6 Landscape and Visual Impact Assessment

6.1 Introduction

6.1.1 This chapter presents a Landscape and Visual Impact Assessment (LVIA) of the Proposed Development described in **Chapter 3: The Site and the Proposed Development**. The LVIA has been carried out by staff from Pegasus Group's Environment Team who are Chartered Members of the Landscape Institute and who are highly experienced in undertaking LVIA for a range of development types, including solar farms.

6.1.2 The purpose of an LVIA when undertaken in the context of an Environmental Impact Assessment (EIA) is to identify any likely significant landscape and visual effects arising as a result of the Proposed Development. An LVIA must consider both:

6.1.3 Therefore, this LVIA considers the potential effects of the Proposed Development upon:

- individual landscape features and elements within the site boundary;
- landscape character; and
- visual amenity (views).

6.1.4 In this chapter, landscape and visual effects are assessed separately although the procedure for assessing each of these is closely linked and follows 'The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition' (GLVIA3) .

6.1.5 The main objectives of the landscape assessment can be summarised as follows:

- to identify, evaluate and describe the baseline landscape character of the site and its surroundings and also any notable individual landscape features within the site;
- to determine the nature of the landscape receptor (i.e. the sensitivity of the landscape) through a consideration of its susceptibility to the type of development proposed and any values associated with it;
- to identify and describe any impacts of the Proposed Development in so far as they affect the landscape resource;
- to evaluate the nature of the landscape effects (i.e. the magnitude, duration and reversibility of the effect);
- to identify and describe mitigation measures that have been adopted to avoid, reduce and compensate for landscape effects;
- to evaluate the relative significance of residual landscape effects; and
- to determine which landscapes effects, if any, are significant.

6.1.6 The main objectives of the visual assessment are similar and can be summarised as follows:

- to identify, evaluate and describe the baseline visual context of the site and its surroundings with a focus on both specific views and the more general visual amenity experienced by people who have views of the site;
- to determine the nature of the visual receptor (i.e. the sensitivity of the viewpoint or person whose visual amenity is affected) through a consideration of the susceptibility

of the viewpoint/person to the type of development proposed and any values associated with either the viewpoint or visual amenity experienced;

- to identify and describe any impacts of the development in so far as they affect a viewpoint or views experienced;
- to evaluate the nature of the visual effects (i.e. the magnitude, duration and reversibility of the effect);
- to identify and describe mitigation measures that have been adopted to avoid, reduce and compensate for visual effects;
- to evaluate the relative significance of residual visual effects; and
- to determine which visual effects, if any, are significant.

6.1.7 The LVIA also considers any cumulative landscape and visual effects which may arise as a result of the Proposed Development in conjunction with other nearby relevant developments.

6.1.8 The LVIA is supported by figures and visualisations also presented in Environmental Statement **Volume 1** and technical appendices in **Volume 2**.

6.1.9 This chapter is structured as follows:

- Assessment Approach;
  - Methodology;
  - Assessment Scope;
  - Assessment Criteria;
  - Scoping and consultation responses;
  - Limitations to the assessment;
- Baseline Conditions;
  - Site description and context;
  - Study Area;
- Assessment of Likely Significant Effects;
- Mitigation, Enhancement and Residual Effects;
- Cumulative Effects; and
- Summary.

6.2 Assessment Approach

Methodology

6.2.1 This LVIA has been undertaken with regard to the current best practice guidance which comprises:

- Guidelines for Landscape and Visual Impact Assessment (3rd Edition, 2013) - Landscape Institute / Institute of Environmental Management and Assessment (hereafter referred to as GLVIA3);
- An Approach to Landscape Character Assessment (2014). Natural England;

- An Approach to Landscape Sensitivity Assessment - To Inform Spatial Planning and Land Management (2019). Natural England;
- Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals, 17 September 2019. Landscape Institute;
- Technical Guidance Note (TGN) 1/20 Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs), 10th January 2020. Landscape Institute; and
- Technical Guidance Note (TGN) 02/21 Assessing landscape value outside of national designations. Landscape Institute.

6.2.2 The full methodology that underpins this LVIA is set out in Technical **Appendix 6.1** in **Volume 2**.

Assessment Scope

6.2.3 The LVIA assesses both the short-term temporary effects associated with the construction of the Proposed Development and the long-term effects relating to the operational lifetime of the Proposed Development.

6.2.4 The LVIA considers both direct and indirect landscape and visual effects. It not only assesses the impacts associated with the solar panels but also any related impacts resulting from the associated infrastructure.

6.2.5 The LVIA also considers any cumulative effects arising in conjunction with other relevant schemes in the study area, as defined below. Best practice guidelines identify two principal types of cumulative visual impact:

- combined visibility – where the observer is able to see two or more developments from one viewpoint; and
- sequential visibility – where two or more sites are not visible at one location but would be seen as the observer moves along a linear route, for example, a road or public right of way.

6.2.6 The guidelines state that 'combined visibility' may either be 'in combination' (where two or more sites are visible from a fixed viewpoint in the same arc of view) or 'in succession' (where two or more sites are visible from a fixed viewpoint, but the observer is required to turn to see the different sites). Both types are discussed in this LVIA. The published GLVIA3 also indicates a difference in emphasis between sequential effects that are frequent and those which are occasional.

6.2.7 In relation to both the effects of the Proposed Development alone and the cumulative effects with other relevant schemes in the study area, both beneficial (positive) and adverse (negative) effects are considered. However, all effects are considered to be adverse unless otherwise stated.

Study Area

6.2.8 With reference to **Figure 6.1** illustrating the screened Zone of Theoretical Visibility (SZTV), theoretical visibility of the Proposed Development is relatively limited and mainly concentrated within an area extending from the site north to Sandford-on-Thames and south to Nuneham Courtenay. Theoretical visibility extends eastwards from the site but is generally contained by the rising landform around Nineveh Farm and Toot Baldon. To the

west, visibility extends to the western bank of the River Thames with some limited, patchy visibility around Radley and Kennington.

6.2.9 A 3 km study area has been selected as appropriate and proportionate as it encompasses all of the main areas of predicted visibility. As discussed below, this was agreed with South Oxfordshire Council as an appropriate extent.

Effects Scoped Out of the Assessment

6.2.10 Based on the desk study, field work, the professional judgement of the LVIA team and experience of delivering other solar energy projects, the following elements have been scoped out of detailed assessment:

- Effects on receptors located outside of the zone of theoretical visibility (ZTV) as receptors would not experience any effects;
- Effects on receptors located outside of the 3 km study area as the study area encompasses all receptors that have the potential to experience significant effects;
- Effects on individual landscape elements located outside of the site boundary as such elements would be remain and would not be affected by the Proposed Development; and
- Night-time effects are not assessed as no lighting is proposed apart from motion activated security lighting.

Landscape Assessment Methodology

6.2.11 A baseline landscape assessment was carried out to determine the current features and character of the landscape within and surrounding the site. The baseline landscape assessment involved firstly a review of desk material including:

- Ordnance Survey maps at 1:250,000; 1:50,000; 1:25,000 and 1:10,000 scales;
- Aerial photographs of the site and surrounding area;
- Topography;
- Current & historical land use;
- Geology and soil maps;
- Historic Parks and Designated Landscapes;
- Relevant planning policy;
- Relevant landscape sensitivity/capacity studies;
- Relevant landscape character assessments; and
- Relevant Historic Landscape Character Assessments.

6.2.12 The baseline assessment identified the existing landscape features on the site, and in the immediate vicinity, and how these elements combine to give the area a sense of landscape character. Plans and construction details of the Proposed Development were used to determine the impacts of the scheme on landscape features and character.

6.2.13 The LVIA firstly assesses how the Proposed Development would impact directly on any existing landscape features or elements (e.g. removal of trees etc.).

6.2.14 The LVIA then considers impacts on landscape character with reference to landscape character areas/types identified in published landscape character documents before considering impacts on a range of receptors who may experience visual effects.

Visual Assessment Methodology

6.2.15 Potential visual receptors of the Proposed Development were identified by interpretation of the digitally generated SZTV.

6.2.16 A selection of viewpoints was identified and agreed with statutory consultees to represent a range of views and viewer types.

6.2.17 The viewpoints cover a variety of different character areas, are in different directions from the site and are at varying elevations. Some of the viewpoints are intended to be representative of the visual experience in a general location whereas other viewpoints illustrate the view from a specific or important vantage point. The viewpoints are located at a range of distances from the Proposed Development to illustrate the varying magnitude of visual impacts.

6.2.18 Type 1 visuals[1] were produced for each of the viewpoints and a selection of Type 3 visuals were also produced from a selection of these viewpoints. The Type 1 visuals are presented in **Appendix 6.2** and the Type 3 visualisations are presented **Appendix 6.3** in **Volume 2** that accompanies this Environmental Statement.

6.2.19 Each of the representative viewpoints was visited to gain an understanding of the sensitivity of the viewpoint receptors and to make professional judgements on the likely visual effects arising from the Proposed Development. Furthermore, the entire extent of the study area was visited to appreciate visibility of the development as receptors move throughout the landscape.

6.2.20 The viewpoints were used as the starting point for considering the effects on visual receptors within the entire study area. The visual assessment does not rely solely on the viewpoint assessments to determine the significance of effects on different visual receptor groups throughout the study area. It should be recognised that the viewpoints illustrated in the LVIA simply represent a series of snapshots from a small selection of the locations within the study area from where the Proposed Development will be visible. Following the viewpoint assessment, the LVIA considers the effect on visual amenity throughout the study area with reference to different visual receptor groups at varying distances from the site.

Assessment Criteria

6.2.21 The purpose of an LVIA when produced in the context of an EIA is to identify any significant landscape and visual effects within the study area to assist the determining authority in deciding the acceptability of the scheme under consideration.

6.2.22 In accordance with the GLVIA3, the level (relative significance) of an effect is ascertained by considering in tandem the nature (sensitivity) of the baseline landscape or visual receptor and the nature (magnitude) of change as a result of the Proposed Development. These two judgements are described as very high, high, medium, low or very low.

[1] Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals, 17 September 2019. Landscape Institute

6.2.23 The relative significance of landscape or visual effects is described as major, major/moderate, moderate, moderate/minor, minor or minor/no effect. No effect may also be recorded where the effect is so negligible. Professional judgement is then employed to determine whether the effect is significant or not. Those effects described as major, major/moderate and in some cases moderate may be regarded as significant.

6.2.24 The detailed assessment criteria used to determine landscape and visual sensitivity, magnitude of change and significance of effect are set out in **Appendix 6.1**.

Legislative and Policy Framework

6.2.25 This chapter has been prepared with regard to the following policy documents:

- National Planning Policy
  - National Planning Policy Framework (NPPF) December 2023;
- Planning Practice Guidance
  - Design: process and tools (1 October 2019);
  - Natural environment (21 July 2019);
  - Renewable and low carbon energy (14 August 2023);
- Local Planning Policy
  - South Oxfordshire Local Plan 2011-2035 (Adopted December 2020).

6.2.26 A full and detailed consideration of national and local planning policy is contained in Chapter 5: Planning Policy Context of this Environmental Statement and assessed in the accompanying Planning Statement.

Scoping and consultation responses

6.2.27 The table below sets out the responses received during scoping in relation to landscape and visual issues.

Table 6.1 - Consultation

Consultee	Details	Response	Where Addressed in the ES
South Oxfordshire District Council	Cumulative effects Schemes to be included: P19/S0623/FUL P20/S4360/FUL	Cumulative effects are considered as part of the assessment	Section 6.6
	The Scoping Report sets out a general approach following GLVIA3 guidelines which is acceptable, however it provides very little detail on the methodology of the landscape and visual	The detailed LVIA methodology that underpins the assessment is included in an Appendix	**Appendix 6.1**

	assessment therefore it is recommended that the methodology is submitted for agreement prior to undertaking the assessment.		
	Para 7.12 - Also identify landscape receptors, these should include physical landscape features such as landform, land use, vegetation etc, and perceptual features such as tranquillity, remoteness and sense of place.	Effects on physical landscape features within the site have been assessed.	Section 6.4.
	Para 7.17 - Effects following completion should be assessed on completion in winter without the benefit of planting mitigation, the worst case, and after 10 years in summer once planting is established.	Effects on completion have been assessed based on winter views (Year 1) and based on summer views at Year 10 once mitigation planting has matured and provides a degree of screening of the Proposed Development.	Section 6.4
	Para 7.20 - Growth rates for planting should be submitted for agreement.	Growth rates of 400mm per year for whip planting and hedgerows have been used and 300mm per year for standard trees from Year 4 onwards	Section 6.2
	Para 7.22 – Whilst a 3km study area seems generally appropriate, should any significant views be found beyond 3km in the course of site work these should be included	A 3 km study has been selected as it remains appropriate. The additional area of predicted visibility near Garsington was visited but given the closer proximity of this area to the consented South Oxfordshire Solar Farm and Cowley Substation no significant views were identified	N/A
	Para 7.25 – The proposed 5 viewpoints	The additional requested viewpoints	**Appendix 6.2** and Section 6.4

	for the assessment do not provide adequate cover, views should not be restricted to one per footpath or road (see GLVIA3 6.16 – 6.23). For example, there should be viewpoints from: the footpath crossing the site, near the southern end and within the site the elevated and open view over the site from the A4074 just north of the Nineveh Farm entrance looking north from the A4074 near the southern end of the site, which would also demonstrate the cumulative effect of the scheme with the permitted solar development at Nineveh Farm views from the Thames Path, including from the boathouse at Lower Radley; users of the river should be included as a receptor group. the elevated section of footpath near Nineveh Farm	have been included in the photo record and assessed.	
	Photographs should be taken in winter when there is maximum visibility as well as in summer.	Winter photography has been collected as it shows the worst-case visibility of the Proposed Development.	**Appendix 6.2** and **Appendix 6.3**
	The Oxford Preservation Trust have requested that viewpoints consider the potential impact in the wider green setting of the historic City of Oxford and that on the Registered Park and	An additional viewpoint from near All Saints Church within Nuneham Courtenay Registered Park and Garden has been included and assessed.	**Appendix 6.3** and Section 6.4

	Gardens.		
	The number of photomontages required, and locations, should be assessed once all viewpoints have been identified and photographs taken, it is unlikely that two will be adequate. Proposed photomontage locations should be submitted for agreement.	Viewpoint locations were reviewed following collection of photography and three additional photomontage locations included. The final list of proposed viewpoints was set out in correspondence to South Oxfordshire Council dated 6 March 2023.	**Appendix 6.4** and Section 6.4
	Photomontages should be included to demonstrate the visual effects of the proposals before and after mitigation, using year 1 winter and year 10 summer views. Reference should be made to the Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals. Photomontages should be accurate verified images.	Five photomontages (**Viewpoint 3** – Public right of way/A4070 east of the site, **Viewpoint 4** – Footpath from the north-western corner of the site, **Viewpoint 7** – Thames Path, open section west of the site, **Viewpoint 14** – Footpath west of Nineveh and **Viewpoint 15** – All Saint's Church, Nuneham Park) have been included illustrated Year 1 and Year 10 views. These are based on winter views to show the worst-case visibility of the Proposed Development.	**Appendix 6.3**
	Plans should be included indicating the landscape mitigation strategy, together with schedules of typical proposed plant species, sizes and planting density.	A landscape masterplan has been provided.	**Volume 1 Figure 6.6**
	The assessment of cumulative effects will be important given the adjacent permitted solar farm site, this should include sequential effects along rights of way and roads.	Cumulative effects have been considered as part of the assessment.	Section 6.6

Limitations to the assessment

6.2.28 In undertaking the landscape and visual assessment in relation to the Proposed Development, there are limitations and constraints affecting the outputs from this work. These include:

- Photography for the selected viewpoints was taken from publicly accessible places and not private land;
- The baseline assessment has been based on the information readily available at the time of undertaking the assessment;
- The Screened ZTV plan has been used to understand the potential visibility of the Proposed Development and help identify relevant receptors. The SZTV plans do not demonstrate absolute visibility and are therefore refined through field work;
- During the site visits, weather condition, the time of day, and seasonal factors have influenced the assessment and photographic record of the landscape around the Proposed Development;
- Baseline photography was taken in February 2023 while vegetation was dormant. As such it can be considered as 'winter views' and represents the worst-case visibility as vegetation was not in leaf;
- The assessment of the Proposed Development is based on the parameters outlined in **Section 6.4** and application drawings that accompany this ES, and is assessed on the assumption that the Proposed Development is delivered in line with these drawings and associated timescales;
- Where distances are given, these are approximate and generally calculated from the nearest point on the Site Boundary (or as otherwise stated) to the receptor in question; and
- All effects are assumed to be temporary unless otherwise stated.

