



Longfield Solar Farm

Environmental Statement PINS Ref: EN010118

Volume 1

Chapter 10: Landscape and Visual Amenity

Document Reference EN010118/APP/6.1(A)

Revision Number: 2.0

August 2022

Longfield Solar Energy Farm Ltd

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

Quality information

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10. Landscape and Visual Amenity

10.1 Introduction

- 10.1.1 This chapter summarises the likely impacts and significant effects of the Scheme on landscape and views, and where necessary proposes measures to mitigate these impacts and effects.
- 10.1.2 The assessment comprises a Landscape and Visual Impact Assessment (LVIA) which has been undertaken and reported by a team of competent Chartered Landscape Architects with extensive experience in LVIA of solar farms and other large-scale infrastructure development.
- 10.1.3 In accordance with industry guidance, the LVIA has been undertaken for the construction phase (assessed as not earlier than 2024 – 2026, winter), year 1 of opening (assessed as not earlier than 2027, winter), year 15 post opening (assessed as not earlier than 2042, summer), and decommissioning (assessed as 2067, winter) phases of the Scheme.
- 10.1.4 Landscape effects relate to changes to the landscape as a resource, including physical changes to the fabric or individual elements of the landscape, its aesthetic or perceptual qualities, and landscape character due to the Scheme.
- 10.1.5 Visual effects relate to changes to existing views of identified visual receptors (people), from the loss or addition of features within their view due to the Scheme.
- 10.1.6 The chapter focusses mainly on the likely ‘significant’ effects of the Scheme (those effects assessed as major or moderate). However, effects on all receptors (significant and not significant) are assessed in **Appendix 10E and 10F** of the Environmental Statement (ES) [EN010118/APP/6.2], which should be read in combination with this chapter.
- 10.1.7 This chapter has been prepared with particular reference to **Chapter 7: Cultural Heritage** and **Chapter 8: Ecology** of the ES [EN010118/APP/6.1], which should be read in combination with this chapter.
- 10.1.8 The following figures accompany this chapter and are contained within Volume 3 of the ES [EN010118/APP/6.3]:
- Figure 10-1: LVIA Study Area;
 - Figure 10-2: Topography and Watercourses;
 - Figure 10-3: Public Rights of Way;
 - Figure 10-4: National Character Areas;
 - Figure 10-5: County Landscape Character Areas;
 - Figure 10-6: District Landscape Character Areas;
 - Figure 10-7: Local Landscape Character Areas;
 - Figure 10-8: Zone of Theoretical Visibility (Bare Earth) – All Features;

Figure 10-9: Zone of Theoretical Visibility (With Surface Features) – All Features;

Figure 10-9-1: Zone of Theoretical Visibility (With Surface Features) - Solar Panels;

Figure 10-9.2: Zone of Theoretical Visibility (With Surface Features) - Substation/Battery Storage;

Figure 10-9.3: Zone of Theoretical Visibility (with surface features) - Plant Building;

Figure 10-9.4: Zone of Theoretical Visibility (with surface features) Substation Extension;

Figure 10-10-1: Viewpoint locations;

Figure 10-10-2: Viewpoint locations;

Figure 10-10-3: Viewpoint locations;

Figure 10-11: Type 1 Photosheets;

Figure 10-12: Outline Landscape Masterplan;

Figure 10-13: Type 3 Visualisations;

Figure 10-14: Advanced Planting; and

Figure 10-15: Vegetation Removal Plan.

10.2 Legislation and Planning Policy

10.2.1 Legislation and planning policy relevant to landscape and visual matters is set out in **Appendix 10A: LVIA Policy** of the ES [EN010118/APP/6.2].

10.3 Assessment Assumptions and Limitations

The Scheme Parameters Assessed

10.3.1 This LVIA assesses the potential effects resulting from the Illustrative Concept Design, as outlined in **Chapter 2: The Scheme** of the ES [EN010118/APP/6.1], with maximum heights allowed by the Design Principles. The Illustrative Concept Design presents a realistic and deliverable layout (**Figure 2-5** [EN010118/APP/6.2]) in accordance with the Design Principles [EN010118/APP/7.3], within the Rochdale Envelope. It is not possible to visualise the Design Parameters in Visually Verified Photomontages because some land within the Order limits can be used for multiple purposes, such as solar PV, landscaping, or habitats if Phase 2 of the Battery Energy Storage System (BESS) is not constructed. The Concept Design (**Appendix 2A** of the ES [EN010118/APP/6.2]) with maximum allowed heights applied to the photomontages and assessment, therefore, presents a worst-case scenario of a deliverable Scheme for landscape and visual. A review of the Concept Design against the Design Principles confirmed that constructing and operating the Scheme in other ways allowed by the Design Principles would not result in a greater impact to landscape character or visual amenity than the Concept Design. This is particularly due to:

- a. The maximum height of all elements, as set out in the Design Principles, has been assessed as part of the Concept Design. In other

words, the Concept Design has been modified for the photomontages to ensure it shows the maximum allowed heights as set out in the Design Principles. These are set out in paragraph 10.3.12.

- b. The Concept Design includes the maximum area proposed to be occupied by the solar array (Work No. 1), other than the potential for an additional area of the solar array, as explained for Work No. 2B, below.
- c. The Concept Design includes the maximum area proposed to be occupied by the BESS (Work No. 2) and Longfield Substation (Work No. 3).
- d. Work No. 2B comprises the second phase of the BESS. In the event that only Phase 1 of the BESS is constructed, with the second phase not required, the area of land allocated would instead be utilised for Solar PV Arrays, landscaping, or habitat areas. Construction and operation of the BESS is considered to have the potential to result in greater landscape and visual effects than construction and operation of Solar PV Arrays, given its greater height and mass. The Concept Design assessed therefore assumes Work No. 2B would be occupied by Phase 2 of the BESS.
- e. Space for offsets from residential properties, viewing corridors and land within the Order limits required for mitigation, and shown on **Figure 10-12: Outline Landscape Masterplan [EN010118/APP/6.3]**, are secured by Work No. 10 and the corresponding areas for Work No. 10 as shown on the **Works Plan [EN010118/APP/2.2]**, which are areas within the Order limits for landscape and biodiversity measures.

10.3.2 It follows that, to the extent these components are different to the Concept Design during detailed design, they must be within the Design Principles (i.e., the Rochdale Envelope), and any Scheme built out within the maximum areas on the works plans and in accordance with the Design Principles would result in effects no worse than those assessed in this chapter.

Baseline surveys

10.3.3 The LVIA has been undertaken with reference to the baseline conditions recorded at the time of undertaking winter and summer fieldwork surveys between May 2020 and October 2021 (covering summer and winter seasons). These surveys were carried out from publicly accessible locations. In most cases they are considered to also be representative of the conditions that would exist at the point of commencing Scheme construction, as described in Section 10.3.11 as the nature of the landscape is such that no material changes to its character or views are predicted to occur during this time. It should be noted that whilst Advanced Mitigation Planting is planned to be carried out in 2022, ahead of commencement of construction (see paragraph 10.7.7 for further explanation), that planting is treated as mitigation for the purposes of this assessment and does not impact on the current or future baseline conditions.

10.3.4 A Zone of Theoretical Visibility (ZTV) has been prepared to assist in identifying visual receptors likely to be affected by the Scheme and viewpoints which are representative of people's views. ZTV analysis uses a model of the Scheme. The ZTV is based on the design details that all PV Panels measure 3m in

height, the Longfield Substation measures 13m in height, the BESS measures 4.5m in height, the permanent plant building measures 7.1m in height and the extension to Bulls Lodge Substation would measure 17m tall (this includes 2m to account for changes to the ground level). The ZTV is important in establishing the extent of the study area to inform the baseline and assessment.

- 10.3.5 The accuracy of the ZTV has been constrained by the distance and height parameters adopted in their generation, as described in **Appendix 10B: LVIA Methodology** of the ES [EN010118/APP/6.2]. It is not possible to identify and assess every individual visual receptor within the ZTV extents. This limitation has been addressed by grouping receptors, where appropriate, and then identifying and assessing the greatest adverse effect within the group. In adopting this approach, this assessment considers the most realistic worst-case outcome for the receptors within the group and reports this as a single effect in the LVIA.
- 10.3.6 Initial fieldwork was undertaken from publicly accessible locations, aided by aerial photography and fieldwork observations from the surrounding area. Further fieldwork was undertaken from private land surrounding residential properties located in close proximity to the Scheme where potential for significant visual effects on residents was identified. A visit to land surrounding the following properties was undertaken on 14 July 2021:
- a. White House Farm;
 - b. Whitehouse Cottages;
 - c. Lawns Farm;
 - d. Scarlett's Farm;
 - e. Noakes House;
 - f. Hedgerow Cottage;
 - g. Noakes Barn;
 - h. Birds Farm;
 - i. Russel Green House;
 - j. 1 Boreham Road;
 - k. Stocks Farm;
 - l. Stocks Cottages;
 - m. Thatched Cottage; and
 - n. Buftons
- 10.3.7 Additionally, a visit was made inside Noakes Barn on 23 June 2021 to consider the potential visual effects on residents of the property and to inform the design of appropriate mitigation.

Design information

- 10.3.8 This assessment has made reference to the plans recorded in **Table 10-1**.

Table 10-1: Figures within the DCO Application that have informed the LVIA

Drawing number / Document reference	Drawing description
Figure 1-1	Scheme Location
Figure 2-5	Illustrative Concept Design
Figure 2-7	Main Site Entrance
Figure 2-8	BESS Cross-section A-A
Figure 2-9	BESS Cross-section B-B
Figure 2-10	BESS Cross-section C-C
Figure 2-11	BESS Cross-section D-D
Figure 2-12	Deer Fencing/CCTV
Figure 2-13	33kV Cable Trench Sections
Figure 2-14	Palisade and Gate Plan and Elevations
Figure 2-15	Permanent Plan Building Elevations
Figure 2-16	Storage Container Elevations
Figure 2-17	Inverter Substation Typical Detail
Figure 2-18	Substation Plan
Figure 2-19	Substation Elevations
Figure 2-20	Main Construction Compound
Figure 2-21	Secondary Construction Compound
Figure 2-22	Plant/Warehouse Building
Figure 2-23	Site Access Track Plan
Figure 2-24	Battery Container Elevation and Plan View
Figure 2-25	Primary Access Road Cross Section
Figure 2-26	BESS Area Phasing
Figure 2-27	Construction Layout
Figure 2-34	Overhead line temporary diversion Bulls Lodge 4VB Route
Figure 2-36b	Bulls Lodge Substation Extension General Arrangement Earthworks Plan and Sections
EN010118/APP/2.2	Works Plan

Assessment scenarios

10.3.9 The construction phase assessment is based on the peak of construction activity in 2025.

10.3.10 The assessment of temporary construction effects has considered the peak activities, for example the visual impact has assumed the use of taller plant and equipment such as cranes; rather than the fixing of the panels to the frames which would be done by hand and therefore would have a lesser visual impact.

10.3.11 Other assumptions for the construction phase assessment are:

- a. The duration of construction would be up to two years, not starting earlier than 2024, with the exception of the temporary overhead line towers required as part of the Bulls Lodge Substation Extension which would be in place for up to four years prior to the start of operation.
- b. Construction would be undertaken during winter. Deciduous vegetation would not be in leaf, thereby representing a worst-case assessment scenario.
- c. The working right of way required for the Grid Connection Route would be a maximum of 20 metres (m) wide.
- d. Construction would require daily HGV movements to the Order limits, along with dumper trucks and excavators. The excavated material from the Grid Connection Route would be stored temporarily within the Order limits.
- e. Construction plant would include concrete mixers, piling rigs, ground levellers, ground compressors, forklift trucks, excavators and cranes.
- f. The main compound would consist of car parking, welfare units, refuelling/recharging areas, skips, a gatehouse/entrance barrier, offices, storage and enough space to allow the turning of vehicles. Mobile cranes would be used to construct the compound.
- g. Satellite compounds within the Order limits would consist of temporary surfacing, material storage and welfare facilities.
- h. Temporary haulage routes measuring 4-6m wide would be established across the Order limits, comprising permeable crushed aggregate.
- i. Compounds would store materials as required. Material storage would be spread across the main compound and satellite compounds.
- j. The perimeter fence around the Scheme would be implemented early in the construction phase where possible to secure the Order limits. It would consist of 2.5m high deer proof fencing comprising posts and hi-tensile wire mesh. This would also prevent construction activity in proximity to retained vegetation.
- k. Ground preparation would consist of localised ground levelling, piling, and trenching for cabling. This would be undertaken by standard construction equipment including HGVs, concrete mixers, piling rigs, excavators and forklift trucks. This would be followed by the construction of the PV Mounting Structures and then the PV Panels would be fixed onto these structures, followed by the construction of the remaining

infrastructure, namely the Balance of Solar System (BoSS) comprising Solar Stations which would incorporate transformers, inverters and switch gear. The PV Panels would be fixed onto the frames by hand operated tools.

- l. Topsoil stripped to facilitate the work would be spread back across the Order limits as phases of construction are completed in areas proposed for residual mitigation planting.
- m. The construction phase would be undertaken in accordance the **Outline Construction Environmental Management Plan (OCEMP) [EN010118/APP/7.10]**. This sets out standard construction practice measures, including to protect retained vegetation, minimise noise and dust, and ensure compounds and the land within the Order limits are tidy.
- n. Temporary diversions to Public Rights of Way (PRoW) may be required but for the purposes of this LVIA it has been assumed that PRoW would remain open so the potential worst case effects on people's views are considered during the construction phase.
- o. Lighting would be in the form of mobile lighting towers used where natural light is unable to reach (sheltered or confined areas) and during core working hours (07.00 – 19.00 Monday – Saturday) during winter months. Lights would be fitted with downward directional fittings to minimise light spill and glare. Lights would be directed into the Order limits, not towards the boundary.

10.3.12 The assumptions for the Year 1 operation assessment are:

- a. The Scheme would be operational across the extent of the Order limits, during winter, when deciduous vegetation is not in leaf. This represents a worst-case scenario.
- b. The PV Panels would be on a PV Mounting Structure (most likely to be galvanised steel or anodised aluminium). The PV Panels would be angled with their highest edge up to 3m above ground level and all panels would be fixed in a south facing orientation and would not rotate to follow the sun.
- c. A Solar Station would comprise an inverter, a transformer and switchgear. The footprint of a Solar Station would be 12.5m x 3.1m, with a height of 3.5m (above ground level).
- d. Where these elements are not combined within a Solar Station:
 - i. The footprint of a central inverter would measure 3m x 2m with a height of 2.5m (above ground level).
 - ii. The footprint of a standalone transformer would be 6.5m x 5.5m, with a height of 3.5m (above ground level).
 - iii. The footprint of standalone switchgear would measure 3m x 2.5m, with a height of 3.5m (above ground level).
- e. The BESS would be up to 4.5m tall above ground level.
- f. The Longfield Substation would be a maximum height of 13m above ground level.

- g. A 3m high steel palisade fence would enclose the substation and BESS.
- h. The permanent plant buildings would be 7.1m tall.
- i. The proposed landscape design would consist of grassland and wildflower meadows beneath the panels and species rich grassland in Work No. 6. These meadows and grasslands would not have fully established at year 1, which is typical for these habitats being created from seed.
- j. At the time of planting proposed native species hedgerows would be between 0.6m and 0.8m in height with native tree planting between 1m and 3.5m in height dependant on available plants and natural variation in heights. Advanced Mitigation Planting would be in its fifth year of establishment and Construction Day 1 Planting would be in its third year of establishment. Residual Mitigation Planting would not have established. Planting is assumed to grow at 33cm per year.
- k. The proposed Bulls Lodge Substation Extension would comprise the addition of new electrical infrastructure, namely a substation building with indoor gas insulated switchgear, outdoor air and gas insulated switchgear, and overhead line connections from the existing overhead line pylons. This would be located on the north western side of the existing substation and be of similar height and appearance.
- l. All new planting would be implemented and managed in accordance with the ***Outline Landscape Ecology Management Plan (OLEMP)*** [EN010118/APP/7.13].
- m. No visible lighting will be utilised at the Order limits perimeter. InfraRed lighting will be provided by the CCTV/security system to provide night vision functionality for CCTV.
- n. Visible lighting will be installed at site entrance points, the Longfield substation (entrance, parking area and control room), operations building (entrance, parking and refuge) and Bulls Lodge Substation Extension only. Lighting in these locations would be installed no higher than 4m above ground level, be fitted with downward directional cowls. Lighting would be turned on to allow security personnel to leave Site.
- o. Visible lighting would be installed at solar stations and the BESS but used outside working hours only in emergencies.

10.3.13 The assumptions for the Year 15 operation assessment are:

- a. The Scheme would be operational across the extent of the Order limits in summer, such that existing vegetation and new planting is in leaf, providing an assessment of the Scheme throughout the seasons. As set out in the following methodology section, this accords with the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013 (Ref 10-1), which requires consideration to be given to seasonal differences, assessing the winter season (year 1) and the fuller screening of vegetation in summer conditions (year 15).
- b. All new planting would have successfully established due to positive management as set out in the ***OLEMP*** [EN010118/APP/7.13], such that

there would be established grassland and wildflower meadow beneath the PV Panels, and across the wider extent of Work No. 6 and 10.

- c. Advanced Mitigation Planting comprising woodland would measure approximately 7m tall.
- d. Construction Day 1 planting comprising woodland would measure approximately 6m tall.
- e. Residual planting comprising trees would have grown by an assumed 5m in height (equating to 33 centimetres per year) to range between 5m and 6.5m in height.
- f. All new and existing hedgerows would be maintained at 3m tall.

10.3.14 The assumptions for the decommissioning phase assessment are:

- a. The Scheme would no longer be operational, and the PV Panels and associated structures and equipment would be removed in a manner similar to the construction phase, requiring machinery and localised excavation.
- b. The proposed planting would remain with hedgerows remaining at a height of 3m and new trees approximately 15m in height. The meadows and grassland would be removed, and the fields returned to agricultural use. The landowners may later choose to remove the planting, but this would not be as part of the Scheme.
- c. The assessment is undertaken for the winter season with the duration of the decommissioning phase being between 12 and 24 months.
- d. Permissive routes provided throughout operation of the Scheme would be removed.
- e. The underground cable within the Grid Connection Route would be left in-situ such that there would not be any excavation on the cable route.
- f. The Bulls Lodge Substation Extension will remain in-situ.
- g. Lighting would be as described for construction.

10.4 Assessment Methodology

Study Area

10.4.1 Zones of Theoretical Visibility (ZTV) were used to define an initial 'Area of Search' which extended 4km from the Order limits in all directions. Fieldwork was undertaken then to refine the study area.

10.4.2 The initial 4km Area of Search identified that from:

- a. Land to the north of Ranks Green – infrastructure and land within the Order limits would not be visible due to intervening landform and vegetation and that any perception of the Scheme would not significantly alter the character of the landscape.
- b. Land east of Terling – infrastructure and land within the Order limits would not be visible beyond the crest on the eastern side of the River Ter valley and that any perception of the Scheme would not significantly alter the character of the landscape.

- c. Land south of the A12 road corridor – infrastructure and land within the Order limits would not be visible due to the landform and dense buffer of trees flanking the A12 and that any perception of the Scheme would not significantly alter the character of the landscape. However, south of the River Chelmer valley, the land rises toward Little Baddow such that there is potential for the Scheme to be visible.
 - d. Land west of Domsey Lane and Leighs Road – infrastructure and land within the Order limits would not be visible due to the land falling away on the eastern side of the River Chelmer Valley.
- 10.4.3 With reference to **Figure 10-1: LVIA Study Area** of the ES [EN010118/APP/6.3], and taking into account the above considerations, the LVIA study area extends approximately 2 kilometres (km) from the Order limits to the north, east and west, and 4 km from the Order limits to the south. Details of the landscape and visual context across the study area is set out in the following baseline sections.
- 10.4.4 The extent of the study area was agreed with Wynne Williams Associates acting on behalf of Essex County Council, Chelmsford City Council and Braintree District Council, at a meeting held on 29 June 2021.
- 10.4.5 The LVIA study area covers the area within which the Scheme may result in significant landscape or visual effects.

