Longfield Solar Farm

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Prepared by	Checked by	Verified by	Approved by
ZC	JH	DW	NT
EIA Consultant	Associate	Technical Director	Technical Director

Prepared for:

Longfield Solar Energy Farm Ltd

Prepared by:

AECOM Limited
Midpoint, Alencon Link
Basingstoke
Hampshire RG21 7PP
United Kingdom

T: +44(0)1256 310200
aecom.com

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12.1 Introduction

12.1.1 This chapter presents the findings of an assessment of the likely significant effects on socio-economics and land use as a result of the Scheme. For more details about the Scheme, refer to ***Chapter 2: Scheme Description*** of this Environmental Statement (ES) **[EN010118/APP/6.1].**

12.1.2 This chapter identifies and proposes measures to address the potential impacts and effects of the Scheme on socio-economics and land use, during construction, operation (including maintenance), and decommissioning.

12.1.3 This chapter is supported by the following figures **[EN010118/APP/6.3]**:

Figure 12.1: Distribution of ALC grades within the Order limits.

12.2 Legislation and Planning Policy

12.2.1 Legislation, planning policy and guidance relevant to the assessment of significant socio-economics and land use of the Scheme is outlined below.

National Planning Policy

National Policy Statement for Energy (EN-1) (2011)

12.2.2 Planning policy on Nationally Significant Infrastructure Projects (NSIPs) is primarily contained in Overarching National Policy Statements (EN-1) (Ref 12-1).

12.2.3 NPS-EN1 paragraph 4.1.3 requires the decision maker to take into account potential benefits of development proposals including their *"contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits".*

12.2.4 NPS-EN1 paragraph 4.1.4 states that the decision maker *"should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels".*

12.2.5 NPS-EN1 Section 5.12 deals in detail with socio-economic effects of major energy infrastructure and states that *"where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES"*, which may include the following:

a. *"The creation of jobs and training opportunities;*

b. *The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;*

c. *Effects on tourism;*

d. *The impact of a changing influx of workers during the different construction, operation, and decommissioning phases of the energy infrastructure; and*

e. *Cumulative effects."*

12.2.6 It also states that applicants should describe the existing socio-economic conditions in the areas surrounding proposed developments and refer to how their socio-economic impacts correlate with local planning policies.

Draft Overarching National Policy Statement for Energy (EN-1) (Draft NPS EN-1) (2021)

12.2.7 The Government is currently reviewing and updating the Energy NPSs. It is doing this in order to reflect its policies and strategic approach for the energy system that is set out in the Energy White Paper (December 2020), and to ensure that the planning policy Outline enables the delivery of the infrastructure required for the country's transition to net zero carbon emissions. As part of the review process, the Government published a suite of Draft Energy NPSs for consultation on 6 September 2021.

12.2.8 The following draft policies are contained within the Draft Overarching National Policy Statement for Energy (EN-1) (Ref 12-4) with relevance to the assessment of socio-economics and land use for this Scheme:

a. Draft NPS EN-1 paragraph 5.11.8 requires applicants *to "seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed."*

b. Draft NPS EN-2 paragraph 5.13.2 states that *"where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES".*

c. Draft NPS EN-1 paragraph 5.13.3 states that *"this assessment should consider all relevant socio-economic impacts, which may include:*

i. the creation of jobs and training opportunities. Applicants may wish to provide information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to Net Zero;
ii. the contribution to the development of low-carbon industries at the local and regional level as well as nationally;
iii. the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;
iv. any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains;
v. effects on tourism;
vi. the impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure. This could change the local population

dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development; and

vii. cumulative effects - if development consent were to be granted to for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region."

d. Draft NPS EN-1 paragraph 5.13.6 requires applicants to *"consider developing accommodation strategies where appropriate, especially during construction and decommissioning phases, that would include for the need to provide temporary accommodation for construction workers if required."*

e. Draft NPS EN-1 paragraph 5.13.9 states that *"The Secretary of State should consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts. The Secretary of State may wish to include a requirement that specifies the approval by the local authority of an employment and skills plan detailing arrangements to promote local employment and skills development opportunities, including apprenticeships, education, engagement with local schools and colleges and training programmes to be enacted."*

Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)

12.2.9 The following draft policies are contained within the Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 12-5) with relevance to the assessment of socio-economics and land use for this Scheme:

a. Draft NPS EN-3 paragraph 2.48.13 states that *"solar is a highly flexible technology and as such can be deployed on a wide variety of land types. Where possible, ground mounted Solar PV projects should utilise previously developed land, brownfield land, contaminated land, industrial land, or agricultural land preferably of classification 3b, 4, and 5 (avoiding the use of "Best and Most Versatile" cropland where possible). However, land type should not be a predominating factor in determining the suitability of the site location."*

b. As per Draft NPS EN-3 paragraph 2.48.14, *"The Agricultural Land Classification (ALC) is the only approved system for grading agricultural quality in England and Wales and should be used to establish the ALC and identify the soil types to inform soil management at the construction, operation and decommissioning phases. This should be extended to the underground cabling and access routes. The soil survey may also inform the suitable beneficial use of the land during the operational phase.*

Criteria for grading the quality of agricultural land using the Agricultural Land Classification (ALC) of England and Wales is decided by Natural England and considerations relating to land classification are expected to be made with reference to this guidance, or any successor to it."

National Planning Policy Outline (2021)

12.2.10 Paragraph 5 of the National Planning Policy Outline (Ref 12-6) confirms that the document does not contain specific policies for NSIPs (Nationally Significant Infrastructure Projects) and that applications in relation to NSIPs are to be determined in accordance with the decision making Outline set out in the Planning Act 2008 and relevant NPSs, as well as any other matters that are considered relevant (which may include the NPPF).

12.2.11 Paragraph 8 of the NPPF maintains the presumption in favour of sustainable development which should be delivered in accordance with three main objective areas: economic, social and environmental. This policy on sustainable development requires land use decision makers to take account of the need to protect, and make prudent use of, natural resources.

12.2.12 To address the economic aspects of development, there is an emphasis on building a strong and competitive economy by ensuring the right supply of land is available to support growth, innovation and improved productivity. For the social dimension, importance is placed on encouraging strong, vibrant and healthy communities by fostering well-designed and safe places with accessible local services that reflect community needs and support well-being. With reference to environmental sustainability, priority is given to protecting and enhancing the natural, built and historic environment. These three objective areas are relevant to the assessment of socio-economic and land use effects arising from the Scheme.

12.2.13 At Paragraph 156, the NPPF explains how local planning authorities should support the delivery of low carbon energy and associated infrastructure to increase the use of renewable and low carbon energy as part of supporting the transition to a low carbon future.

County Planning Policy

Essex Minerals Local Plan 2014-2029 (2014)

12.2.14 The Essex Minerals Local Plan (Ref 12-7), adopted in July 2014, contains planning policies for determining planning applications and allocation of land for minerals as well as safeguarding such areas from other forms of competing development. The following policies relevant to the assessment of socio-economics and land use effects are set out in summary below:

a. **Policy S2: Strategic priorities for minerals development** states *"The strategic priorities for minerals development are focused primarily on meeting the mineral supply needs of Essex whilst achieving sustainable development. The strategy will promote this by... 5. Safeguarding mineral resources of national and local importance, mineral transhipment sites, Strategic Aggregate Recycling facilities and coated roadstone plants, so that non-minerals development does not sterilise or compromise mineral resources and mineral supply facilities...";*

b. **Policy S8: Safeguarding mineral resources and mineral reserves** states that "by applying Mineral Safeguarding Areas (MSAs) and / or Mineral Consultation Areas (MCAs), the Mineral Planning Authority will safeguard mineral resources of national and local importance from surface development that would sterilise a significant economic resource or prejudice the effective working of a permitted mineral reserve, Preferred or Reserve Site allocation within the Minerals Local Plan." It requires the Mineral Planning Authority to be consulted on planning applications of 5ha or more and greater than 1 dwelling in an MSA and states that where surface development is permitted in an MSA, consideration shall be given to prior extraction. MCAs are applied within 250m of permitted and allocated mineral developments. The policy states that ECC will oppose development proposals that would unnecessarily sterilise mineral resources or conflict with the effective workings of permitted minerals development, Preferred or Reserve Mineral Site allocations and

c. **Policy S9: Safeguarding mineral transhipment sites and secondary processing facilities** identifies the Coated Stone Plant at Bulls Lodge Quarry in Chelmsford as a safeguarded secondary processing facility. It is considered to be of 'strategic importance' due to the limited number in operational use in Essex; its locational significance for promoting sustainable transport and distributional patterns; and the relative difficulty of providing for new alternative facilities due to environmental constraints.

Essex and Southend-on-Sea Waste Local Plan 2017-2032 (2017)

12.2.15 The Essex and Southend-on-Sea Waste Local Plan (Ref 12-8), adopted in July 2017, contains planning policies for determining applications and allocation of land for waste as well as safeguarding the same from other forms of competing development. The Plan provides contextual relevance to the assessment given the presence of Waste Safeguarding Sites in the surrounding area.

Local Planning Policy

Chelmsford Local Plan 2013-2036 (2020)

12.2.16 The Chelmsford Local Plan (Ref 12-9) was adopted in 2020 and provides a new planning Outline to meet local development needs for the period 2013-2036, to ensure Chelmsford remains a vibrant, attractive place to live, work and socialise. The Local Plan outlines the strategic priorities and long-term vision for Chelmsford and identifies locations for delivering housing and other strategic development needs such as employment, retail, leisure, community and transport development.

12.2.17 The following polices are relevant to socio-economics and land use:

a. **Policy S11: The Role of the Countryside** states that when determining planning applications, the Council will carefully balance the requirements for new development within the countryside to meet identified developments needs in accordance with the Spatial Strategy, and to support thriving rural communities; and

b. **Policy S2: Addressing Climate Change and Flood Risk** states that proposals that shape future development and seek to mitigate and adapt to climate change should be considered. The Council will require that all development is safe, taking into account its expected life span and appropriate mitigation measures are identified, secured and implemented.

Chelmsford Climate and Ecological Emergency Action Plan (2020)

12.2.18 The Chelmsford Climate and Ecological Emergency Action Plan (Ref 12-10) was published in 2020 and sets out actions and recommendations to implement measures to lower energy consumption, reduce pollution and improve air quality.

12.2.19 The following target is relevant to socio-economics and land use:

a. **Target 5**: Implementing measures to lower energy consumption, ensure the most efficient use of water resources, reduce pollution and improve air quality.

Braintree District Council Local Plan, Section 1 (2021)

12.2.20 Section 1 of the Braintree District Local Plan (Ref 12-11) was adopted in February 2021 and provides a guide to growth in the district to 2033. The following policies are relevant to socio-economics and land use:

a. **Policy SP5: Employment** aims to deliver a strong, sustainable and diverse economy across North Essex, including by allocating sufficient employment land to maintain appropriate flexibility to meet the needs of different sectors; and

b. **Policy SP6: Infrastructure and Connectivity** sets out that the Council will work with various bodies to deliver, amongst other things: a comprehensive network of walking and cycling routes; public transport and road improvements; and a wide range of social infrastructure required for healthy, active and inclusive communities.

Braintree District Council Draft Local Plan, Section 2 (2017)

12.2.21 The Draft Local Plan Section 2 (Ref 12-12) is awaiting adoption. The following policy is relevant to socio-economics and land use:

a. **Policy LPP76: Renewable Energy Schemes** states proposals for renewable energy schemes will be encouraged where the benefit in terms of low carbon energy generating potential does not result, individually or cumulatively, in serious harm to or loss of, amongst other things: natural landscape or other natural assets; best and most versatile agricultural land; heritage assets; and public rights of way.

Braintree District Council Core Strategy (2011)

12.2.22 The Braintree Core Strategy (Ref 12-13) was adopted in 2011 and updated in February 2021. It sets out the vision for the district which is that by 2026 a more sustainable future will have been secured for all its people and places. Some of its policies have been superseded by the Braintree Local Plan Section 1.

12.2.23 The following policy is relevant to socio-economics and land use:

a. **Policy CS5: The Countryside** states that *"developments outside town development boundaries, village envelopes and industrial development limits will be strictly controlled to uses appropriate to the countryside, in order to protect and enhance the landscape character and biodiversity, geodiversity and amenity of the countryside."*

12.3 Assessment Assumptions and Limitations

12.3.1 This environmental assessment is based on baseline information available at the time of writing this ES.

12.3.2 This ES Chapter has assessed the Design Principles to determine impacts on land use, PRoW, and communities. This also encapsulates the Concept Design, which illustrates one of the ways in which the Design Principles can be delivered. The estimated employment numbers have also been based on the Design Principles, and is within the confidence level associated with – i.e. similar to - the predicted number of roles expected for the Concept Design (which is similar in nature, scale and size to the Design Principles and would therefore employ similar numbers of people to the Design Principles). The loss of Best and Most Versatile land and the impact on Public Rights of Way is based on the Design Principles.

