boundary and roadside vegetation.

Fields 1 and 2 of the western parcel are relatively self-contained between vegetation of Hilfield Lane and the A41. Fields 3, 4 and 5 of the western site parcel are generally more open in character being located in the bowl landscape that rises up to Elstree Aerodrome.

The undulating topography and large field pattern of the eastern site parcel give rise to a more open agricultural landscape although views beyond the site are limited by boundary vegetation.

Both eastern and western site parcels contain in general a strong field boundary network. Vegetation along Aldenham Brook in the eastern parcel and Hilfield Brook in the western parcel also contribute the fabric and character of the Site.

The Site is generally characteristic of the Borehamwood Platea landscape character area (**Figure 5**) in which it lies reflective of the intensive, agricultural landscape of this area and nearby settlements.

It is to be expected there will be **Large** scale effects on the character of the Site, given that it is changing from agricultural to built development. How rapidly effects diminish beyond the Site depends on the scale of development, the context and visibility of the proposal.

Large scale effects on landscape character (Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed) would be limited to the Site itself, and areas with visibility of the Site immediately adjacent to it (**Figure 4**), where the Site would change from an agricultural landscape to a solar farm development set within the existing agricultural field structure. Aldenham Park woodland and vegetation along roads such as Watling Street, Butterfly Lane and Hilfield Lane provide strong visual containment to the Site. Some boundaries of the Site are more open including the southern boundary of Field 5 and northern boundary of Field 4 and new planting is proposed to strengthen these boundaries.

Medium scale effects on landscape character (Partial alteration to key elements, features, qualities or characteristics, such that post development the baseline will be noticeably changed) would be limited to a narrow strip of land south of Field 5 around the restricted byway Bushey 038 leading to Elstree Aerodrome and the immediate vicinity to the north of Field 4 to the south of Letchmore Heath.

Beyond these areas, effects reduce rapidly from to **Small** scale (minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences) and again to **Negligible** (very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences), due to screening and / or filtering effects of intervening built form and tiers of established field boundary vegetation, woodland belts combined with topography.

Taking the above considerations into account, and as stated in **Section 5.4.2**, only Borehamwood Plateau LCA and Aldenham Plateau LCA would be affected by the Proposed Development. Descriptions for each of the assessed landscape character areas are summarised below, along with further observations from site-based work. Full descriptions of the LCAs are provided in **Appendix 5**.

7.3. Hertfordshire Landscape Character Assessment (2001)

7.3.1. LCA 22: Borehamwood Plateau LCA

The Site is within the LCA 22: Borehamwood Plateau which is noted as “*an area of gently undulating landform and considerable pasture within an intact landscape framework*”. Views into the area are described as being restricted due to field vegetation.

The ‘key characteristics’ of the Borehamwood Plateau LCA are described as:

- *“gently undulating landform;*
- *pasture is dominant land use with arable secondary;*
- *a number of private schools set in mature landscaped grounds;*
- *Aldenham Park historic parkland with woodland and perimeter belts;*
- *two large reservoirs, i.e. Aldenham and Hilfield;*
- *Aldenham Country Park; and*
- *fragmentation and disruption by the M1/A41 corridor including pylons and associated built development”.*

The following are identified within the assessment as being ‘distinctive features’ of the Borehamwood Plateau:

- Elstree Aerodrome – which was created as a Second World War Airfield, that is currently in operation as an operational general aviation aerodrome.
- Elstree National Grid Electricity Substation – located adjacent to the western section of the Site and which the electricity generated by the Proposed Development would feed into.
- Hilfield Castle – a Grade II* listed building in the Gothic style dating from 1798-99 located to the south of the western section of the Site adjacent to Hilfield Reservoir.

The presence of two large reservoirs at Hilfield and Aldenham are identified but these are “*not visually prominent*” due to being hidden by landform. Hilfield Reservoir, which is screened from the Site by a dense mixed woodland belt along its northern boundary, is designated a Local Nature Reserve (LNR).

The schools at Haberdasher’s Aske’s School and Aldenham School are both located within the grounds of former parklands. Haberdasher’s is particularly notable as it lies within the extensive grounds of Aldenham Park, a Registered Park and Garden of Special Historic Interest (Grade II) that also contains ‘Penne’s Place moated site’ a Scheduled Monument. Aldenham Park is located to the south of Butterfly Lane, which forms the southern boundary of the eastern site parcel. However, intervisibility between the Site and the main section of Aldenham Park is prevented by a dense woodland adjacent to Butterfly Lane.