Sources of Information

Desktop Research

- 10.4.6 The following section summarises the publications that have been reviewed as part of the desktop research:
- a. Relevant national energy policies, planning policy, and planning practice guidance;
 - b. Landscape and visual amenity related policies contained in adopted and emerging Chelmsford City Council and Braintree District Council planning policy;
 - c. Natural England, Chelmsford City Council and Braintree District Council published landscape character assessments;
 - d. The Essex Design Guide; and
 - e. ZTVs, aerial photography and Ordnance Survey (OS) maps.

Surveys

- 10.4.7 Fieldwork has been undertaken between May 2020 and October 2021 to review the desktop analysis, verify the statements within the published landscape character assessments, analyse the landscape character, describe baseline views and determine the likely visibility of the Scheme.

Impact Assessment Methodology

- 10.4.8 The LVIA methodology is set out in full in **Appendix 10B** of the ES [EN010118/APP/6.2]. The methodology was agreed with Wynne Williams Associates acting on behalf of Essex County Council, Chelmsford City Council and Braintree District Council at a meeting held on 29 June 2021.

- 10.4.9 The following guidance has been used to inform the scope and content of the LVIA, and to assist the identification and mitigation of likely significant effects. This builds upon the overarching EIA methodology and guidance presented in **Chapter 5 EIA Methodology** of the ES [EN010118/APP/6.1]. It includes:
- a. Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and Institute of Environmental Assessment and Management, 2013) (Ref 10-1);
 - b. The Landscape Institute's Technical Guidance Note 06/19: Visual Representation of Development Proposals, 2019 (Ref 10-2);
 - c. An Approach to Landscape Character Assessment, (Natural England, 2014) (Ref 10-3);
 - d. The Landscape Institute's Infrastructure Technical Guidance Note 04/2020 (Ref 10-4);
 - e. The Landscape Institute's Tranquillity Technical Guidance Note 2017 (Ref 10-5);
 - f. Landscape Institute's Technical Guidance Note 2/19: 'Residential Visual Amenity Assessment' (2019) (Ref 10-6); and
 - g. The Landscape Institute's Assessing landscape value outside national designations Technical Guidance Note 02/21 (Ref 10-7).

Establishment of the baseline

- 10.4.10 Establishment of the baseline has involved consultation with statutory bodies, other organisations and landowners, reference to existing data sources through desk study and fieldwork surveys.
- 10.4.11 Reference was made to the prevailing policy framework, published strategies and guidance, Ordnance Survey mapping, 3-dimensional topographical data, and site photographs and aerial photography.
- 10.4.12 Fieldwork surveys were undertaken by qualified and experienced landscape architects to inform the scoping process and record the winter and summer season conditions. The purpose of this fieldwork was to review the boundaries and key characteristics defined in the published landscape character assessments and to identify, record and map features and characteristics of the landscape. This included perceptual qualities including tranquillity.
- 10.4.13 Information from these surveys has been used, where relevant, to inform the identification of baseline landscape conditions.
- 10.4.14 Stakeholders have been engaged and consulted with throughout the design process.
- 10.4.15 Comments from statutory consultees made in response to the statutory consultation (including informal discussions and consultation) and through meetings with officers of relevant planning authorities have informed the scope and methodology of the LVIA and development of the landscape strategy.
- 10.4.16 Further details regarding consultation undertaken as part of the Scheme are presented in **Chapter 4: Consultation** of the ES [EN010118/APP/6.1].

Landscape baseline

- 10.4.17 Establishing the landscape baseline involved the identification of existing physical features of the landscape, including patterns of land use, land cover and aesthetic and perceptual qualities, and its character.
- 10.4.18 Existing, published landscape character assessments were reviewed to identify existing Landscape Character Types (LCT) and Landscape Character Areas (LCA) at the national, regional and district scales.
- 10.4.19 A total of 13 Local Landscape Character Areas (LLCA) were subsequently identified to provide a finer level of detail than published studies, to inform the assessment of landscape effects. The landscape assessment methodology was agreed with Wynne Williams Associates, on behalf of the Local Planning Authorities on 29 June 2021, with subsequent agreement of the extent and distribution of the LLCAs on 15 October 2021.

Visual baseline

- 10.4.20 With reference to GLVIA3 (Ref 10-1), the visual assessment relates to the potential changes to existing views of visual receptors e.g., residents, users of public rights of way or motorists, as a result of the addition or loss of features in existing views.
- 10.4.21 Zones of Theoretical Visibility (ZTV) were used to assist in the identification of visual receptors and representative viewpoints upon which the assessment of visual effects is based. These ZTVs are presented in **Figure 10-8** and **Figure 10-9** of the ES [EN010118/APP/6.3] and are based on the Concept Design, and include the maximum heights allowed by the Design Principles. The methodology for the preparation of the ZTVs is presented in **Appendix 10B: LVIA Methodology** of the ES [EN010118/APP/6.2].
- 10.4.22 The final list of the viewpoints and visual receptors evaluated in the visual assessment is presented in **Appendix 10F: Visual Assessment** of the ES [EN010118/APP/6.2] and in **Figure 10-10** [EN010118/APP/6.3].
- 10.4.23 Photographs and visualisations have been included to assist in describing baseline views and visual effects with reference to the viewpoints, which have been agreed with relevant local planning authorities. They have been prepared in accordance with best practice guidance published by the Landscape Institute (Ref 10-2) and are presented as Type 1 (annotated viewpoint photographs) or Type 3 (photomontage) on **Figure 10-13** [EN010118/APP/6.3].

Sensitivity of receptors

- 10.4.24 In accordance with GLVIA3 (Ref 10-1), judgements on the value and susceptibility of receptors have been combined to determine their sensitivity to the Scheme.

Sensitivity of landscape receptors

- 10.4.25 Landscape value is typically informed by the process of landscape character assessment and is influenced by factors such as whether the landscape is designated and at what scale, and with reference to criteria set out in Box 5.1 of GLVIA3 (Ref 10-1), the condition, rarity, scenic quality, and perceptual

aspects. Reference has also been made to Landscape Institute TGN 02-21: Assessing landscape value outside national designations (Ref 10-7).

10.4.26 Assessing the susceptibility of landscape receptors to change refers to the ability of landscape receptors to accommodate the specific proposed change without negative consequences.

10.4.27 The sensitivity of landscape receptors is set out in **Appendix 10C: Landscape Baseline** of the ES [EN010118/APP/6.2].

Sensitivity of visual receptors

10.4.28 Assessing the value attached to views has been informed by the location of the viewing place and the quality or designation of the existing landscape and elements in the view. This can include whether the view: is of or from important heritage assets; is afforded its own designation or is from or towards a designated landscape; or is named or promoted (such as those found in guidebooks and tourist literature).

10.4.29 The susceptibility of visual receptors to the change brought about by the Scheme relates mainly to their occupation or activity and the extent to which their attention or interest is focused on the view.

10.4.30 The sensitivity of visual receptors is set out in **Appendix 10D: Visual Baseline** of the ES [EN010118/APP/6.2].

Assessment of effects

10.4.31 Design measures are proposed to prevent, reduce or mitigate likely adverse effects. The landscape design has been extensively considered in order to embed mitigation measures in line with management recommendations included in policy and published landscape studies and strategies.

10.4.32 The assessment of landscape and visual effects takes account of the effectiveness of these embedded mitigation measures, which are set out in **Chapter 2: The Scheme** of the ES [EN010118/APP/6.1] (and summarised in Section 10.7), and mitigation measures described in Section 10.8 of this chapter.

10.4.33 The magnitude of effect (change) resulting from the Scheme has been assessed in relation to each receptor for each assessment phase (i.e., construction, operation year 1 and year 15 and decommissioning). The magnitude of effect considers the size and scale, duration, and reversibility of the effect as set out in **Appendix 10B: LVIA Methodology** of the ES [EN010118/APP/6.2].

Magnitude of landscape effects

10.4.34 The magnitude of landscape effects has been determined in consideration of the size/scale, geographical extent of influence, and its duration and reversibility. The magnitude of landscape effects is set out in **Appendix 10E: Landscape Assessment** of the ES [EN010118/APP/6.2].

Magnitude of visual effects

10.4.35 The magnitude of visual effects has considered the size / scale, intensity, geographical extent of the view influenced, the elements of the Scheme that

would be visible, the level of integration with existing elements, and the duration and reversibility of effects. Reference has been made to **Appendix 10G: Glint and Glare Assessment** of the ES [EN010118/APP/6.2] as appropriate. The magnitude of landscape effects is set out in **Appendix 10E: Landscape Assessment** of the ES [EN010118/APP/6.2].

Assessment of night time lighting effects

10.4.36 A qualitative assessment of night time lighting effects has been carried out for landscape and views. The effects of night time lighting have been considered for each LCA and LLCA during the construction and operational phases of the Scheme. The effects of night time lighting have been considered for all residential visual receptors during the construction and operational phases of the Scheme. Users of public rights of way (PRoW) have not been included as it is assumed that these routes would not be used at night.

Significance of effects

10.4.37 Table has been used as a guide to inform judgements on the significance of effect. This process and terminology is specific to LVIA and therefore differs from the methodology of other EIA topics.

Table 10-2: Guide to the Landscape and Visual Significance of Effect

<i>Sensitivity or value of resource / receptor</i>	<i>Magnitude of impact</i>				
	<i>High</i>	<i>Medium</i>	<i>Low</i>	<i>Very Low</i>	<i>None</i>
<i>Very High</i>	Major	Major or Moderate	Moderate or Minor	Minor or Negligible	Neutral
<i>High</i>	Major or Moderate	Moderate	Moderate or Minor	Minor or Negligible	Neutral
<i>Medium</i>	Major or Moderate	Moderate or Minor	Minor or Negligible	Negligible	Neutral
<i>Low</i>	Moderate or Minor	Minor	Minor or Negligible	Negligible	Neutral
<i>Very low</i>	Minor	Minor or Negligible	Negligible	Negligible	Neutral

10.4.38 With reference to Table , major and moderate effects are considered ‘significant’. Effects of minor, negligible and neutral are considered ‘not significant’. The assessment determines whether effects are adverse or beneficial, apart for the neutral categorisation.

10.4.39 GLVIA3 (Ref 10-1) acknowledges that the assessment of significance is not a prescriptive process. Where Table allows for two levels of significance (e.g., major / moderate or minor / negligible) professional judgement has been used to determine the appropriate level of significance.

10.4.40 Where professional judgement considers that the assessment of significance of effect should differ from the guide in Table , then a reasoned justification is provided in the assessment narrative.

10.4.41 This chapter presents summaries of the identified significant landscape and visual effects. The detailed baseline, sensitivity, magnitude of effect and significance of effect and the judgements that support these findings for each landscape receptor are reported in **Appendix 10E: Landscape Assessment** of the ES [EN010118/APP/6.2], and for each visual receptor in **Appendix 10F: Visual Assessment** of the ES [EN010118/APP/6.2].

Relationship to Residential Amenity Visual Assessment

10.4.42 The LVIA assesses the potential visual effects to different types of visual receptors, including residential receptors, i.e., private views. This assessment makes reference to representative viewpoints.

10.4.43 With reference to the Landscape Institute's Technical Guidance Note 2/19: 'Residential Visual Amenity Assessment' (2019) (Ref 10-6), the Residential Visual Amenity Threshold (RVAT) is considered to be whether: *"the effect of the development on Residential Visual Amenity is of such nature and / or magnitude that it potentially affects 'living conditions' or Residential Amenity."*

10.4.44 The RVAT guidance is based upon a four stage approach. Stages 1 to 3 accord with the methodology for the LVIA set out above and in **Appendix 10B: LVIA Methodology** of the ES [EN010118/APP/6.2].

10.4.45 The fourth step is a more detailed examination of views from residential properties, where appropriate, when the highest 'significance of effect' levels are identified via stages 1 to 3 after mitigation has been taken into account.

10.4.46 The PEI Report identified potential for residual significant adverse visual effects on residents living in proximity to the Order limits. Therefore, visits to private land surrounding the properties were undertaken, as set out in paragraph 10.3.6. Further consultation with residents was undertaken from 1 to 3 September 2021. This site analysis and consultation informed a series of design changes to mitigate the potential for significant adverse visual effects on residents, as set out in Table .

10.4.47 Following these design changes, detailed in Table , the LVIA has not identified the likelihood of significant adverse effects at year 15 of operation on residents. As such the RVAT was not reached and therefore a RVAA has not been carried out.

10.4.48 This consultation and mitigation was presented to Essex County Council, Chelmsford City Council and Braintree District Council, and their landscape advisors, Wynne Williams Associates, at a meeting on 15 September 2021. A follow up consultation site visit was undertaken on 5 October. Following this process, it was agreed that a RVAA was not necessary for any residential receptors (via email dated 15 October 2021 from Wynne Williams Associates on behalf of on behalf of Essex County Council, Chelmsford City Council and Braintree District Council).

10.5 Stakeholder Engagement

10.5.1 A letter was sent to officers from Chelmsford City Council, Essex County Council, and Braintree District Council on 28 January 2021. The letter addressed issues raised in the Scoping Opinion and confirmed the scope of the LVIA. Subsequent meetings took place with the Local Planning Authorities landscape officers and advisors. The LVIA engagement, including feedback received from Statutory Consultation, is outlined in **Table** .

Table 10-3: Main matters raised during consultation

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
The Planning Inspectorate Scoping Opinion, December 2020			
Planning Inspectorate Scoping Opinion	Impacts to visual amenity resulting from the introduction of lighting during construction, operation and decommissioning which are likely to result in significant effects should be assessed in the ES. Any proposed mitigation measures should be described and secured through the DCO. The assessment should cross refer to other relevant aspect assessments and sensitive receptors (such as ecology and cultural heritage).	<p>Consideration of the visual impact of lighting has been considered through assessment of the proposed lighting against Campaign to Protect Rural England (CPRE) Dark Skies mapping. The methodology followed is set out in Appendix 10B: LVIA Methodology of the ES [EN010118/APP/6.2]. This approach was agreed with the Local Authorities, represented by Wynne Williams Associates at a meeting held on 16 December 2021.</p> <p>Landscape and visual mitigation has been described in Section 10.7 and is shown on Figure 10-12 Outline Landscape Masterplan of the ES [EN010118/APP/6.3].</p> <p>Reference to other relevant assessments has been made throughout the landscape and visual baseline in Section 10.6.</p>	Refer to Appendix 10B, 10E and 10F of the ES [EN010118/APP/6.2] and Figure 10-12 of the ES [EN010118/APP/6.3].
Planning Inspectorate Scoping Opinion	The ES should justify the extent of the study area/s... The ES should justify the extent of the study area/s with reference to recognised professional guidance and the extent of the likely impacts, informed by fieldwork and relevant models or approaches such as the ZTV. Effort should be made to agree the study areas with	The submission sets out the Area of Search and the resulting study area in which there is considered potential for significant effects. This was determined through desk-based analysis, including ZTVs, and field work; as set out in Section 10.4. This was agreed with LPAs at a meeting on 29/06/21.	Refer to section 10.4.1 and Appendix 10B: LVIA Methodology of the ES [EN010118/APP/6.2].

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Planning Inspectorate Scoping Opinion	<p>relevant consultation bodies.</p> <p>The ES should explain how the visual receptors and viewpoints have been selected with reference to ZTV mapping and fieldwork, and illustrate these on suitable figures.</p>	<p>Explanation of the visibility of the scheme experienced by people, informed by ZTV mapping and fieldwork, has been provided in the LVIA. Viewpoints have been selected to represent the views experienced by people across the study area. This process is set out in Appendix 10B of the ES [EN010118/APP/6.2].</p> <p>The number and location of viewpoints was agreed with LPAs at a meeting on 29/06/21. Subsequent discussion and agreement with LPAs regarding viewpoints was undertaken on 24/08/21.</p> <p>Figures 10-8 and 10-9 of the ES [EN010118/APP/6.3] show the ZTV. Analysis of the ZTVs is provided in para. 10.6.73 - 10.6.89. Figure 10-10 of the ES [EN010118/APP/6.3] shows the viewpoint locations.</p>	<p>Refer to Appendix 10B: LVIA Methodology paragraph 1.3.16 – 1.3.20 of the ES [EN010118/APP/6.2].</p>
Planning Inspectorate Scoping Opinion	<p>The Applicant should ensure appropriate viewpoints have been selected to capture any long-distance views of the Scheme.</p>	<p>The ZTV showed theoretical visibility of the Scheme from Little Baddow, approximately 4km south of the Order limits. Viewpoints 32 and 33, both long distance views, have therefore been included as representative viewpoints. No significant effects were identified in long distance views.</p>	<p>Refer to Appendix 10D: Visual Baseline and Appendix 10F: Visual Assessment of the ES [EN010118/APP/6.2].</p>
Planning Inspectorate Scoping Opinion	<p>The ZTV should take into account the setting of heritage receptors. Effort should be made to agree the visual receptors, viewpoints and viewpoint heights with relevant consultation bodies.</p>	<p>Assessment of the Scheme's effect on the setting of heritage receptors is recorded in Chapter 7: Cultural Heritage of the ES [EN010118/APP/6.1]. The ZTV has informed the selection of viewpoints representative of people living in heritage receptors, namely:</p> <p>Ringers Farm: Viewpoint 12</p> <p>Three Ashes Farmhouse: Viewpoint 18</p> <p>Rolls Farm: Viewpoint 28</p>	<p>Refer to Appendix 10D: Visual Baseline and Appendix 10F: Visual Assessment of the ES [EN010118/APP/6.2].</p>

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
		<p>Correspondence regarding the location and heights of viewpoints with relevant consultation bodies has been undertaken, as detailed in the record of consultation with LPAs, below.</p>	
<p>Planning Inspectorate Scoping Opinion</p>	<p>Many of the field boundaries within the study area are formed by mature hedgerows, which are an important feature of the existing character of the landscape. Existing vegetation should be mapped and any loss of or impacts to hedgerows, trees or woodland which are likely to result in significant effects on landscape and visual amenity should be assessed in the ES.</p>	<p>The Scheme has been designed to integrate with, and enhance, the local green infrastructure network, including the protection of existing important vegetation. Proposed vegetation removal is shown on Figure 10-15: Vegetation removal Plan of the ES [EN010118/APP/6.3].</p> <p>The removal of vegetation has been considered in the assessment of landscape and visual effects.</p>	<p>Figure 10-15 of the ES [EN010118/APP/6.3]</p>
<p>Planning Inspectorate Scoping Opinion</p>	<p>The assessment should be supported by appropriate visual representations including annotated photographs, photomontages and wirelines.</p>	<p>All viewpoints are supported by Type 1 annotated photography. 10 viewpoints are supported by Type 3 photomontages. The location of the viewpoints and photomontages was agreed with the LPAs at a meeting on 29/06/21 and through subsequent discussion and agreement on 24/08/21.</p>	<p>Refer to Figure 10-11 and Figure 10-13 of the ES [EN010118/APP/6.3].</p>
<p>Planning Inspectorate Scoping Opinion</p>	<p>Effort should be made to agree the viewpoints for visual representations, the assessment years and the detailed methodology for their production with relevant consultation bodies. Both winter and summer views should be included.</p>	<p>The methodology, including assessment years, was agreed with the LPAs at a meeting on 29/06/21. Subsequent discussion and agreement with LPAs regarding viewpoints was undertaken on 24/08/21.</p> <p>Summer and winter viewpoint photography is presented on Figure 10.11 of the ES [EN010118/APP/6.3] for each representative viewpoint. (Note: Photographs recording the view at viewpoints 54, 55 and 56 show summer conditions only, since they were requested through consultation undertaken through summer months. However, an assessment of</p>	<p>Refer to Figure 10.11 of the ES [EN010118/APP/6.3].</p>