12.3.3 The assessment of the significance of effects has been carried out against a benchmark of current socio-economic baseline conditions prevailing around the Order limits. Baseline data is also subject to a time lag between collection and publication. As with any dataset, these conditions may be subject to change over time which may influence the findings of the assessment. However, such variation is not expected to affect the conclusions of this assessment in terms of assessed effects on receptors and effect of mitigations proposed.

12.3.4 Baseline conditions reported in Section 12.6 regarding population, labour force, and the local economy are based on latest data available at the time of writing. It is likely that the baseline conditions have changed owing to the ongoing effect of the COVID-19 pandemic on the labour market, businesses and the economy. The assessment of effects reported in Section 12.7.2 (based on latest available data) is considered adequate despite this limitation and is not expected to affect the findings of this chapter.

12.3.5 Effects on local amenities and land use during the construction, operation, and decommissioning phases have taken into account the results from the relevant environmental studies that can act in-combination. These studies comprise the transport, noise and vibration, landscape and visual, and air quality assessments. Where any two of these topics or more each record a significant effect on a receptor or group of receptors, it will be assumed as a worst-case that the effect could occur at the same time.

12.3.6 As noted in ***Chapter 2: The Scheme*** of the ES **[EN010118/APP/6.1]**, the construction period is expected to be 24 months for the Scheme. This is expected to be a realistic worst-case assumption for this assessment, as it represents the expected minimum build time and therefore the most intense activity onsite (and therefore greatest impacts associated with traffic, noise, dust, visual, etc). Should the build period be a longer duration, the intensity would be less and the impact on the community therefore the same or lower.

This principle also applies to the Battery Energy Storage System (BESS), which may be constructed over two phases, with the first part built alongside the Solar PV Array Works Area and the second phase an estimated five years after commencing operation; it has been assessed as a single phase for the purpose of this assessment. Although this approach may mean the maximum number of jobs during peak construction has been overestimated, the activity required would remain unchanged and the impact would be felt over a longer duration such that the overall level of employment and the associated spending benefits attributed to this phase of the Scheme would not be different overall.

12.4 Stakeholder Engagement

12.4.1 Stakeholders for the Scheme include statutory consultees, land managers, landowners, heritage interest groups, academics and local communities.

12.4.2 Consultation undertaken to date in relation to socio-economics and land use is outlined in **Table 12-1**.

Table 12-1: Main matters raised during consultation

Consultee	*Main matter raised*	*How has the concern been addressed*	*Location of response in chapter*
BDC	Further information is required in relation to what would happen to the land within the site boundary following de-commissioning. Would it be returned to agricultural use and if so what measures would be taken to safeguard soil quality? This is of particular importance given the major adverse impact identified upon best and most versatile agricultural land.	Following decommissioning, the vast majority of the Scheme land would be able to be used for agriculture. The soil resource will have benefitted from a recovery of soil organic matter over the 40 year duration of the Scheme, improving the robustness of the soil structure to trafficking. Some areas that have benefited from woodland planting are not expected to be returned to agriculture, but these represent a very small proportion of the site. The Bulls Lodge Substation Extension is expected to be retained by National Grid.	The assessment of effects on agricultural land in the decommissioning phase is addressed in Paragraph 12.8.70.
BDC	Would permissive pathways be retained?	As detailed in ***Chapter 13: Access and Transport*** of the ES **[EN010118/APP/6.1]**, the Scheme does not	The assessment of effects on sensitive receptors is detailed in Section 12.7.2.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
		involve the permanent closure of any Public Rights of Way (PRoW). A new permissive route is incorporated into the Scheme for the duration of the operational phase; and permissive paths created by the Scheme during the operational phase would ultimately be removed during decommissioning. Measures (e.g. signage or temporary access restrictions) will be implemented to prevent the permissive paths from becoming PRoW during the operational phase, so that these can subsequently be removed.	Further information on management of PRoWs is given in ***Chapter 13: Access and Transport*** of the ES **[EN010118/APP/6.1].**
BDC	Employment Density Guides do not advise on the number of jobs per hectare in the agricultural sector, and therefore, it is difficult to ascertain the detrimental impact of how many existing jobs will be displaced as a result of the development. There is reference made within the documents to there being 8 agricultural jobs related to the site but no further detail is provided around this. It is requested that further information is provided to advise how this number of jobs was calculated.	The amount of employment on the agricultural land is based on information provided by the current landowner.	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.
BDC	Local workforce has been mentioned although it has been calculated that only 338 out of the 563 jobs would be from within a 60 minute commute radius, although there are no guarantees nor	Job uptake will be dependent on skill levels and suitability. It is not possible to ascertain the exact number of jobs that would be taken up by residents in any local authority or statistical	Further information on the assessment of employment demand in the construction, operation, and decommissioning

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	has it been detailed as to whether local recruitment campaigns would be launched. These figures are derived from national estimates and do not reflect actual outputs. It is worth noting that a 60 minute commute-radius is beyond the Braintree District boundaries, and therefore it is to be expected that there would be less than 338 roles taken up by local residents.	area. Commuting journey times have been used to give an indication of how many jobs would likely be taken up by workers who travel to the site each day, which would include Braintree residents. Typical commuting distances are based on the Applicant's knowledge and previous experience of prior similar schemes. Also a local Skills and Employment Plan is to be prepared prior to the commencement of construction which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally.	phases are given in Section 12.8.
BDC	There is no reference as to whether some, or any of the roles, during or post construction may be apprenticeship opportunities.	The Applicant will discuss with the appointed contractor for the construction works the allocation of some roles to apprentices subject to the terms of appointment and the appropriateness within the context of the work required for the Scheme. Also a local Skills and Employment Plan is to be prepared after DCO consent which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally.	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
		The Applicant will also make a skills contribution. This will assist and encourage local people to access apprenticeships and training.	
BDC	There is no real plan or reference for accessing the local supply chain/sourcing local materials. It is also disappointing to note that only 8 permanent jobs will have been created after the 2 years construction period, given the hectare coverage.	In procurement of the contractor to complete the construction works, strong consideration will be given to their strategy for engaging the local supply chain and using local materials where possible and practical. The Applicant has previously hosted career fairs for similar schemes that may be held for this Scheme. The permanent jobs created to support the Scheme are a reflection of the requirements to maintain the infrastructure. Also a local Skills and Employment Plan is to be prepared which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally.	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.
CCC	Limited reference is made to the restoration of the agricultural land as a result of the decommissioning of the proposal. Paragraph 12.8.54 of the preliminary Environmental Information (PEI) Report states that the agricultural land that was required for	The Scheme would be able to be used for agriculture after decommissioning. The soil resource will have benefitted from a recovery of soil organic matter over the 40 year duration of the Scheme, improving the robustness of the soil structure to trafficking.	The assessment of effects on agricultural land in the decommissioning phase is addressed in paragraph 12.8.70.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	construction and operation (of the site) will be reinstated for arable agricultural use. It explains that the land will be in the same or better condition than it is currently in as a result of the expected natural enhancement.	The development of farm land for solar power generation involves little disturbance of the soil and includes retention of the land resource for future use.	
CCC	Concern remains over the overall loss of agricultural land during the operational 40-year lifespan of the Proposed Development, particularly given that 60% of the site is classified as agricultural land. The loss of the 34% of the site which is Best and Most Versatile (BMV) cannot be mitigated.	The use of agricultural land for the Scheme is justified by the need for renewable energy generation. The project is urgently needed in order to generate renewable energy to contribute to meeting the Government's legally binding commitment for the country to reach net-zero by 2050, and to address the cause of climate change. No suitable contiguous area of non-agricultural land that would deliver the same benefits is available. In addition, very little, if any, agricultural land will be permanently lost. The vast majority of the Order limits will be available for return to agriculture after decommissioning, and the soil resource will have benefitted from a recovery of soil organic matter over the 40 year duration of the Scheme. An element of agriculture may also be retained over the life of the solar farm, with low density grazing an option being considered for the management of some of the habitats to be created on the Site.	The assessment of effects on agricultural land in the decommissioning phase is addressed in paragraph 12.8.70.
ECC	Without information on scheme alternatives and	Information related to alternative sites is	Further detail on site selection can

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	whether site alternatives would result in the loss of less overall agricultural land and Best and Most Versatile, it is difficult to reach a view on the rationale for taking forward this site.	presented within ***Chapter 3**: **Alternatives and Design Evolution*** of the ES **[EN010118/APP/6.1]**. In summary, the vast majority of land within the area of search is of similar Agricultural Land Classification (ALC) to the Order limits. The Order limits comprises approximately: 58% Grade 3b, 22% Grade 3a, 12% Grade 2 and 8% non-agricultural or unknown. All of the land within the area of search is either: - Grade 2 (which is BMV and equal to the highest quality land within the Site). - Grade 3 (which may also be BMV and no lower than the majority of the Site). - Grade 4 but located within the Flood Plain of the River Chelmer, so unlikely to pass the flood risk sequential test. - Urban land with no sites of comparable land available. There are no alternative sites considered by the Applicant that are clearly of a lower non-BMV ALC grade than the Order limits (whilst also meeting other criteria of the Applicant, as set out in ***Chapter 3: Alternatives and Design Evolution*** **[EN010118/APP/6.1]***)* within a reasonable distance of Bulls Lodge Substation (for which the Applicant has	be found in ***Chapter 3: Alternatives and Design Evolution*** of the ES **[EN010118/APP/6.1]**. An assessment of the likely effects on agricultural land can be found in Section 12.8 of this chapter.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
		obtained a grid connection agreement). The Draft NPS EN-3 states that although BMV land should be avoided where possible in the development of renewable energy infrastructure, land type should not be a predominating factor in determining the suitability of site location.	
ECC	As the operational phase of the project will only support 8 permanent roles, opportunities should be explored to upskill the construction workforce, including within education settings to support emerging renewable technology innovation, jobs and skills retention within Essex, to further support the county's green economy.	The expected operational employment at the Scheme will be equivalent to the current amount of employment on the agricultural land at the Scheme, meaning there will be net no change in the amount of employment. This information is based on estimates informed by the Applicant's prior experience of similar schemes, and details provided by the current landowner. Also a local Skills and Employment Plan is to be prepared which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally. It will set out that the Applicant will establish a support system to enable local people to be trained in the sustainable development sector. The Applicant will also make a skills contribution. This will assist and encourage	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
		local people to access apprenticeships and training.	
Hatfield Peverel PC	The construction phase will no doubt be carried out by major national civil and electrical engineering contractors. They will import the skilled personnel required to carry out the work. There is insufficient skilled labour in Hatfield Peverel and Terling to contribute in any significant extent to the construction process which will in any event be temporary.	Job uptake will be dependent on skill levels and suitability. It is not possible to ascertain the exact number of jobs that would be taken up by residents in any local authority or statistical area. The Applicant has experience of multiple similar schemes nationwide which have informed the assumptions on catchment area for employment generation. Also a local Skills and Employment Plan is to be prepared which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally. The Applicant will also make a skills contribution. This will assist and encourage local people to access apprenticeships and training.	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.
Hatfield Peverel PC	In operation, solar farms are not labour intensive. Maintenance of the major units such as switch gear etc. tends to comprise significant works carried out periodically and therefore suitably skilled labour will be imported from time-to-time to undertake it. The small number of people	The expected operational employment at the Scheme will be equivalent to the current amount of employment on the agricultural land at the Scheme, meaning there will be net no change in the amount of employment. This information is based on estimates informed by	Further information on the assessment of employment demand in the construction, operation, and decommissioning phases are given in Section 12.8.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	employed in this activity in Hatfield Peverel and Terling goes no way near to justify or outweigh the disadvantages of the scheme. The applicant/proposer should be able to provide information from similar projects but it is likely the contribution will be relatively small.	the Applicant's prior experience of similar schemes, and details provided by the current landowner. Also a local Skills and Employment Plan is to be prepared which will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction and operation locally. The Applicant will establish a support system to enable local people to be trained in the sustainable development sector. The Applicant will also make a skills and education contribution. This will assist and encourage local people to access apprenticeships and training.	
Hatfield Peverel PC	The area in question is a quiet and attractive part of rural Essex. It is a pocket of countryside that is much loved by walkers and cyclists. The solar farm would constitute an industrialisation of this piece of countryside and thereby blight the landscape.	A detailed assessment on the landscape and visual effects of the scheme, including on users of PRoWs, is provided in ***Chapter 10: Landscape and Visual Amenity*** of the ES **[EN010118/APP/6.1]**.	A detailed assessment on the landscape and visual effects of the scheme, including on users of PRoWs, is provided in ***Chapter 10: Landscape and Visual Amenity*** of the ES **[EN010118/APP/6.1]**.
Hatfield Peverel PC	The land in question is also best and most versatile agricultural land. The resultant food production loss would be ill-advised on sustainability grounds.	The use of agricultural land for the Scheme is justified by the need for renewable energy. The project is urgently needed in order to generate renewable energy to contribute to meeting the Government's legally	An assessment of the likely effects on agricultural land can be found in Section 12.8.