Vegetation Growth Rates

6.2.29 The residual effects, assessed in this chapter are based on the assumption that the proposed mitigation planting has been implemented in accordance with the proposed Landscape Strategy Plan (see **Figure 6.6**) current best practice and has been subject to active and appropriate management regime, and that the vegetation has established successfully and developed into strong positive landscape features.

6.2.30 The precise growth rate is difficult to establish as it depends on the species, soil type, nutrients and water availability, ongoing management, and competition for other planting, and indeed the effects of climate change. For the purpose of this assessment, growth rates of 400 mm per year for whip planting and hedgerows and 300 mm per year for standard trees from Year 4 onwards.

6.3 Baseline Conditions

Site description and context

6.3.1 The site is located approximately 550 m to the north west of Nuneham Courtenay. It is centred on Ordnance Survey grid reference 454332, 199967 and extends to cover an area of approximately 56.89 hectares. The site lies to the immediate west of the A4074 while the River Thames is located approximately 400m to the west of the site.

6.3.2 Other nearby settlements include Sandford-on-Thames located approximately 930 m to the north, Kennington located approximately 1.2 km to the north-west, Radley located approximately 1.4 km to the west, Marsh Baldon located approximately 1.5 km to the south east and Toot Baldon located approximately 2 km to the north east. The southern settlement edge of Oxford is also situated approximately 1.6 km to the north of the site.

6.3.3 The site itself is currently in agricultural use and forms part of a wider swathe of agricultural and estate land that extends around the southern edge of Oxford forming part of the South Oxfordshire Green Belt. In the vicinity of the site landform generally slopes down in a westerly direction towards the River Thames.

6.3.4 A number of overhead lines pass either through or close to the site. These comprise the Cowley to Walham/Minety overhead transmission line passing approximately 630 m to the north of the site leading to Cowley substation that is situated approximately 1.8 km to the north east. The Cowley to Didcot overhead line passes approximately 1 km to the east of the site while a distribution network 132 kV overhead lines passes the northern edge of the site and a second distribution network 132 kV overhead line passes through the northern part of the site.

6.3.5 The site is crossed by a public footpath that passes through the north eastern part of the site. This footpath leads south from Sandford-on-Thames across agricultural land to the north of the site and climbs through the north eastern part of the site meeting the A4074 and providing a link to the wider footpath network to the east of the road.

6.3.6 In addition to footpaths there are several long distance walking routes that comprise The Thames Path National Trail that follows the westerly bank of the River Thames to the west of the site, The Oxford Greenbelt Way that passes approximately 550 m to the south east and Shakespeare's Way that passes around the southern settlement edge of Oxford and passing to approximately 1.4 km to the east of the site.

6.3.7 The grade I listed Nuneham Courtenay registered park and garden is also situated approximately 450 m to the south of the site.

Landscape Designations

6.3.8 The site is not located within a statutorily designated landscape nor is it located within a non-statutorily locally designated landscape. The site is located within the South Oxfordshire Green Belt. However, this is a planning designation.

6.3.9 As noted above, the grade I listed Nuneham Courtenay Registered Park and Garden is located approximately 450 m to the south of the site.

Landscape Character

6.3.10 The character of the landscape within the study area has been analysed and described on two levels:

- At the national-level in the National Character Areas (NCA) provided by Natural England;
- At the local-level as described in the South Oxfordshire Landscape Character Assessment (September 2017); and
- At the local-level as described in the Vale of White Horse Landscape Character Assessment (September 2017).

6.3.11 In September 2023 consultation closed on an updated landscape evidence base for South Oxfordshire and the Vale of White Horse district councils that includes Dark Skies Assessment, Tranquillity Assessment, Landscape Character Assessment, Analysis of Valued Landscapes, Sensitivity and Capacity Studies and Green Belt Assessment. However, as the updated landscape evidence base is yet to be adopted this LVIA has used the extant landscape character assessments as the basis for the assessment of the effects of the Proposed Development on landscape character.

National Landscape Character

6.3.12 With reference to **Figure 6.3**, the majority of the study area is situated within The Midvale Ridge National Character Area (NCA 109).

6.3.13 The south eastern fringes of the study area overlap and a very small proportion of western edge of the study area near Abingdon-on-Thames overlap the Upper Thames Clay Vales National Character Area (NCA 108). However, with reference to **Figure 6.1** illustrating the SZTV there is no visibility of the Proposed Development from this part of the study area and as such, this NCA is not considered further within the assessment.

National Character Area 109: Midvale Ridge

6.3.14 The key characteristics of the NCA 109 are defined as:

- Low, irregular wooded limestone ridge giving way to a series of isolated steep-sided tabular hills in the east which rise from the surrounding clay vales;
- Contrast between the moderately elevated limestone hills and ridges and the surrounding low-lying clay vales;
- Drained mostly by small springs and streams which run into the Thames, Thame and Ock;
- Well wooded – a third of the woodland is designated ancient woodland;
- Mixed pastoral and arable landscape with large, geometric fields divided by hedges and regularly spaced hedgerow trees punctuated by blocks of woodland.
- Fragmented but rare and important semi-natural habitats, including acid grassland, calcareous fens and flushes, wet woodland and calcareous grass heaths particularly around Frilford and Cothill;
- Evidence of previous land use such as iron-age and Romano-British settlements and ridge and furrow through to old quarries still visible in the landscape;
- Locally quarried limestone commonly used as building material for local houses;
- Settlement pattern of nucleated villages on the hill tops and along the springline with low density of dispersed settlement; and
- Recreational opportunities include the Thames Path National Trail.

6.3.15 Landscape character assessments carried out at a national level represent a broad brush approach and are often too coarse to be informative to the LVIA process. The description of the NCA 109 Midvale Ridge has been reviewed and used to inform this LVIA.

6.3.16 The Statements of Environmental Opportunities (SEOs) for the NCA 109 have been reviewed and used to guide the proposed mitigation and enhancement measures.

South Oxfordshire Landscape Character Assessment

6.3.17 The published assessment defines 11 landscape character areas (LCA) and a range of landscape character types (LCT) that occur within the LCAs. The site and the part of the 3 km study area characterised in the South Oxfordshire Landscape Character Assessment are situated entirely within LCA2 Nuneham Courtenay Ridge.

6.3.18 Its key characteristics are defined as:

- An undulating landscape ranging between c. 50m AOD and c. 100m AOD;
- The River Thames runs adjacent to the western and southern boundary of this character area;
- Broad alluvial plains exist in the north-eastern region;
- The area is sparsely settled by small villages;
- The land use is predominantly agricultural, comprising mostly of arable land;
- The land rises eastwards from the River Thames creating a dramatic ridge;
- Nuneham Courtenay registered park and garden comprises an extensive area in the centre of the plateau;
- Significant stands of woodland are located at Nuneham Courtenay Park;
- Small patches of ancient woodland pepper the wider character area;
- The A4074 and A415 roads cross through the area;
- A section of the Cherwell Valley Line (railway) interrupts the southwestern corner of the area; and
- Electricity pylons are a strong visual detractor in this landscape.

6.3.19 The Nuneham Courtenay Ridge LCA is comprised the following landscape character types (LCTs):

- Flat floodplain pasture;
- Flat, open farmland;
- Parkland and estate farmland;
- Open farmed hills and valleys;
- Semi-enclosed farmed hills and valleys;
- Wooded hills and valleys; and
- Institutions.

6.3.20 The site lies entirely within LCT 13 Open farmed hills and valleys. Its key characteristics are defined as:

- Rolling plateau landform;
- Large-scale farmland, mostly in arable cultivation;
- Large fields, with rectilinear field boundaries, typical of parliamentary enclosures;
- Weak structure of tightly clipped or gappy hedgerows, with few hedgerow trees;
- Open, denuded and exposed character, with prominent skylines and hillsides and high intervisibility;

- Distinctive elevated and expansive character on ridges and higher ground, with dominant sky and long views; and
- Predominantly rural character but some localised intrusion of main roads, overhead power lines and built development.

6.3.21 With reference to the SZTV at **Figure 6.1**, there is also theoretical visibility of the Proposed Development from LCT 5 Flat floodplain pasture and from LCT 15 Parkland and estate farmland.

6.3.22 The key characteristics of LCT 5 Flat floodplain pasture are:

- Flat, low-lying riverside meadows alongside the River Thames, typically dominated by permanent pasture with a distinctively 'wet', riparian character;
- Prone to flooding with distinctive network of drainage ditches.
- Comparatively strong landscape structure with willows conspicuous along the riverside;
- Intimate and pastoral character;
- Generally low intervisibility, although views;
- Along the valley may be possible in some more sparsely vegetated areas; and
- Comparative inaccessibility creates a tranquil, remote character with only localised intrusion close to main urban areas of Abingdon and Oxford.

6.3.23 The key characteristics of LCT 15 Parkland and estate farmland are:

- Well-managed parkland character with formal features such as avenues and free-standing mature trees in pasture, clumps and blocks of woodland, exotic tree species, formal structures and boundary features;
- Associated 'estate' landscape extending into a few areas beyond listed parkland and characterised by large blocks of woodland, open grassland and mature trees;
- Rural and unspoilt character; and
- Generally enclosed character with strong landform, woodland and tree cover, low intervisibility but with some visually prominent hilltop and valleyside locations.

6.3.24 As there is no predicted visibility from the other LCTs within the Nuneham Courtenay Ridge LCA they are not considered further within the assessment.

Vale of White Horse Landscape Character Assessment

6.3.25 The published assessment defines 12 broad landscape character types (LCT) that are broken down into landscape character areas. As noted above, the site is not located within the part of the study area characterised in the Vale of White Horse Landscape Character Assessment. However, the 3 km study area extends across part of the River Floodplain, River Valley Floor, Corallian Limestone Ridge with Woodland and the Wooded Corallian Limestone Ridge landscape character types.

River Floodplain

6.3.26 The key characteristics of the River Floodplain LCT are:

- Low lying level areas of floodplain situated on alluvial deposits;

- There is the presence of open water in the form of rivers, with channels, streams and brooks;
- Land use is generally pastoral, often with wet meadows, including those used for grazing, with tree species including willow and alder. Woodland is limited within the floodplain;
- In areas along the Thames the river is enlivened by the movement and colour of boats navigating the waterways. Sections of the Thames Path National Trail cross through the District;
- Farmoor is a large reservoir, filled from the adjacent River Thames, which provides further opportunities for waterborne recreation;
- In some instances there are surrounding urban influences, including housing, roads and utilities associated with settlements such as Abingdon and Kennington. Gravel extraction has occurred within the Thames floodplain at the north-eastern edges of the District, resulting in water filled pits; and
- Elsewhere, such as along the majority of the River Ock, the route of watercourses are peaceful, semi-enclosed and sparsely settled other than at river crossings.

6.3.27 More specifically, the LCT is subdivided into a number of character areas, of which RF5 North Hinksey to Radley and RF6 Radley to Abingdon Thames River Floodplain cross through the study area on the western side of the River Thames west of the site.

6.3.28 The key characteristics of landscape character area RF5 North Hinksey to Radley are:

- The Character Area is underlain by Oxford Clay Formation and West Walton Formation of Mudstone bedrock geology, with Alluvium Clay, Silt, Sand and Gravel superficial deposits;
- The Character Area includes a strip of flat river floodplain, confined by the rising ground of the Limestone Corallian Ridge to the west, and the District boundary to east, which broadly follows a combination of the Hogacre Ditch, Hinksey Stream and the River Thames;
- The area predominately consists of pastoral fields drained by ditches, with varying boundary vegetation, but with some significant tree cover generally, including hedges and mature trees along fields boundaries, riparian vegetation along ditches and meandering watercourses, and small tree groups and young plantations. Tree species include crack willow, hawthorn, ash and poplar;
- The Character Area contains part of the Iffley flood meadows which are managed traditionally as hay meadow and permanent pasture;
- There are allotments near the centre of the area, and lines of pylons run along the length of the Character Area;
- The A423 dissects the Character Area, near the junction with the A34, which runs along the western edge of the area;
- A section of the Cherwell Valley railway passes through the southern portion of the Character Area, and along its western edge;
- There is very limited settlement internally, however, the Character Area wraps around the western edge of South Hinksey and abuts North Hinksey to the north. The surrounding pasture provides part of the immediate setting to the conservation area and listed buildings within North Hinksey and the listed buildings with South Hinksey. Boundary vegetation encloses the settlement edges;

- Significant vegetation along both sides of the railway separates the Character Area from Kennington to the west of the southern portion of the area;
- Layers of vegetation obscure views, but help maintain the separation between settlements within the District and the Oxford conurbation outside the District to the east;
- Part of the Thames Path National Trail passes through the Character Area, with a connection to Sandford Lock just outside the Character Area, although there are few other public rights of way or roads. Sustrans Route 5 passes north-south down the eastern side of Kennington;
- Iffley Meadows are designated as a Site of Special Scientific Interest, for their rich grassland flora; and
- Tree cover, particularly to the south of the area helps provide a degree of peace and tranquillity, however urban influences such as pylons, settlement and roads are detracting feature elsewhere.