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
		winter conditions has been undertaken.	
Planning Inspectorate Scoping Opinion	The ES should clearly present any assumptions made with regards to the height that any mitigation planting would have reached by the assessment years for purposes of generating photomontages.	The LVIA makes a conservative assumption that mitigation planting would grow by 33cm every year, such that it would have grown by approximately 5m by the Year 15 assessment (although this depends on when the vegetation was planted, as set out in Section 10.7.7). It has been assumed that hedgerows would be maintained at 3m tall. Narrative has been added to the visual assessment explaining when Advanced Mitigation Planting and Construction Day 1 Planting would screen views.	Refer to section 10.3.13
Planning Inspectorate Scoping Opinion	The methodology for the assessment of impacts to Landscape Character Areas (LCA) should be based on relevant guidance, such as Natural England's 'An Approach to Landscape Character Assessment' and in respect to local LCAs, effort should be made to agree the specific approach with the relevant planning authorities.	Relevant guidance has been considered in the assessment of effects on LCAs. This has been agreed via correspondence with local planning authorities.	Refer to section 10.4.9
Planning Inspectorate Scoping Opinion	The assessment of impacts to landscape and visual amenity (including the study areas, ZTV and photomontages) should be based on the relevant worst-case having regard to any parameters applicable to the Scheme...	The assessment of landscape and visual effects includes an assessment of effects at Year 1 of operation in winter, representing a worst-case scenario. The Concept Design, modified to include the maximum heights allowed by the Design Principles, has formed the basis of this assessment as set out in Section 10.3.1, and the approach taken also ensures the maximum Design Principles have been assessed. A bare earth ZTV has been included to demonstrate the theoretical worst-case visibility of the Scheme.	Refer to section 10.3

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
Planning Inspectorate Scoping Opinion	If the option of overhead lines is pursued, the ES should assess impacts from construction, operation and decommissioning of the proposed overhead lines on landscape and visual receptors.	The Scheme does not propose any overhead power lines during operation. The landscape and visual effects during construction have considered the potential effect of the two pylons proposed in proximity to Bulls Lodge Substation which would be in place for up to four years prior to Year 1 of operation.	N/A
Planning Inspectorate Scoping Opinion	In addition to guidance stated in the Scoping Report, the ES should, where relevant, make reference to other professional guidelines produced by the Landscape Institute such as 'Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)'10; in addition to the National Infrastructure Commission's 'Design Principles for National Infrastructure'11.	The LVIA has been undertaken with reference to relevant good practice guidance. The National Infrastructure Commission's 'Design Principles for National Infrastructure' has been considered in the preparation of the landscape design shown on Figure 10-12 of the ES [EN010118/APP/6.3].	Refer to Section 10.4.9
Planning Inspectorate Scoping Opinion	The ES should provide examples for each category in Table 10-4 to aid understanding, as outlined for example in DMRB LA 107 Landscape and Visual Effects. This should include examples from the study area.	Further explanation and examples have been added to the description of susceptibility, which informs the overall landscape sensitivity.	Refer to Appendix 10B of the ES [EN010118/APP/6.2].
Planning Inspectorate Scoping Opinion	Cumulative landscape and visual impacts from the Scheme together with other developments including the A12 Chelmsford to A120 Widening Scheme and Chelmsford Garden Community should be fully assessed in the ES. In doing so the	Assessment of cumulative landscape and visual effects has been provided in Section 10.11. This has included consideration of the schemes noted.	Refer to Section 10.11

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
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Applicant should consider use of relevant viewpoints selected for other developments.

Braintree District Council Scoping Opinion, December 2020

Braintree District Council	It is unclear whether there would be sufficient stand-off from woodlands in order for safeguarding to be properly achieved.	The Scheme design includes a minimum 15m offset from all woodlands.	Refer to section 10.7
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Braintree District Council	The assessment should consider the: Braintree District Settlement Fringes Landscape Character Assessment 2015 which sits alongside but is more finely grained than the 2006 study.	A review of the Braintree District Settlement Fringes Landscape Character Assessment found that the study did not refer to land within the study area.	N/A
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Braintree District Council	The visual impact of lighting... during the operational phase (even if only on temporarily) needs to be fully assessed.	Consideration of the visual impact of lighting has been considered within the assessment of effects for each receptor, where relevant.	Refer to Appendix 10B, 10E and 10F of the ES [EN010118/APP/6.2].
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Braintree District Council, Statutory Consultation

Braintree District Council	Further detailed information in relation to site lighting is required, covering all the scheme elements including the new substation and the substation extension. This is in regard to both visual impact and ecological impact as well as the potential impact upon existing residents in the locality and potential mitigation measures.	Consideration of the visual impact of lighting has been considered within the assessment of effects for each receptor, where relevant.	Refer to Appendix 10B, 10E and 10F of the ES [EN010118/APP/6.2].
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<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
Braintree District Council	The Landscape Institute have published new guidance on 'Assessing Landscape Value Outside of National Designations' (LI Technical Guidance Note 02/21). This is intended to supplement existing guidance but is more up to date and detailed than Box 5.1 of GLIVIA3 which is cited in the PEI Report. The landscape value assessment in our view should be carried out using the new technical guidance note.	The Landscape Institute's Technical Guidance Note 02/21 'Assessing Landscape Value Outside of National Designations' has informed the methodology set out in Appendix 10B of the ES [EN010118/APP/6.2] and has therefore informed assessment of value.	Appendix 10B of the ES [EN010118/APP/6.2] .
Braintree District Council	Residential Visual Amenity Assessment (RVVA Landscape Institute Technical Guidance Note 02/2019) has not been carried out. This should be carried out for multiple residences along the western boundary of the Order limits and individual farmsteads highlighted on the attached drawing.	The design of the Scheme has been reviewed and amended to avoid or mitigate potential significant adverse effects on residents. As such a RVAA is not required. This was agreed via email dated 15 October 2021 from Wynne Williams Associates on behalf of on behalf of Essex County Council, Chelmsford City Council and Braintree District Council.	Refer to section 10.4.44
Braintree District Council	Construction and Year 1 assessments are predicted for winter, whereas Year 15 assessments are predicted in summer months. The reason for the different approach is questioned by Braintree District Council because it is not identified	The construction and Year 1 assessment have been undertaken to demonstrate the worst-case scenario. The Year 15 assessment has been undertaken in summer to demonstrate the effect of proposed mitigation planting and consider the effect of seasons on landscape and visual amenity, in accordance with best practice guidance.	Refer to section 0 - 10.3.14
Braintree District Council	It is considered that the 'Ter Valley North' character area drawn by the applicant is too	The southern boundary of the Ter Valley North LLCA was reviewed at a meeting with the LPAs' landscape advisors on	Refer to Figure 10_7 of the ES

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	close to the river on the south side between Sandy Wood and Lyons Hall. The topography and alignment of the River Ter suggest that the edge of the character area should follow the 50m contour.	15/09/21, with a follow up site visit on 05/10/21. The boundary of the LLCA was amended and confirmed via email on 15 October 2021.	[EN010118/APP/6.3].
Chelmsford City Council Scoping Opinion, December 2020			
Chelmsford City Council	Agreement on viewpoints will need to be undertaken with Chelmsford City Council Officers, as well as the Essex County Council Landscape Advisor.	<p>A letter sent via email to Chelmsford City Council, Braintree District Council and Essex County Council was issued in January 2021 to agree viewpoints.</p> <p>Chelmsford City Council responded requesting an additional viewpoint along the A414 along the Danbury Ridge. Fieldwork confirmed that the Scheme would not be visible from this location.</p> <p>The final number and location of viewpoints was agreed with LPAs at a meeting on 29/06/21. Subsequent discussion and agreement with LPAs regarding viewpoints was undertaken on 24/08/21.</p>	Refer to Figure 10-10 of the ES [EN010118/APP/6.3].
Essex County Council Scoping Opinion, December 2020			
Essex County Council	A detailed landscape audit should be provided. This should include details of existing landscape features present across the development Order limits. Assets should include but not be limited to; existing trees, hedgerows, woodlands/copses and grassland habitats.	A detailed description is included in the baseline and cross references the Phase 1 habitat survey, highlighting important landscape features.	Refer to Chapter 8: Ecology of the ES [EN010118/APP/6.1] , and section 10.6.
Essex County Council	The landscape and visual receptors need to be submitted and approved by the Local	ZTV maps, proposed landscape and visual receptors were submitted to Essex County	N/A

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
	Planning Authorities' (LPAs) prior to the assessment being undertaken.	Council for approval in January 2021. Landscape and visual receptors were agreed at a meeting on 29/06/21. Subsequent discussion and agreement with LPAs regarding viewpoints was undertaken on 24/08/21.	
Essex County Council	All visual representation with any submitted LVIA should be in line with The Visual Representation of Development Proposals Technical Guidance Note (TGN) 06/19 (Landscape Institute, September 2019).	Photomontages have been prepared in support of the ES in line with The Visual Representation of Development Proposals Technical Guidance Note (TGN) 06/19 (Landscape Institute, September 2019)	Refer to Appendix 10B of the ES [EN010118/APP/6.2].
Essex County Council	Solar farms can have an impact on PRoWs from a Green Infrastructure perspective, we would therefore expect adequate mitigation and screening to be provided. GI corridors (both recreational and wildlife) should also be appropriate widths and not be confined to narrow corridors formed by security fencing and dense planting, which contrast with the open nature of the landscape.	Figure 10-12 Outline Landscape Masterplan of the ES [EN010118/APP/6.3] sets out the landscape mitigation and green infrastructure plan. This planting is secured by Work No. 6 and 10 and the OLEMP [EN010118/APP/7.13]. This includes substantial areas of new woodland, measuring up to 25m wide. A 5m offset has been included to all footpaths. Wherever possible this has been extended to retain a sense of openness. In some instances, screening planting has not been proposed next to PRoW to maximise visibility.	Refer to section 10.7 and Figure 10-12 of the ES [EN010118/APP/6.3].
Essex County Council	Security lighting should also be minimised; passive infra-red (PIR) technology should be designed and installed to minimise glare, light pollution and impacts on biodiversity (particularly bats).	The sensitive design of lighting is set out in Section 10.7.13	Refer to Section 10.7.13.

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
Essex County Council	Bio-solar techniques should be explored. For example, Order limits buffers and spacings	The Outline Landscape Masterplan provides detail regarding the planting proposed as part of the Scheme. This planting is secured by Work No. 6 and 10 and the OLEMP [EN010118/APP/7.13] .	Refer to Figure 10-12 of the ES [EN010118/APP/6.3] .
Essex County Council	The protection of the following woodlands was highlighted: Brickhouse Wood, Hookley Wood, Sandy Wood, Scarlett's Wood, Ringer's Wood, Porters Wood, which is adjacent to Toppinghoehall Wood (north), and Toppinghoehall Wood (south). A 15m buffer from ancient woodlands is required. This buffer can contribute to the wider ecological network...	A buffer of at least 15m has been applied to all existing woodlands and ancient woodlands. This buffer has been integrated into the Scheme's Outline Landscape Masterplan to protect trees located on, and adjacent to, the Order limits.	Refer to section 10.7 and Figure 10-12 of the ES [EN010118/APP/6.3] .
Essex County Council Scoping Opinion, Statutory Consultation			
Essex County Council	The host authorities have identified three additional viewpoints (please see Appendix C), that once assessed, will require the mitigation proposals to be reviewed again.	Of the three additional viewpoints requested, 'B' located east of Stocks Farm, and 'C' located on PRoW 213_18 have been incorporated into the assessment. Further discussion was had regarding the location of viewpoint 'A' since it was not on a public right of way. It was agreed at a meeting and subsequently by email on 24/08/21 that the additional viewpoint 'A' on PRoW 221_30 will be included.	Refer to Visual Assessment (Appendix 10F of the ES [EN010118/APP/6.2]).
Essex County Council	It is strongly recommended that mitigation measures are required higher on slopes to screen from long views from Fuller Street: - Scarlett's Farm and Noakes Farm both Grade II listed will be	Additional planting has been added to higher slopes on the northern edge of the Order limits. Further design changes have been made, including the exclusion of fields around Noakes Barn, retaining the undeveloped link to Scarlett's Farm; and increased set-backs	Outline Landscape Masterplan Figure 10-12 of the ES [EN010118/APP/6.3] .

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
	<p>left as islands in landscape character terms</p> <p>- the PV panels on land parcels to the west of the Order limits will have an impact on properties on Boreham Road</p> <p>- It is strongly recommended that the fields down to Noakes Farm are omitted. This would help preserve the relationship between the farmsteads at Noakes and Scarlett's Farm.</p>	<p>and planting relating to properties on the Boreham Road.</p>	
Essex County Council	<p>Regarding the Ter Valley, there is concern that in the northern sector of the Order limits, the sense of tranquillity and southern lowland character of a swathe of countryside will be lost:</p> <p>Omit the northern-most field from the scheme (south of Sandy Wood) to preserve the valley floor and lower slopes and reduce effects on the Ter Valley, Leylands Farm and the wider setting of the Grade 1 listed Church at Lyons Hall.</p>	<p>Further site analysis was undertaken from 2 to 4 August 2021. The design was updated, introducing new planting to screen views from the River Ter Valley. The extent of proposed PV Arrays at the northern extent of the Order limits was reduced, mitigating potential landscape effects on the character of the river valley.</p> <p>The boundary and mitigation planting relating to the River Ter Valley was discussed on site with Wynne Williams Associates on 5 October 2021.</p>	Outline Landscape Masterplan Figure 10-12 of the ES [EN010118/APP/6.3].
Essex County Council	<p>There are currently no photomontages illustrating the predicted visual effects of the development. Verified view winter visualisations should be provided for key viewpoints in agreement with the host authorities to aid</p>	<p>All viewpoints are supported by Type 1 annotated photographs. Ten viewpoints are supported by Type 3 photomontages. The location of the viewpoints and photomontages was agreed with the LPAs at a meeting on 29/06/21 and through subsequent discussion and agreement on 24/08/21.</p>	Refer to Figure 10-13 of the ES [EN010118/APP/6.3].

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
	with visual impact assessment.		
Suffolk County Council Scoping Opinion, December 2020			
Suffolk County Council	Any external lighting should be assessed with regards to its effect on the night sky, light pollution and wildlife. This should not be scoped out.	Consideration of the visual impact of lighting has been considered through assessment of the proposed lighting against CPRE Dark Skies mapping. The methodology followed is set out in Appendix 10B of the ES of the ES [EN010118/APP/6.2] .	Refer to Appendix 10B, 10E and 10F of the ES [EN010118/APP/6.2] .
Suffolk County Council	LPAs and Applicant agree LVIA methodology early (both for landscape and visual assessment).	The methodology was agreed with LPAs at a meeting on 29/06/21.	N/A
Suffolk County Council	LPAs and Applicant agree methodology for LLCAs early. This should nest in and be developed from higher level landscape character assessments...	The LLCAs nest into LCAs identified in higher level landscape character assessments.	Refer to Appendix 10C of the ES [EN010118/APP/6.2] .
Suffolk County Council	Landscape Officer(s) verify and agree Viewpoints early, but reserve options for reviews should site boundaries and/or the design change/evolve. LPAs and Applicant agree viewpoint heights early, considering, where equestrian users need to be included as visual receptors. LPAs and Applicant agree early whether 'Residential Visual Amenity Assessment' is required.	The number and location of viewpoints was agreed with LPAs at a meeting on 29/06/21. Subsequent discussion and agreement with LPAs regarding viewpoints was undertaken on 24/08/21. Commentary regarding the need for Residential Visual Amenity Assessment is provided in Section 10.4.44	N/A
Suffolk County Council	Existing vegetation needs to be mapped and assessed. Any losses need to be mapped and assessed and appropriately	A detailed description is included in the baseline and cross references the Phase 1 habitat survey. The Scheme has been designed to integrate with and enhance	Refer to Chapter 8: Ecology of the ES [EN010118/APP/6.2] ,

<i>Consultee</i>	<i>Main matter raised</i>	<i>How has the concern been addressed</i>	<i>Location of response in chapter</i>
	mitigated. (Tree Constraints Plan, Hedgerow appraisal).	the local green infrastructure network, including the protection of existing important vegetation. Proposed vegetation removal is shown on Figure 10-15: Vegetation removal of the ES [EN010118/APP/6.3]. The removal of vegetation has been considered in the assessment of landscape and visual effects.	section 10.6 of this chapter and Figure 10-15 of the ES [EN010118/APP/6.3].
Terling and Fairstead Parish Council Scoping Opinion, December 2020			
Terling and Fairstead Parish Council	The photographs in this section clearly show the significant landscape impact the proposals would have. This is particularly the case with 2.2.31 (reference applies to the Scoping Report) which shows battery storage units. These are foreign in an agricultural landscape and should be screened within an Essex Barn style of vernacular design.	The location of the BESS was carefully considered to avoid and minimise landscape and visual effects.	Refer to section 10.7 and Figure 10-12 of the ES [EN010118/APP/6.3].

10.6 Baseline Conditions

10.6.1 This section describes the baseline characteristics of the landscape within the Order limits and surrounding areas. It should be read in combination with **Appendices 10C** and **10D** of the ES which set out detailed information drawn from published information and fieldwork that informs this baseline.

Landscape Baseline (Existing)

Study Area

10.6.2 The study area for the LVIA includes all land within the Order Limits and the area within which the Scheme may give rise to significant landscape and visual effects, as illustrated on **Figure 10-1** of the ES [EN010118/APP/6.3].

10.6.3 Further details relating to the definition and refinement of the study area are presented in **Appendix 10B** of the ES [EN010118/APP/6.2].

10.6.4 The study area extends to Great Leighs and Ranks Green in the north. From here the edge of the study area broadly follows the minor ridge between the

valley of the River Ter in the west, and the valley of the River Brain in the west, forming the eastern edge of the study area.

- 10.6.5 To the south the study area extends across the A12 and includes the western side of Hatfield Peverel. The study area extends further south to include the elevated land of Lower Baddow, and includes the valley of the River Chelmer and the settlement of Boreham.
- 10.6.6 The A12, east of Chelmsford, forms the south western edge of the study area. The western edge is formed by the minor ridge, marked by Domsey Lane and Leighs Road, formed by the valley of the River Chelmer to the west.
- 10.6.7 The central part of the study area comprises a plateau of agricultural land and covers a number of small villages and hamlets, including Fuller Street, Fairstead, Gambles Green, and Flacks Green.

Landform and hydrology

- 10.6.8 The northern part of the study area consists of undulating and relatively elevated landform. The land rises steeply northwards from the River Ter and Terling Spring, between 35 metres (m) Above Ordnance Datum (AOD) to 50m AOD along parts of Braintree Road. It culminates at a ridgeline at 70m AOD at Rank's Green, marking the northern edge of the study area. To the south of the River Ter, the land also rises steeply, across Sandy Wood, to a ridgeline at 55m AOD.
- 10.6.9 The central part of the study area comprises a plateau between the valley of the River Ter in the north and east and the valley of the River Chelmer to the south and west. The landform varies locally. There is evidence of sand and gravel extraction and engineered flat terrain across Boreham airfield, which is situated at 55m AOD. From the airfield, the land falls very gradually eastwards to the River Ter, which flows southwards between Terling and the northern part of Hatfield Peverel, at approximately 20m AOD.
- 10.6.10 The River Chelmer flows across the southern part of the study area, at approximately 15m AOD. There are several large reservoirs and lakes adjacent to the river. From the river, the land rises consistently northwards, to form a ridgeline around 40m AOD at Boreham, and southwards, across Little Baddow, to ridgeline at 100m AOD, approximately 4km from the Order limits.
- 10.6.11 Most of the land in the southern and central part of the Order limits is located across flat and low-lying landform at approximately 45m AOD, between Waltham Road / Boreham Road and Terling Road.

Land use and settlement

- 10.6.12 The main land use across the study area is agriculture, characterised by medium to large scale arable fields, divided by hedgerows or woodlands. There are several large-scale farms, including Three Ashes Farm and Leyland's Farm in the north, Stock's Farm and Chantry Farm in the centre and Culvert's Farm in the south.
- 10.6.13 Small villages, hamlets and individual properties are distributed across the rural landscape, often situated adjacent to roads.