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
		binding commitment for the country to reach net-zero by 2050, and to address the cause of climate change. No suitable contiguous area of non-agricultural land that would deliver the same benefits is available. In addition, very little, if any, agricultural land will be permanently lost. The vast majority of the Order limits will be available for return to agriculture after decommissioning, and the soil resource will have benefitted from a recovery of soil organic matter over the 40 year duration of the Scheme. An element of agriculture may also be retained over the life of the Solar Farm Site, with low density grazing an option being considered for the management of some of the habitats to be created on the Order limits.	
Purdy Land	Govt. guidance is that applicants should prioritise previously developed land for renewable technology developments. The proposed solar farm would be sited on undeveloped and agricultural land in the main, reducing considerably the amount of valuable agricultural land in the Authority.	The use of agricultural land for the Scheme is justified by the need for renewable energy. The project is urgently needed in order to generate renewable energy to contribute to meeting the Government's legally binding commitment for the country to reach net-zero by 2050, and to address the cause of climate change. No suitable contiguous area of non-agricultural land that would deliver the same benefits is available.	An assessment of the likely effects on agricultural land can be found in Section 12.8 .

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Natural England	The ES should provide details of how any adverse impacts on soils can be minimised. Further guidance is contained in the Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites.	The requested information has been included in this ES Chapter taking into account the further guidance referenced.	An assessment of the likely effects on agricultural land can be found in Section 12.8.

12.5 Assessment Methodology

12.5.1 This section sets out the scope and methodology for the socio-economics and land-use assessment of the Scheme.

12.5.2 There is currently no statutory guidance on the methodology for undertaking assessments of socio-economic and land use effects. The assessment follows best practice methodology from other assessments undertaken on comparable energy infrastructure schemes.

12.5.3 The Scheme has the potential to have a range of effects, some of which would be temporary, whilst others would be permanent. For the purposes of this ES chapter, due consideration is given to the Scheme in terms of effects on the following:

a. Employment generation;

b. Gross Value Added (GVA);

c. PRoW;

d. Agricultural land and soils; and

e. Local amenities and land use (residential properties, business properties, community facilities and development land).

12.5.4 Further details on the methodology for the socio-economics and land-use assessment of the Scheme are detailed below.

Study Area

12.5.5 The impacts of the Scheme are considered at varying spatial levels according to the nature of the effects considered. This approach is consistent with the Homes and Communities Agency (HCA), now known as Homes England, guidance entitled ‘Additionality Guide, A Standard Approach to Assessing the Additional Impact of Projects, 4th Edition’ (Ref 12-14).

12.5.6 The Order limits is located within the District Council administrative areas of Chelmsford and Braintree, in the county of Essex. ***Chapter 2: The Scheme*** of the ES **[EN010118/APP/6.1]** provides a detailed account of the Order limits and its surroundings, which mainly consist of agricultural fields under arable

production, some small parcels of pasture, interspersed with individual trees, hedgerows, tree belts (linear), small woodland blocks and farm access tracks.

12.5.7 The socio-economic features immediately surrounding the Order limits comprise a number of villages, including Fuller Street approximately 300m to the north, Gamble's Green and Terling 500m and 1.1km to the east, Boreham 500m to the south-west, Hatfield Peverel 1.5km to the south-east, and the city of Chelmsford 5.7km to the south-west. Boreham Road runs north to south along the western edge of the Order limits, with the A12 carriageway situated around 800m from the southern edge of the Order limits boundary.

12.5.8 The potential impacts arising from the Scheme are considered relative to a 60-minute drive time as this represents the principal labour market catchment area for the Scheme, particularly given the absence of a functional economic market area within local policy[1].

12.5.9 The boundary of the Order limits have been used for consideration of effects on agricultural land and soils.

12.5.10 Effects on users of PRoW considers receptors likely to be affected by disruption to use of PRoW routes. The study area therefore comprises all PRoW located in or within 500m of the Order limits boundary.

12.5.11 The principal impacts on local amenities will be considered on a geographical scale based on the findings of other assessments such as those presented in ***Chapter 10: Landscape and Visual Amenity***, ***Chapter 11: Noise and Vibration***, ***Chapter 13: Transport and Access***, and ***Chapter 14: Air Quality*** of the ES **[EN010118/APP/6.1]**.

12.5.12 **Table 12-2** below presents the different components of the socio-economics and land use effects assessment and the geographical scale at which each component is assessed.

Table 12-2: Socio-Economics and Land Use Impacts by Geographical Scale

Impact	*Geographical area of impact*	*Rationale for impact area*
Employment generation during construction phase, operational phase, and decommissioning phase (direct, indirect and induced impacts)	60-minute travel area	Research by Chartered Institute of Personnel and Development (CIPD) found that 90% of national employees commuted for 60 minutes or less each way. This was reported by CIPD in the 2018 Employee outlook 'Employee views on working life'.
Gross Value Added (GVA)[2] during construction phase		

[1] Research by CIPD found that 90% of national employees commuted for 60 minutes or less each way. CIPD, 2018, Employee views on working life. This recognises that some employees will travel for longer than this duration.
[2] Gross Value Added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy.

Impact	*Geographical area of impact*	*Rationale for impact area*
PRoW	The Order limits and the immediately adjacent land within 500m.	Professional judgement and experience from other schemes in southern England.
Agriculture and soils	The Order limits.	Professional judgement and experience from other schemes in southern England.
Local amenities- Residential Properties	500m radius from the Order limits has been used.	Professional judgement and location of sensitive receptors for impacts arising from the Scheme as informed by other assessments.
Local amenities- Business Premises	500m radius from the Order limits has been used.	Professional judgement and location of sensitive receptors for impacts arising from the Scheme as informed by other assessments.
Local amenities- Community Facilities	2km radius from the Order limits has been used.	Professional judgement and location of sensitive receptors for impacts arising from the Scheme as informed by other assessments. Community facilities are likely to be accessed by residents from a wider catchment, especially in rural areas, owing to a tendency for provision to be sparse. A wider radius has been considered for this receptor in order to fully appreciate the effect of severance on access to these facilities.
Development land	The Order limits and the immediate adjacent land within 500m.	Professional judgement and experience from other schemes in southern England.

Sources of Information

12.5.13 The following assessment seeks to establish the potential social, economic, and land use effects of the Scheme and assesses these against the current baseline conditions within the Order limits and in the surrounding area.

Socio-economic Conditions

12.5.14 Baseline data illustrating the existing conditions surrounding the Order limits has been collected through a desk-based research exercise using publicly available sources, documents, and web-based applications. These sources include:

a. Mid-Year Population Estimates (Ref 12-15);

b. Annual Population Survey (Ref 12-16);

c. Indices of Multiple Deprivation (Ref 12-17);

d. Business Register and Employment Survey (Ref 12-18); and

e. 2011 Census (Ref 12-19).

Desktop Research for Agricultural Land

12.5.15 Natural England 'Technical Information Note 049 – Agricultural Land: protecting the best and most versatile agricultural land (TIN049)' provides guidance on agricultural land quality assessment for development planning (Ref 12-20). A Provisional Agricultural Land Classification ('ALC') is available from the Defra mapping service magic.defra.gov.uk (Ref 12-22). This plan shows land grades across the whole of England. However, the mapping uses a now superseded methodology and is based predominantly on small scale (extensive) assessment from published sources such as geology maps. As this map uses a superseded methodology and is based primarily upon small scale published sources, TIN049 advises that it is of limited value for assessing land quality of large sites. Detailed ALC site sampling has been undertaken rather than relying on the provisional ALC secondary data.

Impact Assessment Methodology

12.5.16 The socio-economic and land use assessment follows the general Impact Assessment Methodology set out in ***Chapter 5: EIA Methodology*** of the ES **[EN010118/APP/6.1]**. However, the specific methodology, impact magnitude, and impact sensitivity criteria for this assessment have been set out below.

Methodology for determining construction effects, operational effects and decommissioning effects

12.5.17 As mentioned previously, the economic impact of the Scheme is considered relative to a 60-minute travel time (car or public sector) to the Scheme. This is considered a reasonable timeframe within which workers would commute to the Scheme.

12.5.18 Additionality has been calculated by considering the overall impact of job gains to the area, the level of leakage, number of displaced jobs and multiplier effects, such as supply chains and worker spending related jobs. These assumptions have been informed by the HCA Additionality Guidance (Ref 12-14).

12.5.19 **Table 12-3** below outlines the values that have been allocated to the construction, operation, and decommissioning phases' additionality formula, enabling the tailored calculation of the net additional employment and economic impacts. Justifications for the values have been considered and are summarised in the right-hand column of the table.

Table 12-3: Construction, Operational and Decommissioning Phases Economic Additionality assumptions

Additionality Factor	*Value*	*Justification*
Leakage (% of jobs that benefit those residents outside the Scheme's identified target area)	40%	Relating to employment from outside the target area – this is the proportion of jobs taken by people who live outside of the study area as described as a 60-minute travel area. The Applicant has estimated that 60% of the UK local staff will be sought to be sourced within the study area.
Displacement (% of jobs that account for a reduction in related jobs in the Scheme's identified target areas)	25%	For the purpose of this assessment, a low level of displacement (25%) has been assumed, in line with the HCA Additionality Guidance (Ref 12-14).
Multiplier (further economic activity associated with the additional local income, supplier purchase and longer-term development effects)	1.5	The multiplier is a composite figure which takes into account both the indirect jobs created across the study area based on supply chain activity but also the induced employment created through increased spending across the study area. The HCA Additionality Guidance (Ref 12-14) provides a 'ready reckoner' of composite multipliers. The study area is likely to have 'average' supply linkages and induced effects based on the scale of its economy. Therefore, a 'medium' multiplier of 1.5 is determined from the HCA guidance to be the most appropriate measure.

12.5.20 The land use and PRoW impacts have been assessed against the significance criteria below using professional judgement.

12.5.21 The principal social impacts on residential properties, business premises and community facilities will be informed by other assessments and assessed against the significance criteria using these assessments and professional judgement.

Significance Criteria

12.5.22 The assessment of potential socio-economic effects uses the effect significance terms and definitions described within ***Chapter 5: EIA Methodology*** of the ES **[EN010118/APP/6.1]**. Where possible, socio-economic impacts have been appraised against relevant national standards, such as those provided by Department for Business, Energy & Industrial Strategy (BEIS) and HCA. Where relevant standards do not exist, professional experience and expert judgement have been used to assess the scale and nature of the effects of the Scheme against baseline conditions.

12.5.23 The assessment aims to be objective and quantifies effects as far as possible. However, some effects can only be evaluated on a qualitative basis. Effects are defined as follows:

a. **Beneficial** classifications of significance indicate an advantageous or beneficial effect on an area, which may be minor, moderate, or major in effect;

b. **Negligible** classifications of significance indicate imperceptible effects on an area;

c. **Adverse** classifications of significance indicate a disadvantageous or adverse effect on an area, which may be minor, moderate, or major in effect; and

d. **No effect** classifications of significance indicate that there are no effects on an area.

12.5.24 The geographical scales considered to assess significance are described in **Table 12-2**, and are organised around the following:

a. National levels are associated with effects that impact on England and Wales;

b. Regional levels are associated with effects that impact on the East of England; and

c. Local levels are associated with effects that impact on the Order limits, study area, Braintree, and Chelmsford.

12.5.25 Duration of effect is also considered, with more weight given to long-term and permanent changes than to temporary ones. Permanent effects are those which are unable to be reversed following decommissioning. Reversible long-term effects endure throughout the scheme but cease once decommissioned. Temporary effects are those associated with the construction works. For the purposes of this assessment, short-term effects are of one year or less, medium-term effects of one to five years, and long-term effects for over five years.

12.5.26 For socio-economics there is no accepted definition of what constitutes a significant (or not significant) socio-economic effect. It is however recognised that 'significance' reflects the relationship between the scale of effect (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such the significance criteria of socio-economic effects has been assessed based on expert judgment and professional experience of the author, and relies on the following considerations:

a. **Sensitivity of resources/receptors:** specific values in terms of sensitivity are not attributed to socio-economic resources / receptors due to their diverse nature and scale; however, the assessment takes account of the qualitative (rather than quantitative) 'sensitivity' of each receptor and, in particular, their ability to respond to change based on recent rates of change and turnover (if appropriate);

b. **Magnitude of impact:** this entails consideration of the size of the effect on people or business in the context of the area in which effects will be experienced; and

c. **Scope for adjustment:** the socio-economic assessment is concerned in part with economies. These adjust themselves continually to changes in supply and demand, and the scope for the changes brought about by the Scheme to be accommodated by market adjustment will therefore be a criterion in assessing significance.