6.3.29 The key characteristics of landscape character area RF6 Radley to Abingdon Thames River Floodplain are:

- The Character Area is underlain by Ampthill Clay Formation and Kimmeridge Clay Formation Mudstone bedrock geology, with Alluvium Clay, Silt, Sand and Gravel superficial deposits;
- The Character Area includes an area of flat river floodplain, on the western side of the Thames, just below a terrace of valley floor to the west;
- Outside the District, on the opposite side of the Thames to the east, the topography rises steeply with wooded slopes up to Nuneham Park which has a registered park and garden and listed buildings;
- The area is dominated by former quarry working, with large parcels of land occupied by numerous extraction pits now forming lakes, and significant restoration planting and young woodland. Willow and poplar trees surrounding the old gravel pits and border ditches. To the north-east of Lower Radley are linear plantations of pollarded trees;
- Some relatively small-scale excavation activity continues to the south of Home Farm Barn;
- The Character Area includes areas classified as grade 2 and 3 agricultural land away from the edges of the Thames;
- Lower Radley, located within the northern part of the area, has low density dwellings arranged along a loop road around Lower Farm, and has a number of listed buildings abutting directly onto the surrounding countryside. Radley College boat house and occasional other smaller structures are located on the river bank among tree cover;
- There is very limited settlement or roads elsewhere across the majority of the Character Area. The majority of vehicle access consists of private tracks;
- The Thames Path National Trail runs along the banks of the Thames and connects to the Oxford Greenbelt Way. There are a limited number of other public rights of way, including a byway around Thrupp Lake, which also forms part of Sustrans Route 5;
- A section of the Cherwell Valley railway cuts through the centre of the Character Area;

- Considerable tree cover encloses the landscape and restricts views, including from sections of the adjacent Thames. There are occasional views through gaps in vegetation into adjacent fields from the Thames Path; and
- Despite the significant human intervention in the form of quarry working, this is a relatively peaceful area due to the considerable tree cover and limited settlement and roads.

River Valley Floor

6.3.30 The key characteristics of this LCT are:

- Level or gently shelving landscape underlain by river terrace sand and gravel, elevated just above the alluvium of the River Thames floodplain, and at the foot of the Corallian Limestone Ridge;
- The valley floors consist of a mixture of large arable fields with limited boundary vegetation, smaller scale more enclosed areas of pasture, and small parcels of land including paddocks and large gardens and parkland associated with dwellings;
- Woodland includes some small blocks or copses, incorporated into the geometric field pattern. There are mature trees along boundaries in less intensively farmed areas, and mature field Oaks give a parkland feel in places;
- Streams and ditches cross the area and feed into the River Thames and River Ock;
- Settlement is limited to farmsteads, large houses and occasional small groups of dwellings;
- Adjoining settlement to the east, including Radley and Abingdon, and a section of the Cherwell Valley railway, which passes north-south through the area, gives adjacent areas at the eastern end of the Type an urban context;
- The grounds of Wick Hall are located on the eastern portion of the River Valley Floor, just above the River Thames floodplain to the south;
- Within the northern part of the District, near Buckland, the valley floor is rural and peaceful with limited urban influence; and
- Open areas allow views across the gravel terrace and adjacent floodplain, and up to the Corallian Limestone Ridge which often forms a wooded, horizon.

6.3.31 The LCT is subdivided into two character areas, of which RV2 Radley River Valley Floor is situated in the western part of the study area extending to the north and south of Radley.

6.3.32 The key characteristics of landscape character area RV2 Radley River Valley Floor are:

- The Character Area is underlain by Ampthill Clay Formation and Kimmeridge Clay Formation Mudstone bedrock geology, with superficial deposits of Summertown-radley Sand and Gravel Member;
- A relatively flat, low-lying area, which rises slightly towards the west to meet the foot of the Corallian Limestone Ridge;
- The northern and central areas of the Character Area consist of large open arable fields, which are classified as predominately grade 3 and 4 agricultural land;
- The south-western end of the Character Area includes an area of smaller parcels of land including gardens, paddocks and small-scale remnant parkland associated with the farmstead and grade II* listed building of Wick Hall. Here there is a greater degree of tree cover, including hawthorn hedges, and large oak and ash mature field trees;

- Woodland is limited, although there a few tree groups, including North Close Copse, which is identified as ancient woodland;
- Small scale horticulture is located on the western portion of the river valley floor, with fruit growing at Peach Croft Farm;
- A line of pylons crosses the northern end of the Character Area;
- The Character Area abuts the edges of Kennington, Radley and Adingdon, and provides separation between the settlements. The majority of settlement edges are obscured or filtered by boundary vegetation, in particular the eastern edge of Abingdon which is obscured by hedges and tree on either or both sides of Twelve Acre Drive and Audlett Drive;
- The smaller scale, treed landscape surrounding Wick Hall, and the more open, horticultural and arable fields surrounding Peach Croft Farm, form a transition between the eastern edge of Abingdon and the wider countryside. Kennington and Radley have a more immediate relationship to the surrounding countryside;
- Public access into most parts of the river valley floor is limited, with very few roads or public rights of way;
- A section of the Cherwell Valley railway passes north-south through the centre of the arable fields, and includes a station at Radley;
- There are limited public vantage points within the area. However, there are views across the open arable fields towards woodland slopes near Nuneham Park outside the District, beyond the floodplain to the south-east;
- To the south, views are more contained by tree cover. Blocks of woodland on the rising slopes of the Corallian Limestone Ridge provide a backdrop to the west;
- The landscape is identified as having areas of post medieval, and modern, fieldscapes, although there are some significant areas to the south which are identified as sites with ancient monument status;
- This is a relatively rural area, although influences such as settlement, transport links and pylons limit the sense tranquillity and remoteness.

Corallian Limestone Ridge with Woodland

6.3.33 The key characteristics of this LCT are:

- Underlying Corallian Limestone contributes to form a low ridge which protrudes above the clay and alluvial landscapes to the north and south;
- The north facing slopes of the ridge are relatively steep, whilst the south facing slopes are gentler and form a transition to the Upper Vale to the south;
- The Corallian Limestone Ridge features a mixture of relatively large scale arable and pastoral farmland, with areas of estate land, and smaller scale parcels of land including paddocks associated with settlement;
- There are dispersed blocks of significant woodland across the landscape, including areas of ancient woodland;
- The hedgerow network along field boundaries varies, but there is a greater intactness than other Types within the District. Hedges frequently contain mature trees such as Oaks;
- Minor watercourses flow from the ridge towards the Thames and Ock;

- There are areas of rare semi-natural habitats including fens, wet woodland, and calcareous grass heaths, including fens around Frilford and Cothill;
- There are nucleated settlements, of varying size, across the Corallian Limestone Ridge, as well as scattered large country house and farmsteads, often located on high points with views over the Vale landscapes to the north and south; and
- The eastern end of the Corallian Limestone Ridge has intervisibility with the city of Oxford, and the Downs are frequently seen on the horizon to the south.

6.3.34 The LCT is subdivided into 25 character areas, of which LM25 Abingdon to Kennington Corallian Limestone Ridge with Woodland overlaps the north western part of the study area.

6.3.35 The key characteristics of LM25 are:

- The Character Area is predominantly underlain by Ampthill Clay Formation and Kimmeridge Clay Formation Mudstone bedrock geology;
- The area is gently rolling, with mostly north facing slopes up to a maximum height of approximately 100m AOD, below the steeper slopes of Boars Hill to the north-west, and above the Thames Valley floor to the east;
- A local ridge spur broadens out towards the south of the Character Area, to form prominent south facing slopes between Lodge Hill and Radley College;
- The Character Area consists of large-scale arable fields, with an area of remnant parkland, pond and sports fields to the south-east. The eastern part of the area incorporates a golf course, and the grounds of Radley College, elements of which were designed by Capability Brown;
- The area is predominately classified as grade 3 agricultural land;
- There are limited areas of woodland and tree groups, including a small area of ancient woodland at Radley Little Wood;
- There are layers of boundary vegetation across the Character Area, although hedges vary in intactness, with some gaps in the hedgerow network along field boundaries in places. Remnant parkland to the south-east is well vegetated with tree belts and mature trees within fields;
- A double tree line avenue is orientated east-west along the top of the local ridge feature between Lodge Hill and Radley College, and forms part of the northern back-drop in views north of Abingdon;
- Pylons cross the eastern part of the area;
- There are a few small groups of dwellings, including between Bayworth Manor and the A34, but large parts of the farmland are unsettled with the exception of the occasional farmstead;
- Countryside within the Character Area forms the setting to a number of adjacent settlements, and provides separation between Abingdon and the surrounding villages;
- The Character Area also forms the immediate rural setting to listed buildings associated with Beaulieu Court Farm located on high ground at the eastern edge of Sunningwell, to the north-west of the Character Area. The grounds of Radley College within the eastern end of the area provide the setting to listed buildings within the college complex;

- The area also forms the central and western parts of the gap between Radley and Kennington;
- The A34 dual carriageway forms a corridor of highway edged by broad bands of planting, through the middle of the Character Area, and includes the junction with the A4183 towards the centre of the area;
- A number of other roads, plus public rights of way, including the Oxford Greenbelt Way, cross most parts of the area;
- Boundary vegetation combined with rolling topography, frequently shortens views, although large scale fields allow views across the landscape to the nearest tree cover, including woodland on Boars Hill to the north of the Character Area; and
- This is a relatively rural area, with rolling topography and layers of vegetation aiding the sense of peace and tranquillity in parts of the Character Area. However, a variety of human influences, including pylons, settlement and roads, limit the sense of remoteness across large parts of the Character Area.

Wooded Corallian Limestone Ridge

6.3.36 The key characteristics of this LCT are:

- The Wooded Corallian Limestone Ridge is primarily underlain by corallian limestone which protrudes above the clay and alluvial landscapes to the north and south;
- The Type includes extensive tracts of woodland which are predominantly ancient woodland, such as the Oak dominated Bagley Wood, and Wytham Woods with their mixture of ancient semi-natural woodland, secondary woodland, plantations, and calcareous grassland;
- There are occasional parcels of pastoral and arable fields within the woodland;
- The density of woodland breaks down in places, giving way to groups of low-density dwellings set within surrounding tree cover, in particular around Boars Hill;
- The Woodland is prominent in the local landscape, located on high ground including Wytham Hill to the north-west of Oxford, Boars Hill to the south-west of Oxford, and on the north side of the ridge near Appleton.
- The woodland frames views out from high points, with intervisibility with the Lower Vale landscapes to the north and south, Oxford to the east, and the Downs on the horizon to the south.

6.3.37 The LCT is subdivided into four character areas, of which LW4 West Kennington Wooded Corallian Limestone Ridge overlaps the north western part of the study area west of Kennington.

6.3.38 The key characteristics of landscape character area LW4 are:

- The Character Area is predominantly underlain by Ampthill Clay Formation and Kimmeridge Clay Formation Mudstone bedrock geology;
- The Character Area consists of extensive tracts of woodland with occasional pockets of low-density dwellings, located on the broadly east facing slopes which lead up to Boars Hill where the landform reaches a maximum height of approximately 120m AOD;
- The northern part of the area includes minor valley features, along which watercourses flow through the woodland towards the Thames;

- The majority of the woods are recorded as ancient woodland, and include a mosaic of oak woodland, deciduous and coniferous plantations, and coppice;
- The majority of the woodland has been preserved by St John's College Oxford since 1557;
- There are no public rights of way through the woodland, however, public access is granted by permit;
- The eastern part of the woods are annexed by the A34, but provide a wooded setting to the western edge of Kennington;
- The area incorporates the 'The Links' recreation ground on the south-western edge of Kennington, and the Kennington Memorial Field which is dedicated to the memory of residents of Kennington killed in the Second World War, and is managed by the Oxford Preservation Trust;
- There are a limited number of grade II listed buildings, including Templeton College, within the northeast of the area;
- The area provides a wooded backdrop in views towards the hill from Kennington to the east and Oxford to the north-east;
- Tree cover encloses views and gives the area a feel of seclusion;
- The area is predominately recorded as a post medieval landscape;
- There is a keen sense of peace and tranquillity within the woodland, and a degree of remoteness away from roads and settlement.

6.3.39 With reference to the SZTV at **Figure 6.1,** there is theoretical visibility of the Proposed Development primarily from the River Floodplain and River Valley Floor LCTs and these are considered further within the assessment.

6.3.40 It is acknowledged that there is some very limited theoretical visibility from the Corallian Limestone Ridge with Woodland and the Wooded Corallian Limestone Ridge landscape character types. Whilst there may be some very limited visibility predicted from these LCTS, during fieldwork it was established that through a combination of intervening buildings and vegetation actual visibility would be much less than predicted.

6.3.41 As such any effects would be no greater than minor to no effect and would not be considered significant. Therefore, these two LCTs are not considered further within the assessment.

Landscape Features

6.3.42 This section provides a description of the landscape features within the site and their context within the surrounding study area.

Landform and Topography

6.3.43 The topography of the site and surrounding area is illustrated by **Figure 6.5**.

6.3.44 The site is located on sloping land that falls in a broadly south east to north west direction from an elevation of approximately 77 m Above Ordnance Datum (AOD) at the ridge of higher ground at Nuneham Courtenay to the south of the site, to an elevation of approximately 59 m AOD at the south western corner of the site.

6.3.45 The eastern boundary of the site adjacent to the A4074 falls from an elevation of approximately 77 m AOD at the south eastern corner of the site to approximately 63 m AOD at the north eastern corner of the site. The western boundary of the site falls very slightly from an elevation of approximately 57 m AOD at the south western corner to approximately 55 m at the north western corner of the site.

6.3.46 Within the site the sloping ground towards the southern edge of the site has a convex profile as it falls towards the north west and the lower-lying river floodplain along the eastern edge of the River Thames.

6.3.47 Within the surrounding area, landform rises to the south east and east within the area of the gently undulating Nuneham Courtenay limestone ridge.

Land Use, Buildings and Infrastructure

6.3.48 The site is located on agricultural land comprising arable land, with no built form on the actual site. However, there are a number of farms located adjacent or in proximity of the site boundaries consisting of Upper Farm, located to the south east of the site on higher ground, Lower Farm located to the north west of the site on the lower-lying land adjacent to the River Thames and Nineveh Farm on higher ground to the east of the site and the A4074.

6.3.49 An overhead pylon line passes through the northern end of the site and a second overhead pylon line passes to the immediate north of the site. A gas pipeline also crosses through the northern part of the site.

6.3.50 The A4074 borders the eastern edge of the site linking Nuneham Courtenay to the south east of the site and the southern edge of Oxford to the north of the site. In addition to the village of Nuneham Courtenay to the south east of the site there are a number of settlements comprising Marsh Baldon and Toot Baldon located approximately 1.5 km to the east of the site, the southern settlement edge of Oxford approximately 1 km to the north, Kennington approximately 1.5 km to the north west and Radley and Lower Radley approximately 1 km to the west. Radley College Boathouse is situated within 1 km to the south west of the site.