- 10.6.14 In the northern part of the study area, Rank's Green, Fairstead and Fuller Street are small scale linear settlements. There are smaller scale residential and agricultural land uses interspersed between these settlements.
- 10.6.15 The village of Terling, located to the east of the Order limits, is a linear settlement either side of the River Ter. Terling Place, All Saints Church, and Terling Windmill are notable landmarks in Terling.
- 10.6.16 Boreham, Hatfield Peveral and Little Baddow, in the southern part of the study area, are larger settlements. Modern development in Boreham has extended the settlement pattern southwards, across the valley sides. Little Baddow is a linear settlement, situated across rising landform centred around the main road junctions.
- 10.6.17 Great Leighs, located in the north west of the study area, is a linear settlement flanking 'Main Road'.

Movement and connectivity

- 10.6.18 The A12, B1137, and the railway line connecting Chelmsford and Witham cross the southern part of the study area.
- 10.6.19 Across the remainder of the study area, Terling Road, Terling Hall Road, and Boreham Road are the main north to south roads, connecting the villages. Noakes Road and Waltham Road provide west to east access across the study area, with Noakes Road also crossing the Order limits. Braintree Road is the main road in the north, extending between Terling and Fuller Street.
- 10.6.20 Other infrastructure within the study area includes overhead powerlines carried by tall pylons. These extend from the west of Boreham, across most of the Order limits and to the west of Sandy Wood, where the alignment of the pylons diverts to the west and east of Fuller Street. Bulls Lodge Substation is located west of Waltham Road and north of the A12.
- 10.6.21 A series of low voltage power lines also cross the study area, including a number located within the Order limits.

Vegetation patterns

- 10.6.22 Whilst the agricultural land use results in an open character to the fields, there are many mature woodlands and extensive tracts of vegetation across the study area.
- 10.6.23 The River Ter corridor is well-vegetated, being bordered by narrow belts of riverside trees and several larger scale woodlands, including Sandy Wood.
- 10.6.24 Across the northern part of the study area, there is mature woodland to the north and south of Rank's Green, with smaller woodland blocks situated between Fuller Street and Fairstead.
- 10.6.25 In the centre there are woodlands of varying sizes, including Brockspark Wood adjacent to the River Ter and Ringer Wood and Toppinghoehall Wood.
- 10.6.26 In the south, the main woodland blocks are to the south of the River Chelmer, across Little Baddow.

10.6.27 Roads and lanes across the study area are generally well vegetated and enclosed by hedgerows, scrub or individual trees.

10.6.28 The vegetation patterns across the Order limits are representative of those across the study area, consisting of woodlands, hedgerows and trees, as well as open field patterns.

Public Rights of Way

10.6.29 With reference to Essex County Council's on-line Public Rights of Way (PRoW) mapping, and **Figure 10-3** of the ES [EN010118/APP/6.3], there is an extensive network of routes across the study area.

10.6.30 The Essex Way is a promoted long-distance route which runs for 132km from Epping to Harwich. The route crosses the centre of the study area, broadly following the course of the River Ter from the west. It then passes through Fuller Street, before turning south, through the Order limits, around the edge of Sandy Wood and continuing east towards Terling, and north to Fairstead.

10.6.31 National Cycle Route (NCR) 50 crosses the eastern part of the study area from north to south. The route follows Mowden Hall Lane, west of Hatfield Peverel, before passing over the A12 and under the railway between Chelmsford and Hatfield Peverel. From here it extends north along Terling Hall Road, following the road north east to Great Leighs. NCR 16 also crosses the study area, from Witham in the east, to Ranks Green in the north.

10.6.32 The following PRoW cross the Order limits or follow the Order limits (ordered from north to south), as illustrated on **Figure 10-3** of the ES [EN010118/APP/6.3]:

- a. PRoW 113_11 (part of the Essex Way), south of Sandy Wood adjacent to Order limits;
- b. PRoW 221_53/PRoW 113_33 crosses through Scarlett's Wood.;
- c. PRoW 113_33 between Sparrows Farm and Scarlett's Farm;
- d. PRoW 113_25 near Noakes Farm;
- e. PRoW 113_1 north of Birds Farm adjacent to Order limits boundary;
- f. PRoW 113_30 west of Rolls Farm west of Ringer's Farm;
- g. PRoW 213_5 and PRoW 113_32 east from Stocks Farm;
- h. PRoW 213_18 from Bufftons, north through Toppinghoehall Wood;
- i. PRoW 213_19 east from Waltham Road to Toppinghoehall Wood;
- j. PRoW 213_20 east from Waltham Road toward Chantry Farm;
- k. PRoW 213_17 west from Waltham Road through Porter's Grove; and
- l. PRoW 213_21 north from A12 towards Wallace's Farm Cottages.

Landscape and relevant designations

10.6.33 Neither the study area nor the land within the Order limits is covered by any statutory landscape designations, i.e., National Parks nor Areas of Outstanding Natural Beauty (AONB).

10.6.34 There are several ancient woodlands bordering the Order limits, namely:

- a. Sandy Wood north of the Order limits;
- b. Scarlett's Wood and Ringer's Wood in the centre (but excluded from) the Order limits; and
- c. Toppinghoehall Wood and Porter's Wood bordering the southern boundary of the Order limits.

10.6.35 There are further areas of ancient woodland across the study area, including:

- a. Lost Wood and the Rows to the south east of the Order limits;
- b. Chopping's Wood to the west of the Order limits;
- c. Scrub Wood and Blake's Wood in the south of the study area; and
- d. Brickhouse Wood and Hockley Wood in the north of the study area.

10.6.36 With reference to **Chapter 7: Cultural Heritage** of the ES [EN010118/APP/6.1], most of Terling, Flacks Green and Gambles Green are defined as Conservation Areas. Land west of Oakfield Road, Gambles Green, is not designated a Conservation Area. Two parts of Boreham area also designated as a Conservation Area.

10.6.37 Terling Place is Grade II listed on Historic England's Register of Parks and Gardens of Special Historic Interest in England (List Entry Number 1000745). It is located approximately 100m east of the Order limits. The park is not accessible to the public, other than by the PRow network. It comprises early 19th Century formal gardens surrounded by a park which dates back to the 1770s. Much of the western part of the park was returned to agriculture during the mid-20th Century. Today, the formal gardens are located in the north, west and to the south of the mansion. The wider park is divided by the River Ter. The majority of the park lies to the north east of the river.

10.6.38 There are two further Registered Parks and Gardens within the study area, located further from the Order limits than Terling Place:

- a. Boreham House, Grade II, located 1.1km south west of the Order limits; and
- b. New Hall, Boreham, Grade II, located 1.3km west of the Order limits.

10.6.39 With reference to **Chapter 7: Cultural Heritage** of the ES [EN010118/APP/6.1], there are a number of Scheduled Monuments and many listed buildings across the study area. Several listed buildings are situated in close proximity to the Order limits as shown on **Figure 7-2: Built Heritage Assets** of the ES [EN010118/APP/6.3], typically on the boundary including (but not limited to):

- a. Barn and stable range approximately 15 metres north of Leylands Farmhouse, Grade II;
- b. Leylands Farmhouse, Grade II;
- c. Scarlett's Farmhouse, Grade II;
- d. Sparrows Farmhouse, Grade II;
- e. Little Russell's, Grade II;
- f. Lawns Farmhouse, Grade II;

- g. Noakes Barn, Grade II;
- h. Rolls Farmhouse, Grade II;
- i. Barn approximately 30m north west of Rolls Farmhouse, Grade II;
- j. Birds Farmhouse, Grade II;
- k. Ringers Farmhouse, Grade I;
- l. Barn approximately 5 metres south-east of ringers farmhouse, Grade II;
and
- m. Little Holts, Grade II.

10.6.40 With reference to **Chapter 8: Ecology** of the ES [EN010118/APP/6.1], there are two statutory ecological designations within the study area:

- a. River Ter Site of Special Scientific Interest (SSSI) approximately 40m north west of the Order limits; and
- b. Blake's Wood and Lingwood Common SSSI approximately 4km south of the Order limits.

Tranquillity

10.6.41 Tranquillity generally increases northwards across the Order limits due to the reduction in the perception of the A12. However, the perception (visual/aural) of vehicles on Waltham Road and Boreham Road reduce the level of tranquillity along the western boundary. There is no sense of remoteness or wildness across the Order limits as a result of the extensive coverage of arable farmland and presence of overhead lines which are perceptible across the Order limits.

Night time baseline

10.6.42 With reference to CPRE's Light Pollution and Dark Skies map (Ref 10-13) there are varying levels of light pollution within the study area, with intensive lighting across Great Leighs, Boreham, Hatfield Peverel and east of Chelmsford, contrasting with darker skies in the central part of the study area, including the Order limits.

10.6.43 The Order limits fall primarily within colour band 3 (0.5-1 $\text{nw/cm}^2/\text{sr}$)¹ and small areas of colour band 2 (0.25-0.5 $\text{nw/cm}^2/\text{sr}$). This indicates a low level of artificial lighting. To the west of Waltham Road, the level of artificial lighting increases up to colour band 6 (4-8 $\text{nw/cm}^2/\text{sr}$), which indicates moderate brightness.

10.6.44 Principal sources of lighting in the study area include street lamps, car park lighting, infrastructure related with commercial and industrial uses and vehicles travelling on the road network. Particularly intense sources of light include the Chelmsford Service Station, New Hall School and grounds, Boreham Industrial Estate, Bulls Lodge Quarry and the centre of settlements Hatfield Peverel and Great Leighs. Little Channels Golf Centre, in the west of the Study Area, includes a flood lit driving range. The Chelmsford Service

¹ Brightness values in nanowatts/cm²/steradian – for further detail see **Appendix 10B of the ES.**

Station and Hatfield Peverel fall within band 8 and 7 which indicate high level of artificial lighting.

Landscape character

10.6.45 Natural England's 'An approach to Landscape Character Assessment' defines landscape character assessment as "*the process of identifying and describing variation in the character of the landscape*" (Ref 10-3) and notes the use and purpose of key characteristics, stating:

10.6.46 "*Key characteristics are those combinations of elements which help give an area its distinctive sense of place. If these characteristics change, or are lost, there will be significant consequences for the current character of the landscape. Key characteristics are particularly important in the development of planning and management policies. They are important for monitoring change and can provide a useful reference point against which landscape change can be assessed. They can be used as indicators to inform thinking about whether and how the landscape is changing and whether, or not, particular policies – for example - are effective and having the desired effect on landscape character.*"

10.6.47 The following section summarises the relevant landscape character areas (LCA) defined in published landscape character assessments, and LLCA derived through assessment that cover the study area. Detailed descriptions of these landscape receptors are provided in **Appendix 10C** of the ES [EN010118/APP/6.2].

Published Landscape Character Assessments and related studies

10.6.48 Local planning authorities use published landscape character assessments as part of their planning policy evidence base and the published assessments often provide specific guidance or recommendations on managing landscape change.

10.6.49 Relevant national, regional, county and district scale published landscape character assessments have been reviewed as part of the LVIA to identify the key features and characteristics of the study area. This information has been used to inform the iterative design process and assess the likely impacts and effects as a result of the Scheme.

National Character Areas

10.6.50 National Character Areas (NCA), which have been defined by Natural England, are broad scale and provide context to more detailed studies of local landscape character.

10.6.51 With reference to **Figure 10-4** of the ES [EN010118/APP/6.3], NCA 86: South Suffolk and North Essex Clayland (Ref 10-8) covers the whole of the Order limits and most of the study area, other than the southernmost section of the study area, south-east of Chelmsford.

10.6.52 NCA 111: Northern Thames Basin covers the southernmost part of the study area, to the south-east of Chelmsford and does not cover the Order limits.

Regional landscape character types

10.6.53 A detailed description of regional Landscape Character Types (LCT) is provided in **Appendix 10C** of the ES [EN010118/APP/6.2]. The East of England Framework defines LCTs based on landscape character assessments, historic landscape characterisation, biodiversity and rural settlement datasets and consultation. The following LCTs are within the study area:

- a. Valley Settled Farmlands;
- b. Valley Meadowlands;
- c. Wooded Hills and Ridges; and
- d. Wooded Plateau Farmlands.

County Level Published Landscape Character Assessments

Essex Landscape Character Assessment (2003) Ref 10-11

10.6.54 The Essex Landscape Character Assessment provides a description of the landscape character of the county. It identifies key characteristics and appraises the condition of each character area, although not withstanding it was undertaken almost 20 years ago.

10.6.55 The assessment classifies the county into Landscape Character Types (LCTs), defined as “*broad tracts of landscape with similar characteristics that may re-occur in different parts of the County.*”

10.6.56 The following LCTs are found within the study area:

- a. Glacial Till Plateau Landscapes (covers the study area north of Boreham including land within the Order limits);
- b. River Valley Landscapes (covers the River Chelmer Valley);
- c. Wooded Hill and Ridge Landscapes (covers the Danbury Hills); and
- d. Urban Landscapes (covers Chelmsford and environs).

10.6.57 This published study also defines Landscape Character Areas (LCAs) which are “*sub divisions of the seven generic divisions of the landscape*” (Landscape Character Types).

10.6.58 These LCA, which are listed below, provide a more detailed record of landscape character and have therefore been used to inform the assessment of landscape effects:

- a. LCA B1: Central Essex Farmland;
- b. LCA C6 Blackwater/Brain and Lower Chelmer Valleys;
- c. LCA D3 Danbury Hills; and
- d. LCA G2 Chelmsford and environs.

District Level Published Landscape Character Assessments

10.6.59 The study area is also covered by several published landscape character assessments at the district level, the extents of which are illustrated on **Figure**

10-6 of the ES [EN010118/APP/6.3]. The following sections summarise the relevant LCAs across the study area.

[Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment \(2006\) Ref 10-12](#)

10.6.60 This document provides an inventory of the landscape character of five local authority areas and is over 15 years old. The LCAs located within the study area are summarised below with further detail provided in **Appendix 10C: Landscape Baseline** of the ES [EN010118/APP/6.2], which also sets out the assessment of landscape sensitivity.

10.6.61 The majority of the study area comprises LCA B17: Terling Farmland Plateau and LCA B21: Boreham Farmland Plateau. LCA B17, where the majority of the land within the Order limits is located, is characterised by rolling arable farmland with an irregular pattern of medium to large scale fields. The settlement pattern is scattered with frequent small hamlets, typically with greens and ponds and a network of narrow winding lanes. Tranquillity is noted as being higher away from the A12 and A131.

10.6.62 LCA B21 covers the southernmost part of the Order limits, proposed to accommodate the cable route. Key characteristics of this LCA comprise an irregular field pattern of mainly medium size arable and pastoral fields, marked by hedgerows, banks and ditches. It is noted for small woods and copses, which provide structure and edges in the landscape. The Settlement pattern is scattered with frequent small hamlets and a concentration of isolated farmsteads and a network of winding lanes.

10.6.63 The southern part of the study area is covered by LCA A7: Lower Chelmer River Valley and LCA F5 Little Baddow and Danbury Wooded Farmland, both of which lie outside the Order limits. LCA A7 is characterised by a shallow valley with predominantly arable farmland on the valley slopes and a mixture of arable and pastoral fields on the valley floor. It is noted for having an overall strong sense of place and tranquillity away from Maldon and the A12 and the railway line. LCA F5 comprises a wooded hill and ridge housing the linear settlements of Little Baddow and Danbury. There is a sense of enclosure provided by large areas of dense woodland and an intricate landscape pattern consisting of commons, pasture, heathland and woodland habitats with arable farmland fringing the outer edges of patches of woodland.

10.6.64 Very small parts of LCA A6: Upper Chelmer River Valley and B16: Felsted Farmland Plateau lie on the periphery of the study area. These are described in **Appendix 10C** of the ES [EN010118/APP/6.2].

[Hatfield Peverel Landscape Character Assessment, 2015 Ref 10-13](#)

10.6.65 The Hatfield Peverel Landscape Character Assessment was completed in June 2015 to:

“assist the village in commenting on the appropriateness of the landscape aspects of any development within the village and/or its local setting...”

10.6.66 The Landscape Character Assessment covers land within the parish boundary, which includes the south eastern part of the study area. The majority of the land within the Order limits is not included in the assessment.

The LCAs defined by the assessment are recorded in **Appendix 10C** of the ES [EN010118/APP/6.2]. The distribution, boundaries and key characteristics of the Hatfield Peverel LCAs have informed the definition of Local Landscape Character Areas set out later in this section.

Local Level Landscape Character Assessment

10.6.67 The published landscape character assessments at the county and district level date from 2003 and 2006 respectively. A local landscape character assessment has been undertaken to provide a current and more detailed analysis of the landscape character in comparison to the published studies and at a scale proportionate to the scale of the Scheme.

10.6.68 Thirteen LLCAs have been defined through desk study and fieldwork, applying the methodology set out in **Appendix 10B** of the ES [EN010118/APP/6.2]. The extent and distribution of these LLCA are shown on **Figure 10-7** of the ES [EN010118/APP/6.3].

10.6.69 The extent of these LLCAs was presented at a meeting with the LPAs and their landscape advisor on 29/06/21. Following a site visit on 5 October 2021 the boundaries of the LLCA were agreed via email on 15 October 2021.

10.6.70 The key characteristics, value, susceptibility to change, and sensitivity of each LLCA and how they relate to the LCAs defined in published landscape character assessments are provided in **Appendix 10C** of the ES [EN010118/APP/6.2].

Sensitivity of landscape receptors

10.6.71 Table below records the sensitivity of each landscape receptor. It also sets out the spatial relationship between the published LCA, LLCA and the Order limits.

Table 10-4: Sensitivity of Landscape Receptors

Published LCAs	Local Landscape Character Area (LLCA)	LCA / LLCA within the Order limits	Sensitivity (see Appendix 10C of the ES for detail)
Essex Landscape Character Assessment (2003)			
LCA B1 Central Essex Farmland	N/A	Yes	Medium
LCA C6 Blackwater/Brain and Lower Chelmer Valleys	N/A	No	Medium
LCA D3 Danbury Hills.	N/A	No	Medium
LCA G2 Chelmsford and Environs.	N/A	No	Medium

Published LCAs	Local Landscape Character Area (LLCA)	LCA / LLCA within the Order limits	Sensitivity (see Appendix 10C of the ES for detail)
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Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment (2006)

LCA A7 Lower Chelmer River Valley.	N/A	No	High
LCA B17 Terling Farmland Plateau.	N/A	Yes	Medium
LCA B21 Boreham Farmland Plateau	N/A	Yes	Low
LCA F5 Little Baddow and Danbury Wooded Farmland	N/A	No	Medium

Local Landscape Character Areas

	LLCA 01 Great Leighs Farmland Plateau	No	Medium
	LLCA 02 Western Farmland Plateau	Yes	Medium
LCA: B1	LLCA 03 Ter Valley North	Yes	High
LCA: B17	LLCA 04 Eastern Farmland Plateau	No	Medium
	LLCA 05 Terling	No	High
	LLCA 06 Ter Valley South	No	Medium
	LLCA 07 Toppinghoehall Woods	Yes	Medium
LCA: B1 LCA: B21	LLCA 08 Boreham North	Yes	Very Low

<i>Published LCAs</i>	<i>Local Landscape Character Area (LLCA)</i>	<i>LCA / LLCA within the Order limits</i>	<i>Sensitivity (see Appendix 10C of the ES for detail)</i>
	LLCA 09 Chelmsford North	No	Medium
	LLCA 10 Boreham and Hatfield Peverel	No	Low
	LLCA 11 Boreham South Farmland Plateau	No	Medium
LCA: C6 LCA: A7	LLCA 12 Chelmer Valley	No	High
LCA: D3 LCA: F5	LLCA 13 Little Baddow	No	Medium

Visual Baseline

10.6.72 This section describes the visual baseline with reference to the visual receptors and representative viewpoints identified within the study area through a review of ZTVs and fieldwork surveys.