12.5.27 Criteria for receptor sensitivity and impact magnitude have been set out below in **Table 12-8** to **Table 12-11** (although specific sensitivity values are not attributed to socio-economics receptors as explained above), which have been grouped as follows: economic impacts, local amenities, land use impacts, PRoW, and agricultural land. The significance of effect matrix has been provided in **Table 12-12**, following the receptor sensitivity and impact magnitude criteria.

Economic impacts

12.5.28 The following criteria have been set to assess the effects on socio-economic receptors in relation to employment and GVA (Gross Value Added) which have been grouped together as economic impacts.

12.5.29 **Table 12-4** identifies the sensitivity criteria that have been used to inform the assessment on socio-economic receptors relating to employment and GVA, in conjunction with the magnitude criteria set out above to establish the significance of the identified effects.

Table 12-4: Economic Impact Sensitivity Criteria

Sensitivity	*Description*
High	Businesses, workers or residents who have little or no capacity to experience the impact without incurring an economic loss or have capacity to experience an economic gain.
Medium	Businesses, workers or residents that have some capacity to experience the impact without incurring a change on their economic well-being.
Low	Businesses, workers or residents that generally have good capacity to experience impacts without incurring a change on their economic well-being.
Very low	Businesses, workers or residents that are resilient to impacts on their economic well-being.

12.5.30 **Table 12-5** identifies the magnitude of impact criteria which have been used to assess the socio-economic receptors relating to employment and GVA.

Table 12-5: Economic Impact Magnitude Criteria

Magnitude	*Description*
High	An impact that is expected to have considerable adverse or beneficial socio-economics effects. Such impacts will typically affect large numbers of businesses, workers or residents.

Magnitude	Description
Medium	An impact that will typically have a noticeable effect on a moderate number of businesses, workers or residents, and will lead to a small change to the study area's baseline socio-economic conditions.
Low	An impact that is expected to affect a small number of businesses, workers or residents or an impact that may affect a larger number of receptors but does not materially alter the study area's baseline socio-economic conditions.
Very low	An impact which has very little change from baseline conditions where the change is barely distinguishable, approximating to a "no change" situation.

Public Rights of Way

12.5.31 The following criteria have been set to assess the effects on users of PRoW focusing on the impact of disruption to existing routes and the resulting changes in journey lengths and times and local travel patterns.

12.5.32 **Table 12-6** identifies the sensitivity criteria that have been used to inform the assessment on PRoW, in conjunction with the magnitude criteria set out above to establish the significance of the identified effects.

Table 12-6: Public Rights of Way Impact Sensitivity Criteria

Sensitivity	Description
High	PRoW is of high importance with limited potential to substitute with other route options to access with the wider network or community infrastructure.
Medium	PRoW is of medium importance with good potential to substitute with other route options to access with the wider network or community infrastructure; or PRoW is of high importance with alternative routes available; or PRoW is of low importance with limited potential to substitute with other route options to access with the wider network or community infrastructure.
Low	PRoW is of minor importance and with alternative routes available; or PRoW is of very low importance with moderate potential to substitute with other route options to access with the wider network or community infrastructure.
Very low	PRoW is of negligible importance and/or with alternative routes easily available.

12.5.33 **Table 12-7** identifies the magnitude of impact criteria which have been used to assess the impacts on PRoW.

Table 12-7: Public Rights of Way impact magnitude criteria

Magnitude	Description
High	Substantial increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure.

Magnitude	*Description*
Medium	Noticeable increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure.
Low	Slight increase/decrease in journey length and/or travel patterns and increased/decreased opportunities for users to access the wider network and/or community infrastructure
Very low	A negligible increase, no change, or a decrease in journey length and/or travel patterns and no increase or decrease in opportunities for users to access the wider network and/or community infrastructure.

Agricultural land

12.5.34 This section outlines the criteria that have been set to assess the effects on agricultural land and soils receptors. Best and Most Versatile ('BMV') agricultural land is a strategic, finite, and irreplaceable national resource with longstanding policy to prevent the unnecessary loss of such land to non-agricultural development. As set out in TIN049 (Ref 12-20), land in ALC Grades 1, 2 and 3a are considered to be the nation's best and most versatile land. Paragraph 174 of the NPPF (Ref 12-6) directs that planning should consider the economic and other benefits of the BMV agricultural land. TIN049 and national planning policy do not seek to enforce continuity of agricultural production or any specific agricultural management.

12.5.35 For all practical intents and purposes, agricultural land cannot be created or translocated, nor can a compensatory area of land have its ALC grade enhanced. There is therefore no viable potential for beneficial effect or mitigation with regard to agricultural land quality.

12.5.36 For the agricultural land resource, the presence of BMV land and the grade of that land determine sensitivity, with Grades 1 and 2 land being of higher sensitivity than land in Grade 3a. The magnitude of change criteria is based on the extent of BMV land lost, with the area of 20 hectares (ha) referred to below being derived from the threshold the former MAFF guidance (Ref 12-21) used for intervening in planning decisions, and maintained by Natural England when informing their consultation on projects.

12.5.37 The sensitivity of agricultural land is assessed according to its grade within the ALC, as set out in **Table 12-8**. The criteria takes into account the above guidance in respect of the economic and other benefits of the BMV and gives little weight to the loss of land in Grades 3b, 4 and 5.

Table 12-8: Receptor Sensitivity Criteria-Agricultural Land

Sensitivity	*Agricultural Land*
High	Agricultural land predominantly in Grades 1 and 2
Medium	Agricultural land predominantly in Grade 3a or containing some Grade 1 and 2
Low	Agricultural land containing some Grade 3a
Very low	Agricultural land all Grade 3b or lower

12.5.38 The thresholds for the magnitude of impact adopted in this assessment set out below are based on a threshold of the permanent change of 20 ha of BMV agricultural land, taken from Article 18(1), paragraph (y) of the Table to the Town and Country Planning (Development Management Procedure) Order 2015 (S.I. No 2015/595) (Ref 12-23). These documents do not state that this threshold should be used to determine change significance for the purpose of impact assessment; however, as this is the area of BMV change that triggers a requirement to consult with Natural England, it implies that this is also the point at which the change is no longer considered to be 'not significant'. Therefore, for the purposes of this assessment:

a. a total permanent loss/gain of BMV land which exceeds 20 ha is considered significant;

b. a loss of BMV which is either temporary and reversible after construction, or which falls below the 20 ha threshold, is considered as being not significant; and

c. a loss of non-BMV land is considered as being not significant.

Local amenities and land use - Local amenities and development land

12.5.39 The following criteria have been set to assess the effects on local amenities which for this Scheme comprise residential properties, business premises, and community facilities and development land.

12.5.40 **Table 12-9** identifies the sensitivity criteria that have been used to inform the assessment of effects relating to local amenities, which in conjunction with the magnitude criteria set out in **Table 12-12** has been used to establish the significance of the identified effects.

Table 12-9: Local Amenities Impact Sensitivity Criteria

Sensitivity	*Description*
High	Amenity or land use is of high importance and rarity with limited potential for substitution or access to alternatives.
Medium	Amenity or land use is of medium importance and rarity with moderate potential for substitution or access to alternatives.
Low	Amenity or land use is of low importance and rarity with alternatives available.
Very low	Amenity or land use is of very low importance and rarity with alternatives available.

12.5.41 The magnitude of change on local amenities (residential properties, business premises, and community facilities) is assessed by appraising the level of impact on the receptor and the permanency of change arising from the Scheme based on the residual effects assessment findings of environmental topics, namely, noise and vibration, visual, air quality, and transport. This considers whether or not when two or more adverse effects occur at the same time on the same receptor or group of receptors as concluded by separate topics if there is the potential for an in-combination significant effect on the receptor's amenity or enjoyment. **Table 12-10** identifies the magnitude of

impact criteria which have been used to assess the impacts on local amenities and land use.

Table 12-10: Local Amenities Impact (Residential properties, business premises, and community facilities) Magnitude Criteria

Magnitude	*Description*
High	An impact that permanently or long term affects the integrity and value of a facility or land use; or that considerably enhances the value and quality of a facility or land use. Generally, this will equate to where three or more moderate or major significance residual effects are identified on a receptor from across the following environmental topics findings; noise, air quality, transport, or visual, with at least two of these findings being of major significance.
Medium	An impact that causes a noticeable negative effect on the value of a facility or land use, but where its recovery is possible with no permanent or long-term impacts; or an impact that leads to some noticeable improvement in key characteristics and features of the facility or land use. Generally, this will equate to where two or more moderate or major significance residual effects are identified on a receptor from across the following environmental topics findings; noise, air quality, transport, or visual, with at least one of these being of major significance.
Low	An impact that has some negative effect on the value of a facility or land use, but a recovery is expected in the short-term with no change to its integrity; or an impact that has some beneficial impact on the attributes of the facility or land use. Generally, this will equate to where two residual effects which are not worse than moderate in significance are identified on a receptor from across the following environmental topics findings; noise, air quality, transport, or landscape and visual.
Very low	An impact which is a very small loss or benefit from baseline conditions where the change is barely distinguishable, approximating to a “no change” situation. Generally, this will equate to either where only one moderate or major significance residual effect is identified on a receptor from across the following environmental topics findings; noise, air quality, transport, or visual, or where all of these findings are minor adverse or negligible. An impact which is a very minor loss or benefit from baseline conditions where the change is barely distinguishable, approximating to a “no change” situation.

12.5.42 For development land, an assessment has been undertaken of the effects on development land within the study area as identified from a review of planning applications which have received planning permission, or which are under consideration and allocated sites including Mineral Safeguarding Areas, Mineral Consultation Areas, Waste Consultation Areas and Transport Safeguarded Areas. This is considering temporary and permanent land take of development land which affects its viability. **Table 12-11** identifies the magnitude of impact criteria which have been used to assess the impacts on development land.

Table 12-11: Local Amenities Impact (Development Land) Magnitude Criteria

Magnitude	*Description*
High	An impact that permanently affects the integrity and value of a development land resource; or an impact that considerably enhances the value and quality of such a resource.
Medium	An impact that negatively affects the value of a development land resource, but a recovery is possible with no permanent impacts; or an impact that improves key characteristics and features of such a resource
Low	An impact that negatively affects the value of a development land resource, but a recovery is expected in the short-term with no change to its integrity; or an impact that has some beneficial impact on the attributes of such a resource
Very low	An impact which is a very minor loss or benefit from baseline conditions where the change is barely distinguishable, approximating to a "no change" situation.

Significance of effects

12.5.43 Socio-economic effects are a reflection of the relationship between the sensitivity of the affected receptor (**Table 12-8**, **Table 12-4**, **Table 12-6** and **Table 12-9**) and the magnitude of the impact. **Table 12-12** below shows how the assessment of the significance of effects is arrived upon.

Table 12-12: Impact Assessment and Significance

Magnitude of Impact	*Sensitivity of receptor*			
	High	*Medium*	*Low*	*Very Low*
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

12.5.44 In accordance with the methodology set out within ***Chapter 5: EIA Methodology*** of the ES **[EN010118/APP/6.1]**, the following criteria is applied:

a. 'Moderate' or 'major' impacts are classed as '**significant**';

b. 'Minor' impacts are classed as '**not significant'**, although they may be a matter of local concern; and

c. 'Negligible' effects are classed as '**not significant'**.

12.6 Baseline Conditions

12.6.1 In order to assess the potential effects of the Scheme, the environmental conditions, resources and sensitive receptors that currently exist in the study area have been determined. These include:

a. The existing Order limits and land use, including development land;

b. Population and labour force;

c. The local economy;

d. PRoW;

e. Agricultural land resource;

f. Residential properties;

g. Business premises; and

h. Community facilities.

12.6.2 Potential effects arising from the Scheme are assessed relative to the baseline impact areas set out in **Table 12-2** and benchmarked against local, regional and national standards where appropriate. Therefore, baseline conditions have been provided for these areas.

Existing Baseline

Existing Order limits and land use, including development land

12.6.3 The Order limits consists of agricultural land containing some ecological features, farm access tracks, footpaths and abutted by local transport roads. The landscape features immediately surrounding the Order limits comprise a number of villages, including Fuller Street approximately 300m to the north, Gamble's Green and Terling (500m and 1.1km respectively) to the east, Boreham 500m to the south-west, Hatfield Peverel 1.5km to the south-east and the city of Chelmsford 5.7km to the south-west. Boreham Road runs north to south along the western edge of the Order limits, with the A12 carriageway abutting and bounding the southern edge of the Order limits boundary.