The Borehamwood character assessment acknowledges the influence of built form in the landscape stating “*A number of structures create visual impact, including the electricity transformer station, the dam banks of Hilfield reservoir, the laboratory building at Hilfield reservoir, industrial units by Aldenham reservoir and the aerodrome hangars. Two major power lines run*

through the area. Built edges of the settlements are particularly raw in places, most notably on the northern edge of Borehamwood”.

The Borehamwood Plateau is judged to be of **Medium** susceptibility (‘undue consequences may arise’) from the Proposed Development and it to be of **Local/District** value as set out in **Section 5.7.2**.

Taking both value and susceptibility into account, the sensitivity of the Borehamwood Plateau LCA is assessed as **Medium**.

As set out in **Section 7.2**, **Large** scale effects would arise within and within the immediate context of the Site and extend up to 100m south of Field 5 and north of Field 4. **Large** scale effects therefore would affect a **Localised** extent of this character area for a **Medium-term** duration until planting has had time to mature. A **High/Medium** magnitude of effect is concluded resulting in **Major-Moderate** and **Adverse** effect to the Borehamwood Plateau character area.

Once planting has matured, effects to character would be largely be confined to the Site itself. A **Medium** scale of effect would occur affecting a **Localised** extent of the character area for a **Long-term/Semi-Permanent** duration. A **Medium** magnitude of change is anticipated resulting in **Moderate** and **Adverse** effects to the Borehamwood Plateau LCA.

7.3.2. LCA 16: Aldenham Plateau LCA

LCA16: Aldenham Plateau lies immediately adjacent to the north of the eastern site parcel (**Figure 5**) and approximately 500m to the north of the western site parcel, covering an area from the A41 to Radlett.

The character area is described as *“predominantly gently undulating arable farmland interspersed with a number of distinctive villages clustered around greens”* and *“medium to tall hedgerows and sunken lanes help to enclose the open arable fields and retain a rural and tranquil character which only changes at the approaches to the noisy M1/A41 corridor.”*

Key characteristics of the Aldenham Plateau are noted to be:

- *“gently undulating landform;*
- *large tenanted estates with arable dominant and some secondary grazing;*
- *small organic clustered villages around village greens;*
- *declining pattern of hedgerows within arable areas;*
- *limited woodland except to M1.”*

Distinctive feature identified include Aldenham Church and a high proportion of elm in hedges.

The strength of character is assessed as *“moderate”* and its condition as *“poor”* with guidelines of to *“improve and restore”*.

The susceptibility of the Aldenham Plateau character area is assessed as Medium (‘undue consequences may arise’) from the Proposed Development and of **Community** value resulting in a **Medium-Low** sensitivity.

Informed by the ZTV (Figure 4) and field study effects are only likely to occur to areas in close proximity of the Site where views are possible through intervening field boundary vegetation. A **Small** scale of effect is anticipated affecting a **Limited** extent of the character for a **Medium-term** duration. A **Negligible** magnitude is assessed resulting in **Minimal** and **Adverse** effects to this character area.

Once planting proposed as part of the Proposed Development has matured, views would be largely screened and filtered, even in winter. A **Negligible** scale of effect is expected resulting in **Negligible, Long-term/Semi-Permanent** effects to the character of the Aldenham Plateau.

7.4. Effects on Visual Receptors

7.5. Visual Aids

Annotated photographs are shown on Figures 7 and 8 supporting this LVIA. Annotated Photomontage visualisations are shown on Figure 9. Locations of viewpoints and photomontages were agreed in consultation with HBC (Appendix 6). In addition, a consultation visit to private residential properties adjacent to the Site was undertaken, which included observation of views from gardens and upper storeys. This analysis has fed into the design process resulting in the pull back of panels from these areas. Further details are provided in the Design and Access Statement (Document Reference R004).

The method of visualisation selected for each viewpoint has been informed by the LI Technical Guidance Note 06/19 Visual Representation of development proposals. Further detail about the visualisation methodology is provided in Appendix 3.

The viewpoint description, description of effects and scale of effect for each representative viewpoint (see Figure 4 for locations) is set out on the relevant photograph. The scale of effect at each representative viewpoint is summarised below. Illustrative views (Figure 8) are not assessed and are used to provide context or evidence lack of views.