Zone of Theoretical Visibility (ZTV) analysis

10.6.73 The following ZTVs which accompany the Environmental Statement have been prepared to inform the visual assessment **[EN010118/APP/6.3]**:

- a. Figure 10-8: Zone of Theoretical Visibility (Bare Earth) – All Features;
- b. Figure 10-9: Zone of Theoretical Visibility (With Surface Features) – All Features;
- c. Figure 10-9-1: Zone of Theoretical Visibility (With Surface Features) - Solar Panels;
- d. Figure 10-9-2: Zone of Theoretical Visibility (With Surface Features) - Substation/Battery Storage;
- e. Figure 10-9-3: Zone of Theoretical Visibility (With Surface Features) - Plant Building; and
- f. Figure 10-9-4: Zone of Theoretical Visibility (With Surface Features) - Substation Extension.

10.6.74 The ZTVs have been used to help identify sensitive visual receptor groups and locate representative viewpoints. Fieldwork surveys were undertaken during winter and summer to verify the findings of the ZTV. This is recorded

in the visual baseline set out in **Appendix 10D: Visual Baseline** of the ES [EN010118/APP/6.2].

- 10.6.75 The detailed methodology used for the preparation of the ZTV is set out in **Appendix 10B: LVIA Methodology** of the ES [EN010118/APP/6.2] and agreed with the LPA.

Bare earth ZTV

- 10.6.76 The bare earth ZTV indicates the potential for wide ranging views of the Scheme across the study area, whilst the ZTVs with surface features demonstrate how existing buildings and woodland blocks would limit the extent of views.
- 10.6.77 **Figure 10-8** of the ES [EN010118/APP/6.3] demonstrates the effect that the landform surrounding the Order limits would have on the visibility of the Scheme. It suggests that there would be almost complete visibility of the Scheme across the rising land to the north of the Order limits for approximately 2km. Theoretical visibility diminishes to the north of Ranks Green as the rising landform begins to plateau.
- 10.6.78 Theoretical visibility of the Scheme from the north east and east is shown across the ridge between the valleys of the River Ter Valley and the River Brain. This local ridge, approximately 2.5km east of the Order limits, marks the extent of theoretical visibility to the east of the Order limits. The bare earth ZTV shows no theoretical visibility of the Scheme from the River Ter valley floor or the western facing slopes. Theoretical visibility is shown across Terling.
- 10.6.79 The bare earth ZTV shows intermittent theoretical visibility from south of the A12, including from Boreham and Hatfield Peverel and the land between the two settlements. Theoretical visibility is also shown from the elevated land of Little Baddow. There is no theoretical visibility from the low-lying valley of the River Chelmer.
- 10.6.80 The minor ridge line to the west of the Order limits, formed by the eastern edge of the valley of the River Chelmer is shown to mark the edge of theoretical visibility from the west.
- 10.6.81 The elevated land surrounding Little Leighs is located between Straw Brook to the south and the River Ter to the north. This elevated position at the head of the valley of the River Ter results in theoretical visibility of the Scheme.

Barrier ZTVs

- 10.6.82 **Figure 10-9** of the ES [EN010118/APP/6.3] presents a series of 'barrier' ZTVs that have been prepared to account for existing surface features such as woodland and buildings. Including these features provides a more realistic picture of the actual visibility of the Scheme.
- 10.6.83 **Figure 10-9** of the ES [EN010118/APP/6.3] suggests that visibility does not extend as far north as shown in **Figure 10-8** of the ES [EN010118/APP/6.3], but rather diminishes south of Ranks Green. A narrow band extends further north, along the eastern side of the valley of the River Ter.

- 10.6.84 **Figure 10-9** of the ES [EN010118/APP/6.3] also demonstrates a reduced theoretical visibility in proximity to the Order limits. Mature woodland, such as Sandy Wood, vegetation flanking the River Ter and the local road network reduces theoretical visibility to the north and east.
- 10.6.85 To the east of the Order limits **Figure 10-9** of the ES [EN010118/APP/6.3] shows theoretical visibility of the Scheme is broadly contained between Terling Road and Peg Millar's Lane / Dancing Dicks Lane.
- 10.6.86 **Figure 10-9.2** of the ES [EN010118/APP/6.3] demonstrates that visibility of the proposed BESS and Longfield Substation would be very limited on account of the height and mass of Toppinghoehall Wood (north and south) and Lost Wood. These proposed built elements are shown to be theoretically visible from east of Terling Road through a gap between Toppinghoehall Wood south and Lost Wood. Part of the BESS is also shown to be visible from a parcel of land surrounding Chantry Farm.
- 10.6.87 **Figure 10-9** of the ES [EN010118/APP/6.3] demonstrates that there is very little theoretical visibility of any proposed elements from south of the A12, indicating only an area of visibility east of Boreham, and occasional patches around Hatfield Peverel. Theoretical visibility of both PV Panels and larger features is indicated from Little Baddow.
- 10.6.88 **Figure 10-9** of the ES [EN010118/APP/6.3] shows a reduction in theoretical visibility compared to **Figure 10-8** of the ES [EN010118/APP/6.3], from the west of the Order limits, with patches on the north eastern edge of Chelmsford and land immediately west of the Order limits between Waltham Road and Boreham Airfield and from land between Boreham Road and Lyonshall Wood.
- 10.6.89 Views of the land within the Order limits from Little Leighs are reduced by intervening features such as the topography of the valley of the River Ter and woodland.

Visual receptors and representative viewpoints

- 10.6.90 Fieldwork was undertaken between May 2020 and October 2021 to verify the visibility of the Scheme. The ZTVs were updated during this time to reflect design iterations.
- 10.6.91 Visual receptors likely to experience views of the construction or operation of the Scheme were identified through interrogation of the ZTVs and fieldwork and subsequently categorised into the following types:
- a. Residents;
 - b. Recreational users of PRoW; and
 - c. People travelling through the area on roads and trains.
- 10.6.92 With reference to **Figure 10-10** of the ES [EN010118/APP/6.3], 57 viewpoints have been identified as representative of views experienced by people within the study area.
- 10.6.93 Viewpoints have been selected to demonstrate the experience of the receptor groups identified above. Sequential viewpoints have also been

identified along the Essex Way, to represent users of this long-distance PRoW.

- 10.6.94 The viewpoints have been selected to show a variety of distances and orientation toward the Order limits.
- 10.6.95 A series of viewpoints have also been included to illustrate where intervening landform and existing vegetation screens views towards the Order limits where the screened ZTV showed theoretical visibility.
- 10.6.96 The location of the final selection of 57 viewpoints was agreed with Wynne Williams Associates acting on behalf of with Essex County Council, Chelmsford City Council and Braintree District Council (the Host Authorities), via email and a meeting on 24 August 2021. This includes four additional viewpoints requested by the Host Authorities, namely viewpoints 54, 55, 56 and 57.
- 10.6.97 Descriptions of the baseline view from these viewpoints are provided in **Appendix 10D** of the ES [EN010118/APP/6.2]. Winter and summer photographs of the existing baseline view are included for each representative viewpoint in **Figures 10-11** of the ES [EN010118/APP/6.3].

Summary of the visual baseline

- 10.6.98 This section provides a summary of the winter visual context across the study area in relation to the Scheme and should be read in combination with **Appendix 10D** of the ES [EN010118/APP/6.2] which provides a description of the view from each viewpoint. Viewpoint locations are shown on **Figure 10-10** of the ES [EN010118/APP/6.3]. Supporting photography is presented on **Figure 10-11** of the ES [EN010118/APP/6.3].

North of the Order limits

- 10.6.99 Views from within the valley of the River Ter, north of the Order limits, are typically framed in an east/west direction by the valley sides. The pylons crossing the valley are prominent features on the skyline. Land within the Order limits is visible from the river valley from locations within the order limits as demonstrated by viewpoints (VP) 3, 4, 28 and 54. However field boundary vegetation and blocks of woodland, such as Lyonshall Spring, limit visibility of land within the Order limits from the wider valley, as demonstrated by VP44.
- 10.6.100 The hamlet of Fuller Street is located on the northern side of the valley of the River Ter. The elevated position of the settlement affords long distance views over the agricultural landscape as illustrated by VP45 and 46, which are also located on the Essex Way. Potential Developable Areas (PDAs) 1, 2 and 3 (**Figure 2-27** of the ES [EN010118/APP/6.3]) are visible but filtered by field boundary vegetation and woodland in the valley and Sandy Wood screens the wider extent of land within the Order limits. Pylons are prominent features in views from north of the Order limits.
- 10.6.101 North of Fuller Street, the land continues to rise affording views to the wooded horizon, which is punctuated by pylons. As illustrated by VP47 and VP48, land within the Order limits is visible in the background, but broken up

by existing woodland and field boundary vegetation and located approximately 1.2km away.

10.6.102 North of Fairstead Lodge (VP31) the land begins to rise more gently, limiting views of the landscape immediately south such that the land within the Order limits is barely perceptible. Large blocks of intervening woodland, such as Mann Wood, coalesce in views south with field boundary vegetation, resulting in no visibility of land within the Order limits north of Ranks Green, as demonstrated by VP1, VP17 and VP49.

10.6.103 The topography of the valley of the River Ter and intervening vegetation typically screen views of land within the Order limits from the north east, as demonstrated by viewpoints VP18, VP19, VP20 and VP21.

10.6.104 Overall, the fieldwork found that the theoretical visibility shown in the ZTVs presented on **Figure 10-8** and **10-9** of the ES [EN010118/APP/6.3] was largely accurate to the north of the Order limits, but visibility on the Ter River valley floor and to the north east of the Order limits is more limited.

East of the Order limits

10.6.105 The Order limits eastern extent is marked by Terling Hall Road.

10.6.106 A series of individual residential properties are located along the eastern boundary of the Order limits, as described below:

- a. Leyland's Farm is located on the boundary of the Order limits and is orientated broadly east to west. Views toward the Order limits from the property appear to be screened by agricultural buildings and trees within the curtilage boundary.
- b. Sparrow's Farm (VP10) is located on the eastern side of Terling Hall Road. Views toward the Order limits are heavily filtered by mature trees within the curtilage boundary and those within the boundary of the residential property opposite.
- c. The property opposite Sparrow's Farm, located on the western side of Terling Hall Road, is partially enclosed by mature trees in the curtilage boundary. However, the views from the rear of the property are more open across the Order limits.
- d. The property on Terling Hall Road (south of the junction with Waltham Road) is orientated north – south. The property is well enclosed by mature hedgerows on the curtilage boundary. Direct views of land within the Order limits would be available from gable end upper storey windows.
- e. Rolls Farm (VP28), west of Terling Hall Road, is orientated east – west. Westerly views toward the Order limits would be screened by agricultural buildings, intervening woodland and topography. Gable end views of land within the Order limits would be available from the southern side of the property but would be softened by existing vegetation on the curtilage boundary.
- f. Terling Hall is surrounded by agricultural buildings such that there would be no views of land within the Order limits.

- g. Terling Hall Cottages may have some visibility of land within the Order limits; however, this would be heavily filtered by existing vegetation on the curtilage boundary and intervening field boundaries.
- 10.6.107 Views of land within the Order limits from the land east of Terling Hall Road are filtered by existing field boundary vegetation and mature trees that flank the road, as represented by VP27 and VP29.
- 10.6.108 There is little change in landform between the Order limits and Gambles Green, as illustrated by VP9. Given the plateau landform the intervening vegetation screens the land within the Order limits such that it is barely perceptible. There is no visibility of the Order limits from Flacks Green, as shown by VP24 and VP26 due to intervening buildings, vegetation and local fluctuations in landform.
- 10.6.109 Further east, the valley of the River Ter runs north to south. There is no visibility of land within the Order limits from within the valley. The eastern side of the valley rises towards Terling. A belt of woodland lines the river, screening views towards the Order limits, as illustrated by VP23. Views toward the Order limits from Braintree Road north of Sandypits Farm, represented by VP22, are screened by intervening landform as the road descends towards a tributary of the River Ter.
- 10.6.110 More open views in close proximity to the Order limits are available from the southern part of Terling Hall Road, as illustrated by VP29.
- 10.6.111 Fieldwork concluded that the theoretical visibility shown on the ZTVs presented in **Figure 10-8** and **10-9** of the ES [EN010118/APP/6.3] was largely accurate between the Order limits and Terling. However, further east actual visibility was found to be less than shown on the ZTVs because of the intervening distance and vegetation.

South of the Order limits

- 10.6.112 Close range views of the Order limits from the south are represented by VP50. Toppinghoehall Wood screens much of the land within the Order limits.
- 10.6.113 The A12 and railway line between Chelmsford and Witham form a line of severance across the landscape, flanked by vegetation on both sides, limiting views to the north. Land within the Order limits is not visible from Hatfield Peverel, as demonstrated by VP30. There is no visibility of the Order limits from Boreham, as demonstrated by VP34 and VP35.
- 10.6.114 Further south, the land descends southwards toward the River Chelmer such that there is no visibility of the Order limits, as illustrated by VP31.
- 10.6.115 South of the River Chelmer, the land rises toward Little Baddow, culminating in a local high point at approximately 100m AOD. The elevated land provides long distance views from the northern edge of Little Baddow towards the Order limits. The Order limits are imperceptible given the vegetation in the foreground and woodland, such as Holybreds Wood and woodland within the Order limits. These views are represented by VP32 and VP33.

10.6.116 Overall, the fieldwork found that the theoretical visibility shown on **Figure 10-8** and **10-9** of the ES [EN010118/APP/6.3] was largely accurate to the south of the Order limits, but overstated visibility from Little Baddow.

West of the Order limits

10.6.117 Vegetation flanking the Waltham Road encloses the Order limits to the south west. Views from this area are limited to glimpses from the edge of the Order limits, as demonstrated by VP36.

10.6.118 Further north Waltham Road becomes Boreham Road. Mature hedgerows and trees continue to flank the road corridor, as demonstrated by VP40. Views of the land within the Order limits are therefore limited to occasional glimpses through gaps in vegetation, typically across residential land, as demonstrated by VP7 and VP14.

10.6.119 Further west, views of the Order limits are limited to occasional glimpses through gaps in vegetation. More open views of the location of the proposed Bulls Lodge Substation Extension are available from agricultural land west of Waltham Road, demonstrated by VP52 and VP53. Views of the substation extension location from the west are screened by The Grove woodland.

10.6.120 There are few visual receptors located to the west of the Order limits between Waltham Road and Domsey Lane on account of the sand and gravel pits. Views of the Order limits from Domsey Lane are screened by dense roadside vegetation, as illustrated by VP37 and VP38. Where more open views are afforded through gaps in roadside vegetation, such as the western end of Drakes Lane represented by VP39, land within the Order limits is imperceptible due to the plateaued landform and intervening field boundary vegetation.

10.6.121 The north western part of the study area is elevated and provides long distance and open views east, as illustrated by VP41 and VP42. Glimpses of the Order limits are included as part of the wider views.

10.6.122 North of Lyonshall Wood, Boreham Road descends into the valley of the River Ter, the sides of which screen views toward the Order limits.

10.6.123 Overall the fieldwork found that the theoretical visibility shown on **Figure 10-8** and **10-9** of the ES [EN010118/APP/6.3] was largely accurate to the west of the Order limits.

Views within the Order limits

10.6.124 Views from within the Order limits are typically middle distance and open, looking across open agricultural land. Recreational receptors on the local PRoW network experience long distance views from the northern most areas of the Order limits, including glimpses of the church spires at Lyons Hall, Fairstead and Terling. Recreational views from the southern area of the Order limits are typically short to middle distance, truncated by large woodland blocks and mature field boundary hedgerows.

10.6.125 Road users crossing the Order limits on Noake's Lane experience a variety of views typically channelled along the road corridor by mature hedgerows, but with some open views across the centre of the Order limits.

10.6.126 Residents located on the Order limits boundary typically experience views characterised by arable fields in the foreground, with more distant views heavily filtered by field boundary vegetation.

Sensitivity of visual receptors

10.6.127 From the above analysis the following table sets out the receptors covered by the visual assessment, the viewpoint that represents their view toward the Order limits, and their sensitivity. Full details are included in **Appendix 10D** of the ES [EN010118/APP/6.2].

Table 10-5: Visual sensitivity

<i>Visual receptors</i>	<i>Representative viewpoint</i>	<i>Sensitivity</i>
Residents of Fuller Street	46	High
Residents of Fairstead Lodge	47	High
Residents of Wat Hobbs Farm	26	High
Residents of Flacks Green	24	High
Residents of Gambles Green	25	High
Residents of Terling	23	High
Residents of Sparrows Farm	10	High
Residents of Scarlett's Farm	6	Medium
Residents of Three Ashes Farm, Rolf's Barn and Wasse's Farm	18	Medium
Residents of Sandypits Farm	22	Medium
Residents of Little Weathers	11	High
Residents of Rolls Farm	28	Medium
Residents of Ringers Farm	12	Medium
Residents of Porridge Pot	13	High
Residents of Toppinghoe Hall	50	High
Residents on located on Noakes Lane (Hedgerow Cottage, Noakes House and Noakes Barn)	8	High
Residents on the western extent of the Order limits	7	High
Residents of Stocks Farm	55	High
People walking on the Essex Way	45, 3, 26, 24, 20	High

<i>Visual receptors</i>	<i>Representative viewpoint</i>	<i>Sensitivity</i>
People walking in the River Ter Valley	44, 54, 4,	Medium
People walking on footpaths north of the Order limits	1, 2, 17	Medium
People walking on footpaths south of the Order limits	50, 31, 51	Medium
People walking on footpaths through the Order limits	16, 55, 9, 56, 6, 5, 4, 54	Medium
People walking on footpaths west of the Order limits	53, 52, 44	Low – medium
People walking on footpaths south of Little Baddow	32, 33	High
Recreational receptors in Boreham	34	Medium
People cycling on National Cycle Route 16 and 50	48, 49, 18, 29	Low
People driving on Fairstead Hall Road	19	Low
People driving on Braintree Road	22, 18, 2	Low (viewpoints also considered medium since also representative of recreational receptors)
People driving on Waltham Road, east of the Site	27	Low
People driving on Terling Hall Road	10, 29	Low (viewpoint 10 also considered high where representative of residential receptors)
People driving north of the Site	48	Low
People driving north of Boreham	35	Very Low
People driving on Waltham Road, west of the Site	36, 14	Low
People driving on Boreham Road	40, 7	Very low – low (viewpoint 7 considered high since also representative of recreational receptors)
People driving on Drakes Lane	39, 40	Very low – low
People driving on Leighs Road	41	Low

<i>Visual receptors</i>	<i>Representative viewpoint</i>	<i>Sensitivity</i>
		(viewpoint considered medium since also representative of recreational receptors)
People driving on Terling Road	30	Medium

Future Baseline

10.6.128 In the absence of the Scheme, the future landscape and visual baseline across the Order limits are anticipated to remain the same. Agriculture would remain the predominant use, interspersed by woodland blocks and with two overhead lines running north to south.

10.6.129 Potential changes in the wider study area resulting from other development is considered in the cumulative assessment in Section 10.11.

10.7 Design, Mitigation and Enhancement Measures

Embedded Design Mitigation

10.7.1 The Scheme has been designed, as far as possible, to avoid adverse effects on the landscape and views through option identification, appraisal, selection and refinement, as described in **Chapter: 4 Alternatives and Design Evolution** of the ES [EN010118/APP/6.1].

10.7.2 These principles, set out below, have been embedded in the design and the parameter plans, in order to mitigate potential adverse effects and maximise the delivery of local landscape benefits.

10.7.3 Modifications made to the design of the Scheme to avoid effects include limiting the extent of land-take within the Order limits and, where possible, to retain established vegetation and features that contribute to landscape character and visual amenity.