12.6.4 The A12 and B1137 lie to the south and south-west of the Order limits, along with the railway line connecting Chelmsford and Witham. The A12 and the railway line also form the southern edge to the Order limits boundary.

12.6.5 Across the remainder of the surrounding area, Terling Road, Terling Hall Road and Boreham Road are the main north to south transport routes, providing access between the villages. Noakes Road and Waltham Road provide west to east access, with Noakes Road also crossing the Order limits boundary. Braintree Road is the main road network to the north, extending between Terling and Fuller Street.

12.6.6 The Bulls Lodge Substation is located within the south-west of the Order limits. This is in close proximity to the quarry operated by Hanson Quarry Products Europe Ltd.

12.6.7 There are no planning site allocations within the Order limits boundary, however the majority of the Order limits is within a mineral safeguarding area. A minerals consultation area covering Bulls Lodge Quarry and an associated 250m buffer is also located partly within the south of the Order limits near Bulls Lodge Substation. There is also a waste safeguarding site located adjacent to the Order limits boundary of the substation in Bulls Lodge, however only the 250m buffer zone is located within the Order limits boundary.

Population and labour force

Population

12.6.8 The evidence in this section is partly based on Office for National Statistics (ONS) Census 2011 data, NOMIS (official labour market statistics) datasets and housing market data from the Land Registry online which provides data for Lower Layer Super Output Areas (LSOAs) and Middle Layer Super Output Areas (MSOAs) and allows for an analysis of the characteristics of the study area. While this data is not recent, it provides the most robust evidence base for local level data. Alternative and more recent datasets are presented where available and appropriate.

12.6.9 The residential population of the study area increased from 7,577,075 in 2012 to 8,157,694 in 2020 (Ref 12-25). This represents an increase of 7.7%, which is slightly greater than the population increases that are recorded in the East region (6.2%) and England and Wales as a whole (5.6%) over the same time period. According to ONS Population Estimates, in 2020, 62.9% of residents within the 60-minute travel study area were of working age (defined by ONS as men and women aged between 16 and 64). This is broadly in line with the rates recorded for the East region (60.6%) and England and Wales as a whole (62.2%).

Employment

12.6.10 According to the ONS Census 2011 (Ref 12-19), the unemployment rate among residents aged between 16 and 74 in the study area was 4.6%, which is broadly in line with the recorded rate across England and Wales (4.4%), but slightly higher than is recorded in the East of England region (3.8%).

12.6.11 The economic activity rate of residents of the study area was recorded as 71.2% which is in line with the recorded rate for the East of England region (71.6%), and slightly higher than recorded for England and Wales as a whole (69.7%).

12.6.12 According to the Annual Population Survey (APS) (Ref 12-16), for the 12 months from January 2018 to December 2018 (the most recent date for which confident data can be obtained for Chelmsford), the unemployment rate of working age residents in Chelmsford was 5.7%. The unemployment rate for working age residents in Braintree in the same period was 5.0%. This was above the unemployment rate in the East of England region (3.5%) and in England and Wales (4.3%).

Qualifications and occupational profile

12.6.13 According to 2011 Census data, 28.1% of working age residents within the study area had a degree level qualification or higher (National Vocational Qualification [NVQ] Level 4+) (Ref 12-19). This was above the rates recorded for the East of England region (25.7%) and England and Wales as a whole (27.2%).

12.6.14 According to 2011 Census data, the proportion of residents in the study area with no qualifications was 21.6%, which was slightly lower than rates recorded for the East of England region (22.5%) and England and Wales as a whole (22.7%) (Ref 12-19).

12.6.15 According to 2011 Census data, the proportion of residents in the study area engaged in level 3 and 4 (Standard Occupation Classification (SOC) 3) occupations (26.3%) was higher than that recorded for the East of England region (24.9%) and England and Wales (24.1%). The proportion of residents in the study area in elementary occupations (10.3%) was slightly lower than rates in the East of England region (10.6%) and England and Wales (11.1%).

Deprivation

12.6.16 Based on the 2019 Indices of Multiple Deprivation (IMD) (Ref 12-17), Braintree District Council is the 211th most deprived out of the 326 national boroughs (as defined by the indices of multiple deprivation) (Ref 12-17). None of the LSOAs[3] in the borough are within the top 10% deprived boroughs in the country. Chelmsford is less deprived than Braintree ranking 253rd out of the 326 national boroughs. None of the LSOAs in Chelmsford are within the top 10% deprived boroughs in the country for the IMD indicator.

Local Economy

12.6.17 In 2019, the workforce of the study area comprised around 2,937,245 employees (Ref 12-18).

12.6.18 **Table 12-13** presents a detailed breakdown of employment by broad industry group in the study area, the East of England region, and England and Wales. Based on the most recently available data (Ref 12-18) on employment by group, the highest levels of employment within the study area are in health (14.1% of employment) and the business administration and support (10.5%) sectors.

12.6.19 Specific to this assessment, the construction sector contributes 7.0% of employment within the study area, which is in line with the proportions recorded regionally and nationally. There are around 205,135 people employed in construction within the study area.

12.6.20 In addition, the proportion of employment contributed by the mining, quarrying and utilities broad industrial group (which includes employment from the generation of energy) in the study area (0.9%) is broadly in line with the recorded proportion in the East of England region (1.0%) and England and Wales as a whole (1.2%).

Table 12-13: Employee Jobs by Broad Industrial Group in 2019

Sector	*Study Area (%)*	*East of England (%)*	*England and Wales (%)*
Agriculture, Forestry & Fishing	0.1	0.9	0.6
Mining, Quarrying & Utilities	0.9	1.0	1.2
Manufacturing	6.1	7.6	8.1
Construction	7.0	6.0	4.8
Motor Trades	2.3	2.4	1.9
Wholesale	4.2	4.3	4.0

[3] Lower Layer Super Output Areas are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. Lower Layer Super Output Areas are built from groups of contiguous Output Areas and have been automatically generated to be as consistent in population size as possible, and typically contain from four to six 'Output Areas'.

Sector	Study Area (%)	East of England (%)	England and Wales (%)
Retail	9.7	9.2	9.2
Transport & Storage	5.8	4.9	5.0
Accommodation & Food Services	7.0	6.9	7.6
Information & Communication	4.1	3.8	4.4
Financial & Insurance	2.9	2.5	3.5
Property	2.0	1.7	1.7
Professional, Scientific & Technical	9.4	9.6	8.9
Business Administration & Support	10.5	10.2	8.9
Public Administration & Defence	3.2	3.3	4.2
Education	10.4	9.2	8.7
Health	14.1	11.9	12.8
Arts, Entertainment, Recreation & Other	0.1	4.5	4.5

Source: ONS (2020), Business Register and Employment Survey 2019

12.6.21 GVA is a measure of the value of goods and services produced in an area of the economy. In 2015, Braintree generated around £3.1 billion (£bn) GVA at current basic prices within its economy and Chelmsford generated around £4.3bn in GVA in the same year (Ref 12-26).

12.6.22 In Braintree, in 2015, GVA per head (in 2018 prices) was £20,425 compared to the East of England average of £23,970 and the England and Wales average of £25,722 (Ref 12-26). The Distribution sector, the Real Estate Activities sector, Manufacturing sector and Construction sector account for the greatest proportions of GVA to the Braintree economy.

12.6.23 GVA per head (in 2018 prices) was slightly higher in Chelmsford in 2015 (£25,148) compared to the average for the East of England (£24,166) and slightly below the average for England and Wales (£25,722) (Ref 12-26). The sectors which contribute the most GVA in Chelmsford are the Public Administration, Distribution, Construction and the Real Estate activities sectors.

12.6.24 In Chelmsford, the average GVA per worker in the construction sector was £64,531 in 2015 (Ref 12-26). In Braintree, the average GVA per worker in the construction sector was £67,358.

Public Rights of Way

12.6.25 Both the Chelmsford and Braintree Local Plan documents emphasise the importance of ensuring existing PRoW are kept open and minimally disrupted during construction.

12.6.26 As described above in the existing land use section, the Order limits currently consist of agricultural land where there are several PRoW within or abutting the Scheme. These are shown in ***Figure 13-2*** of the ES **[EN010118/APP/6.3]** within ***Chapter 13 Transport and Access*** of the ES **[EN010118/APP/6.1]**.

12.6.27 There are two PRoW located south of Sandy Wood adjacent to the Order limits boundary. Two footpaths (113_11 footpath and 221_30 footpath) run from Braintree Road and intersect the Order limits adjacent to Sandy Wood.

12.6.28 One PRoW intersects the Order limits through Scarlet Wood (221_53/113_33 footpath), the footpath runs from Boreham Road to the west of the Order limits to the east towards Terling Hall Road crossing through Scarlet Wood.

12.6.29 There is one PRoW situated west near Boreham Road and starting from Noakes Lane. Footpath 113_25 runs from Noakes Lane towards the east to Noakes Farm Road.

12.6.30 There is one PRoW situated within the eastern boundary of the Order limits near Waltham Road. PRoW 113_30 footpath runs from Ringer's Woods along Rolls Farm Lane towards Waltham Road to the east of the Site.

12.6.31 There are three PRoW moving further south-west of the Order limits connecting Ringer's Wood to Stocks Farm. The three PRoW (213_5 footpath, 213_4 footpath and 113_32 footpath) connect Ringer's Wood in the north-east towards Stocks Farm and Boreham Road.

12.6.32 There is one PRoW situated south of the Order limits near Waltham Road. Footpath 213_18 connects with Waltham Road to the west intersecting a section of the Order limits passing through Kenwood House.

12.6.33 There are four PRoW situated in the southern boundary of the Order limits near Waltham Road and the Bulls Lodge Substation. Two PRoW (213_19 footpath and 213_20 footpath) run from Waltham Road towards the southern boundary of the Order limits. Two PRoW on the west of Waltham Road intersect the cabling route and Bulls Lodge Substation (213_21 footpath and 213_17 footpath).

12.6.34 These PRoW are predominantly used for recreational purposes and form part of a wide network of PRoW in the surrounding area providing residents with alternative routes.

Agricultural land and soils

12.6.35 In regard to agricultural land and soils, mapping of soils has been prepared based on site surveys of the Order limits identifying that it is located within an area of land comprising mainly of Grade 3 (undifferentiated) soils. Under the ALC system, Subgrade 3a land would form BMV whereas Subgrade 3adb would not.

12.6.36 A survey of agricultural land quality within the Order limits areas and adjacent areas was undertaken between September and December 2020 (Ref 12-24). The ALC survey is provided in ***Appendix 12A**: ALC Survey Report* of the ES **[EN010118/APP/6.2]** with the mapping also shown in ***Figure 12-1*** of the ES **[EN010118/APP/6.3]**. The ALC survey was undertaken on the site at the EIA Scoping stage[4], with the baseline conditions analysis presented in this chapter being focussed on the area of 453ha within the Order limits.

12.6.37 At the time of the survey most of the land was under arable use (cereals and oilseed rape), with potatoes in the south, beef pasture in the north and an area

[4] The area assessed in the ALC Survey Report does not include the grid corridor and Bulls Lodge Substation Extension areas.

of sugar beet in the east. The land use has not changed since the surveys took place, although some crops may be rotated, and fields left fallow or grazed. This does not change the conclusions of the assessment.

12.6.38 Of the area within the Order limits surveyed for ALC, approximately 55ha, 12% of the area surveyed is comprised of Grade 2 land, found near Toppinghoehall Wood and Ringer's Wood. This land includes freely draining silty soils. The main limitation is slight droughtiness caused by the combination of the dry local climate and restricted moisture storage in deeper subsoil layers. As a result, yields are likely to be reduced by summer droughtiness in dry years, although high yields of a wide range of crops are possible.

12.6.39 Subgrade 3a land comprises 22% or approximately 101ha of the land within the Order limits and are split into two principal types of soil. The soil in the south of the Order limits is limited by droughtiness due to the low moisture storage; this land is therefore likely to be limited to moderate average yields. In the north of the Order limits the soil is intermediate in quality, the land has wetness limitations which restrict machinery access in winter and early spring resulting in less than average yields.

12.6.40 Subgrade 3b covered approximately 262ha which makes up the majority of the land within the Order limits (58%) and is soil with significant drainage restrictions. This results in machinery land access opportunities in spring being rare and arable cropping is therefore limited to autumn sowings. A small area of land in the south-east has sandy and gravelly subsoil which means, under the dry local climate, droughtiness is likely to result in low average yields.