Table 2: Viewpoint Scale of Effect

Viewpoint Reference & Location	Distance & Direction	Scale of effect	
		Medium-term	Long-Term/Semi-Permanent
Viewpoint 1 – Restricted byway from A41 (Bushy 036)	Within the Site (Field 1)	Large <i>Adverse</i>	Large/Medium <i>Adverse</i>
Viewpoint 2 – Restricted byway from Hilfield Lane (Bushy 038)	Within the Site (Field 5)	Large <i>Adverse</i>	Medium <i>Adverse</i>
Viewpoint 3 – Restricted Byway to Elstree Aerodrome (Bushey 038)	90m south	Large <i>Adverse</i>	Large/Medium <i>Adverse</i>

Viewpoint Reference & Location	Distance & Direction	Scale of effect <i>Adverse / Neutral / Positive</i>	
		Medium-term	Long-Term/Semi-Permanent
Viewpoint 4 – Footpath to Letchmore Heath (Aldenham 014)	Within the Site (Field 5)	Large <i>Adverse</i>	Large <i>Adverse</i>
Viewpoint 5 – Letchmore Heath (Footpath Aldenham 014)	550m north	Small <i>Adverse</i>	Negligible
Viewpoint 6 – Marsh Cottages (Footpath Aldenham 040)	Within the Site (Field 7)	Large <i>Adverse</i>	Small <i>Adverse</i>
Viewpoint 7 – Slades Farm (Footpath Aldenham 042)	Within the Site (Field 19)	Large <i>Adverse</i>	Medium <i>Adverse</i>
Viewpoint 8 – Footpath Aldenham 044 near Butterfly Lane	20m east of Field 16	Large <i>Adverse</i>	Large/Medium <i>Adverse</i>
Viewpoint 9 – Footpath Aldenham 040 near Watling Street	Within the Site (Field 14)	Large <i>Adverse</i>	Large <i>Adverse</i>
Viewpoint 10 – Bushy (Footpath Bushy 040)	630m west	Negligible	Negligible
Viewpoint 11 – Footpath Aldenham 040 within the Site	Within the Site (Field 15)	Large <i>Adverse</i>	Large <i>Adverse</i>
Viewpoint 12 – Footpath Aldenham 040 near the junction with Footpath Aldenham 032	Within the Site (Field 9)	Large <i>Adverse</i>	Large <i>Adverse</i>

Each of the viewpoints is a sample of the potential effects, representing a wide range of receptors, including not only those actually at the viewpoint, but also those nearby, at a similar distance and/or direction. From these viewpoints it can be seen that:

The extent of **Large** scale visual effects, where the Proposed Development would form a major alteration to key elements, features, qualities and characteristics of the view such that the baseline will be fundamentally changed, would generally be **Limited** to locations within the Site from PRoW, and from those adjacent to the Site boundary (e.g. **Figure 7.3 - Viewpoint 3**).

Beyond this area, the extent of **Medium** scale effects is limited due to the screening effects of numerous woodland blocks and extensive tree lined hedgerows and tree belts within and in close proximity to the Site within approximately 150m, and are generally restricted to areas with glimpsed views through gaps in hedgerows/intervening vegetation.

Small scale effects would occur within an approximate 600m distance to the north but would reduce over time to Negligible as boundary screening matures.

Negligible effects would occur to receptors beyond 600m, including those at Bushey.

The screening effect of planting associated with the Proposed Development, coupled with the relaxation of management of existing field boundaries allowing them to grow out, would **reduce visual effects over time** and essentially limit them to within the Site and the immediate vicinity.

7.5.1. Visual Receptor Groups

This assessment focuses on effects on groups of visual receptors, incorporating effects on views from public spaces and streets within settlements (or around the houses in areas with isolated dwellings), and the routes and accessible landscape in the surrounding countryside. Residents and visitors within these communities are assessed to be of **High-Medium** sensitivity. The assessment of effects on settlements focuses on the visual amenity of public spaces, though views from groups of dwellings will also be noted in the descriptions. Effects on private residential amenity are a separate matter, and only require assessment when a development is likely to be ‘overwhelming’ or ‘overbearing’ (as set out within **Section 3.4** and **Appendix 2**), which is not the case in respect of this development.

Visual effects would tend to be greater in winter, where the screening properties of deciduous vegetation would be less, and the LVIA uses winter as the assessment scenario. Reference should be made to the LEMP (Document Reference R009) and in particular the LEEP (Drawing 7533-12) that illustrates spatially the planting and GI areas proposed.