Landscape strategy

10.7.4 Good design has been a key consideration from the outset. The LVIA has informed the iterative design process, guided by design principles and in response to policy requirements, published landscape character assessment guidance and fieldwork analysis. With reference to the **OLEMP** [EN010118/APP/7.13], **Works Plan (6 and 10)** [EN010118/APP/2.2], and **Figure 10-12: Outline Landscape Masterplan** of the ES [EN010118/APP/6.3] the following design mitigation has been embedded in the Scheme to minimise effects on landscape character and visual amenity.

10.7.5 In developing the landscape design strategy, particular consideration was given to:

- a. The recommendations contained within relevant landscape guidelines, including Natural England Statements of Environmental Opportunity (SEO) outlined in the profiles for NCA 86 (Ref 10-8) and NCA 111 (Ref 10-9);

- b. Guidance contained within the Landscape Institute's Infrastructure Technical Guidance Note 04/20 (Ref 10-4);
- c. The principles established in the Essex Design Guidelines (Ref 10-13);
- d. Suggested land management guidelines set out in the Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment (2006) (Ref 10-22) for LCA B17, in which the northern part of the Order limits are located:
 - i. "Conserve and enhance the existing hedgerow pattern, and strengthen through planting where appropriate to local landscape character.
 - ii. Conserve and manage areas of semi-natural woodland as important historical, landscape and nature conservation features.
 - iii. Conserve and manage the ecological structure of woodland, copses and hedges within the character area.
 - iv. Conserve and promote the use of building materials, which are in keeping with local vernacular/landscape character."
- e. Suggested land management guidelines set out in the Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment (2006) (Ref 10-22) for LCA B21, in which the northern part of the Order limits are located:
 - i. "Conserve and enhance the existing hedgerow pattern, and strengthen through planting where appropriate to local landscape character.
 - ii. Conserve and manage areas of ancient and semi-natural woodland as important historical, landscape and nature conservation features.
 - iii. Conserve and manage the ecological structure of woodland, copses and hedges within the character area.
 - iv. Strengthen the recreational role of the water filled sand and gravel pits.
 - v. Conserve and promote the use of building materials, which are in keeping with local vernacular/landscape character."

10.7.6 The overall objective of the landscape design is to integrate the Scheme into its landscape setting and avoid or minimise adverse landscape and visual effects as far as practicable. The design has been developed in collaboration with the wider design team and other specialists to achieve a solution that achieves this objective whilst maximising opportunities to deliver net gains in biodiversity gain. Accordingly, the landscape design aims to achieve the following:

- a. To integrate the Scheme into the existing landscape pattern as far as possible by retaining and following existing features, including vegetation, where practicable.
- b. To replace vegetation lost because of construction of the Scheme through areas of new planting.

- c. To filter and screen more prominent components of the Scheme in views from visual receptors.

10.7.7 With reference to Figure 10-14 of the ES [EN010118/APP/6.3], new planting proposed as part of the Scheme would be delivered in three phases. Where it was found to be beneficial to undertake planting early, in order to maximise growth prior to the Scheme's operation, this has been included as Advanced Mitigation Planting. This will be carried out in the 2021/2022 planting season. In instances where planting required to mitigate adverse effects on people's views could not be undertaken in 2021/2022, it would be undertaken at the beginning of the construction phase. This planting is referred to as Construction Day 1 Planting. All remaining planting, referred to as Residual Mitigation Planting, would be undertaken at the end of the construction phase.

10.7.8 Details of the landscape measures embedded into the Scheme design, including a summary of their environmental functions, is presented in the **OLEMP [EN010118/APP/7.13]**.

Overview landscape design principles

10.7.9 This section describes the landscape design principles which underpin the landscape design strategy and explains how they have been applied to the design of the Scheme.

Careful siting in the landscape:

10.7.10 Offsets from properties were included in the initial design following a review of the existing views experienced by residents in proximity to the Order limits. The form and extent of this offset has been adjusted through design development to respond to the existing character of views from residential properties. With reference to the Design Principles and Works Plans [EN010118/APP/2.2] the Scheme design has been carefully sited where it would appear in views experienced by residents to avoid or minimise adverse effects, as set out in **Table** below. This should be read alongside the Works Plan and **Figure 2-27** of the ES [EN010118/APP/6.3].

Table 10-6: Embedded Design Mitigation - Residential Receptors

<i>Residential receptor</i>	<i>Embedded design mitigation</i>
White House Farm	The historic field boundary that divides the western end of PDA 4 would be reinstated with a new native hedgerow. No PVs are proposed in the western parcel of the field, thereby retaining a clear view north from White House Farm. A native tree belt is proposed on the northern boundary of PDA 5 to strengthen the screening provided by existing vegetation in views to the south east.
1 Whitehouse Cottages	An offset of c. 70m has been incorporated into PDA 5, protecting gable end views from 1 Whitehouse Cottages.
2 Whitehouse Cottages	A 50m offset has been incorporated into PDA 6. A hedgerow is proposed along the boundary of Works Area 1.
Scarlett's Farm	Field parcels to the north and south have been excluded from Works Area 1.

Residential receptor **Embedded design mitigation**

Hedgerow Cottage	Field south of PDA 6 have been excluded from Works Area 1.
Noakes Barn	Field south of PDA 6 has been excluded from Works Area 1 and an offset from the north eastern curtilage boundary has been incorporated, with a native hedgerow proposed along the boundary of PDA 8.
1 Boreham Road	Offset incorporated to PDA 21 in response to gaps in vegetation around the curtilage of the property.
Stocks Farm	Offset of Work Area 1 (see Works Plan) incorporated into PDA 26 and PDA 28.
Stocks Cottages	Offset of Work Area 1 incorporated into PDA 28. Areas of scrub are proposed in Works Area 10 to break up the foreground of the view.
Thatched Cottage	Offset of Work Area 1 incorporated into PDA 28. Ecologically enhanced grassland to occupy an offset within Works area 10.
Buftons	200m viewing corridor within Works Area 1 between PDA 28 and 31 to retain visual connection to Porters Wood.

10.7.11 The following principles have also informed the siting and design of the Scheme. Further details can be found in **Chapter 3: Alternatives and Design Evolution** of the ES [EN010118/APP/6.1]:

- a. The overall layout has undergone extensive review and refinement to respond to the landscape character baseline. The northern part of the Order limits is identified as the most tranquil. Larger elements of the Scheme have therefore been sited in the south of the Order limits.
- b. The proposed BESS (Work Area 2) (shown in the Works Plan [EN010118/APP/2.2]) would be sited in a visually contained section of the Order limits, screened by Toppinghoehall Wood North and Toppinghoehall Wood South. The BESS has been sited in double rows, rather than stacked, and would follow the existing shape of the woodland, avoiding the creation of a new mass within the landscape.
- c. The proposed Longfield substation (Work Number 4) would be enclosed by Toppinghoehall Wood North and Toppinghoehall Wood South and Lost Wood to maximise visual screening.
- d. The Ter River valley is identified as one of the most sensitive landscape features. Although within the Order limits, the extent of Work Area 1 has been minimised within the valley in order to protect and conserve the integrity of the area. The part of the Order limits in this area would be used for visual screening and ecological enhancement as set out on **Figure 10-12** of the ES [EN010118/APP/6.3] and secured by the **OLEMP** [EN010118/APP/7.13].
- e. Small fields have been excluded from the Solar PV Array Works Area, BESS Compound, Longfield Substation and Ancillary Infrastructure Area, responding to the existing scale of the landscape and the careful siting of the Scheme.

- f. Land parcels originally considered for inclusion in the Order limits to the far north and far south have been excluded from the Order limits boundary to consolidate the Scheme into a single site with clear boundaries. **Chapter 3: Alternatives and Design Evolution** of the ES [EN010118/APP/6.1] sets out the process of change.

Conserving the existing vegetation patterns

- g. The layout of the Scheme has been designed to minimise the loss of, and avoid significant impacts on, existing landscape features. The total proposed hedgerow loss is 450.6m and the total proposed woodland loss is 469.1m². With reference to the Works Plans this includes minimum offsets of:
- i. 15m from ancient woodland
 - ii. 15m from other woodlands
 - iii. 15m from hedgerows
 - iv. 15m from individual trees
 - v. 10m from existing ponds
 - vi. 8m from River Ter floodplain
- h. An offset has been included along Boreham Road to provide space for enhancing existing hedgerows in response to landscape planning policy and character objectives and to strengthen visual screening.
- i. The proposed cable route has been designed to minimise disturbance of existing vegetation. Where selective vegetation removal is required, replacement planting would be established above the cable route.
- j. The proposed planting design responds to the varied character of the landscape within the Order limits by allowing views to remain open, where tall screening would not be appropriate.

Creating new green infrastructure

- a. The Scheme has been designed to integrate with the local green infrastructure network, improving ecological and recreational connectivity across the Order limits.
- b. New planting would include:
- i. 8.6km of new native hedgerows with hedgerow trees;
 - ii. 20.6km of native hedgerow enhancement - gapping up and infill planting;
 - iii. Approximately 200 new individual trees;
 - iv. 23.2ha of land for natural regeneration;
 - v. Over 3ha. of new native woodland buffer planting measuring 25m wide to form ecological corridors between existing woodlands;
 - vi. 0.6ha. of native linear tree belts measuring 15m wide;
 - vii. A new north/south green route, via a new permissive path;
 - viii. 272ha. of new species rich grassland below solar arrays;

- ix. 131ha. of new species rich grassland in open areas; and
 - x. 42km of species rich mown grassland around the perimeter of proposed solar arrays.
- c. The new planting would be delivered in three phases in order to maximise growth prior to operation of the Scheme, as set out in 10.7.7.

Sensitive design in relation to form, colour, and materials

- a. The use of tracker panels has been discounted. Panels which track the sun across the sky would require additional equipment and would typically be taller than those proposed as part of the Scheme. They would introduce moving features into the landscape and into people's views.
- b. The proposed cable lines in the Grid Connection Route are proposed to be underground, thereby avoiding the introduction of new tall linear features in the landscape which would increase the extent of the Scheme's visibility.
- c. The proposed fencing has been designed to minimise its visual prominence. The fence will be a deer fence or other wire mesh security fencing on timber poles approximately 2.5m in height.

10.7.12 Embedded mitigation measures for the construction phase are set out in the **OCEMP [EN010118/APP/7.10]**, including measures such as construction and exclusion zones in relation to retained vegetation, ensuring a tidy and neat working area, covering stockpiles and storing topsoil in accordance with best practice measures.

Sensitive design of lighting

10.7.13 The proposed lighting has been designed to avoid and minimise the potential for adverse landscape and visual effects. The following mitigation has been embedded in the Design Principles:

- a. No visible lighting will be utilised at the site perimeter fence. IR lighting will be provided by the CCTV/security system to provide night vision functionality for CCTV.
- b. Lighting at solar stations will be manually operated used only in fault or emergency situations.
- c. Lighting at Longfield substation will be PIR operated (passive infra-red), calibrated to detect vehicles and personnel
- d. Lighting at the BESS entrances and adjacent to the access track within the BESS will be operated by PIR calibrated to trigger on vehicle and personnel, with the option of manual control.
- e. All visible lighting would be 50W, installed at a maximum height of 4m with cowls fitted to prevent light spillage.
- f. External lighting at the Operations and Maintenance Building would be provided by PIR operated lights calibrated to vehicles and personnel. These would be located at building entrances and to cover the parking and refuge areas. These will be PIR operated calibrated to vehicles and personnel.

Response to Braintree's Protected Lanes

10.7.14 Noakes Farm Road, which crosses the Order limits from east to west, is identified as a protected lane in Braintree District Protected Lanes Assessments (Ref 10-15). Details of protected lanes and an assessment of the Scheme's potential impact is recorded in **Chapter 7: Cultural Heritage** of the ES [EN010118/APP/6.1]. As agreed with Wynne Williams Associates acting on behalf of Essex County Council, Chelmsford City Council and Braintree District Council, at a meeting held on 16 December 2021; protected lanes are principally a heritage asset and therefore have not been assessed as a landscape receptor. However, 'aesthetic value' is identified as one component of protected lanes. With reference to the Protected Lanes Assessments (Ref 10-15), Noakes Farm Road is noted as having "a variety of aesthetic features or forms/alignment and/or a significant view". The following text sets out how mitigation of visual effects from the protected lane has been embedded into the Scheme:

- a. A 15m offset from the road has been integrated, within which no built features would be located.
- b. The northerly open view from the eastern end of Noakes Farm Road would be retained, including the visual connection to Sparrows Farm. No hedgerow is proposed in this location, thereby retaining the variety of aesthetic features that flank the lane.
- c. The fragmented hedgerow on the southern side of the protected lane at, the western end, would be improved through additional planting, providing continuity along the route.
- d. No amendment to the route alignment is proposed.

10.8 Assessment of Likely Impacts and Effects

10.8.1 The likely significant effects associated with the construction, year 1 and year 15 of operation, and decommissioning of the Scheme are outlined in the sections below. The types and duration of impacts would be temporary during construction, and the decommissioning phases, whilst permanent during the operational phases. The sources of the impacts for the different scenarios are listed in Section 10.3.8 - 10.3.14.

10.8.2 The assessments are based on the design as set out in **Chapter 2: The Scheme** of the ES [EN010118/APP/6.1]. The Scheme has been designed to avoid and minimise adverse effects on the landscape and views. Modifications to embed mitigation into the design are set out in Section 10.7.

10.8.3 The following subsections focus on the likely significant landscape and visual effects. **Appendix 10E** and **10F** of the ES [EN010118/APP/6.2] set out the potential likely landscape and visual effects in full, including effects which are not considered significant.

Construction (not earlier than Winter 2024 to 2026)

10.8.4 With reference to Section 10.3.11, effects on landscape character and visual amenity during construction of the Scheme are likely to result from the following:

- a. Localised excavations and topsoil stripping;
- b. The introduction of temporary compounds, lighting, stockpiles, machinery, haul rods, associated fencing and signage which would temporarily increase the extent of built development; and
- c. General construction activity and operations and the movement of plant and machinery which would increase the level of activity across the Order limits.

Landscape effects of construction

County level published landscape character areas

- 10.8.5 The construction phase would not result in significant effects to the LCAs defined at a County level. This is due to the construction activity being limited to a relatively small geographic area in relation to the wider extent of the published LCAs, being temporary and resulting in localised excavation and vegetation removal.
- 10.8.6 The significance of effect would range from **neutral** to **minor** adverse and effects would be temporary, short term.

District level published landscape character areas

- 10.8.7 Construction would not result in significant effects to the LCAs defined at a District level.
- 10.8.8 The majority of the Order limits is located within LCA B17: Terling Farmland Plateau. The proposed cable route and extension to Bulls Lodge Substation would be located in LCA B21: Boreham Farmland Plateau. The magnitude of effect in both LCAs would be low. Combined with the medium sensitivity of LCA B17, and the low sensitivity of LCA B21, the significance of effect would be **minor** adverse for both LCAs.
- 10.8.9 For the remaining LCAs, which do not cover the Order limits, there would be no physical change to the landscape and construction activity would not alter the character of the LCAs, due to the distance and intervening features. The effects are therefore predicted to be neutral for the remaining district level LCAs.

Local Landscape Character Areas

- 10.8.10 The Order limits are within LLCA 02, LLCA 03, LLCA 07 and LLCA 08.
- 10.8.11 Construction would result in significant effects to LLCA 02: Western Farmland Plateau and LLCA 07: Toppinghoehall Woods. These are detailed below.

Effect of construction on LLCA 02: Western Farmland Plateau

- 10.8.12 The majority of the Order limits is located within LLCA 02 and therefore construction effects would result from the installation of the solar arrays and associated features. The substation and BESS would not be located in LLCA 02 and therefore their construction would not physically alter the area.
- 10.8.13 Installation of the solar array and associated features would require localised changes to landform, including linear excavation of a trench for cabling.

Sensitive features such as areas of ancient woodland would be protected and remain unchanged.

- 10.8.14 Construction plant, including boring equipment and lifting machinery and typical construction features such as fencing/hoarding would be introduced. The main Order limits entrance would be introduced, with access tracks created across the Order limits. The main construction compound would be located in PDA 20 in the south of the LLCA. Further satellite compounds would be located within the LLCA (within the Order limits). Mobile lighting towers would also be introduced; however, these would only be used during core working hours such that there would not be any change to the areas of relatively dark night skies identified in the baseline.
- 10.8.15 The presence and activity of construction machinery and associated features (e.g. topsoil piles) would degrade the condition of the LLCA and increase the level of activity.
- 10.8.16 The introduction of these features would be temporary, medium term and reversible.
- 10.8.17 Construction would alter a wide area at a local level but would not result in the permanent loss of key features such as the overall landscape structure or areas of ancient woodland.
- 10.8.18 Considering the medium sensitivity and medium magnitude of effect, the effect would be **moderate** adverse, which is considered significant.

Effect of construction on LLCA 07: Toppinghoehall Woods

- 10.8.19 The southern part of the Order limits covers part of LLCA 07. Construction activity would include the installation of the solar arrays, BESS and Longfield substation. This would require localised changes to landform, including linear excavation of a trench for cabling. Construction plant, including boring equipment and lifting machinery would be introduced, and typical construction features such as fencing/hoarding, access tracks and satellite construction compounds would be laid out. The presence and activity of construction machinery and associated features (e.g. topsoil piles) would degrade the condition of the LLCA. Construction of the Longfield substation would include the installation of concrete foundations, installation of switchgear and control buildings, transformers and ancillary features.
- 10.8.20 The introduction of these features would be temporary, medium term and reversible. Perception of construction of the BESS and Longfield substation from the wider LLCA would be limited by existing woodland.
- 10.8.21 There would be a large alteration to the LLCA locally, however much of the LLCA would remain unchanged. Construction would not result in the permanent loss of key features, such as the overall landscape structure and areas of ancient woodland.
- 10.8.22 Considering the medium sensitivity and medium magnitude of effect, the significance of effect would be **moderate** adverse, which is considered significant.

Visual effects of construction

- 10.8.23 Construction activity would not be visible to all of the visual receptors identified in the visual baseline, as detailed in **Appendix 10 F: Visual Assessment** of the ES [EN010118/APP/6.2]. This is due to intervening landform, vegetation and distance from the Order limits.
- 10.8.24 Visibility of construction activity would typically extend up to approximately 1km north of the Order limits due to the rising landform of the valley of the River Ter. Toppinghoehall Wood and Lost Wood would limit visibility of construction to the south to the Order limits and the immediate vicinity. To the west visibility would be limited due to the dense vegetation that flanks much of Waltham Road and Boreham Road. Glimpses of construction would be possible from the east of the Order limits east of Terling Hall Road but would be imperceptible from Gambles Green due to the dense vegetation flanking Terling Hall Road and intervening hedgerows.

Residents

- 10.8.25 Construction would typically result in **major** or **moderate** adverse visual effects, for residential receptors in close proximity to the Order limits. These effects are considered significant. This would result from construction activity at close range across a wide extent of a view. It would include residents of properties located on Noake's Lane (VP8 and VP11), the western side of Terling Hall Road (VP10) the edge of Fuller Street (VP46), the eastern side of Waltham Road/Boreham Road (VP7 and VP15) and Fairstead Lodge (VP47) located north of the Order limits. Significant effects would also be experienced by residents living within the Order limits (VP13).
- 10.8.26 Residential receptors set back from the Order limits boundary located in Three Ashes Farm (VP18), Fairstead (VP20), Troys Hall (VP21), Sandypits Farm (VP22), Wat Hobb's Farm (VP26), Gambles Green (VP25), Flacks Green (VP26) and Terling (VP23), Ringers Farm (VP12), Hatfield Peverel (VP30 and VP31), Little Baddow (VP32 and VP33), Boreham (VP34 and VP35), properties east of Lyonshall Wood (VP41 and VP42) Lyons Hall (VP44) and Ranks Green (VP17 and VP49), would not experience significant effects as a result of construction. This is due to intervening landform, woodland and field boundary vegetation.