12.6.41 The distribution of ALC grades within the Order limits is shown on ***Figure 12-1*** of the ES **[EN010118/APP/6.3]** with areas for each as discussed above shown in **Table 12-14** below.

Table 12-14: Agricultural Land Classification within the Order limits

Agricultural Land Class	*Total Area (Ha)*	*Percentage of site boundary*
Grade 1	0	0%
Grade 2	55	12%
Subgrade 3a	101	22%
Subgrade 3b	262	58%
Non-agricultural Land	22	5%
Unknown	15	3%
Total	454	100%

Source: AECOM Calculations 2021. Note totals may not sum due to rounding

Local Amenities

Residential Properties

12.6.42 The study area is mostly rural and relatively sparsely populated. There are a few individual residential properties within close proximity of the Order limits, some of which are within 10m of the Order limits boundary along Terling Hall Road and Waltham Road. The closest cluster of residential properties is located 160m away from the Order limits boundary on Braintree Road near

Fuller Street. There are also a few residential properties located 200m west of the Order limits on Fairstead Hall Road.

12.6.43 The substation at Bulls Lodge is 500m away from the village of Boreham where the closest residential properties are located.

Business Premises

12.6.44 There are no business premises within the Order limits. The closest business to the north of the Order limits is a farm 50m away to the east on Braintree Road. There is also an auto repair shop and a public house 400m west of the Order limits on Fuller Street.

12.6.45 The closest businesses around the middle section of the Order limits are farms, since the Order limits is located within agricultural fields. The closest business properties all belong to farms, many of which are within 50m of the Order limits. There are around eight farms south of Sandy Wood and north of Brent Hall Lodge. There is also a hair and beauty salon 100m east of Order limits on Braintree Road.

12.6.46 The closest businesses around the southern section of the Order limits are all located on Waltham Road approximately 50m from the Order limits boundary. These include: Brent Hall Lodge; a car repair and maintenance shop; a paint store; an auto parts store; a car dealer and a scrap metal dealer.

12.6.47 The closest business to the proposed substation extension at Bulls Lodge, is the Bulls Lodge quarry. Bulls Lodge quarry is owned by Hanson Quarry Products UK Ltd and has permission for quarry opportunities ongoing for many years. There are also some businesses located south of the A12 in Boreham including a supermarket, a post office, a tyre shop and a gun shop.

Community Facilities

12.6.48 There are a number of community facilities and recreational facilities lying within the study area of the Scheme. **Table 12-15** sets out these facilities and their distances from the Order limits.

Table 12-15: Community and Recreational Facilities

Recreation receptor	*Description*	*Approximate distance from the Order limits*
Fairstead Parish Church	Church in the small village of Fairstead.	1.2km
Terling Playground	A children's playground in the village of Terling	1.3km
Terling URC Church	Church in the small village of Terling.	1.8km
All Saints Terling Church	Church in the small village of Terling.	1.8km
Oakwrights Inn	Traditional inn with rooms in the small village of Terling.	1.3km
Boreham Village Hall	Boreham Village Hall has a range of facilities including a main hall and meeting rooms for the use of community.	300m

Recreation receptor	Description	Approximate distance from the Order limits
Applewood Estate Inn	Traditional inn with rooms in the small village of Boreham.	400m
The Lion Inn	Traditional inn with rooms in the small village of Boreham.	500m
Premier Inn Chelmsford	Hotel chain near the A12.	1.3km
Queens Head Pub	A family-run pub located in the small village of Boreham.	1km

Sensitivity of Receptors

12.6.49 **Table 12-16** identifies the sensitivity of effects on socio-economic receptors identified within the baseline and sets a sensitivity value based on the criteria highlighted in **Table 12-8**, **Table 12-4**, **Table 12-6** and **Table 12-9**.

Table 12-16: Sensitivity of Socio-Economic and Land Use Receptors

Impact	Sensitivity of receptor	Justification
Local Economy (employment creation during construction, operation and decommissioning)	Varies due to type of employment activity - Low to Medium	Relative to size of employment sectors
Local Gross Value Added (GVA) during construction phase	Medium	Relative to scale of existing GVA for local authority areas
National Gross Value Added (GVA) during construction phase	Low	Relative to scale of existing GVA nationally
Public Rights of Way	Low	All routes are of minor importance and alternative routes available
Agricultural Land	Varies based on classification	Defined as per TIN049 guidance
Local amenities and land use - Residential Properties	Varies based on type of amenity - Medium to High	Residential properties have high sensitivity to disruption during night time and medium sensitivity during day time
Local amenities and land use - Business Premises	Varies based on type of amenity - Low to Medium	Relative to scale of employment
Local amenities and land use - Community Facilities	Varies based on type of amenity - Low to Medium	Relative to nature of use
Local amenities and land use – Development Land	Medium	Based on availability of alternative development opportunities

Future Baseline

12.6.50 The future baseline is anticipated to be largely the same as the existing baseline for socio-economics and land use. However, it would be reasonable

to expect that population will increase. In terms of the local economy, it would be reasonable to expect that employment and GVA would increase, associated with the expected increase in population. It is expected that PRoWs will continue to be used. Businesses and community facilities may open and close however it is not expected that there will be any perceptible changes to the local economic baseline assessment and the Scheme should be assessed against current baseline conditions and policies. These changes are not considered to constitute significant changes to baseline.

12.6.51 The future baseline for the Order limits is anticipated to be similar for agricultural land use to that found at present. ALC grading is deliberately designed to be insensitive to good or bad land management. Occupancy of farm land can change but a change in tenure between farm businesses is unlikely to significantly change land use. Any change to external factors such as the successor to the Common Agricultural Policy support will not be confined to farmland within the Order limits.

12.7 Embedded Design Mitigation

12.7.1 Primary mitigation measures are embedded within the Scheme, as set out in the respective chapters, to reduce other construction and operational effects (such as noise, air quality, transport, and landscape and visual) which in turn will mitigate the effects on the local community and existing facilities from a socio-economic and land use perspective. This mitigation is set out in **Table 12-17** and mitigation during construction is also included within the ***Outline Construction Environmental Management Plan (OCEMP)*** **[EN010118/APP/7.10]**, which also includes an Outline Soils Resource Management Plan. The Scheme has also been designed to take into account the quality of agricultural land such as excluding where possible BMV land from the red line boundary of the Scheme. The Preliminary Environmental Information (PEI) Report boundary was also revised to remove a discrete parcel of land located to the south of Toppinghoehall Wood as it was identified to be BMV land in its entirety.

Table 12-17 Embedded design mitigations from respective chapters

ES Chapters	*Paragraph Reference of Embedded Design Mitigation*	*Summary*
Chapter 10: Landscape and Visual Amenity of the ES	Para 10.7.1 – Para 10.7.13	Option identification, appraisal, selection and refinement is as described in ***Chapter 3: Alternatives and Design Evolution*** of the ES **[EN010118/APP/6.1]**. Measures include: - Limiting the extent of land take within Order limits. - Retain established vegetation and conserving the existing vegetation patterns. - Careful siting in the landscape. - Creating new green infrastructure.

ES Chapters	Paragraph Reference of Embedded Design Mitigation	Summary
		- Sensitive design in relation to form, colour and materials. - Sensitive design of lighting.
Chapter 11: Noise and Vibration of the ES	Para 11.7.1 – Para 11.7.9	Following guidance is contained in the ***OCEMP*** **[EN010118/APP/7.10]** and ***Decommissioning Strategy*** **[EN010118/APP/7.12]**. Measures include: - Construction noise monitoring scheme. - Good communication strategy. - Management of Heavy Good Vehicles (HGVs) through Outline Construction Traffic Management Plan (CTMP) detailed in ***Chapter 2: The Scheme*** of the ES **[EN010118/APP/6.1]**. - Location of elements. - Use of acoustic barriers. - Use of fixed structures.
Chapter 13: Transport and Access of the ES	Para 13.7.1 – Para 13.7.2	Following guidance within ***Appendix 13B: CTMP*** of the ES **[EN010118/APP/6.2]** and ***Chapter 2: The Scheme*** of the ES **[EN010118/APP/6.1]**. During operation: - Establishment of green corridor. - Maintaining access to PRoW. - Providing additional permissive paths. - Providing suitable point of access on Waltham Road. - Internal access controlled. - Providing sufficient on-site parking. - Avoiding usage of Protected Lanes. - Planting of hedgerows to conceal solar reflections.
Chapter 14: Air Quality of the ES	Para 14.7.1 – Para 14.7.2	Good site practice according to Institute of Air Quality Management guidance, as detailed in the ***OCEMP*** **[EN010118/APP/7.10]**.

12.7.2 To help maximise the positive gain for the local economy from the beneficial significant effect arising from employment generation during the construction

and operation phases, a Skills and Employment Plan will be implemented. It is proposed that the Skills and Employment Plan will be secured by way of a DCO requirement. Heads of Terms for that agreement are provided as part of the **Planning Statement [EN010118/APP/7.2]**. The objectives of this will be to:

a. Demonstrate the use of local labour from within the lead contractor's organisation;

b. Where economically and practically feasible, procure goods and services from local contractors, sub-contractors and suppliers to support the employment of the local community;

c. Demonstrate the recruitment and training opportunities within the lead contractor's organisation;

d. Provide opportunities for local residents to access employment opportunities created during the construction phase; and

e. Support the development of skills within the local community.

12.7.3 The Applicant has previously held careers fairs associated with similar schemes, so it is likely that these measures will be undertaken again. It is expected that contractors will be encouraged to employ apprentices, if applicable to the requirements of the Scheme's phase.

12.7.4 The Applicant will also establish a support system to enable local people to be trained in the sustainable development sector during operation of the Scheme.

12.7.5 Appropriate measures to mitigate temporary impacts on users of PRoW during the construction and decommissioning phases have been proposed. The temporary diversions will be supported by clear signs and where possible will be planned and programmed to minimise disruption to users.

12.7.6 A number of PRoW crossing points are planned, applying to PRoW 213_18, 213_5, 113_30 at two points, 113_25, 113_33 at two points, and 221_53. In addition, a number of potential PRoW crossing points are planned, applying to PRoW 113_32 and 213_4. These crossing points will allow for access to be retained along these PRoW and there will be no effects on users.

12.7.7 It is planned that PRoW 113_32 (for 350m), 213_4 (for 650m), and 113_25 (for 110m) will be physically separated from the construction route. This is to ensure the ongoing access to PRoWs without additional risk to the safety of users on which there would be no effects.

12.7.8 In addition, it is planned that PRoW 113_25 will be retained but with revised fencing to improve sightlines and route amenity with no adverse effects on users.

12.8 Assessment of Likely Impacts and Effects

12.8.1 The impacts and effects (both beneficial and adverse) associated with the construction, operation (including maintenance), and decommissioning of the Scheme are outlined in the sections below. The assessments have been undertaken following consideration of the embedded mitigation measures as described in Section 12.7.

Construction (assessed as not earlier than 2024 to 2026)

Employment during Enabling Works, Construction and Commissioning

12.8.2 The estimated construction period is expected to last 24 months. Therefore, the likely effects will be of a medium-term temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period that can be estimated from the function of the scale of the type of construction.

12.8.3 The Applicant estimates that the Scheme will require an average of 380 gross direct full-time employment (FTE) construction jobs on-site per day during this construction period, equivalent to 380 FTE jobs per annum. This is based on activities required and will fluctuate during the period therefore being both higher and lower than average at times.

Leakage

12.8.4 Leakage effects are the benefits to those outside the study area, defined as a 60-minute travel area as shown in **Table 12-2**. The Applicant has estimated that 45% of construction staff could be sourced from within a 60-minute travel area (study area). This will be subject to labour availability and take-up at the time of construction however it is considered to be a reasonable assumption on which to base this assessment. As such, 55% of construction staff would be likely to reside outside of this study area. This indicates that although a reasonably high proportion of employment opportunities will be retained in the study area, a noticeable number of jobs will be taken up by people living outside of the study area. Whilst it is not a specific consideration of the assessment, it is noted that a larger proportion of the jobs taken up by people living outside the area will likely be in more specialised solar PV professions owing to the scarcity of such resources within localised areas compared with less skilled professions.

12.8.5 An adjustment of 55% has therefore been applied to the estimated 380 gross direct construction jobs on-site on average during the construction period to estimate the jobs created within the target area. On this basis it is estimated that the Scheme will create 171 FTE jobs per annum for residents within the study area during construction. This is considered a reasonable assumption based on the Applicant's experience constructing other solar PV developments in the UK. Furthermore, a local Skills and Employment Plan is to be prepared prior to the commencement of construction. This will set out measures that the Applicant will implement in order to advertise and promote employment opportunities associated with the Scheme in construction locally.