Visual Receptor Group 1: Receptors within the Site

Receptors in this group include users of PRoW within the eastern (Aldenham 032, 040, 042, 043, 044) and western (Bushey 036, 037, 038, Aldenham 014, 030) site parcels. The current recreation experience of these PRoW is through agricultural fields although some detractors such as pylons, settlement, light industry, overhead aircraft and educational institution’s sports complexes with floodlighting detract from the sense of countryside.

Given these routes are within the Site, the recreational experience from them would change substantially, with undeveloped agricultural fields replaced by built development. Generous offsets of at least 5m either side of all PRoW are proposed to avoid the ‘channelisation’ of routes and planting of grass with wildflower seed mixes along them is also proposed. Larger landscape scale GI corridors such as Hilfield Brook Green Wedge (**Figure 9.1, 9.2 and 9.3**) and Aldenham Brook Green Corridor (**Figure 9.4, 9.5 and 9.6**) represent substantial GI areas and mitigate the visual change some of these routes would experience, with structure planting proposed along security fencing boundaries. In some areas the recreational amenity is considered to be enhanced with the provision of parkland (Field 7 and 15), orchard (Field 7) and nature areas with ponds (Field 13) contributing positively to the recreational experience and visual amenity of these routes. Views would be more open in winter when deciduous vegetation is not in leaf.

Nonetheless, the scale of change to these receptors would be **Large**, affecting a wide extent of the receptor group in both the **Medium** and **Long-term/Semi-Permanent** time period. A **High** magnitude of change is anticipated resulting in **Major-Moderate** and **Adverse** effects.

Visual Receptor Group 2 – Hilfield Lane, Hilfield Castle and Elstree Aerodrome

This receptor group includes Hilfield Lane, Hilfield Castle and Elstree Aerodrome, residents of these areas, industrial employees at Hilfield Farm and users and visitors to Elstree Aerodrome and local road users on Hilfield Lane.

Views from Hilfield Lane and Hilfield Castle, including Hilfield Lodge are generally restricted by vegetation lining these routes, limiting views to glimpses through or over field boundary hedgerows. The woodland surrounding Hilfield Castle forms an effect screen to receptors in this area (**Figure 7.3** and **9.3**) whilst the plateau topography at Elstree Aerodrome means that views to the western site parcel are not possible (**Figure 8.1 – viewpoint A**). Views of the eastern parcel from Elstree Aerodrome are screened by intervening vegetation. Proposed additional planting along the northern edge of Field 1 adjacent to Hilfield Lane and reinstatement of the lost field hedgerow along the southern boundary of Field 5 would further screen views, along the relaxation of hedgerow management allowing growing out of vegetation. The Proposed Development would be more visible in winter when deciduous vegetation is not in leaf where views over the built form within the bowl landscape of the western site parcel would be possible.

A **Medium** scale of change is anticipated to receptors on Hilfield Lane reducing to **Small/Negligible** for those eastward at Hilfield Castle and Elstree Aerodrome. Receptors at Hilfield Farm are commercial units of low visual sensitivity. This would affect a **Localised** extent for a **Medium** duration, resulting in **Medium** magnitude of effects and **Moderate** and **Adverse** effects.

Effects are anticipated to reduce as planting matures but would not reduce in scale during the winter months given the proximity of this receptor group and remain as **Moderate** and **Adverse**.

Visual Receptor Group 3 - Letchmore Heath Southern Fringes

Receptors in this receptor group comprise users of PRowS Aldenham 014, 029 and 030 to the south of Letchmore Heath. Views from Letchmore Heath itself are screened by settlement edge vegetation.

Views from these routes comprise open views across agricultural farmland punctuated by a strong vegetative network of field boundaries and trees. Views of the eastern site parcel are not possible whilst those of the western site parcel are limited to glimpses between intervening vegetation (**Figure 7.5**). The western parcel would become more visible closer to the site although given the bowl topography only part of Field 5 and possible upper levels of Field 4 would be visible. The existing hedgerow along the northern boundaries of Field 4 and 5 would be allowed to grow out and reinforced with new planting, over time screening views although close range, filtered views may remain in winter.

The scale of change to these views in the **Medium-term**, before planting has matured, is assessed to be **Small** and likely to affect a **Localised** extent of this receptor area. The

magnitude of visual effects to Visual Receptor Group 3 is therefore concluded to be **Low** resulting in **Moderate/Slight** and **Adverse** effects.