Users of PRoW

- 10.8.27 People walking on the Essex Way would experience **moderate** adverse effects resulting from open views across the River Ter Valley of construction from locations south of Fuller Street (VP46) and west of Fuller Street (VP45). People on the route would also experience close range views of construction from the edge of Sandy Wood, however this would be experienced for a very short duration such that the effect remains **moderate** adverse. The effect on people walking on the Essex Way is therefore considered to be significant. It should be noted however that the significant effect is relatively localised. People on the wider route, such as within the River Ter Valley (VP3) and from the north east of the study area (VP20, VP21, VP24 and VP26), would not experience significant effects due to the enclosed landform and intervening vegetation.

10.8.28 People walking on the local PRow network within, or very close to, the Order limits (VP6, VP9, VP16, VP55, VP56 and VP57) would typically experience **major to moderate** adverse effects, which are considered to be significant. These effects would result from the introduction of construction activity at close range across a wide extent of a view.

10.8.29 People walking on the wider PRow network beyond the Order limits boundary (VP1, VP2, VP20, VP21, VP26, VP24, VP50, VP31, VP32, VP33, VP44, VP52 and VP53) would not experience significant effects resulting from construction due to intervening landform and vegetation.

Road users

10.8.30 Views of construction from the local road network to the west of the Order limits (VP14, VP36 and VP40) would typically be screened by dense vegetation that flanks the road corridor. Occasional views of construction would be available through gaps in vegetation, but they would be fleeting and oblique to the direction of travel. Where more open views from the road network are available, such as from the south of Terling Hall Road, construction would be set back from the road corridor such that there would not be significant visual effects.

Operation Winter Year 1 – not earlier than 2027

10.8.31 With reference to section 10.3.12, impacts on landscape and visual amenity during year 1 of operation of the Scheme would include the following:

- a. Integration of solar panel arrays within the existing pattern of fields and woodlands, introducing new patterns, colours and textures into the rural landscape; and
- b. Views of the Bulls Lodge Substation Extension, PV Array and associated features, BESS and Longfield Substation, including fencing and CCTV poles.

Landscape effects of year 1 of operation

County Level Published Landscape Character Areas

10.8.32 The operation of the Scheme during winter of the first year would not result in significant effects to the LCAs defined at the County level due to the Scheme being of a relatively small geographic area in relation to the wider extent of the published studies. The level of effect would range from **neutral to negligible** adverse, which is not considered significant.

District Level Published Landscape Character Areas

10.8.33 Operation of the Scheme during winter of the first year would not result in significant effects to the LCAs defined at the District level.

10.8.34 The majority of the Order limits is located within LCA B17: Terling Farmland Plateau. The proposed cable route and extension to Bulls Lodge Substation would be located in LCA B21: Boreham Farmland Plateau. The magnitude of effect would be low in LCA B17 and very low in LCA B21. Combined with the medium sensitivity of LCA B17, and the low sensitivity of LCA B21, the level of effect would be **minor** adverse for LCA B17 and **negligible** adverse for LCA B21.

10.8.35 For the remaining LCAs, which do not cover the Order limits, there would be no physical change to the landscape or impacts on the character of the LCAs, due to the distance and intervening features. The effects are therefore predicted to be **neutral** for the remaining district level LCAs.

Local Landscape Character Areas

10.8.36 The Order limits are within LLCA 02, LLCA 03, LLCA 07 and LLCA 08.

10.8.37 Construction would result in significant effects to LLCA 02: Western Farmland Plateau and LLCA 07: Toppinghoehall Woods. These are detailed below.

Effect of operation in year 1 on LLCA 02: Western Farmland Plateau

10.8.38 The section of the Order limits within LLCA 02 would be occupied by solar panels, inverters and a security building at the Order limits entrance on the edge of PDA 19/22. The Scheme would also include new planting within the LLCA. The advanced mitigation planting proposed to improve the structure of hedgerows across LLCA 02 would be approximately five years old, and therefore make a small improvement to the structure of the hedgerow network. The remaining planting (planted at the beginning of construction and at the end of construction) would not yet be established.

10.8.39 Many key features would be maintained, including the undulating landform, woodlands and landscape pattern. However, the Scheme would result in the loss some key characteristics, namely the agricultural character and a reduction in the sense of openness given the change of land use and the introduction of new built features in the landscape. The proposed lighting within LLCA 02 would be located at the site entrance and operations building. This lighting would be used once a day for a short period, allowing site personnel to leave site, and therefore would not alter the relatively dark skies that characterise the night sky.

10.8.40 Solar panels and associated features would occupy approximately 14% of the total area of LLCA 02. The Scheme would be perceptible from areas of LLCA 02 adjacent to the Order limits, affecting up to half of the LLCA, but would not affect the wider LLCA on account of the screening effect of existing field boundary hedgerows and woodlands across the relatively flat landscape.

10.8.41 New recreational access through the Order limits, via a permissive path, would also be introduced providing a north/south walking route and improving the connectivity of the wider PRoW network. The permissive path would link into footpaths: 213_4, 113_25, 113_33 and the Essex Way.

10.8.42 The impacts would be reversible but long term, other than the new planting which is assessed as being permanent given it is not intended to be removed during decommissioning.

10.8.43 Considering the medium sensitivity and medium magnitude of effect, the significance of effect would be **moderate** adverse, which is considered significant.

Effect of operation in year 1 on LLCA 07: Toppinghoehall Woods

10.8.44 The section of the Order limits within LLCA 07 would be occupied by solar panels, inverters, the BESS, Longfield Substation and a section of the cable

route. These features would occupy approximately 15% of the LLCA. Introduction of these features would result in a loss of openness, tranquillity and agricultural character over a restricted area. The remaining key characteristics, including large deciduous woodlands, would remain unchanged. The perception of the Scheme across the wider LLCA would be limited by Toppinghoehall Wood and Lost Wood. Lighting would be introduced at Longfield substation, typically turned on once per day when site personnel leave site. Since the LLCA comprises areas of brighter skies at night the introduction of occasional lighting would not alter the character of the night sky.

10.8.45 There would be targeted vegetation loss, comprising three 10m wide gaps in hedgerows east of Waltham Road, above the cable route, as shown on **Figure 10-15** of the ES [EN010118/APP/6.3]. The Scheme would also introduce new planting within the LLCA. The linear woodland proposed to be advanced mitigation planting, linking Toppinghoehall Woods, would be starting to establish but not yet comprise a mature woodland. New recreational access through the Order limits, via a permissive path, would also be introduced providing a north/south walking route linking footpath 213_19 with 213_18.

10.8.46 Overall, the Scheme would be incongruous to the baseline character but affect a restricted area of the LLCA. The impact would be long term but reversible.

10.8.47 Considering the medium sensitivity and medium magnitude of effect, the significance of effect would be **moderate adverse**, which is considered significant.

Effect of operation in year 1 on other LLCAs

10.8.48 The Order limits would also be located in LLCA 03: Ter Valley North. The Scheme would result in a low magnitude of effect. Considered with the high sensitivity the significance of effect would be **minor** adverse, which is not considered significant.

10.8.49 The Order limits would also be located in LCA 08: Boreham North. The Scheme would result in a low magnitude of effect. Considered with the very low sensitivity the significance of effect would be **negligible** adverse, which is not considered significant.

10.8.50 Operation in year 1 would not impact any of the other LLCAs.

Visual effects of year 1 of operation

10.8.51 The operational Scheme would not be visible to all of the visual receptors identified in the visual baseline, as detailed in **Appendix 10F: Visual Assessment** of the ES [EN010118/APP/6.2].

10.8.52 The Solar Farm Site, Longfield Substation, Bulls Lodge Substation Extension, BESS and associated infrastructure would not be visible in its entirety in any location. The largest elements, namely the Longfield Substation and BESS, would be located in PDA 33 and would be screened from much of the surrounding landscape by Toppinghoehall Wood and Lost Wood.

Residents

10.8.53 Residential receptors with open views in close proximity to the Order limits would typically experience **moderate adverse** effects, considered to be significant, during year 1 of operation.

10.8.54 The Scheme layout has been designed to include offsets from residential properties and mitigation planting, but this would not be established at Year 1. The Scheme would be a noticeable change experienced by residents of Noake's Lane (VP8), the western side of Terling Hall Road (VP10) the edge of Fuller Street (VP46), the eastern side of Waltham Road/Boreham Road (VP 07 and VP15) and Fairstead Lodge (VP47) located to the north of the Order limits. Significant effects would also be experienced by residents living within the Order limits (VP13).

10.8.55 Advanced Mitigation Planting has been introduced to the Scheme in order to reduce the duration for which residents experience significant adverse effects. Based on the average rates set out in 10.3.12 the advanced planting would mitigate significant effects by:

- a. Residents of Noake's Lane (VP8): Year 4 of operation
- b. Western side of Terling Hall Road (VP10): Year 6 of operation
- c. Edge of Fuller Street (VP46): Year 4 of operation
- d. Eastern side of Waltham Road/Boreham Road (VP 07 and VP15): Year 6 of operation
- e. Residents living within the Order limits (VP13): Year 4 of operation

10.8.56 Residential receptors set back from the Order limits boundary located in Three Ashes Farm (VP18), Fairstead (VP20), Troys Hall (VP21), Sandypits Farm (VP22), Wat Hobb's Farm (VP26), Gambles Green (VP25), Flacks Green (VP26) and Terling (VP23), Ringers Farm (VP12), Hatfield Peverel (VP30 and 31), Little Baddow (VP32 and 33), Boreham (VP34 and 35), properties east of Lyonshall Wood (VP41 and 42) Lyons Hall (VP44) and Ranks Green (VP17 and 49), would not experience significant effects. This is due to intervening landform, woodland and field boundary vegetation.

Users of PRoW

10.8.57 People walking on the Essex Way would experience **moderate adverse** effects, as reported for people located south and west of Fuller Street (VP45 and VP46) and from the edge of Sandy Wood (VP5). These effects are considered to be significant. However, as set out in paragraph 10.8.27 people walking on other sections of the route, would not experience significant adverse effects.

10.8.58 People walking on the local PRoW network within, or very close to, the Order limits (VP6, VP9, VP16, VP55, VP56 and VP57) would typically experience **major to moderate adverse** effects, which are considered to be significant. This would result from the introduction of solar arrays at close range. The proposed Longfield Substation, BESS, and Bulls Lodge Substation Extension would not be visible from close range.

10.8.59 People walking on the wider PRow network beyond the Order limits boundary (VP1, VP2, VP20, VP21, VP26, VP24, VP50, VP31, VP32, VP33, VP44, VP52 and 53) would not experience significant effects due to intervening landform and vegetation.

Road users

10.8.60 Views of the Scheme from the local road network to the west of the Order limits (VP14, VP36 and VP40) would typically be screened by the existing, dense vegetation that flanks the road corridor. Occasional views of the operational Scheme would be available through gaps in this vegetation, but they would be fleeting and oblique to the direction of travel such that the Scheme would be barely perceptible.

10.8.61 Where more open views from the road network are available, such as from the south of Terling Hall Road, the proposed Solar PV Arrays would be set back from the road corridor and within the existing landscape structure such that the broad composition of the view would remain unchanged.

Operation Summer Year 15 – not earlier than 2042

10.8.62 By year 15 of operation the proposed planting would have established which, along with existing vegetation, would be in leaf. This would therefore reinforce the landscape structure across the Order limits and reduce the perception of new infrastructure.

Landscape effects of year 15 of operation

County Level Published Landscape Character Areas

10.8.63 The Scheme would not result in significant effects to the LCAs defined at the County level due to the Scheme being confined to a relatively small geographic area in relation to the wider extent of the published studies. The level of effect would range from **negligible** adverse to **neutral**.

District Level Published Landscape Character Areas

10.8.64 By year 15 operation of the Scheme would not result in significant effects to the LCAs defined at the District level.

Local Landscape Character Areas

10.8.65 There would not be any significant effects relating to the LLCAs by year 15 of operation.

Visual effects of year 15 of operation

10.8.66 The proposed planting and existing deciduous vegetation would be in leaf. New and strengthened hedgerows would be maintained at 3m tall. This would screen or filter the Scheme in the majority of views.

Residents

10.8.67 No residential receptors with open views in proximity to the Order limits or set back from the Order limits in the surrounding settlements have been identified as experiencing significant adverse effects at year 15 of operation.

10.8.68 The new planting would be offset from the boundary of residential properties. The planting would be maintained at 3m tall and would therefore screen the built elements of the Scheme in most views, given the relatively flat landform across the majority of the Order limits.

10.8.69 The establishment of new planting would change the composition of some views of residents, screening agricultural fields that typically form the middle ground. However, the offset from curtilage boundaries and maintaining a vegetation height of 3m would retain a sense of openness in these views. The native, locally characteristic species proposed would be in keeping with the vegetation in the existing views, following the same form and composition.

Users of PRow

10.8.70 People walking on the Essex Way to the west or south of Fuller Street (VP45 and VP46) would experience minor adverse effects, which are not considered to be significant. The level of effect is reduced from year 1 because existing and proposed vegetation would be in leaf, filtering views of the PV Arrays such that the Scheme would be unobtrusive. People walking on the Essex Way on the south western corner of Sandy Wood would experience close range views of the Scheme, however this would be for a very short duration of the route such that the overall effect on people walking the Essex Way would remain **minor** adverse.

10.8.71 People walking on PRow 113_25 within the Order limits would experience **major adverse** effects because of close range views of the proposed PV Arrays in the immediate foreground. These effects are considered significant. People walking on PRow 213_19, on the edge of the Order limits, would experience **moderate adverse** effects which is considered significant. The level of effect is reduced from year 1 due to the establishment of the woodland belt which would extend from Toppinghoehall Wood, which would reduce the duration for which people experience views of the proposed solar array.

10.8.72 People walking on the wider PRow network beyond the Order limits boundary would not experience significant effects resulting from operation during year 15.

Road users

10.8.73 The establishment of the proposed planting would further reduce the visibility of the Scheme from the road network. There would be no significant effects experienced by road users at year 15 of operation.

Decommissioning (assessed as 2066 to 2067)

10.8.74 With reference to section 10.3.14, the activities resulting in impacts on landscape and visual amenity during decommissioning of the Scheme would be similar those identified for construction. However, the effects on the perceptual qualities of the landscape would be reduced by the proposed vegetation which would have reached maturity.

Landscape effects of decommissioning

10.8.75 The proposed planting would respond positively to the published landscape character assessments land management guidelines. The established

planting would increase tree canopy cover, reinforce the existing hedgerow network and provide linkages between existing woodlands. It would also reduce the perception of the machinery and activity required to remove the built elements of the Scheme. This has been considered in determining the levels of effects set out below.

County and District Level Published Landscape Character Areas

10.8.76 Decommissioning would not result in significant effects to the LCAs defined at a County or District level. The level of effect would range from **neutral** to **negligible** adverse.

Local Landscape Character Area

10.8.77 Decommissioning would not result in significant effects to the LCAs defined at a local level.

10.8.78 The planting embedded in the Scheme design would be mature and would not be removed during decommissioning. This would further strengthen the framework of field boundary hedgerows and blocks of woodland, enhancing the local landscape character. The established planting would help to reduce the perception of decommissioning in the wider LLCA.

10.8.79 The grassland sward that would have established across the Order limits would be removed and the land returned to agriculture. These impacts would be localised but permanent.

10.8.80 Decommissioning would not result in significant effects to any LLCAs. The level of effect would range from **neutral** to **minor** adverse.

Visual effects of decommissioning

Residents

10.8.81 Existing and proposed planting would screen views of decommissioning at ground level in close proximity to residential receptors, however the top of equipment would likely be visible. Given the level of screening and the short term duration of the effect, decommissioning would result in minor adverse effects for residential receptors in proximity to the Order limits, which are not considered significant.

10.8.82 No significant effects would be experienced by residential receptors set back from the Order limits.

Users of PRow

10.8.83 Views of decommissioning from the Essex Way would be screened by proposed and existing vegetation. Although decommissioning activity would be visible at close range from the south western corner of Sandy Wood, it would be filtered by vegetation in the foreground and short term such that effects on this receptor would not be significant.

10.8.84 People walking on PRow 113_25 (VP9), within the Order limits, would experience **major adverse** effects due to close range views of decommissioning. These effects are considered to be significant, albeit short term. People walking on PRow 213_19 (VP16) on the edge of the Order limits

would experience **moderate adverse** effects, considered significant, since close range views would be experienced for a very short duration. People walking on PRow 213_18 (VP57), within the Order limits, would experience **moderate adverse** effects, considered significant, given close range, but filtered, views of decommissioning.

10.8.85 People walking on the wider PRow network beyond the Order limits boundary would not experience significant effects resulting from decommissioning since views would be screened or heavily filtered by intervening vegetation.

10.9 Additional Mitigation and Enhancement Measures

10.9.1 The Scheme design has undergone a series of design iterations to embed mitigation measures into the design, as detailed in section 10.7.

10.9.2 The residual significant landscape and visual effects are due to the change in land use and the massing of the panels and associated structures. Whilst long term, the residual significant effects would be reversible. It would not be possible to mitigate every adverse effect due to the requirements of the Scheme. Since all mitigation is embedded in the Scheme no additional mitigation measures are proposed.

Monitoring

10.9.3 The **OCEMP [EN010118/APP/7.10]** includes measures to protect retained vegetation. The **OCEMP** monitoring requirements include an arboricultural survey to be conducted in line with BS5837:2012 pre-construction to consider trees that may be affected by construction. The CEMP would be approved prior to implementation in accordance with a requirement in Schedule 2 of the DCO. The **OLEMP [EN010118/APP/7.13]** includes a five-year establishment aftercare period during which landscape and ecological mitigation would be managed and monitored to ensure the successful establishment of the proposed planting. Additionally, a post construction monitoring programme would require walkover surveys of the Order limits at set intervals post construction.

10.9.4 No further monitoring is required.

10.10 Residual Effects and Conclusions

10.10.1 This section summarises the residual significant effects of the Scheme on landscape and visual receptors following the implementation of mitigation.

10.10.2 Significant residual effects are defined as moderate or major. These are listed in Table 10-7: Summary of Significant Residual Effects (Construction); Table 10-8 Summary of Significant Residual Effects (Operation Year 1); Table 10-9 Summary of Significant Residual Effects (Operation Year 15); and Table 10-10 Summary of Significant Residual Effects (Decommissioning).

10.10.3 The full list of residual effects, including non-significant, can be found in **Appendix 10E: Landscape Assessment** and **10F: Visual Assessment** of the ES [EN010118/APP/6.2].