Watercourses and Drainage Features

6.3.51 Water features within the site are limited to steep-sided agricultural drainage ditches which follow field boundaries.

6.3.52 The River Thames is the main watercourse passing within 1 km of the western boundary of the site.

Vegetation

6.3.53 Vegetation within and adjacent to the site is located primarily along field boundaries, consisting of mostly established mixed native hedgerows with occasional trees within the hedgerows. The pattern of vegetation within the surrounding agricultural landscape is generally similar to that found within the site, with the exception of riparian scrub along parts of the western banks of the River Thames and larger areas of woodland north of Radley.

6.3.54 Within the wider surrounding landscape around the site, there is further woodlands around Nineveh Farm to the east and extensive estate parklands surrounding Nuneham House within the registered park and garden.

Visual Baseline

6.3.55 This section identifies the extent of possible visibility of the proposal and identifies visual receptors that will be assessed. This section also considers the viewpoints that will be used to assess effects on receptors.

Extent of Visibility

6.3.56 As previously noted, in order to assist in defining the study area, a digital screened Zone of Theoretical Visibility (SZTV) model was created as a starting point to illustrate the geographical area within which views of the development on the site are theoretically possible. The SZTV is illustrated in **Figure 6.1**.

6.3.57 The SZTV is a useful tool used to provide focus on the area and receptors that are most likely to be affected but the Proposed Development should always be subject to verification in the field.

6.3.58 Following a review of the SZTV, it is understood that in locations beyond 3 km where the site and any development on it would be visible, the development is unlikely to result in any visual effects greater than minor. This is due to the minimal degree to which the development would alter the overall view, which at distance would be more heavily influenced by other features and characteristics in view.

Residential Receptors

6.3.59 With reference to the SZTV at **Figure 6.1**, due to the extent of theoretical visibility, the following residential receptors and settlements with predicted visibility of the Proposed Development have been considered further within the chapter:

- Properties on Henley Road at the southern edge of Sandford-on-Thames;
- Lower Farm;
- Upper Farm;
- Properties along Poplar Grove, Kennington; and
- Properties along Kennington Road, Radley.

6.3.60 There is no predicted visibility from the Nuneham Courtenay, Marsh Baldon or Toot Baldon. As such these settlements are not considered further within the assessment.

Recreational Receptors

6.3.61 With reference to the SZTV at **Figure 6.1**, due to the extent of theoretical visibility, the following recreational receptors with predicted visibility of the Proposed Development have been considered further within the chapter:

- Footpath ON|335|1/10 / ON|317|5/10 – south of Sandford-on-Thames;
- Footpath ON|335|2/10 / ON|317|6/10 – south of Sandford-on-Thames;
- Footpath ON|317|5/20 – passing through the northern part of the site;

- Footpath ON|317|7/10 – leading from the A4074 to Nineveh Farm;
- Footpath ON|326|11/10 – leading from Lower Radley to Radley College Boathouse;
- Footpath ON|326|10/10 – leading south east from Lower Radley to the River Thames;
- The Thames Path National Trail – to the west of the River Thames comprising footpaths ON|326|1/30 and ON|326|1/40;
- Oxford Greenbelt Way Long Distance Footpath; and
- National Cycle Network Route 5 situated to the west of the site following the Kennington to Radley road.

6.3.62 There is no further predicted visibility from any other footpaths in the western part of the 3 km study area or from any other footpaths to the east of the A4074 in the eastern part of the study area.

6.3.63 There is predicted visibility from a very short approximately 120 m section of the Shakespeare Way on the southern edge of Oxford approximately 1.2 km to the north of the site. Over this section the route also passes through a copse of trees. Intervening vegetation between this section of the route and the Proposed Development would mean that any effects would be negligible and would not be considered significant. As such it is not considered further within the assessment.

Road Receptors

6.3.64 With reference to the SZTV at **Figure 6.1**, due to the extent of theoretical visibility, the following road receptors with predicted visibility of the Proposed Development have been considered further within the chapter:

- A4074 bordering the eastern edge of the site;
- Kennington Road passing between Kennington and Radley in the western part of the study area;
- Henley Road at the southern edge of Sandford-on-Thames; and
- Lower Radley Lane.

6.3.65 There is predicted visibility from Sugworth Lane to the west of Radley. However, extensive hedgerows and trees bordering each side of the lane would mean that there would be very limited potential for road users travelling east towards Radley to experience any views. As such effects on users of this route are not considered further in the chapter.

Assessment Viewpoints

6.3.66 The LVIA viewpoints are set out in **Table 6.2** below and illustrated on **Figure 6.1**.

6.3.67 The list of viewpoints has been selected to represent a range of views and viewer types. The viewpoints cover a variety of different landscape character types and different visual receptor groups. The viewpoints selected represent views from publicly accessible locations.

Table 6.2: Viewpoints

Viewpoint Number	Viewpoint Location	Receptor Type
1	Public Right of Way, south of Sandford on Thames	Recreational
2	Oxford Greenbelt Way, west of Nuneham Courtenay	Recreational and Residential
3	Public Right of Way / A4074	Recreational and Road Users
4	Footpath, north-western corner of the site	Recreational
5	Thames Path, south-west of the site	Recreational
6	The Boathouse, Lower Radley	Recreational
7	Thames Path, open section west of the site	Recreational
8	Thames Path, enclosed section west of the site	Recreational
9	Kennington Road, Radley	Residential and Road Users
10	Footpath, south of Lower Farm	Recreational
11	Footpath within the site	Recreational
12	Footpath within the site, at the south-eastern corner	Recreational
13	A4074, north of Nineveh Farm entrance	Road users
14	Footpath, west of Nineveh	Recreational
15	All Saint's Church, Nuneham House	Recreational

6.3.68 Through the evolution of the scheme design since the list of LVIA viewpoints was defined, no views would be experienced from **Viewpoint 2**. As such it is not considered further within the assessment.

6.3.69 A viewpoint photo record is included at **Appendix 6.2**. In addition, photomontages have been produced from viewpoints 3, 4, 7, 14 and 15 which are included at **Appendix 6.3**. These show photomontages of the predicted views from a range of directions and distances from the Proposed Development.

6.4 Assessment of Likely Significant Effects

6.4.1 The assessment of effects firstly assesses the sensitivity of the landscape resource or visual receptor. An assessment is then made as to the magnitude of the change, in terms of its scale or size.

6.4.2 The assessments of sensitivity of the receptor and magnitude of change are then combined with the duration of the effect and the reversibility of the effect, to assist in determining the relative level of effect on each landscape feature, character area or visual amenity.

Description of the Development

6.4.3 A full description of the Proposed Development is provided in **Chapter 3: The Site and the Proposed Development**. However, those elements of particular relevance to this chapter are set out below:

- The installation of fixed-tilt, bi-facial, ground mounted solar arrays running from east to west across the site, up to a maximum height of 3.6 m above ground level;
- Invertors/transformer units which will convert the Direct Current (DC) into an Alternating Current (AC) which is compatible with the National Grid. Each unit will occupy a maximum area of 12 m by 3 m wide with a maximum height of 3 m;
- Independent Distribution Network Operator (iDNO) substation compound occupying a land area of approximately 94.05 m x 48.6 m wide. The compound will comprise a solar plant 33 kV compound, a solar plant 132 kV compound and a SSE 33 kV compound. These compounds will include transformers, circuit breakers and busbars, a SSE control building and a solar plant control building. 2.4 m high weld mesh security fencing will extend around the boundary of the overall substation compound;
- Internal access tracks, to allow for the construction and maintenance of the solar panels;
- Pole mounted CCTV cameras with infra-red lighting will be installed, where required, on the perimeter fence. These will have a maximum height of 3.5 m;
- An unobtrusive 2.4 m high deer fencing around the perimeter of the site;
- Associated access tracks connecting transformer and switchgear substations; and
- Additional landscaping including hedgerow planting and improved biodiversity management (see **Figure 6.6**).

6.4.4 Detailed plans and elevations of the above project elements are included in **Appendix 3.1**.

6.4.5 Access to the site would be via the A4074 and would utilise existing agricultural access points or in locations where loss of existing field boundary hedgerows would be minimised.

6.4.6 The solar panel rows would be set back from the existing and the proposed planting along the boundaries to minimise over shadowing of the solar panels, provide opportunities for biodiversity enhancements along the site boundaries and ensure conflicts with tree root protection areas are avoided.

6.4.7 The method of connecting the solar farm to the National Grid is explained in **Chapter 3: The Site and the Proposed Development**, paragraphs 3.3.13 to 3.3.23.

Proposed Landscape Mitigation

6.4.8 The specific landscape mitigation elements which are considered during the operation phase are shown on **Figure 6.6** and is as follows:

- Retention, protection and enhancement of existing trees, hedgerows and woodland to retain the character of the local area;

- Provision of new lengths of native hedgerows, some with native trees, surrounding the Proposed Development, to provide visual enclosure and to enhance the setting of nearby public rights of way within or in proximity to the site;
- Provision of scattered tree planting adjacent to existing hedgerows to break up the massing of the Proposed Development;
- Enhancement of site boundary margins, through proposed species rich grassland in line with ecological requirements;
- Enhancement of areas underneath solar panels with a species rich grassland suitable for grazing livestock;
- Existing and proposed native hedgerows managed to a height of 4m or over to enhance visual enclosure; and
- Ongoing landscape management of planting during the lifetime of the solar farm.

6.4.9 Management and maintenance of the landscape mitigation is set out in a standalone Landscape and Ecological Management Plan (LEMP).

6.4.10 It should be noted that there would be no landscape mitigation outside the site boundary.

Sensitivity of Receptors

Sensitivity of Landscape Features

Topography and Landform

6.4.11 The landform within the site itself is not unusual in the landscape, being typical of the agricultural land in the vicinity, with no particular merit. It is noted that the landform rises towards the south of the site with the Nuneham Courtenay Ridge forming a notable landscape feature to the south of the site. Therefore, the topography and landform of the site is considered to be of **low sensitivity** to the introduction of the Proposed Development.

Land Use, Buildings and Infrastructure

6.4.12 The site is a greenfield site, with land use that is typical of the wider surrounding agricultural landscape. It is influenced by the A4074 road that passes along the eastern boundary of the site and by existing electricity pylons crossing the site as well as the gas pipeline that passes through the site. Therefore, the land use of the site is deemed to have a **medium sensitivity** to the Proposed Development.

Watercourses and Drainage

6.4.13 The network of agricultural drains within the site are typical of the wider surrounding landscape and are not considered to be an important landscape feature. Therefore, water course and drainage features are deemed to have a no greater than **medium sensitivity** to the Proposed Development.

Vegetation

6.4.14 The pattern of vegetation is largely limited to field boundary hedgerows with occasional tree groups and woodlands. The pattern of vegetation within the site is typical of that

featured in the surrounding landscape, and therefore, is deemed to have a **medium sensitivity** to the Proposed Development.

Landscape Character Sensitivity

South Oxfordshire Landscape Character Assessment

LCT 13 Open Farmed Hills and Valleys

6.4.15 This LCT is bisected by the A4074, crossed by several overhead powerlines and includes the settlements of Nuneham Courtenay in the south and Toot Baldon in the east. It is largely made up of arable farmland with boundaries marked by hedgerows and other field boundary vegetation with some small areas of woodland in the central part of the LCT around Nineveh.

6.4.16 It does not overlap with a landscape designation which recognises a particular landscape value. A Romano-British scheduled monument is situated within the northern part of the LCT providing some conservation interest and value. It is crossed by several public rights of way that provide access to the countryside and the Oxford Greenbelt Way and the Shakespeare Way long distance footpaths that provide recreational value. The proximity to the A4074 and the overhead powerlines also limit its scenic and perceptual qualities.

6.4.17 The susceptibility of the LCT and its value are assessed to be medium. Overall, its sensitivity to the Proposed Development is judged to be **medium**.

LCT 5 Flat Floodplain Pasture

6.4.18 This narrow LCT borders the eastern edge of the River Thames and lies between the river and the broader scale LCT 13 considered above. It comprises small to medium-scale arable fields bordered by hedgerow field boundaries crossed by several overhead powerlines in the northern part of the LCT.

6.4.19 It does not overlap with a landscape designation which recognises a particular landscape value. It is a relatively inaccessible part of the landscape with few public rights of way although it is acknowledged that part of the Thames Path National Trail crosses through the northern part of the LCT. The proximity to transport infrastructure and built form, particularly in the northern part of the LCT and the overhead powerlines also limit its scenic and perceptual qualities.

6.4.20 The susceptibility of the LCT and its value are assessed to be medium. Overall, its sensitivity to the Proposed Development is judged to be **medium**.

LCT 15 Parkland and Estate Farmland

6.4.21 This LCT situated to the south west of Nuneham Courtenay comprises a broad area of woodland and estate park and farmland within the extensive grade I listed Nuneham Courtenay Registered Park and Garden and the associated listed buildings which is indicative of its substantial historical and conservation value. The area is also crossed by several public rights of way, the Oxford Greenbelt Way, the Thame Path and an area of open access land at Clifton Heath which provide recreation value.

6.4.22 The susceptibility of the LCT to the Proposed Development is assessed as high and its value is assessed to be high. Overall, its sensitivity to the Proposed Development is judged to be **high**.

Vale of White Horse Landscape Character Assessment

River Floodplain – RF5 North Hinksey to Radley Thames River Floodplain and RF6 Radley to Abingdon Thames River Floodplain

6.4.23 This LCT, situated to the west of the River Thames within the part of the 3 km study characterised within the Vale of White Horse Landscape Character Assessment has similar characteristics to that of LCT 5 considered above with a greater amount of woodland.

6.4.24 It does not overlap a landscape designation which recognises a particular landscape value. It is a relatively inaccessible part of the landscape with few public rights of way although it is acknowledged that the Thames Path National Trail passes along the eastern edge of both RF5 and RF6. The proximity to transport infrastructure, built form, particularly in the northern part of the LCT and an overhead powerline also limit its scenic and perceptual qualities.

6.4.25 The susceptibility of the LCT and its value are assessed to be medium. Overall, its sensitivity to the Proposed Development is judged to be **medium**.

River Valley Floor – RV2 Radley River Valley Floor

6.4.26 This LCT extends to the north and south of Radley to the west of the River Thames. It comprises large, open arable fields with hedgerow field boundaries. It does not overlap with a landscape designation which recognises a particular landscape value and its scenic and perceptual qualities are influenced by built development around Radley and the Kennington to Radley road. There are relatively few public rights of way crossing the LCT limiting its recreational value, while scheduled monuments to the south of Radley are indicative of its conservation and historic interest.

6.4.27 Overall, the susceptibility of the LCT and its value are assessed to be medium and its sensitivity to the Proposed Development is judged to be **medium**.