The scale of **Long-term/Semi-Permanent** effects once planting has matured are concluded to be **Negligible** and no further assessment is required.

Visual Receptor Group 4 - Bushey Eastern Settlement Edge

This visual receptor group is located to the west of the western site parcel and comprises residents on the eastern settlement edge at Bushey and users of PRoW (Bushey 033, 035, ,040, 068).

The view comprises built form of the settlement edge of Bushey, agricultural fields and established field hedgerow vegetation. Views of the western site parcel from this area are heavily screened by existing field boundary vegetation and shelter belt planting aligning the M1 and A41 (**Figure 7.10 and Figure 8.2 – viewpoint D**). Consequently, views of the Site are limited to filtered, partial views of Field 1. Given the layering of intervening vegetation winter views would also be well filtered.

A **Negligible** scale of change is concluded to the visual amenity of Visual Receptor Group 4 and no further assessment is required.

Receptor Group 5 - Butterfly Lane, Slades Farm and Conygree Cottage

Receptors in this group include private residents on Butterfly Lane, industrial employees at Slades Farm and local road users on Butterfly Lane.

There are two residential properties on Butterfly Lane likely to be affected by Proposed Development. Views of the Proposed Development from the private dwelling of Conygree Cottage and its garden would remain, filtered and set back beyond proposed planting approximately 280m to the northeast. Views from Winterbourne House and Butterfly Lane itself would be largely screened by existing vegetation which would provide greater screening properties as it grows out. Views would also remain from the yard areas of commercial units at Slade Farm which back on to the Site.

Design evolution of the Proposed Development has seen solar panels pulled back in Fields 18, 19 and 20 adjacent to Butterfly Lane to the existing PRoW (Aldenham 042) and the area given over to 6.5ha of skylark habitat enhancement with additional boundary screening.

The Proposed Development would be seen within the existing hedgerow field boundary structure with filtered and glimpsed views possible between intervening vegetation. The essential characteristics of the view, including the appreciation of vegetation and topography would remain albeit with the land use of a solar farm. Filtering of views would be less in winter although the tiering of woody hedgerow vegetation would still provide filtering.

The scale of change to this receptor group is assessed as **Medium**, affecting a **Localised** extent for a **Medium-term** duration. The magnitude is therefore assessed to be **Medium** resulting in **Moderate** and **Adverse** effects.

The scale of effect is anticipated to reduce to **Small** once planting has matured and grown out in the **Long-term/Semi-Permanent** timeframe. The magnitude of effect would reduce to **Low** resulting in **Slight** and **Adverse** effects.

Receptor Group 6 – Aldenham Road

This receptor group includes private residents on Aldenham Road that back on to the eastern site parcel (Ward Cottages, Sydney Cottages), user of Aldenham School and local road users on Aldenham Road.

Views from Private residential cottages on the western side of Aldenham Road (Players Cottages and Letchmore Lodge) are heavily filtered by the vegetation lining Aldenham Road.

Design evolution of the Proposed Development has seen solar panels pulled back in Field 7 adjacent to Marsh Cottages and garden area to the alignment of an existing underground gas pipe and the area given over to 0.7ha of orchard and 0.9ha of parkland with additional boundary screening and individual trees.

The Proposed Development would be seen within the existing hedgerow field boundary structure with filtered and glimpsed views possible between intervening vegetation. The essential characteristics of the view, including the appreciation of vegetation and topography would remain albeit with the land use of a solar farm. Filtering of views would be less in winter although the tiering of woody hedgerow vegetation would still provide filtering.

Views from Aldenham Road itself would remain largely screened by the vegetation lining this route. Mature boundary vegetation at Aldenham School further north also provides an effective visual screen to receptors at the school at ground level although glimpsed views from upper storeys of the taller buildings would be possible. Views would be more open in winter when deciduous vegetation is not in leaf.

The scale of change to this receptor group is assessed as **Medium**, affecting a **Localised** extent for a **Medium-term** duration. The magnitude is therefore assessed to be **Medium** resulting in **Moderate** and **Adverse** effects.

The scale of effect is anticipated to reduce to **Small** once planting has matured and grown out in the **Long-term/Semi-Permanent** timeframe. The magnitude of effect would reduce to **Low** resulting in **Slight** and **Adverse** effects.

Receptor Group 7 – Watling Street

This receptor group includes private residents on Watling Street (Medburn House, Phillimore House and Medburn Cottages, The Lodge), those engaged in outdoor recreation at Belstone Football Club and local road users.