Table 10-7: Summary of Significant Residual Effects (Construction)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Landscape Receptors				
Local Landscape Character Areas (LLCAs)				
LLCA 02 Western Farmland Plateau	Partial alteration to the LLCA	Moderate Adverse	All mitigation and enhancement measures have been embedded into the Scheme. No additional measures are proposed.	Moderate Adverse Significant (temporary)
LLCA 07 Toppinghoehall Woods	Partial alteration to the LLCA	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Visual Receptors				
Residential				
Residents on the western extent of the Order limits (Residents on the eastern side of Waltham Road) (Viewpoint 7)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Residents on Noake's Lane (Viewpoint 8)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant (temporary)
Residents on western side of Terling Hall Road (Viewpoint 10)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Residents of Little Weathers (Viewpoint 11a and 11b)	Unobtrusive change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Residents of Porridge Pot, Holts Lane (Viewpoint 13)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Residents of Bufftons House (Viewpoint 15)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant (temporary)
Residents of Fuller Street (Viewpoint 46)	Unobtrusive change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Residents of Fairstead Lodge (Viewpoint 47)	Unobtrusive change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Recreational				
Recreational user of the Essex Way (Viewpoints 45, 46)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Recreational user of PRoW 113_11 (Viewpoint 5)	Pronounced change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Recreational user of PRoW 113_33 (Viewpoint 6)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)
Recreational user of PRoW 113_25 (Viewpoint 9)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant (temporary)
Recreational user of PRoW 213_19	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
(Viewpoint 16)				(temporary)
Recreational user of PRow 113_25	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse
(Viewpoint 56)				Significant (temporary)
Recreational user of PRow 213_18	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse
(Viewpoint 57)				Significant (temporary)

Table 10-8 Summary of Significant Residual Effects (Operation Year 1)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Landscape Receptors				
Local Landscape Character Areas (LLCAs)				
LLCA 02 Western Farmland Plateau.	Partial alteration to the LLCA	Moderate Adverse	All mitigation and enhancement measures have been embedded into the Scheme. No additional measures are proposed.	Moderate Adverse Significant
LLCA 07 Toppinghoehall Woods	Partial alteration to the LLCA	Moderate Adverse	As above	Moderate Adverse Significant

Visual Receptors

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Residential				
Residents on the western extent of the Order limits (Residents on the eastern side of Waltham Road) (Viewpoint 7)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Residents on Noake's Lane (Viewpoint 8)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Residents on western side of Terling Hall Road (Viewpoint 10)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Residents of Porridge Pot, Holts Lane (Viewpoint 13)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Residents of Buffons House (Viewpoint 15)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Residents of Fuller Street (Viewpoint 46)	Unobtrusive change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Residents of Fairstead Lodge (Viewpoint 47)	Unobtrusive change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Recreational				
Recreational user of the Essex Way (Viewpoints 45, 46)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Recreational user of PRoW 113_11 (Viewpoint 5)	Pronounced change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Recreational user of PRoW 113_33 (Viewpoint 6)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant
Recreational user of PRoW 113_25 (Viewpoint 9)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant
Recreational user of PRoW 213_19 (Viewpoint 16)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant
Recreational user of PRoW 113_25 (Viewpoint 56)	Noticeable change to the composition of the view	Moderate Adverse	As above	Moderate Adverse Significant (temporary)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Recreational user of PRow 213_18 (Viewpoint 57)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant (temporary)

Table 10-9 Summary of Significant Residual Effects (Operation Year 15)

<i>Receptor</i>	<i>Description of impact</i>	<i>Significance of effect without mitigation</i>	<i>Mitigation/Enhancement measure</i>	<i>Residual effect after mitigation</i>
Visual Receptors				
Recreational				
Recreational user of PRow 113_11 (Viewpoint 5)	Pronounced change to the composition of the view	Moderate Adverse	All mitigation and enhancement measures have been embedded into the Scheme. No additional measures are proposed.	Moderate Adverse Significant
Recreational user of PRow 113_25 (Viewpoint 9)	Pronounced change to the composition of the view	Major Adverse	As above	Major Adverse Significant
Recreational user of PRow 213_19 (Viewpoint 16)	Noticeable change to the composition of the view	Moderate Adverse	As above	Major Adverse Significant

Table 10-10 Summary of Significant Residual Effects (Decommissioning)

Receptor	Description of impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Visual Receptors				
Recreational				
Recreational user of PRow 113_25 (Viewpoint 9)	Pronounced change to the composition of the view	Major Adverse	All mitigation and enhancement measures have been embedded into the Scheme. No additional measures are proposed.	Major Adverse Significant
Recreational user of PRow 213_19 (Viewpoint 16)	Noticeable change to the composition of the view	Moderate Adverse	As above	Major Adverse Significant
Recreational user of PRow 213_18 (Viewpoint 57)	Noticeable change to the composition of the view	Moderate Adverse	As above	Major Adverse Significant

10.11 Cumulative Effects

10.11.1 With reference to GLVIA 3, the cumulative assessment is based on the 'combined' impacts and effects of the Scheme with other proposed developments, hereafter referred to as 'cumulative schemes'. This is in accordance with the methodology for considering combined effects with cumulative schemes as set out in **Chapter 5: EIA Methodology** of the ES [EN010118/APP/6.1].

10.11.2 The impacts and effects have been assessed in relation to the landscape and visual receptors presented in this chapter, using the same methodology as set out in **Appendix 10B: Methodology** of the ES [EN010118/APP/6.2]. Only receptors found likely to be impacted by the Scheme (reported to experience negligible effects or greater) have been considered as part of this cumulative assessment.

10.11.3 A list of 40 potential cumulative schemes is shown on **Figure 5-1: Cumulative Schemes** of the ES [EN010118/APP/6.3]. In accordance with **Chapter 5: EIA Methodology** of the ES [EN010118/APP/6.1], a shortlist of cumulative schemes was then identified for consideration in this chapter. As set out in GLVIA 3, in most cases, the focus of the cumulative assessment will be on the additional effect of the project in conjunction with other developments of the same type. However, it is acknowledged that consideration of some other development types will provide a more complete picture of likely significant cumulative effects.

10.11.4 A review of the 40 cumulative schemes was therefore undertaken in order to determine the short list of cumulative schemes that have potential to result in significant effects to landscape character or visual amenity. This review considered the location, type (e.g. residential or energy production), and the scale, of cumulative development, and whether any of these factors were similar to the Scheme.

10.11.5 The following criteria was used to identify the short list of cumulative schemes considered in this assessment on the basis that they may have potential to result in significant cumulative landscape and visual effects:

- a. Location: applications within the LVIA study area, where they meet one of the following criteria:
 - i. Type: applications for/including solar farms.
 - ii. Scale: Residential development that requires EIA.
 - iii. Scale: Large-scale infrastructure (for example new roads).
 - iv. Scale: Large-scale mineral extraction.

10.11.6 Cumulative schemes that do not meet the criteria listed above were not considered in the assessment of cumulative landscape and visual effects. The final list of 19 cumulative schemes considered in this assessment is provided in **Table 10-11** below.

Table 10-11: Cumulative Schemes

<i>Number (refer to: Figure 5-1 Cumulative Schemes)</i>	<i>Name</i>	<i>Development summary</i>
1	Beaulieu Station Hub	Up to 3600 dwellings and 62,300sqm employment floorspace.
2	Chelmsford Sewage treatment works solar	STW plant and solar panels.
4	Chelmsford North East Bypass	Bypass. Construction due 2023. Opening of phase 1 due 2024. Safeguarded corridor
7	Bulls Lodge Quarry	Land at Bulls Lodge, including cable route and land to north and east
8	Blackley Quarry	Sand and Gravel Quarry
9	Sheepcotes Farm Quarry to form agricultural reservoir	Agricultural reservoir via sand and gravel quarry
10	Colemans Farm Quarry	Sand and Gravel Quarry
11	A12 Chelmsford to A120 Widening Scheme	Trunk road widening scheme
12	North East Chelmsford urban extension – Beaulieu and Channels	4350 new homes and 40000sqm floorspace business park and railway station
16	Radial Distributor Road (RDR) Phase 3	Radial distributor road (Phase 3)
17	Radial Distributor Road (RDR) Phases 2a and 2b	Radial distributor road (Phase 2a and 2b)
18	Land North Of Woodhouse Lane Woodhouse Lane Broomfield Residential Development	Outline application Scoping opinion agreed in 2017. No apparent evidence of progress since.
32	Chelmsford Garden Village – Local Plan site allocation (North East Chelmsford)	Around 3,000 dwellings 45,000sqm commercial floorspace
33	Great Leighs – Local; Plan site allocation	1,200 dwellings
34	Land East of Great Notley proposed Local Plan allocation	1,750 dwellings
36	St Clere’s Solar Farm	25MW Solar Park
37	Sandon Brook Solar Farm	49.9MW Solar Park

Number (refer to:
*Figure 5-1 Cumulative
Schemes*)

Name

Development summary

Number	Name	Development summary
38	Canons Barn Solar Farm	8MW Solar Park
39	Hill Farm Solar Farm	141.8MW Solar Park

10.11.7 Cumulative impacts and effects have been assessed at the construction phase and year 1 of operation, to reflect a worst-case scenario, given the details of many of the cumulative schemes are not confirmed. The detailed design and integration of the cumulative schemes into the landscape and visual context through mitigation such as new planting and high-quality design would likely reduce the impacts set out below, given time for planting to establish during the operational phase.

Table 10-12: Cumulative Effects

<i>Receptor</i>	<i>Sensitivity</i>	<i>Effect resulting from the Scheme</i>	<i>Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)</i>	<i>Cumulative Assessment</i>	<i>Cumulative Effect</i>
Landscape Character					
<i>Essex Landscape Character Assessment (2003)</i>					
LCA B1 Central Essex Farmland	Medium	Construction: Minor adverse	The following cumulative schemes are located in LCA B17: 1, 4, 7, 9, 11, 12, 16, 17, 32, 33	Construction: Construction of the cumulative schemes in combination with the Scheme would introduce additional activity and construction features into LCA B1. This would include intense activity related to largescale residential development, most notably Beaulieu Station Hub, and linear infrastructure, such as the A12 widening. However, relative to the overall scale of LCA B1 the impacts of these developments would be localised to a very small part of the LCA, in proximity to the Scheme, such that the geographical extent of the LCA impacted would remain similar to that identified for the Scheme. Most of the LCA would remain unchanged. Given the small geographical extent of the change the magnitude of effect would remain as low.	Minor Adverse (not significant)
		Operation: Negligible adverse		Operation Year 1: As described for construction, the extent of development would remain localised to a very small part of LCA B1, such that most of the LCA would remain unchanged. The magnitude of effect would remain as very low.	Negligible Adverse (not significant)
<i>Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment (2006)</i>					

Receptor	Sensitivity	Effect resulting from the Scheme	Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)	Cumulative Assessment	Cumulative Effect
LCA B17 Terling Farmland Plateau.	Medium	Construction: Minor adverse	The following cumulative schemes are located in LCA B17: 4, 9, 33	Construction: Construction of the cumulative schemes in combination with the Scheme would introduce additional activity and construction features into LCA B17. This would further reduce the level of tranquillity and alter the condition of the landscape local to the sites. The extent of the change relative to the scale of the LCA would be increased, compared to the Scheme alone. Change would be focussed in the western half of the LCA. The magnitude of effect would increase to medium.	Moderate Adverse (significant)
		Operation: Minor adverse		Operation Year 1: The cumulative schemes would result in permanent change, introducing new built features within the LCA. This would introduce change to the western part of the LCA; resulting in the partial alteration of the extent of arable farmland, settlement pattern and network of winding lanes, which are recorded as being key characteristics. The magnitude of effect would therefore increase to medium.	Moderate Adverse (significant)
LCA B21 Boreham Farmland Plateau	Low	Construction: Minor adverse	The following cumulative schemes are located in LCA B21: 1, 7, 11, 12, 16, 17, 32.	Construction: The cumulative schemes would include substantial construction of new housing and infrastructure. This would increase the level of construction activity and would alter the condition of the landscape, likely resulting in the loss of vegetation cover. Considering the scale of construction relative to the overall LCA the magnitude of effect would increase to high.	Moderate Adverse (significant)
		Operation: Negligible Adverse		Operation Year 1: The cable route in LCA B21 would be below ground. The Bulls Lodge Substation Extension would be in keeping with the existing land use and therefore any further change to landscape character would result from the	Negligible Adverse (not significant)

Receptor	Sensitivity	Effect resulting from the Scheme	Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)	Cumulative Assessment	Cumulative Effect
				<p>cumulative schemes alone, rather than any combined effect resulting from the DCO Scheme. The magnitude of effect therefore remains as very low.</p>	
Local Landscape Character Areas					
LLCA 02 Western Farmland Plateau	Medium	<p>Construction: Moderate Adverse</p>	<p>The following cumulative schemes are located in LLCA 02: 4, 9</p>	<p>Construction: Construction of the cumulative schemes in combination with the Scheme would introduce additional activity and construction features into LLCA 02. This would further reduce the level of tranquillity and alter the condition of the landscape local to the sites. The extent of the change relative to the scale of the LLCA would be increased, compared to the Scheme alone, resulting particularly from Chelmsford North East Bypass which would occupy a similar length to the Scheme within the LLCA. The magnitude of effect would increase to high.</p>	Major Adverse (significant)
		<p>Operation: Moderate Adverse</p>		<p>Operation Year 1: There would be an increase in the presence of built structures within LLCA 02. Those associated with the cumulative schemes would be permanent. There would be a partial alteration to the level of tranquillity and the extent of arable land, noted as key characteristics. The cumulative change would remain a partial alteration to the LLCA and therefore the magnitude of effect would remain as medium.</p>	Moderate Adverse (significant)
LLCA 03 Ter Valley North	High	<p>Construction: Minor Adverse</p>	<p>The following cumulative schemes are located in LLCA 03: 4</p>	<p>Construction: Only a very small part of construction activity relating to the Chelmsford North East Bypass would be located in, or in proximity to, LLCA 03 such that the geographical extent of construction activity in the LLCA</p>	Minor Adverse (not significant)

Receptor	Sensitivity	Effect resulting from the Scheme	Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)	Cumulative Assessment	Cumulative Effect
		Operation: Minor Adverse		would remain very small. The magnitude of effect would remain as low.	
LLCA 07 Toppinghoehall Woods	Medium	Construction: Moderate Adverse Operation: Moderate Adverse	There are no cumulative schemes located in LLCA 07.	Since there are no cumulative schemes in LLCA 07 the effect would remain as reported for the Scheme.	Minor Adverse (not significant)
LLCA 08 Boreham North	Very low	Construction: Minor Adverse Operation: Negligible Adverse	The following cumulative schemes are located in LLCA 08: 1, 7, 12, 16, 17	Construction: The cumulative schemes include substantial construction of new housing and infrastructure. This would increase the level of construction activity and would alter the condition of the landscape, likely resulting in the loss of vegetation cover. Considering the scale of construction relative to the overall LCA the magnitude of effect would increase to high. The level of cumulative effect would remain as reported for the Scheme, given the very low sensitivity of LLCA 08. Operation Year 1: The cable route in LCA B21 would be below ground. The Bulls Lodge Substation Extension would be in keeping with the existing land use and therefore any further change to landscape character would result from the	Minor adverse (not significant) Negligible Adverse (not significant)

Receptor	Sensitivity	Effect resulting from the Scheme	Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)	Cumulative Assessment	Cumulative Effect
				<p>cumulative schemes alone, rather than any combined effect resulting from the DCO Scheme. The magnitude of effect therefore remains as very low.</p>	
Visual Amenity					
Viewpoint 52: View south from PRow 213_21	Recreational Low	Construction: Minor Adverse	There is potential for the following cumulative schemes would be visible from VP 52: 11	Construction: Glimpses of construction activity and features related to the A12 Chelmsford to A120 Widening Scheme may be visible in the background of the view in combination with the installation of the cable route and Bulls Lodge Substation Extension. Although intervening landform and vegetation lining the northern side of the railway would substantially screen such features. Overall, the extent of the view with potential to be changed by construction would be increased and therefore the magnitude of effect would increase to medium.	Minor adverse (not significant)
		Operation: Negligible Adverse		Operation Year 1: Both the Scheme and the cumulative scheme would be barely perceptible in the view due to the intervening distance, landform and vegetation. The magnitude of change would remain very low.	Negligible Adverse (not significant)
Viewpoint 53: View west from PRow 213_21	Recreational Low	Construction: Minor Adverse		Construction: Field boundary vegetation would screen views of the construction of the A12 Chelmsford to A120 Widening scheme (in winter) such that there would be no visual cumulative effect.	Minor adverse (not significant)

<i>Receptor</i>	<i>Sensitivity</i>	<i>Effect resulting from the Scheme</i>	<i>Cumulative schemes with potential to combine with effects of the Scheme (Refer to Figure 5-1 Cumulative Schemes)</i>	<i>Cumulative Assessment</i>	<i>Cumulative Effect</i>
		Operation: Negligible Adverse		Operation Year 1: Field boundary vegetation would screen views of the A12 Chelmsford to A120 Widening scheme such that there would be no visual cumulative effect	Negligible Adverse (not significant)

Summary of Cumulative Effects

Landscape

County Landscape Character Areas

10.11.8 Considering the Scheme in combination with cumulative schemes found that there would be no change to the effect reported on county level LCAs during construction or operation, given the localised scale of the effects relative to the overall LCA.

District Landscape Character Areas

10.11.9 At the district level, the northern part of the Order limits are located within LCA B17. Considered in combination with the cumulative schemes this would result in a moderate adverse cumulative effect during both construction and operation, which is considered significant. This is an increase from the minor adverse effect resulting from construction and operation of the Scheme, due to the increased extent of LCA B17 changed by the cumulative schemes and the cumulative effect on key characteristics.

10.11.10 The southernmost part of the Order limits are located in LCA B21 at the district level. Given the increased construction activity resulting from the cumulative schemes the cumulative effect during construction would be moderate adverse, which is considered significant. This is an increase from the minor adverse effect resulting from construction of the Scheme. Any change to LCA B21 during operation would result from the cumulative schemes alone and therefore the effect on LCA B21 during operation would remain as negligible adverse.

Local Landscape Character Areas

10.11.11 The northern part of the Order limits are located LLCA 03 at the local level. The cumulative effect would not be greater than the effect of the Scheme alone during construction or operation.

10.11.12 The central part of the Order limits are located in LLCA 02 at the local level. The combined impact resulting from the cumulative schemes would result in a major adverse effect, considered significant, due to the increased scale of construction activity relative to the size of the LLCA. This is an increase from the moderate adverse effect resulting from construction of the Scheme.

10.11.13 During operation the cumulative schemes in combination with the Scheme would result in a partial alteration to LLCA 02 and therefore the effect would remain as moderate adverse, considered significant. This is the same as reported for the Scheme.

10.11.14 The southern part of the Order limits are within LLCA 07. No cumulative schemes are proposed in LLCA 07 and therefore there would be no cumulative effects during construction or operation.

10.11.15 The proposed cable route would be located in LLCA 08. The cumulative schemes include substantial new housing and infrastructure in this LLCA, such that the cumulative magnitude of effect would increase to high. However, given the very low sensitivity of LLCA 08 the cumulative effect would remain as minor adverse during construction.

10.11.16 Any change to LLCA 08 during operation would result from the cumulative schemes alone and therefore the effect on the LLCA during operation would remain as negligible adverse.

Visual

10.11.17 Of the visual receptors identified, set out in **Appendix 10D: Visual Baseline** of the ES [EN010118/APP/6.2], only people walking on PRow 213_21 in proximity to Bulls Lodge Substation (represented by VPs 52 and 53) would experience views of the Scheme in combination with a cumulative scheme. No other visual receptors would experience cumulative visual effects.

People walking on PRow 213_21

10.11.18 People walking south on the PRow would see glimpses of construction of the A12 Chelmsford to A120 Widening Scheme. However, this would be unobtrusive and in the background such that cumulative effect would be minor adverse, and therefore no greater than the effects reported for the Scheme.

10.12 References

- Ref 10-1 Landscape Institute and the Institute of Environmental Management and Assessment. (2013). Guidelines for Landscape and Visual Impact Assessment 3rd Edition.
- Ref 10-2 Landscape Institute (2019) Visual Representation of Development Proposals – Technical Guidance Note 06/19.
- Ref 10-3 Natural England (2014). An Approach to Landscape Character Assessment.
- Ref 10-4 Landscape Institute (2020). Infrastructure Technical Guidance Note 04/20.
- Ref 10-5 Landscape Institute (2017). Tranquillity Technical Guidance Note.
- Ref 10-6 Landscape Institute (2019). Residential Visual Amenity Assessment.
- Ref 10-7 Landscape Institute (2021). Assessing landscape value outside national designations.
- Ref 10-8 Natural England (2014) NCA Profile: 86 South Suffolk and North Essex Clayland (NE515).
- Ref 10-9 Natural England (2013) NCA Profile 111 Northern Thames Basin (NE466).
- Ref 10-10 Landscape East (2011) East of England Landscape Framework.
- Ref 10-11 Chris Blandford Associates (2003) Essex Landscape Character Assessment.
- Ref 10-12 Chris Blandford Associates (2006) Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessment (2006).
- Ref 10-13 The Landscape Partnership (2015) Hatfield Peverel Local Landscape Character Assessment.
- Ref 10-14 CPRE (2016) England's Light Pollution and Dark Skies.
- Ref 10-15 Braintree District Council (2013) Braintree District Protected Lanes Assessments