Sensitivity of Visual Receptors and Assessment Viewpoints

6.4.28 The sensitivity of each assessment viewpoint is set out in the viewpoint assessment in **Appendix 6.4**, with supporting photomontages from viewpoints 3, 4, 7, 14 and 15, included at **Appendix 6.3**.

6.4.29 The sensitivity of each visual receptor reflects their susceptibility to change and the value associated with the specific view in question. A summary of the sensitivity of each visual receptor considered further in this chapter is set out below:

6.4.30 In accordance with the Assessment Criteria at **Appendix 6.1**, residential receptors including individual properties and settlements are considered to have high sensitivity to changes in their view. Although sensitivity is considered to decrease on upper floors of properties, a precautionary approach has been taken in that they are all considered to be of high sensitivity to changes in views;

6.4.31 Users of public rights of way, including the Thames Path National Trail, the Oxford Greenbelt Way, the Shakespeare Way long distance footpaths are considered to have high sensitivity to changes to the visual amenity experienced from the routes.

6.4.32 Users of the National Cycle Network Route 5 to the west of the site are considered to be of high sensitivity to changes in the views by users of the route;

6.4.33 The A4074 and the local minor road network are not considered to be used primarily for recreational activities or the specific enjoyment of the landscape and therefore, users of these routes are considered to be of no greater than medium sensitivity to changes in view.

Effects during construction

6.4.34 It is recognised that there would be some additional temporary effects during the construction of the Proposed Development, over and above those assessed as permanent effects associated with the operational phase. The effects would relate to the following activities:

- Site clearance, including vegetation removal where required;
- Movement and presence of construction vehicles, plant and materials;
- Presence of construction compounds, site offices and welfare facilities; and
- Earthworks associated with the formation of access roads and hard surfacing for construction of the substation and associated buildings.

Construction Effects on Landscape Features

6.4.35 During construction, there would be an additional temporary effect upon topography and landform over and above those stated during the operational phase, due to the requirement for foundations associated with fencing, CCTV and substation. However, the magnitude of change would be no higher than low, resulting in a **minor non-significant effect**.

6.4.36 There would be an additional temporary effect upon land use, buildings and infrastructure over and above those stated during the operational phase, due to the presence of temporary buildings and material storage throughout the site. The magnitude of change is predicted to be medium to high, resulting in a **moderate effect** that would be considered **significant.**

6.4.37 In addition, there would be additional temporary effects upon vegetation and watercourses and drainage over and above those stated at the operational phase, with a very low magnitude of change occurring due to minor loss of vegetation, resulting in a **minor effect**, which would be considered **not significant**.

6.4.38 There would be no other additional temporary effects to the existing landscape features during the construction phase of the development beyond those considered within the assessment of operation effects discussed below.

Construction Effects on Landscape Character

6.4.39 The movement of construction vehicles, personnel and materials as the Proposed Development is constructed would be the only additional construction phase effects on landscape character of note. Whilst construction activity is likely to give rise to some

additional influences upon surrounding landscape character, it would not increase any of the level of effects as set out in the assessment of the operational phases.

Construction Effects on Visual Amenity

6.4.40 The movement of construction vehicles and presence of construction compounds associated with the construction of the solar farm would be the only additional construction phase effects on visual amenity. Only those using the PRoW network which passes through, adjacent or in proximity to the Proposed Development, as well as those roads and residential properties adjacent to the site would observe these construction activities.

6.4.41 It is predicted that there would be additional temporary visual effects over and above those stated at the operational phase, from the residential properties of Lower Farm and Upper Farm, the Thames Path National Trail to the west of the site, the A4074 to the immediate east of the site. The additional construction effects from these locations are predicted to give rise to a medium magnitude of change resulting in a **moderate effect** which would be considered **not significant**.

Effects during operation

6.4.42 The effects on Landscape Features, Landscape Character and Visual Receptors in relation to the operational phase of the Proposed Development are discussed in turn below.

6.4.43 Where appropriate, the assessment considered effects at two separate stages. Firstly, the effects are considered at Year 1 of operation, where it is assumed that although all new planting would have been implemented, it would have yet to mature and therefore, its effectiveness would be limited to the height and maturity upon being planted. Then the effects are considered at Year 10 of operation, where it is assumed that all existing and proposed hedgerows would be at 4 m or above and that proposed tree planting would have matured and grown up to heights of approximately 5 m.

Effects on Landscape Features during Operation

Effects on Landform and Topography

6.4.44 The panels and associated infrastructure have been sited away from steeper sloping land associated with the Nuneham Courtenay ridge and would be installed across the existing fields with minimum disturbance to existing ground levels. Some minor disturbance would have occurred during the construction phase. However, during operation there would be no new effects on the landform and topography of the site. The magnitude of change would be no higher than very low at Year 1 and Year 10 of operation, resulting in **minor to no effect**, which would be considered **not significant**.

Effects on Land Use, Buildings and Infrastructure

6.4.45 The Proposed Development would represent a change to the current land use from agricultural fields to an operational solar farm with additional infrastructure, albeit in context of the nearby A4074 and electricity pylons crossing the site. As a result of the change of land use, a high magnitude of change is predicted at Year 1 and Year 10 of operation, resulting in a **major/moderate significant effect**.

Effects on Watercourses and Drainage

6.4.46 The Proposed Development would require additional crossing points over some of the field drainage ditches in order to provide vehicular access between fields, which would require culverting of the water courses or strengthening of existing crossings. However, other areas of drainage ditches crossing the site would be retained and managed appropriately. A no greater than low magnitude of change is predicted at Year 1 and Year 10 of operation, resulting in a **moderate/minor** level of effect, which would be considered **not significant**.

Vegetation

6.4.47 At Year 1 of operation, new tree, woodland and hedgerow planting would be in place to the extents illustrated on **Figure 6.6**, however, the planting would yet be mature. As a result of the extent of the proposed mitigation planting and with the retention of most trees, hedgerows and woodland within the site, a very low magnitude of change is predicted at Year 1 of operation, resulting in a **minor beneficial** effect, which would be considered **not significant**.

6.4.48 With the benefit of maturing planting, the proposed vegetation would integrate the development with its surroundings, resulting in further localised benefits within the site. A low beneficial magnitude of change is predicted at Year 10 of operation, resulting in a **moderate/minor beneficial** effect, which would be considered **not significant**.

Effects on Landscape Character during Operation

South Oxfordshire Landscape Character Assessment

LCT 13 Open farmed hills and valleys

6.4.49 The Proposed Development would introduce new man-made elements into a contained part of the LCT which, although of only limited height, would incorporate most of the site area and therefore adversely alter its physical and perceptual characteristics. However, it is acknowledged that the layout would allow retention of the existing field pattern, field boundary hedgerows, trees and woodland that is currently present within the site. The Proposed Development's influence upon the character of this part of the LCT would be limited by the network of mature field boundary hedgerows, the existing electricity infrastructure that crosses the northern part of the site and the proximity of the A4074 that borders the eastern edge of the site that influences its perceptual qualities through the noise and movement of vehicles travelling along the road.

6.4.50 The change would affect a large proportion of this part of the LCT resulting in a high magnitude of change. Combined with its sensitivity this would result in a **major/moderate significant effect** at Year 1.

6.4.51 With the existing field patterns reinforced and with the introduction of new landscape features, including new hedgerows and lengths of tree lined hedgerows, there would be some improvements to the physical and perceptual attributes of the site. Nonetheless, a high magnitude of change is predicted to continue at Year 10 given the scale of the change to the character of the site, resulting in a **major/moderate significant effect**.

6.4.52 Beyond the immediate site, the influence of the Proposed Development on the character of the LCT would be limited to changes to the character of available views. With

reference to the SZTV at **Figure 6.1**, theoretical visibility would extend up to approximately 500 m to the east of the site, where elevations rise towards Nineveh Farm, approximately 300 m to the south where elevations rise up the Nuneham Courtenay Ridge, to the edge of the LCT to the immediate west of the site and approximately 1.1 km to the north of the site towards Sandford-on-Thames. The Proposed Development would introduce new features into a predominantly agricultural landscape which would change the physical and perceptual characteristics of available views.

6.4.53 To the east of the site and the A4074, to the south of the 132 kV overhead line, the land rises towards Nineveh Farm. The rising land sweeps around to the south of the site where it rises up the Nuneham Courtenay Ridge towards Upper Farm. From these more elevated parts of the LCT, there would be views available across the site, although the Proposed Development would not be perceived in its entirety but rather appear as pockets of development set within the existing landscape framework of agricultural fields and field hedgerow boundaries, thereby limiting the influence of the solar farm on these parts of the LCT.

6.4.54 From these more elevated areas, and from the parts of the LCT to the immediate west of the site, the Proposed Development would give rise to a medium high magnitude of change at Year 1, resulting in a **moderate significant effect**. Given the elevation of these areas allowing views over the site, the landscape mitigation proposals would be of limited benefit and views across the Proposed Development would remain. As such, at Year 10 of operation a medium high magnitude of change is predicted to continue, resulting in effects remaining **moderate significant**. This would also be the case from the part of the LCT to the immediate west of the site.

6.4.55 From the parts of the LCT to the north of the site, the Proposed Development would give rise to no greater than a low medium magnitude of change to the character of this part of the LCT. This due to the level of intervening field hedgerows that would provide a high level of screening of views of the Proposed Development. Combined with the sensitivity of the LCT this would lead to a **moderate/minor** effect at Year 1 that would be **not significant**.

6.4.56 The mitigation proposals surrounding the site would serve to reduce the influence of the Proposed Development upon these part of the LCT leading to a low to very low magnitude of change and a **minor** effect that would be **not significant** by Year 10 of operation.

LCT 5 Flat floodplain

6.4.57 This landscape character type is situated to the immediate west of the site, extending to the site boundary at its closest point and occupying a narrow strip of land on the eastern bank of the River Thames. Therefore, there would be no direct effects upon the character of this LCT, with effects limited to indirect effects on views of the Proposed Development from the LCT where available.

6.4.58 Referring to the SZTV at **Figure 6.1**, there would theoretical visibility from the part of the LCT extending south from Sandford-on-Thames to opposite The Boathouse at Lower Radley, where a belt of existing trees would prevent views from areas further south within this LCT.

6.4.59 From the parts of the LCT to the north of the overhead line that extends north west from the north western corner of the site, the Proposed Development would give rise to no

greater than a low medium magnitude of change to the character of this part of the LCT. This due to the level of intervening field hedgerows and existing tree cover to the west of Lower Farm that would provide a high level of screening of views of the Proposed Development from this part of the LCT. Combined with its sensitivity, this would lead to a **moderate/minor** effect at Year 1 that would be **not significant**.

6.4.60 The mitigation proposals surrounding the site would serve to reduce the influence of the Proposed Development upon these part of the LCT leading to a low to very low magnitude of change and a **minor** effect that would be **not significant** by Year 10 of operation.

6.4.61 From the part of the LCT to the south of the 132 kV overhead line that extends to the west of the site, the magnitude of change is assessed as medium high at Year 1 of operation due to the open nature of the views towards the site. Combined with its medium sensitivity, this would result in a **moderate** effect, which would be **significant**.

6.4.62 However, as part of the landscape mitigation proposals existing field boundaries would be reinforced and lengths of tree lined hedgerows added leading to some improvements to the physical and perceptual attributes of the site. As mitigation planting matures and becomes established, there would be a medium high magnitude of change but the effects would reduce to **moderate** and would be **not significant** by Year 10 of operation.

LCT 15 Parkland and estate farmland

6.4.63 This LCT is situated to the south of the Proposed Development and extends to cover the parkland surrounding Nuneham House. Therefore, there would be no direct effects upon the character of this LCT, with effects limited to indirect effects resulting from views of the Proposed Development from the LCT where available.

6.4.64 Referring to the SZTV at **Figure 6.1**, there is very limited theoretical visibility from the LCT, with the main area of theoretical visibility predicted in the vicinity of Carfax Conduit. Given the very limited theoretical visibility, the Proposed Development would result in no greater than a very low magnitude of change to the character of the LCT. Combined with its sensitivity this would result in no greater than a **minor** level of effect that would be considered **not significant** at Year 1. Due to the elevation of the LCT allowing views across the site, these effects at Year 10 of operation would remain as **minor** and **not significant**.

Vale of White Horse Landscape Character Assessment

River Floodplain LCT (RF5 North Hinksey to Radley)

6.4.65 This LCT is situated in excess of 500 m to the west of the Proposed Development and extends along the western bank of the River Thames and covers a small area extending to the LPA boundary on the eastern side of the river, to the west of Lower Farm. Therefore, there would be no direct effects upon the character of this LCT, with effects limited to indirect effects resulting from views of the Proposed Development from the LCT where views available.

6.4.66 Referring to the SZTV at **Figure 6.1**, there is very limited theoretical visibility from the LCT, with the main area of visibility being experienced from the area that extends to the east of the river. From other parts of the LCT in the vicinity of the site views would be largely restricted by extensive tree cover within the LCT. Views from the LCT are represented by **Viewpoint 8** in **Appendix 6.2**.

6.4.67 It should be noted that the photo record illustrates winter views and there would be an even greater level of screening during the summer months when trees and intervening vegetation are in leaf.

6.4.68 Given the limited theoretical visibility the Proposed Development would result in no greater than a very low magnitude of change to the character of the LCT. Combined with its sensitivity this would result in no greater than a **minor** level of effect that would be considered **not significant** at Year 1 and Year 10 of operation.

River Floodplain LCT (RF6 Radley to Abingdon Thames)

6.4.69 This LCT is situated in excess of 400 m to the west of the Proposed Development and extends along the western bank of the River Thames. Therefore, there would be no direct effects upon the character of this LCT, with effects limited to indirect effects resulting from views of the Proposed Development from the LCT where available.

6.4.70 Referring to the SZTV at **Figure 6.1**, theoretical visibility is limited to the eastern portion of the LCT, extending past the Boat House at Lower Radley, south to Pumney Farm. North of the Boathouse at Lower Radley there are open views across the river towards the site. However, given the distance from the site boundary and the relatively small vertical scale of the Proposed Development the magnitude of change is assessed as no greater than low medium at Year 1 of operation. Combined with its medium sensitivity, this would result in a **moderate/minor** level of effect, which would be **not significant**.

6.4.71 However, as part of the landscape mitigation proposals existing field boundaries would be reinforced and lengths of tree lined hedgerows added along the western boundary of the site leading to some improvements to the physical and perceptual attributes of the site. As mitigation planting matures and becomes established, the magnitude of change would reduce to low, resulting in a **moderate/minor** level of effect, which would be **not significant** by Year 10 of operation.

River Valley Floor LCT (RV2 Radley)

6.4.72 This LCT is situated to the west of the River Floodplain LCT (RF6 Radley to Abingdon Thames) at distances in excess of 700 m to the west of the Proposed Development. Therefore, there would be no direct effects upon the character of this LCT, with effects limited to indirect effects resulting from views of the Proposed Development from the LCT where available.