Open views across the eastern site parcel are possible from Medburn House, Phillimore House and Medburn Cottages which back on to the site. Filtered views are also possible from the Lodge, which is located further north on Watling Street on the eastern side of the road, where Aldenham Green Corridor would assist in filtering views. Open views are currently possible from Belstone Football Club and boundary planting is proposed along

this boundary along with a permissive path to the north providing an alternative route around Belstone FC football pitches

Design evolution of the Proposed Development has seen solar panels pulled back in Field 15 adjacent to the alignment of PRow Aldenham 044, approximately 150m west and the area (eastern part of Field 15) given over to 2ha of parkland with additional boundary screening and individual parkland trees.

The scale of change to this receptor group is assessed as **Medium**, affecting a **Localised** extent for a **Medium-term** duration. The magnitude is therefore assessed to be **Medium** resulting in **Moderate** and **Adverse** effects.

The scale of effect is anticipated to reduce to **Small** once planting has matured and grown out in the Long-term/Semi-Permanent timeframe. The magnitude of effect would reduce to Low resulting in **Slight** and **Adverse** effects.

7.5.2. Key Routes

No visual receptors on key routes as set out in **Section 5.6.1** would be affected by the Proposed Development.

7.5.3. Specific Viewpoints

No specific viewpoints have been identified for this LVIA.

7.5.4. Potential Night-time Effects and Lighting

The Proposed Development would not be lit except for motion sensor security lighting around the substation and battery storage compound. No perceptible effects to ambient night-time illumination levels are anticipated.

7.6. Summary of Landscape and Visual Effects

Effects on the receptors assessed above are summarised in **Table 3**. For receptors where the significance of effects varies, the distribution of effects is summarised. Effects apply during construction, before the mitigation planting has matured and once the mitigation planting has matured unless specifically stated otherwise.

Table 3: Summary of Effects

Only effects of greater than Negligible magnitude and/or Minimal significance are included in the summary table.

Receptor	Distance & Direction	Sensitivity	Comments	Magnitude	Significance	Positive / Neutral / Adverse
Landscape Character						
LCA 22: Borehamwood Plateau	Site within	Medium	Medium term	High/Medium	Major-Moderate	Adverse
			Long-term/Semi-Permanent once planting has matured.	Medium	Moderate	Adverse
LCA 16:	500m north	Medium-Low	Medium term	Negligible	Minimal	Adverse
			Long-term/Semi-Permanent once planting has matured.	Negligible	Negligible	Adverse

Visual Receptor Groups						
Receptor Group 1: Receptors within the Site	Within the Site	High-Medium	Users of Public Rights of way. Medium and Long-term/Semi-Permanent	High	Major-Moderate	Adverse
Receptor Group 2: Hilfield Lane, Hilfield Castle and Elstree Aerodrome	Adjacent to the south (western site parcel)	High-Medium	Medium term	Medium	Moderate	Adverse
			Long-term/Semi-Permanent	Medium	Moderate	Adverse
		High-Medium	Medium term	Low	Moderate/Slight	Adverse

Receptor Group 3: Letchmore Heath Southern Fringes	Adjacent to the north		Long-term/Semi-Permanent	Negligible	Negligible	Adverse
Receptor Group 4: Bushey Eastern Settlement Edge	Adjacent to the west	High-Medium	Medium term	Negligible	Negligible	Adverse
			Long-term/Semi-Permanent	Negligible	Negligible	Adverse
Receptor Group 5: Butterfly Lane, Slades Farm and Conygree Cottages	Adjacent to the south (eastern site parcel)	High-Medium	Medium term	Medium	Moderate	Adverse
			Long-term/Semi-Permanent	Low	Slight	Adverse
Receptor Group 6: Aldenham Road	Adjacent to the west (western site parcel)	High-Medium	Medium term	Medium	Moderate	Adverse
			Long-term/Semi-Permanent	Low	Slight	Adverse
Receptor Group 7: Watling Street	Adjacent to the east (eastern site parcel)	High-Medium	Medium term	Medium	Moderate	Adverse
			Long-term/Semi-Permanent	Low	Slight	Adverse
Key Routes						
None affected.						
Recreational Routes: Long Distance Walking Routes / National and Regional Cycle Routes						
None affected.						
Specific Viewpoints						
None affected.						
Designated landscapes						
None affected.						