Displacement

12.8.6 Displacement measures the extent to which the benefits of a development are offset by reductions in output or employment elsewhere. Any additional demand for labour cannot simply be treated as a net benefit since it has the potential to displace workers from other positions and the net benefit is reduced to the extent that this occurs.

12.8.7 Construction workers typically move between construction projects when delays occur or to help the workforce meet construction deadlines. Due to the

flexibility of the labour market, construction labour force displacement has been assumed to be low.

12.8.8 The HCA Additionality Guide (Ref 12-14) provides standards (or 'ready reckoners') for displacement. Within the context of a construction project in the study area, a low displacement factor for 25% is considered appropriate according to the HCA Additionality Guide. This factor is a best practice approach in the absence of specific local information that might provide a defensible justification for a different level of displacement being used. Applying this level of displacement to the total gross direct employment figure results in a total net direct employment figure of 128 FTE jobs per annum in the study area during the construction period.

Multiplier Effect

12.8.9 In addition to the direct employment generated by the construction of the Scheme, there will be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, it is assumed that part of the income of the construction workers and suppliers will be spent in the Chelmsford and Braintree area, generating further employment (in terms of induced or income multipliers).

12.8.10 The effect of the multiplier depends on the size of the geographical area that is being considered, the local supply linkages and income leakage from the area. The HCA Additionality Guide (Ref 12-14) provides 'ready reckoner' composite multipliers (the combined effect of indirect and induced multipliers) to account for this. This is a best practice approach in the absence of specific information that might provide a defensible justification for another multiplier effect level being used, appropriate to the sectors concerned. For the study area, a medium multiplier effect of 1.5 has been considered appropriate which equates to 64 FTE indirect and induced jobs per annum in the study area.

Net Construction Employment

12.8.11 **Table 12-18**Table 12-19 presents the temporary annual employment generated by the Scheme accounting for leakage, displacement and multiplier effects. The Scheme will support, on average, 428 total net jobs per annum during the construction period. Of these, 192 jobs per annum will be expected to be taken-up by residents within the study area.

Table 12-18: Net Additional Construction Employment per annum from the Scheme

	Study Area (60-minute travel area)	*Outside Study Area*	*Total*
Gross Direct Employment	171	209	380
Displacement	-43	-52	-95
Net Direct Employment	128	157	285
Indirect & Induced Employment	64	79	143

Total Net Employment[5]	192	236	428

Source: AECOM Calculations 2021

12.8.12 The direct, indirect and induced employment, expenditure and upskilling created from the construction of the Scheme must be judged in the context of the labour pool of construction workers in the study area (2,280 workers) (Ref 12-18). Taking this into account, the impact of construction employment generation in the study area has been assessed as temporary medium beneficial, which results in a medium-term temporary **moderate beneficial** effect. This is considered significant.

12.8.13 Analysis of the hotel, bed and breakfast and inns accommodation sector has been undertaken to assess the likely capacity against the demand from the potential peak construction workforce, and indicates, considering existing seasonal demand and typical occupancy, that capacity is sufficient, and that the workforce can be accommodated within existing provision within a 30-minute drive time radius of the Order limits. This is shown in **Table 12-19**. Further analysis to identify accommodation within a 60-minute drive time radius indicates that there would typically be 5,790 remaining rooms at a minimum available after taking into account the peak construction workforce and typical seasonal occupancy levels. This is shown in **Table 12-20**. This analysis demonstrates that at peak workforce employment and peak occupancy levels, 100% of the Scheme's construction workers could be accommodated within both a 30-minute and 60-minute drive time of the Order limits. Given this, there would be **no effect** on the hotel, bed and breakfast, and inns accommodation sector arising from the Scheme.

12.8.14 Separate analysis of capacity within the private rental sector shows that availability of accommodation would also be sufficient to meet demand arising from a peak construction workforce either exclusively or when considered additional to capacity within the hotel, bed and breakfast and inns accommodation sector.

Table 12-19 Accommodation Capacity within 30-minute drive time radius of Order limits

Month	*Room Occupancy[6]*	*Rooms Typically Available after Existing Demand*	*Construction Workers (Peak)*	*Remaining Rooms Available*	*Remaining Rooms Available (%)*
January	65%	2,120	500	1,620	27%
February	73%	1,636	500	1,136	19%
March	75%	1,515	500	1,015	17%
April	79%	1,272	500	772	13%

[5] Sum of Net Direct Employment and Indirect & Induced Employment

[6] Visit Britain, (2021); Accommodation Occupancy: Latest results. Accessed online.

Month	Room Occupancy[6]	Rooms Typically Available after Existing Demand	Construction Workers (Peak)	Remaining Rooms Available	Remaining Rooms Available (%)
May	79%	1,272	500	772	13%
June	84%	969	500	469	8%
July	85%	909	500	409	7%
August	82%	1,090	500	590	10%
September	83%	1,030	500	530	9%
October	83%	1,030	500	530	9%
November	79%	1,272	500	772	13%
December	71%	1,757	500	1,257	21%

Table 12-20 Accommodation Capacity within 60-minute drive time of the Order limits

Month	Room Occupancy[7]	Rooms Typically Available after Existing Demand	Construction Workers (Peak)	Remaining Rooms Available	Remaining Rooms Available (%)
January	65%	13,510	500	13,010	34%
February	73%	10,422	500	9,922	26%
March	75%	9,650	500	9,150	24%
April	79%	8,106	500	7,606	20%
May	79%	8,106	500	7,606	20%
June	84%	6,176	500	5,676	15%
July	85%	5,790	500	5,290	14%
August	82%	6,948	500	6,448	17%
September	83%	6,562	500	6,062	16%

[7] Visit Britain, (2021); Accommodation Occupancy: Latest results.

Month	Room Occupancy[7]	Rooms Typically Available after Existing Demand	Construction Workers (Peak)	Remaining Rooms Available	Remaining Rooms Available (%)
October	83%	6,562	500	6,062	16%
November	79%	8,106	500	7,606	20%
December	71%	11,194	500	10,694	28%

Gross Value Added during the construction phase

12.8.15 Applying the average gross direct value added per construction worker in the area to the total number of construction workers generated from the Scheme gives the total GVA arising from the construction period. Note that this has been calculated based on the compound average GVA per worker in the construction sector in Chelmsford and Braintree as the appropriate benchmark as data is published at this level rather than the more granular, LSOA-derived, study area. By taking an average of the two local authorities' GVA per worker rates, output generated by activity in the construction sector is estimated to be £65,944 per worker. By applying this figure to the total direct construction workers generated by the Scheme, it is estimated that construction activity will contribute approximately £28.2 million (£m) to the national economy, of which £12.7m would likely be within the study area, as shown in **Table 12-21**.

Table 12-21: Gross Direct Value Added per annum from the Scheme during the Construction Phase

	Study Area (60-minute travel area)	Outside Study Area	Total
GVA during the construction phase (£)	12,661,248	15,562,784	28,224,032

Source: AECOM Calculations 2021

12.8.16 The impact of direct GVA generation from the construction phase on the study area economy has been assessed as medium-term temporary medium beneficial, which results in a temporary **moderate beneficial** effect. This is considered significant.

12.8.17 The impact on the national economy as represented by the total GVA generated has been assessed as medium-term temporary low beneficial, which results in a temporary **minor beneficial** effect. This is not considered significant.

Public Rights of Way (PRoW)

12.8.18 Changes to journey times, local travel patterns, and certainty of routes for users would arise from the temporary diversions of PRoW. Effects during construction on relevant routes are set out in the following paragraphs. The PRoWs within the Order limits will be retained during the construction phase

and there will be a number of diversions where necessary; effects have only been assessed for PRoW that will experience temporary diversions.

12.8.19 It is not possible to confirm with certainty the length of time that any affected routes will be closed for at any one stage, so as a worst-case scenario it is assumed any diversions are for the entire length of the construction period.

12.8.20 A number of temporary diversions are planned during cable installation, applying to PRoW 213_21, 213_20 and 213_19. Temporary disruption to users making local journeys on these PRoW would be experienced due to the temporary diversion of routes, which may increase journey times, but the minimal additional length added to journeys by the diversions in place would be unlikely to result in any inconvenience and disruption to users and journeys.

12.8.21 It is not anticipated that any PRoW will be permanently closed, and a number of additional mitigation measures, including the establishment of new permissive routes, installation of crossings, and separation of PRoW from construction traffic are detailed in Section 12.9.

12.8.22 Owing to the limited scale of the additional journey length, impacts arising from these diversions on PRoW users are assessed to be temporary low adverse, which results in a temporary **negligible effect**. This is not considered significant.

Agricultural Land

12.8.23 From the construction phase, temporary and permanent use of agricultural land will occur.

Temporary use

12.8.24 The total area of agricultural land temporarily required from construction and throughout operation of the Scheme would be approximately 439ha as shown in **Table 12-22**.

Table 12-22: Agricultural Land required for the Construction of the Scheme

Agricultural Land Class	*Area required during construction (ha)*
Grade 1	0
Grade 2	53
Subgrade 3a	97
Subgrade 3b	255
Non-agricultural land within holdings	21
Unknown	14
Total	439

Source: AECOM Calculations 2021. Note figures may not always sum due to rounding.

12.8.25 The temporary loss of agricultural land due to the construction and operation of the Scheme has been reduced through design changes on the basis of statutory consultation. For example, a parcel of land near Toppinghoehall Wood deemed to be BMV land has been excluded from the Order limits. An area of land required for construction of the grid connection will be required only during construction and will be restored to enable unchanged agricultural use in this area after the construction phase.

12.8.26 The area of land which would be required during construction only and can be returned to farming use (e.g., sheep farming, but not arable farming) after construction comprises approximately 150ha of BMV land, i.e. that classified in Grades 1, 2 and 3a, and as there is no land in Grade 1, the sensitivity is assessed to be medium. As the loss of the entire area of BMV agricultural land is reversible (after operation), the temporary effect of the Scheme on the use of BMV agricultural land is assessed to be **not significant**.

12.8.27 Construction work will involve relatively little displacement of the soil material, with the dominant impact being the trafficking over land with delivery and construction vehicles and the soil compaction this might cause, although measures can be adopted to minimise impacts. Soil material will be managed in accordance with the Outline Soil Resource Management Plan (SRMP) which is appended to the OCEMP ***(OCEMP)*** **[EN010118/APP/7.10]**. The Outline SRMP sets out measures to ensure the protection and conservation of soil resources on site, and identifies best practice to maintain the physical properties of the soils on site. Prior to the commencement of works, a soil management and resources plan will be produced, which would include a number of mitigation measures that safeguard soil material and minimise the potential that soils could be damaged. These include: a soil survey to assess topsoil and subsoil stripping depths, stripping of topsoil to an agreed depth in the temporary working areas, careful handling of subsoil to retain its superior quality, and considered soil storage soil reinstatement protocols.

Permanent use

12.8.28 The total area of agricultural land disturbed during construction and permanently required for the Scheme would be approximately 15ha as shown in **Table 12-23** and in ***Figure 12-2*** of the ES **[EN010118/APP/6.3]**. This land is expected to be established habitats that it is assumed would be retained post-decommissioning.

Table 12-23: Agricultural Land required for the Construction of the Scheme

Agricultural Land Class	*Area required during construction (ha)*
Grade 1	0
Grade 2	2
Subgrade 3a	4
Subgrade 3b	7
Non-agricultural land within holdings	1
Unknown	1
Total	15

Source: AECOM Calculations 2021. Note figures may not always sum due to rounding.

12.8.29 Approximately 6ha of BMV land, i.e. that classified in Grades 1, 2 and 3a, would be lost permanently following construction. As there is no land in Grade 1, the sensitivity is assessed to be medium. Given the loss of the entire area of BMV agricultural land is less than 20ha the effect of the Scheme on BMV agricultural land is assessed to be **not significant**.

Local Amenities and Land Use

Residential Properties, Business Premises, and Community Facilities

12.8.30 Boreham Recycling Centre, an existing waste site, is located within 250m of the Grid Connection Route. The Grid Connection Route is therefore within a Waste Consultation Area (WCA). Further detail is also given in the ***Waste Infrastructure Impact Assessment***. As there is no land-take from Boreham Recycling Centre and access to the waste safeguarding site would not be disrupted, **no effect** is expected.

12.8.31 Construction of the Scheme may result in temporary effects on residents, businesses, and users of community facilities where these lie in proximity to construction activities including construction traffic. as a result of environmental effects occurring in-combination that may impact their amenity i.e. quality of life for residents or trade or patronage for businesses and community facilities. However, temporary traffic management, as detailed within ***Appendix 13B: CTMP*** of the ES **[EN010118/APP/6.2]**, will only be required in a limited location, at Waltham Road, for a short duration, in the form of a temporary lane closure or overnight road closure, which would minimise any impacts on residents and businesses. Further detail is given in ***Chapter 13: Transport and Access*** of the ES **[EN010118/APP/6.1]**. Taking into account the residual effect assessment results of the air quality, noise/vibration, traffic and transport and visual assessments relating to the construction activities, there are no receptors that would experience a significant effect on their amenity during construction, and as such there would be **no effect**.