6.4.73 Referring to the SZTV at **Figure 6.1**, there would be very limited theoretical visibility from the LCT, with the main area of visibility being experienced from the western fringes of the LCT towards Radley at even greater distance from the site. Given the very limited theoretical visibility and the level of screening provided by existing intervening vegetation, the Proposed Development would result in no greater than a very low magnitude of change to the character of the LCT. Combined with its sensitivity this would result in no greater than a **minor** level of effect that would be considered **not significant** at Year 1 and Year 10 of operation.

Table 6.3: Summary of Effects on Landscape Character During Operation

LCT	Sensitivity	Development Phase	Magnitude of Change	Level of Effect	Significance
South Oxfordshire Landscape Character Assessment					
LCT 13 Open farmed hills and valleys *- the site*	Medium	Operation: Year 1	High	**Major/ moderate**	**Significant**
		Operation: Year 10	High	**Major/ moderate**	**Significant**
LCT 13 Open farmed hills and valleys *Elevated areas to the east and south and to the immediate west of the site*	Medium	Operation: Year 1	Medium high	**Moderate**	**Significant**
		Operation: Year 10	Medium high	**Moderate**	**Significant**
LCT 13 Open farmed hills and valleys *To the north of the site*	Medium	Operation: Year 1	Low medium	Moderate/ minor	Not significant
		Operation: Year 10	Low to very low	Minor	Not significant
LCT 5 Flat floodplain *To the west of the site*	Medium	Operation: Year 1	Medium high	**Moderate**	**Significant**
		Operation: Year 10	Medium high	Moderate	Not significant
LCT 5 Flat floodplain *To the north of the overhead line that extends north west from the north western corner of the site and west of Lower Farm*	Medium	Operation: Year 1	Low medium	Moderate/ minor	Not significant
		Operation: Year 10	Low to very low	Minor	Not significant
LCT 15 Parkland and estate farmland	Medium high	Operation: Year 1	Very low	Minor	Not significant
		Operation: Year 10	Very low	Minor	Not significant
Vale of White Horse Landscape Character Assessment					
River Floodplain – RF5 North Hinksey to	Medium	Operation: Year 1	Very low	Minor	Not significant
		Operation:	Very low	Minor	Not significant

LCT	Sensitivity	Development Phase	Magnitude of Change	Level of Effect	Significance
Radley		Year 10			
River Floodplain - RF6 Radley to Abingdon	Medium	Operation: Year 1	Low medium	Moderate minor	Not significant
		Operation: Year 10	Low	Moderate minor	Not significant
RV2 Radley River Valley Floor	Medium	Operation: Year 1	Very low	Minor	Not significant
		Operation: Year 10	Very low	Minor	Not significant

Effects on Visual Amenity

6.4.74 The assessment of visual effects considers the potential for changes in views and visual amenity. The aim is to establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity (meaning the overall quality and pleasantness to a view).

6.4.75 In accordance with GLVIA3, the assessment of visual effects begins with an assessment of the sensitivity of each visual receptor to the Proposed Development. An assessment is then made as to the magnitude of the change in terms of its scale or size. The assessments of receptor sensitivity and magnitude of change are then combined with the duration of the effect and the reversibility of the effect, to assist in determining the relative level of effect on each visual receptor.

6.4.76 The visual effects of the Proposed Development on key visual receptors are assessed below. Consideration has been given to seasonal variations in the visibility of the development and these are described where necessary.

Summary of Visual Effects from Viewpoints

6.4.77 During site work, a series of photographs were taken from a number of assessment viewpoints, illustrated on **Figure 6.1**. These are presented in a photo record at **Appendix 6.2**. These have been included within this assessment as a means of illustrating the visual issues discussed within this chapter. In addition, five photomontage visualisations have been prepared and are presented in **Appendix 6.3**.

6.4.78 An assessment of the visual effects of the Proposed Development has been carried and is presented in **Appendix 6.4**. The overall visual effects identified from the viewpoint assessment are summarised in the table below.

Table 6.4: Summary of Viewpoint Assessment from Appendix 6.4

Viewpoint	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
1. Public Right of Way, south of Sandford on Thames	Construction	High	Medium	Moderate	Not Significant
	Operation: Year 1	High	Medium	Moderate	Not Significant
	Operation: Year 10	High	Low medium	Moderate/ minor	Not Significant
2. Oxford Greenbelt Way, west of Nuneham Courtenay	Construction	High	No view	No effect	--
	Operation: Year 1	High	No view	No effect	--
	Operation: Year 10	High	No view	No effect	--
3. Public Right of Way / A4074	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	Medium high	**Major/ moderate**	**Significant**
	Operation: Year 10	High	Medium	Moderate	Not Significant
4. Footpath, north-western corner of the site	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation: Year 10	High	Medium	Moderate	Not Significant
5. Thames Path, south-west of the site	Construction	High	Medium	Moderate	Not Significant
	Operation: Year 1	High	Medium	Moderate	Not Significant
	Operation: Year 10	High	Medium	Moderate	Not Significant
6. The Boathouse, Lower Radley	Construction	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 1	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 10	High	Low medium	Moderate/ minor	Not Significant
7. Thames Path National Trail, open section west of the site	Construction	High	Medium	Moderate	Not Significant
	Operation: Year 1	High	Medium	Moderate	Not Significant

Viewpoint	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
	Operation: Year 10	High	Medium	Moderate	Not Significant
8. Thames Path National Trail, enclosed section west of the site	Construction	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 1	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 10	High	Low medium	Moderate/ minor	Not Significant
9. Kennington Road, Radley	Construction	Medium	Very low	Minor	Not significant
	Operation: Year 1	Medium	Very low	Minor	Not significant
	Operation: Year 10	Medium	Very low	Minor	Not significant
10. Footpath, south of Lower Farm	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/ no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/ no effect	Not Significant
11. Footpath within the site	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation: Year 10	High	Medium	**Major/ moderate**	**Significant**
12. Footpath within the site, at junction with A4074	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation: Year 10	High	Medium	**Major/ moderate**	**Significant**
13. A4074, north of Nineveh Farm entrance	Construction	Medium	High	**Moderate**	**Significant**
	Operation: Year 1	Medium	High	**Moderate**	**Significant**
	Operation: Year 10	Medium	Medium	Moderate	Not Significant
14. Footpath, west of Nineveh	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation:	High	High	**Major**	**Significant**

Viewpoint	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
	Year 10				
15. All Saint's Church, Nuneham House	Construction	High	Very low	Minor	Not Significant
	Operation: Year 1	High	Very low	Minor	Not Significant
	Operation: Year 10	High	Very low	Minor	Not Significant

Effects on Residential Receptors

Properties on Henley Road at the southern edge of Sandford-on-Thames

6.4.79 Properties along the northern edge of Henley Road are orientated in a south westerly direction towards the River Thames, away from the Proposed Development which would be located at an oblique angle to the orientation of the properties. Tall hedgerows along the south edge of the road, together with their own garden boundary vegetation would screen the views from the properties. There may be the potential for oblique, distant views of the Proposed Development from upstairs windows.

6.4.80 Given the level of screening provided by the tall, mature hedgerow to the immediate southern edge of the road the magnitude of change would be no greater than very low, with effects judged to be **minor/no effect** and **not significant** at all stages of the Proposed Development.

Lower Farm

6.4.81 Lower Farm is situated approximately 200 m to the north of the site and views from it are represented by **Viewpoint 10** in **Appendix 6.2**. The property is orientated in a south easterly direction towards the site, with its main garden area to the immediate south of the property facing towards the site. The property would have some views in the direction the site, although they would be strongly influenced by the existing overhead line and would be screened by existing trees around the southern garden boundary and the extensive intervening hedgerow between the property and the site.

6.4.82 During construction, views of construction activities would be screened by the existing mature field hedgerow to the north of the site. This would result in a no greater than a very low magnitude of change and a **minor/no effect** that would be considered **not significant**. These effects would remain the same at Year and at Year 10.

Upper Farm

6.4.83 Upper Farm is located to the south east of the site and is financially involved in the Proposed Development. Two residential properties are located within the farm, with farm buildings and existing mature trees to their west. With reference to the SZTV at **Figure 6.1** and aerial photography, there is no predicted visibility from the residential properties, with views limited to the western and northern edges of the farm yard and the farm buildings around these edges.

6.4.84 As such views there would be no views from the residential properties and views would only be available from limited parts of the farm yard, resulting in no greater than a very low magnitude of change and **minor effects** that would be considered **not significant** at all stages of the Proposed Development.

Properties along Poplar Grove, Kennington

6.4.85 These properties are situated on the eastern side of the Poplar Grove, Kennington and back onto a railway line. The properties are bungalows and their eastern boundaries feature extensive garden boundary vegetation, with further vegetation along the railway corridor to their east screening views towards the site.

6.4.86 With reference to the SZTV at **Figure 6.1**, although there is some very limited theoretical visibility predicted from these properties, the extensive intervening vegetation would mean that there would no views available of the Proposed Development. As such they would experience **no effects** at all stages of the Proposed Development.

Properties along Kennington Road and Church Road, Radley

6.4.87 Located at the northern edge of Radley, these properties would have the potential to experience oblique views towards the site. Views from these properties are broadly represented by **Viewpoint 9** in **Appendix 6.2**.

6.4.88 With reference to the SZTV at **Figure 6.1**, although there is some very limited theoretical visibility predicted from these properties, the extensive intervening field boundary vegetation and woodland blocks would mean that there would be very limited potential for receptors to experience oblique views of the Proposed Development. As a result, a no greater than a very low magnitude of change, resulting in a **minor/no effects**, which would be **not significant**. These effects would be experienced at all stages of the Proposed Development.

Table 6.5: Summary of Effects on Residential Receptors

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
Properties on Henley Road at the southern edge of Sandford-on-Thames	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/no effect	Not Significant
Lower Farm	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/no effect	Not Significant
Upper Farm	Construction	High	Very low	Minor	Not Significant
	Operation:	High	Very low	Minor	Not Significant

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
	Year 1				
	Operation: Year 10	High	Very low	Minor	Not Significant
Properties along Poplar Grove, Kennington	Construction	High	Very low	No effect	Not Significant
	Operation: Year 1	High	Very low	No effect	Not Significant
	Operation: Year 10	High	Very low	No effect	Not Significant
Properties along Kennington Road/Church Road, Lower Radley	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/no effect	Not Significant

Effects on Recreational Receptors

Effects on Users of Footpaths to the north of Lower Farm (comprising footpaths ON|335|1/10, ON|317|5/10, ON|335|2/10 and ON|317|6/10)

6.4.89 These four footpaths are located to the south of Sandford-on-Thames and converge to the immediate north of Lower Farm. Views from these footpaths are represented by **Viewpoint 1** in **Appendix 6.2**.

6.4.90 From footpaths ON|335|1/10 and ON|317|5/10, users walking southwards would experience theoretical visibility over a distance of approximately 500 m and from footpaths ON|335|2/10 and ON|317|6/10 they would experience theoretical visibility over a distance of approximately 540 m to the north of Lower Farm. Views extend towards Lower Farm and the site, which is seen in the context of arable farmland with hedgerows, scattered trees, and electricity pylons crossing through the view, with views towards the site filtered by intervening field boundary vegetation.

6.4.91 During construction, walkers would experience filtered views towards construction activity associated with the Proposed Development, seen at distance above field boundary vegetation. A low magnitude of change is predicted during construction, resulting in no greater than a **moderate/minor effect**, that would be **not significant**.

6.4.92 Upon operation of the Proposed Development, although proposed hedgerow planting is proposed along the northern site boundary, this would yet be visually effective. Parts of the electricity substation components located in the substation compound in the northern part of the site, along with solar panels located on the slightly higher ground in southern part of the site would be seen in the far distance above the intervening hedgerows. As a result, the magnitude of change is predicted to remain low at Year 1 of operation, resulting in a **moderate/minor** effect, which would be **not significant**.

6.4.93 With the benefit of maturing hedgerow planting along the northern boundary of the site, direct views towards the Proposed Development would become more heavily filtered, although panels located on slightly higher ground in the southern part of the site would be seen in far distance. At Year 10 of operation, a low to very low magnitude of change is predicted, resulting in a **minor** level of effect, which would be **not significant**.

Effects on Users of Footpath ON|317|5/20 – passing through the northern part of the site

6.4.94 Views from this footpath are represented by **Viewpoint 10**, **Viewpoint 4** and **Viewpoint 11** in **Appendix 6.2** and by the photomontage of **Viewpoint 4** in **Appendix 6.3**.

6.4.95 Users of this footpath would experience views of the Proposed Development over the entirety of the route, over a distance of approximately 1.1 km when walking in a south easterly direction and over a distance of approximately 900 m when walking in a north westerly direction from the A4074 towards Sandford-on-Thames.

6.4.96 To the west of the A4074, over a distance of approximately 450 m, walkers would experience views of the security fencing and solar panels to either side of the footpath. During construction, they would have clear, unobstructed views of construction activities, resulting in a high magnitude of change and a **major significant** effect.

6.4.97 Upon operation of the Proposed Development, although new hedgerows are proposed along either side of the footpath, they would not yet be visually effective, with prominent views towards the proposed solar panels and fencing. As a result, the magnitude of change would remain high, resulting in a **major effect**, which is considered to be **significant** at Year 1.

6.4.98 With the benefit of the new maturing hedgerow planting to either side of the footpath, being managed to a height of 4m or over and despite the proximity of the Proposed Development to the route, views would become limited. A wide space between the hedgerows either side of the footpath would ensure that a degree of openness would be retained allowing views north west beyond the site to the wider surrounding landscape. However, views over the immediate surrounding agricultural landscape would be largely changed. At Year 10, the magnitude of change would reduce to medium, resulting in a **major/moderate** effect, which would be **significant**.

6.4.99 Over the remaining approximate 450 m section of the footpath to the north western corner of the site, walkers would experience views of the security fencing, solar panels and the substation compound to the southern side of the footpath. During construction, they would have clear, unobstructed views of construction activities to the south side of the path, while views across the wider agricultural fields to the north of the site would remain. This would result in a high magnitude of change and a **major significant** effect.

6.4.100 Upon operation of the Proposed Development, although a new hedgerow is proposed to the south side of the footpath, it would not yet be visually effective, with prominent views towards the proposed solar panels, substation compound and fencing to the south of this section of the footpath. As a result, the magnitude of change would remain high, resulting in a **major effect**, which is considered to be **significant** at Year 1.

6.4.101 With the benefit of the new maturing hedgerow planting to the south side of the footpath, being managed to a height of 4m or over and despite the proximity of the Proposed Development to the south of the route, views of the Proposed Development would be screened, with open views across the wider agricultural landscape to the north retained.

At Year 10, the magnitude of change would reduce to medium, resulting in a **moderate effect**, which would be **not significant**.

Footpath ON|317|7/10 – leading from the A4074 to Nineveh Farm

6.4.102 With reference to the SZTV at **Figure 6.1** there is predicted visibility over an approximately 275 m section of the route as it descends from Nineveh Farm towards the A4074. Views from the footpath are illustrated by the photomontage of **Viewpoint 14** in **Appendix 6.3**.

6.4.103 During construction, walkers would experience direct views, west from this elevated section of path across the site towards construction activity associated with the Proposed Development. This would introduce a high magnitude of change, resulting in a **major effect**, which would be **significant**.

6.4.104 Upon operation of the Proposed Development, although proposed hedgerow planting is proposed along the west site boundary, this would yet be visually effective and due to the elevation of the route, views across the site would still be available. As a result, a medium high magnitude of change is at Year 1 of operation, resulting in a **major/moderate effect**, which would be **significant**.

6.4.105 With the benefit of maturing hedgerow planting along the western boundary of the site, direct views towards the Proposed Development would become partially filtered, although views across the site would still be available. At Year 10 of operation, a medium magnitude of change is predicted, resulting in a **moderate** level of effect, which would be **significant**.

Footpath ON|326|11/10 – leading from Lower Radley to Radley College Boathouse

6.4.106 Referring to the SZTV at **Figure 6.1**, theoretical visibility is predicted over this footpath that follows the private road for approximately 350 m to the boathouse. Views from the footpath north east towards the site are heavily filtered by existing vegetation along the northern edge of the route, the boathouse and by existing vegetation surrounding it and existing intervening vegetation along the banks of the river.

6.4.107 During construction, views of construction activity associated with the Proposed Development would be screened by the intervening vegetation. A low to very low magnitude of change is predicted during construction, resulting in no greater than a **moderate/minor effect**, which would be **not significant**.

6.4.108 Upon operation of the Proposed Development, although proposed hedgerow planting is proposed along the western site boundary, given the levels of existing screening between the footpath and the site, the magnitude of change at Year 1 is predicted to be no greater than low to very low, resulting in no greater than a **moderate/minor effect**, which would be **not significant**.

6.4.109 With the benefit of maturing hedgerow planting along the western boundary of the site, views towards the Proposed Development would become more heavily filtered. At Year 10 of operation, a very low magnitude of change is predicted, resulting in effects becoming **minor**, which would be **not significant**.

Footpath ON|326|10/10 – leading south east from Lower Radley to the River Thames

6.4.110 Referring to the SZTV at **Figure 6.1** theoretical visibility is predicted over an approximate 260 m section this footpath as it heads from Lower Radley towards the Thames River National Trail. Views would be very similar in nature to those experienced from Footpath ON|326|11/10 and would be further filtered by intervening vegetation to the south the boathouse.

6.4.111 As such the magnitude of change experienced by walkers using this route is predicted to be no greater than very low, with effects considered to be **minor**, which would be **not significant**. These levels of effects would be experienced at all stages of the development.

The Thames Path National Trail – to the west of the River Thames comprising footpaths ON|326|1/30 and ON|326|1/40

6.4.112 With reference to the SZTV at **Figure 6.1**, there is theoretical visibility from the National Trail between Sandford Lock at Sandford-on-Thames, south to Pumney Farm over a distance of approximately 4 km.

6.4.113 To the south of Sandford Lock, over a distance of approximately 1.5 km, extensive bankside vegetation, woodland and intervening vegetation on the eastern side of the river to the north west of Lower Farm would screen views. Views from this section are represented by **Viewpoint 8** in **Appendix 6.2**.

6.4.114 During construction, views of construction activity associated with the Proposed Development would be screened by the intervening vegetation. A low medium magnitude of change is predicted during construction, resulting in no greater than a **moderate/minor effect**, which would be **not significant**.

6.4.115 Upon operation of the Proposed Development, although hedgerow planting is proposed along the northern and western site boundaries, this would yet be visually effective. However, given the levels of existing screening between the trail and the site, the magnitude of change at Year 1 is predicted to remain no greater than low medium, with effects remaining **moderate/minor effect**, which would be **not significant**.

6.4.116 With the benefit of maturing hedgerow planting along the northern and western boundaries of the site, views towards the Proposed Development would become more heavily filtered. However, at Year 10 of operation, the magnitude of change would remain no greater than low medium and effects **moderate/minor** and **not significant**, due to the distant views towards the southern part of the site where solar panels would be seen on this more elevated part of the site.

6.4.117 As the route continues southwards, walkers would experience oblique to perpendicular views over a 1.1 km section of the trail to the north of the Radley College Boathouse. Views over this section of the trail are represented by **Viewpoint 7**, **Viewpoint 5** and **Viewpoint 6** in **Appendix 6.2**. **Viewpoint 7** has also been prepared as a photomontage in **Appendix 6.3**.

6.4.118 Due to the relative proximity of construction activity within the site, and the relatively open nature of views towards the site, a medium magnitude of change is predicted during construction. This would result in a **moderate effect**, which would be **not significant**.

6.4.119 Upon operation of the Proposed Development, although a new hedgerow with hedgerow trees is proposed along the western boundary of the site, these would not yet be fully visually effective. At Year 1, the magnitude of change with effects also remaining **moderate** and **not significant** due to the distant views towards the southern part of the site where solar panels would be seen on this more elevated part of the site.

6.4.120 With the benefit of the new maturing hedgerow and tree planting on the western side of the site, being managed to a height of 4m or over, views would become limited with views filtered by the proposed mitigation planting but the distant views of solar panels on the more elevated southern part of the site still available. As such, the magnitude of change would remain medium, resulting in **moderate** effects that would be considered **not significant.**

6.4.121 From the remaining section of the path where theoretical visibility is predicted between Radley College Boathouse and Pumney Farm, views would be very similar to those experienced from Footpath ON|326|10/10 to the south of the boathouse.

6.4.122 As such the magnitude of change experienced by walkers using this trail is predicted to be no greater than very low, with effects considered to be **minor**, which would be **not significant**. These levels of effects would be experienced at all stages of the development.

Oxford Greenbelt Way Long Distance Footpath

6.4.123 Referring to the SZTV at **Figure 6.1**, there is very limited theoretical visibility from this long distance footpath, with the main area of predicted visibility between Pumney Farm and Lower Radley.

6.4.124 Between Pumney Farm and Radley College Boathouse the footpath follows the route of the Thames Path National Trail. As such walkers would experience the same effects as those reported above for that section of the National Trail.

6.4.125 From the boathouse, the long distance footpath follows the same route as Footpath ON|326|11/10 leading from Lower Radley to Radley College Boathouse. As such walkers would experience the same effects as reported above for that footpath.

6.4.126 At Radley, there is an approximate 500 m section of the footpath where there is predicted visibility from the route. However, the extensive intervening field boundary vegetation and woodland blocks would mean that there would be very limited potential for receptors to experience oblique views of the Proposed Development. As a result, a no greater than a very low magnitude of change and minor/no effects are predicted which would be not significant. These effects would be experienced at all stages of the Proposed Development.

National Cycle Network Route 5 situated to the west of the site following the Kennington to Radley road

6.4.127 Referring to the SZTV at **Figure 6.1**, there is theoretical visibility from an approximate 1 km section of the route at Kennington Meadows. Over this section, existing intervening vegetation would effectively screen views towards the Proposed Development. As such users of this section of the route would experience a very low magnitude of change and **no effects** at all stages of the development.

6.4.128 Further south, there is theoretical visibility over an approximate 1.3 km section of the route as it follows Kennington road between Kennington and Radley and continues along Church Lane, Radley. However, the extensive intervening field boundary vegetation and woodland blocks would mean that there would be very limited potential for receptors to experience oblique views of the Proposed Development. As a result, no greater than a very low magnitude of change and **minor/no effects** are predicted which would be **not significant**. These effects would be experienced at all stages of the Proposed Development.

Water-based receptors on the River Thames

6.4.129 It is acknowledged that to the west of the site, the River Thames is used for a variety of activities both for sports such as rowing and by pleasure craft. These receptors would have the potential to experience views east towards the Proposed Development.

6.4.130 The sensitivity of water-based receptors would vary depending upon the nature of the activity that they are engaged in, with those involved in activities such as rowing would typically be considered to have lower sensitivity while pleasure craft users being considered to have a higher sensitivity.

6.4.131 With reference to the SZTV at **Figure 6.1**, theoretical visibility is predicted across the same extent of river as predicted for walkers on The Thames Path National Trail.

6.4.132 To the south of Sandford Lock, over a distance of approximately 1.5 km, extensive bankside vegetation and intervening vegetation on the eastern side of the river to the north west of Lower Farm would screen views. During construction, views of construction activity associated with the Proposed Development would be screened by the intervening vegetation. A low medium magnitude of change is predicted during construction, resulting in no greater than a **moderate/minor effect**, which would be **not significant**.

6.4.133 Upon operation of the Proposed Development, although hedgerow planting is proposed along the northern and western site boundaries, this would yet be visually effective. However, given the levels of existing screening the magnitude of change at Year 1 is predicted to remain no greater than low medium, with effects remaining **moderate/minor effect**, which would be **not significant**.

6.4.134 With the benefit of maturing hedgerow planting along the northern and western boundaries of the site, views towards the Proposed Development would become more heavily filtered. However, at Year 10 of operation, the magnitude of change would remain no greater than low medium and effects **moderate/minor** and **not significant**, due to the distant views towards the southern part of the site where solar panels would be seen on this more elevated part of the site.

6.4.135 As the route continues southwards, users would experience oblique to perpendicular views over a 1.1 km section of the trail to the north of the Radley College Boathouse. Due to the relative proximity of construction activity within the site, and the relatively open nature of views towards the site, a medium magnitude of change is predicted during construction. This would result in a **moderate effect**, which would be **not significant**.

6.4.136 Upon operation of the Proposed Development, although a new hedgerow with hedgerow trees is proposed along the western boundary of the site, these would not yet be fully visually effective. At Year 1, the magnitude of change with effects also remaining

moderate and **not significant** due to the distant views towards the southern part of the site where solar panels would be seen on this more elevated part of the site.

6.4.137 With the benefit of the new maturing hedgerow and tree planting on the western side of the site, being managed to a height of 4m or over, views would become limited with views filtered by the proposed mitigation planting but the distant views of solar panels on the more elevated southern part of the site still available. As such, the magnitude of change would remain medium, resulting in **moderate** effects that would be considered **not significant.**

6.4.138 To the south of Radley College Boathouse views would be largely screened by intervening vegetation. As such the magnitude of change is predicted to be no greater than very low, with effects considered to be **minor**, which would be **not significant**. These levels of effects would be experienced at all stages of the development.

Table 6.6: Summary of Effects on Recreational Receptors

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
Footpaths to the north of Lower Farm (comprising footpaths ON|335|1/10, ON|317|5/10, ON|335|2/10 and ON|317|6/10)	Construction	High	Low	Moderate/minor	Not Significant
	Operation: Year 1	High	Low	Moderate/minor	Not Significant
	Operation: Year 10	High	Low to very low	Minor	Not Significant
Footpath ON|317|5/20 *450 m section to the west of the A4074*	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation: Year 10	High	Medium	**Major/ moderate**	**Significant**
Footpath ON|317|5/20 *450 m section north western corner of the site*	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	High	**Major**	**Significant**
	Operation: Year 10	High	Medium	Moderate	Not Significant
Footpath ON|317|7/10 – *leading from the A4074 to Nineveh Farm*	Construction	High	High	**Major**	**Significant**
	Operation: Year 1	High	Medium high	**Major/ moderate**	**Significant**
	Operation: Year 10	High	Medium	**Moderate**	**Significant**
Footpath ON|326|11/10 – leading from	Construction	High	Low to very low	Moderate/ minor	Not Significant
	Operation:	High	Low to very	Moderate/	Not

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
Lower Radley to Radley College Boathouse	Year 1		low	minor	Significant
	Operation: Year 10	High	Very low	Minor	Not Significant
Footpath ON|326|10/10 – leading south east from Lower Radley to the River Thames	Construction	High	Very low	Minor	Not Significant
	Operation: Year 1	High	Very low	Minor	Not Significant
	Operation: Year 10	High	Very low	Minor	Not Significant
The Thames Path National Trail *1.5 km south of Sandford Lock*	Construction	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 1	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 10	High	Low medium	Moderate/ minor	Not Significant
The Thames Path National Trail *1.1 km section north of Radley College Boathouse*	Construction	High	Medium	Moderate	Not Significant
	Operation: Year 1	High	Medium	Moderate	Not Significant
	Operation: Year 10	High	Medium	Moderate	Not Significant
The Thames Path National Trail *1.4 km section between Radley College Boathouse and Pumney Farm*	Construction	High	Very low	Minor	Not Significant
	Operation: Year 1	High	Very low	Minor	Not Significant
	Operation: Year 10	High	Very low	Minor	Not Significant
Oxford Greenbelt Way *500 m section Lower Radley*	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/no effect	Not Significant
National Cycle Route 5 *1 km section Kennington Meadows*	Construction	High	Very Low	No effects	--
	Operation: Year 1	High	Very Low	No effects	--
	Operation: Year 10	High	Very Low	No effects	--

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
National Cycle Route 5 *1.3 km section Kennington to Radley*	Construction	High	Very low	Minor/no effect	Not Significant
	Operation: Year 1	High	Very low	Minor/no effect	Not Significant
	Operation: Year 10	High	Very low	Minor/no effect	Not Significant
Water-based users of the River Thames *1.5 km south of Sandford Lock*	Construction	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 1	High	Low medium	Moderate/ minor	Not Significant
	Operation: Year 10	High	Low medium	Moderate/ minor	Not Significant
Water-based users of the River Thames *1.1 km section north of Radley College Boathouse*	Construction	High	Medium	Moderate	Not Significant
	Operation: Year 1	High	Medium	Moderate	Not Significant
	Operation: Year 10	High	Medium	Moderate	Not Significant
Water-based users of the River Thames *1.4 km section between Radley College Boathouse and Pumney Farm*	Construction	High	Very low	Minor	Not Significant
	Operation: Year 1	High	Very low	Minor	Not Significant
	Operation: Year 10	High	Very low	Minor	Not Significant

Effects on Road Receptors

A4074 to the east of the site

6.4.139 With reference to the SZTV at **Figure 6.1**, there is theoretical visibility from a section of the road between Sandford-on-Thames and Nineveh over a distance of approximately 2.2 km.

6.4.140 For a distance of approximately 1.1 km between Sandford-on-Thames and the point where the first 132 kV overhead line crosses the road to the south east of Lower Farm Lane, there is extensive roadside vegetation along the western edge of the road that restricts views towards the Proposed Development. As such, over this section of the road, motorists would experience no effects at all stages of the Proposed Development.

6.4.141 To the south of this point and for the remaining 1.1 km section of the road where there is predicted visibility, roadside vegetation becomes more intermittent meaning that road users would experience, glimpsed, oblique views while towards the site while travelling along the road. Views towards the site would be intermittently screened, although there are some more open sections where views would be available over a longer distance, as illustrated by **Viewpoint 13** in **Appendix 6.2**.

6.4.142 Due to the proximity of construction activity within the site, and the relatively open nature of views west towards the site, a high magnitude of change is predicted during construction. Combined with the sensitivity of road users of this route, this would result in a **moderate effect**, which would be **significant**.

6.4.143 Upon operation of the Proposed Development, although a new hedgerow with hedgerow trees is proposed along the eastern boundary of the site, these would not yet be fully visually effective, with views towards the proposed solar panels and fencing. As a result, a high magnitude of change is predicted to remain at Year 1 of operation, resulting in a **moderate** which is considered to be **significant**.

6.4.144 With the benefit of the new maturing hedgerow and tree planting on the eastern side of the site, being managed to a height of 4m or over, views would become limited with views filtered by the proposed mitigation planting. At Year 10 of operation, the magnitude of change would reduce to medium, reducing the level of effects to **moderate**, which would be **not significant**.

Kennington Road passing between Kennington and Radley

6.4.145 With reference to the SZTV at **Figure 6.1**, theoretical visibility is predicted over an approximate 1 km section of the between Kennington and Radley.

6.4.146 However, the extensive intervening field boundary vegetation and woodland blocks would mean that there would be very limited potential for receptors to experience oblique views of the Proposed Development. As a result, no greater than a very low magnitude of change and **minor/no effects** are predicted which would be **not significant**. These effects would be experienced at all stages of the Proposed Development.

Henley Road at the southern edge of Sandford-on-Thames

6.4.147 With reference to the SZTV at **Figure 6.1**, theoretical visibility is predicted over an approximate 250 m section of the road from its junction with the A4074.

6.4.148 However, tall hedgerows along the southern edge of the road would screen views. Given the level of adjacent screening, road users would experience **no effects** at all stages of the Proposed Development.

Lower Radley Lane.

6.4.149 With reference to the SZTV at **Figure 6.1**, there is very intermittent theoretical visibility predicted over an approximate 300 m section of the road, south of the lane leading to Radley College Boathouse.

6.4.150 However, given the level of extensive screening provided by the mature hedgerows and trees along either side of this section of the road, road users would experience no effects at all stages of the Proposed Development.

Table 6.7: Summary of Effects on Road Users

Receptor	Development Phase	Sensitivity	Magnitude of Change	Level of Effect	Significance of Effects
A4074 *1.1 km Sandford-on-Thames to Lower Farm Lane*	Construction	Medium	Very low	No effect	--
	Operation: Year 1	Medium	Very low	No effect	--
	Operation: Year 10	Medium	Very low	No effect	--
A4074 *South of Lower Farm Lane for the remaining 1.1km section*	Construction	Medium	High	**Moderate**	**Significant**
	Operation: Year 1	Medium	High	**Moderate**	**Significant**
	Operation: Year 10	Medium	Medium	Moderate	Not Significant
Kennington Road *1 km section between Kennington and Radley*	Construction	Medium	Very low	Minor/no effect	Not Significant
	Operation: Year 1	Medium	Very low	Minor/no effect	Not Significant
	Operation: Year 10	Medium	Very low	Minor/no effect	Not Significant
Henley Road, Sandford-on-Thames *250 m section*	Construction	Medium	Very low	No effect	--
	Operation: Year 1	Medium	Very low	No effect	--
	Operation: Year 10	Medium	Very low	No effect	--
Lower Radley Lane *250 m section*	Construction	Medium	Very low	No effect	--
	Operation: Year 1	Medium	Very low	No effect	--
	Operation: Year 10	Medium	Very low	No effect	--

Decommissioning

6.4.151 The effects during the decommissioning phase would be similar to those outlined in the construction phase above, with levels of effect gradually reducing rather than increasing as the development is dismantled.

6.5 Mitigation, Enhancement and Residual Effects

Mitigation by Design

6.5.1 In order to reduce the likelihood of significant adverse landscape and visual effects, mitigation has been included within the design of the proposals. Those elements of mitigation which would be secured through design are set out in section 6.4 above and illustrated on the Landscape Masterplan at **Figure 6.6**.

Additional Mitigation

6.5.2 From a landscape and visual amenity perspective, there would be no additional mitigation measures required which have not already been included within the design of the scheme.

Enhancements

6.5.3 From a landscape and visual amenity perspective, the elements of design which are considered as enhancements to the Proposed Development, but which would not specifically be referred to as mitigation, as set out above, would include elements such as the wildflower seeding around the periphery of the site, as well as grass mixes suitable for grazing livestock under and surrounding the solar panels.

Table 6.8: Mitigation

Ref	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measure would be secured	
		By Design	By Condition
1	Retention, protection and enhancement of existing trees, hedgerows and woodland	X	X
2	Provision of new lengths of native hedgerows, some with native trees	X	
3	Infilling of existing gappy and planting of native hedgerow trees	X	
4	Enhancement of site boundary margins, through proposed species rich grassland	X	
5	Enhancement of areas underneath solar panels with a species rich grassland suitable for grazing livestock	X	
6	Existing and proposed native hedgerows managed to a height of 4 m or over		X
7	Ongoing landscape management of planting		X

Residual Effects

6.5.4 The proposed mitigation as set out on the **Figure 6.6** has been considered as part of the iterative design process. However, as this mitigation is integral to the final layout, there is no difference between the assessed effects reported in the main body of this chapter and the residual effects.

6.6 Effects of the Grid Connection

6.6.1 Whilst the connection to the grid from the Proposed Development does not form part of the planning application, it is recognised that this would form a wider extent of associated development which it is relevant to consider in the EIA.

6.6.2 The final approach to the grid connection is not confirmed and this would be brought forward by the District Network Operator in due course, rather than the applicant. However, for the purpose of this EIA, an indication of the likely approach to the grid connection has been developed, to allow an understanding of potential environment effects that may arise. Further details of this are set out in Chapter 3 – The Site and the Proposed Development.

6.6.3 For the purpose of the LVIA however, the element of particular relevance is that it is expected that a new point of connection tower would need to be built, close to one of the existing towers along the line and that the new tower would be expected to be of a scale and nature which is similar to the existing pylons on the route.

6.6.4 That there are existing pylons of a similar scale and nature in the immediate vicinity to that which is likely to be installed is an important consideration, which would help to limit the potential for these works to give rise to additional significant effects beyond those which have already been set out within the main assessment. Nonetheless there are a small number of locations which would have very limited visibility of the rest of the Proposed Development that would have potential for visibility of the grid connection works. In particular, this includes the area in and around Viewpoint 10 and the PROW which runs between Lower Farm and the site. Visual receptors in this area would experience an increased magnitude of change, with effects during the temporary construction period for the grid connection works being likely to be significant. Likewise, the effect on landscape character in this part of LCT 13 - Open farmed hills and valleys to the north of the site would also be increased and would also be significant during the temporary construction period for the grid connection works.

6.7 Cumulative Effects

6.7.1 Within EIA, cumulative effects are generally considered to arise from the combination of effects from the Proposed Development and from other proposed or permitted schemes in the vicinity, acting together to generate elevated levels of effects.

6.7.2 The effects of the Proposed Development in combination with other relevant nearby developments has been considered. In particular, it is noted that in the vicinity of the site, on the opposite side of the A4074 immediately to the east, there is an approved Solar Farm, known as South Oxfordshire Solar Farm (application ref: P20/S4360/FUL), which provides 45 MW of renewable energy across an overall area of 123 ha.

6.7.3 A LVIA was undertaken for the South Oxfordshire Solar Farm as part of the Environmental Statement submitted for the scheme. This identified that significant effects would arise for that scheme in relation to the following visual receptors:

- Visual receptors using the PRoW network (which include Green Belt Way and Shakespeare Way) within the extent of the Site and its immediate context;
- Visual receptors on The Croft Road within the Site's immediate context (up to approximately 25m), upon completion of the Proposed Development; and
- Visual receptors using publicly accessible areas / routes within the landscape to the west of the Site, between Lower Farm and Upper Farm, upon completion of the Proposed Development.

6.7.4 No significant effects were identified in relation to landscape character.

6.7.5 When the SZTV for the Proposed Development is considered alongside the locations where significant effects were identified for the South Oxfordshire Solar Farm, the following observation can be drawn:

- Visual receptors using the PRoW network (which include Green Belt Way and Shakespeare Way) within the extent of the South Oxfordshire Solar Farm Site and its immediate context are outside of the SZTV and would have no visibility of the Proposed Development, with the exception of PRoW ON|317|7/10. For PRoW ON|317|7/10 there would be views of the South Oxfordshire Solar Farm in a northerly direction with the Proposed Development seen on the opposite side of the A4074 in a westerly direction. A moderate significant effect on users of PRoW ON|317|7/10 at Year 10 was identified for the Proposed Development and therefore, given the proximity of the South Oxfordshire Solar Farm to the north and the significant effect

identified for the route for that scheme, a significant cumulative effect would therefore arise. This does however relate to a relatively short section of footpath only around 250 m in length;

- Visual receptors on The Croft Road [also known as Baldon Lane] within the South Oxfordshire Solar Farm's immediate context (up to approximately 25 m) are outside of the SZTV of the Proposed Development and would have no potential to experience a cumulative visual effect; and
- Visual receptors using publicly accessible areas / routes within the landscape to the west of the South Oxfordshire Solar Farm, between Lower Farm and Upper Farm, would relate to PRoW ON|317|5/20 which passes through the Proposed Development site. It is acknowledged that there would be significant effects on sections of this route as result of the Proposed Development, but that this would be reduced to only the short section which passes directly through the panels following the implementation of the mitigation planting proposals. There would therefore be the potential for significant cumulative effects on a short section of PRoW as it runs immediately adjacent to the Proposed Development.

6.7.6 In addition to the above locations, there would also be the potential for significant sequential cumulative effects to arise on a short section of the A4074 as it passes with the Proposed Development on its west and the South Oxfordshire Solar Farm Site on its east. This would be limited however by the existing roadside vegetation and the proposed mitigation planting associated with both solar farm developments.

6.7.7 With regard to landscape character, the potential for significant cumulative effects would be limited to that part of the landscape where views of both schemes would be available. This is very limited as demonstrated by the cumulative SZTV included at **Figure 6.7**. Significant cumulative effects would be limited to a small part of LCT 13 Open Farmed Hills and Valleys in the immediate vicinity of the two sites, in particular the area to the immediate east of the Proposed Development, on the opposite side of the A4074. This is an area where significant effects would already arise in relation to the Proposed Development, such that significant cumulative effects would not extend beyond the areas where a significant effect would occur in any case.

6.8 Summary

Introduction

6.8.1 This landscape and visual chapter of the Environmental Statement has been prepared by Pegasus Group and considers the potential likely significant effects of the proposed solar farm upon individual landscape features and elements, landscape character and visual amenity of the people who view the landscape.

6.8.2 The assessment is in accordance with best practice 'Guidelines for Landscape and Visual Impact Assessment Third Edition, Landscape Institute, and Institute of Environmental Management and Assessment', (GLVIA 3).

6.8.3 The assessment has been undertaken by Chartered Landscape Architects at Pegasus Group who are experienced in assessing similar developments.

Baseline Conditions

6.8.4 The site is located on agricultural land, comprising arable land, between Sandford -on-Thames and Nuneham Courtenay within the South Oxfordshire Greenbelt. The A4074

road passes along the eastern edge of the site, while the River Thames is situated close to the western boundary of the site. The site itself comprises a number of arable fields with native hedgerow boundaries and a small area of woodland in the southern part of the site. The site is crossed by two 132 kV overhead lines and a public footpath passes through the northern part of the site, connecting with the wider public rights of way network to the north and east of the site.

6.8.5 The site is not located within a statutorily designated landscape nor is it located within a non-statutorily locally designated landscape. The site is located within National Character Area 64 Midvale Ridge. At the local level, the South Oxfordshire Landscape Character Assessment defines the site, being situated within LCA 2 Nuneham Courtenay Ridge and more specifically within LCT 13 Open farmed hills and valleys.

Likely Significant Effects

Landscape Mitigation

6.8.6 Landscape mitigation forms an integral part of the proposals. Landscape mitigation includes the retention, protection and enhancement of existing trees, hedgerows and woodland, the provision of new trees and hedgerows throughout the site, provision of meadow grassland underneath solar panels for ecological benefits and for light grazing and ongoing landscape management of planting during the lifetime of the solar farm.

Landscape Features

6.8.7 During construction, although some additional temporary effects are envisaged, over and above those during the operational phase, no significant effects are predicted to occur upon topography and landform, watercourses and drainage features or upon vegetation. However, the Proposed Development would represent a change to the current land use, buildings and infrastructure within the site and therefore, a significant temporary adverse effect is predicted in the short-term.

6.8.8 Upon completion of the Proposed Development, the effects upon land use, buildings and infrastructure would reduce to Not Significant. Some minor benefits would occur to the vegetation in the longer-term due to the introduction of new planting, however, these would be Not Significant.

Landscape Character

6.8.9 Within the site, the Proposed Development would introduce a new man-made feature into the landscape, which although of only limited height, it would incorporate most of the site area and therefore adversely alter the physical and perceptual attributes of the site. It is acknowledged however, that the layout would allow retention of all valuable features within and surrounding the site. During construction and upon completion, a significant effect is predicted to the Open farmed hills and valleys LCT within which the Proposed Development is located and limited parts of the LCT beyond the boundary of the site extending to elevated areas to the east and south and to the immediate part of the LCT to the west of the site.

6.8.10 There would also be a significant effect at Year 1 to LCT 5 Flat floodplain to the west of the site. However, as mitigation planting matures and screens the site this would result in no significant effects in the longer-term.

6.8.11 There would be no significant effects upon other surrounding landscape character types as defined by the local character assessments.

Visual Amenity

6.8.12 During construction and on completion of the Proposed Development, some inevitable significant visual effects would be experienced by users of the public rights of way which cross the site and in the immediate vicinity of the site, comprising ON|317|5/20 and ON|317|7/10 where its elevation relative to the site would allow views over the site. People travelling along the section of the A4074 to the south of Lower Farm Lane would experience significant effects but as mitigation planting along the eastern boundary matures over time these effects would become not significant.

6.8.13 The Proposed Development would not be visible from the nearest settlements of Nuneham Courtenay, Marsh Baldon or Toot Baldon. None of the nearest residential properties, users of the other public rights of way, the Oxford Greenbelt Way, the Thames Path National Trail or National Cycle Route 5 would experience significant visual effects.

Conclusion

6.8.14 Overall, the total extent of the landscape and visual effects would be localised and limited in nature and on balance, the Proposed Development can be accommodated without undue harm to the character and visual amenity of the landscape.