Development Land

12.8.32 The majority of the Order limits is within a mineral safeguarding area (MSA). However, it is expected that no sterilisation of safeguarded mineral within the Solar Farm Site would result from the Scheme as the Solar Farm Site would be restored to agriculture after the operational life of the solar farm has ended and decommissioning is complete.

12.8.33 The Bulls Lodge Substation Site and the Grid Connection Route are located within a minerals consultation area (MCA) associated with Bulls Lodge Quarry, a consented minerals site, and are also part of the wider MSA. Land take from within the consented quarry will be needed permanently during and beyond the construction period of the Scheme to accommodate the Bulls Lodge Substation extension.

12.8.34 Construction of the Scheme at this location will also require temporary land take from extraction areas within the consented mineral site. This temporary land take will occur for approximately 24 months, and is expected to commence not earlier than the first quarter of 2024 and be completed not earlier than the first quarter of 2026 covering approximately 140,000 square metres (sqm) of the consented mineral site. Although this land would not be able to be used during this period, it is not likely that it would be required for quarrying activity within this timeframe. The design of the Scheme has endeavoured to restrict land take that is required to continue beyond the construction period to areas outside of the consented limit of mineral extraction, as the electrical connection works are routed to avoid mineral

extraction and stockpiling operations in the south-east corner of Brick Farm. This has minimised the impact of the Scheme on the quarry, however a small area of land within the consented extraction area is required permanently to house part of the extension to Bulls Lodge Substation. It is also possible that some limitations on quarry activities in land outside of the extraction area could be impacted by the cable route, which could (for example) limit the loading capacity of the land in this area. However, the Cable Route has been designed to minimise the potential for this impact. In particular, it has been routed to mostly avoid the consented mineral extraction site, and the potential overlap is very limited in extent. Further detail is given in the ***Mineral Infrastructure Impact Assessment*** which concludes that the construction and operation of the Scheme will not experience adverse effects a result of operations at Bulls Lodge Quarry, and vice versa.

12.8.35 Additionally, a designated coated stone extraction site is nearby to the location of the Bulls Lodge substation, however it is unlikely that there will be any interaction between the Scheme and this location such that the activities at this location would be inhibited as a result of the Scheme, especially in view of the results of the assessment in ***Chapter 13: Transport and Access*** of the ES **[EN010118/APP/6.1]** that concludes that the extension to the existing Bulls Lodge Substation is not expected to result in any significant effects during the construction phase in terms of additional vehicle movements. Therefore, access to the coated stone extraction site is not expected to be inhibited by the shared use of access roads.

12.8.36 Overall, on the basis of the above and the conclusion of the ***Mineral Safeguarding Assessment***, the magnitude of impact on the MSA is assessed to be low and the sensitivity of the resource is assessed to be low. Therefore, the overall effect of the Scheme on the MSA is assessed to be **negligible**, which is not significant.

12.8.37 Overall, on the basis of the above, the viability of the consented quarry would not be expected to be greatly impacted. As the land take required for the extension of the Bulls Lodge Substation has the potential to sterilise around 18,000sqm of consented mineral, which represents a small proportion of the consented mineral extraction area, the magnitude of impact is assessed to be low. This will not impact on the viability of the remainder of the consented reserve or significantly reduce the mineral supply in Essex. Given the thickness and distribution of mineral within the Order limits in these areas, prior extraction is unlikely to be either practical or economical. Thus, the magnitude of impacts arising from this on development land are assessed to be low and the sensitivity of the resource is assessed to be medium. Therefore, the overall effect of the Scheme on consented minerals sites and MCA are assessed as a **minor adverse** effect, which is not significant.

12.8.38 To the west of the Order Limits, an existing recycling centre at Bulls Lodge Inert Recycling exists and is expected to share an access route that will be used during the construction of the extension to Bulls Lodge Substation. However, it is unlikely that there will be any interaction between the Scheme and this location such that the activities at this location would be inhibited as a result of the Scheme, especially in view of the results of the assessment in ***Chapter 13: Transport and Access*** of the *ES* **[EN010118/APP/6.1]** that concludes that the extension to the existing Bulls Lodge Substation is not

expected to result in any significant effects during the construction phase in terms of additional vehicle movements. Boreham Recycling Centre, an existing waste site, is located within 250m of the Grid Connection Route. The Grid Connection Route is therefore within a Waste Consultation Area (WCA). Further detail is also given in the ***Waste Infrastructure Impact Assessment***. As there is no land-take from Boreham Recycling Centre or Bulls Lodge Inert Recycling and access to the waste safeguarding sites would not be disrupted, **no effect** is expected.

Combined Effects on Receptors

12.8.39 The assessment has been undertaken for the Scheme as a whole, and therefore, the effects defined above account for any in-combination effects. Therefore, there are no combined effects on receptors related to socio-economic effects in the construction phase.

Summary

12.8.40 The construction effects (pre-mitigation) are listed in **Table 12-24**.

Table 12-24: Summary of Magnitude of Impact and Significance of Effect for the Construction Phase of the Scheme

Receptor	*Sensitivity (Value)*	*Description of Impact*	*Magnitude of Impact*	*Effect Category*	*Significant effect (Yes / No)*
Local economy (study area)	Medium	Employment generation during the construction phase	Medium beneficial	**Moderate beneficial**	**Yes**
Local economy (study area)	Medium	Construction worker demand for accommodation	No effect	**Negligible**	**No**
Local economy (study area)	Medium	GVA generation during the construction phase	Medium beneficial	**Moderate beneficial**	**Yes**
National economy	Low	GVA generation during the construction phase	Low beneficial	**Minor beneficial**	**Yes**
Users of PRoW	Low	Impacts on PRoW users during the construction phase	Low adverse	**Negligible**	**No**
Agricultural Land	Medium	Permanent impacts on agricultural land arising during the construction phase amount to 15ha being used for retained habitats, 6ha of which is BMV land. Temporary area used is fully reversible following the operation phase.	Not significant	**Not significant**	**No**
Local amenities and land use – Residential Properties, Business Properties and Community Facilities	Varies	Impacts on the amenity of nearby residents, businesses and users of community facilities during the construction phase	No effect	**Negligible**	**No**

Local amenities and land use – Development Land	Medium	Land take of development land affecting viability for future development of consented minerals sites and MCA	Low adverse	**Minor adverse**	**No**
Local amenities and land use – Development Land	Low	Land take of development land affecting viability for future development of MSA	Very low adverse	**Negligible**	**No**

Operation (not earlier than 2026)

Employment

12.8.41 The Scheme will generate long-term jobs once it is complete and operational. In estimating operational employment generation, it is important to consider not just the gross effects of the Scheme, but also net effects considering leakage, displacement and multiplier effects.

Existing employment

12.8.42 The Order limits consists of agricultural land, and there are eight existing jobs in the Order limits related to agricultural activities.

Total net operational employment

12.8.43 It is estimated that eight jobs will be directly generated by the Scheme when operational. Therefore, the total net employment would be unchanged, in light of the existing employment estimated to be the same as the generated employment at the operational phase.

12.8.44 It should be noted that the actual number of jobs generated by the Scheme may be greater as part-time staff will be created to perform maintenance and engineering works from time to time to ensure the Scheme is operational over a long period of time.

12.8.45 The impact of operational employment generation in the local economy would remain unchanged by the Scheme. Therefore, this results in a permanent **negligible effect**, which is not considered significant.

Public Rights of Way

12.8.46 All of the PRoW located within the Scheme that are diverted during the construction phase will be re-opened during the operational phase.

12.8.47 In the north-east of the Order limits there will be a new permissive footpath route connecting Sandy Wood and PRoW 113_33. This route will provide a safe and direct route from Boreham Road and Sandy Wood which connects with the existing PRoW network in the area resulting in some reduction to local journey lengths. Taking into account the installation of additional temporary permissive paths, the impact on users of PRoWs has been assessed as permanent low beneficial, which results in a **minor beneficial** effect. This is not considered significant.

12.8.48 In the north-west of the Order limits there will be a new permissive footpath providing access from Boreham Road to Terling Hall Road and access towards PRoW 213_4 near Ringer's Wood. This permissive footpath will provide a safe route for the use of local residents in the area and connection between existing PRoW in the area resulting in some reduction to local journey lengths. However, it is not a formal right of way with indefinite protection, the landowner has the ability to remove the permissive path following decommissioning of the Scheme. Taking this into account, the impact on users of PRoW has been assessed as permanent low beneficial which results in a **minor beneficial** effect. This is not considered significant.

Agricultural Land

12.8.49 As noted above, 439ha of farmland (of which 150ha is BMV land) will be converted to a solar farm for the lifetime of the Scheme, with an additional 15ha (6ha of which is BMV) being lost permanently. Effects on agricultural land use occur during the construction phase, which is the phase when the change of land use begins.

12.8.50 The Outline SRMP appended to the ***OCEMP*** **[EN010118/APP/7.10]** sets out measures to ensure the protection and conservation of soil resources on site during operation, and identifies best practice to maintain the physical properties of the soils on site, including the management of trafficking on site to reduce the risk of compaction.

12.8.51 No additional effects are anticipated during operation over and above those already identified during the assessment of construction effects. Also, as noted in the construction assessment, land required for construction of the grid connection will be restored to enable agricultural use in this area during operation.

12.8.52 The loss of farmland has therefore been assessed during construction; the phase when the loss begins. There is no additional effect arising from the operation of the Scheme and therefore operation is considered to lead to **no effect**, which is **not significant**.

Local Amenities and Land use

Residential Properties, Business Properties, and Community Facilities

12.8.53 Operation of the Scheme may result in temporary effects on residents, businesses and users of community facilities where these lie in close proximity to the Scheme, as a result of environmental effects occurring in-combination that may impact their amenity i.e. quality of life for residents or trade or patronage for businesses and community facilities. Taking into account the residual effect assessment results of the air quality, noise/vibration, visual and transport assessments there are no receptors that would experience a significant effect on their amenity during operation as no two adverse residual significant effects concluded by these topics would occur at the same receptor/group and at the same time. Therefore, there are no effects arising from the Scheme on local amenities which results in a **negligible effect**, which is not considered significant.

Development Land

12.8.54 There are no planning applications / permissions affected by land required for the operation of the Scheme and thus no effects have been assessed.

Combined Effects on Receptors

12.8.55 The assessment has been undertaken for the Scheme as a whole, and therefore, the effects defined above already take into account the in-combination effects. There are no combined effects on receptors related to socio-economic effects in the operational phase.

12.8.56 The operational effects (pre-mitigation) are listed in **Table 12-25**.

Table 12-25: Summary of Magnitude of Impact and Significance of Effect for the Operational Phase of the Scheme

Receptor	*Sensitivity (Value)*	*Description of Impact*	*Magnitude of Impact*	*Effect Category*	*Significant effect (Yes / No)*
Local economy (study area)	Low	Employment generation during the operational phase	Very low beneficial	**Negligible**	**No**
Users of PRoW	Low	Creation of new permissive paths during the operational phase	Low beneficial	**Minor beneficial**	**No**
Agricultural land	Medium	No additional impacts to those occurring from construction. Some forms of farming can co-exist with the Scheme during operation.	No effect	**No effect**	**No**
Local amenities and land use – Residential Properties, Business Properties and Community Facilities	Varies	Impacts on the amenity of nearby residents, businesses and users of community facilities during operation	No effect	**No effect**	**No**
Local amenities and land use – Development Land	Variable by use	Land take of development land affecting viability for future development of the land allocation	No effect	**No effect**	**No**

Decommissioning (not earlier than 2066)

Employment during Decommissioning (temporary medium-term)

12.8.57 A ***Decommissioning Strategy*** **[EN010118/APP/7.12]** has been prepared as outlined in ***Chapter 2: The Scheme*** of the ES **[EN010118/APP/6.1]**.

12.8.58 The year for the decommissioning of the Scheme has been assumed to be 2066, reflecting a 40-year operation period, however it is possible that the Scheme will be operational for a longer period of time if equipment is still operating successfully and safely. At the end of its operating life the Scheme would be shut down and all above-ground infrastructure removed. It can be expected that employment will be generated to carry out the removal of the infrastructure from the Order limits.

12.8.59 The estimated duration of the decommissioning period is expected to be similar to that of the construction period of 24 months. Therefore, the likely effects will be of a medium-term temporary nature. Although these jobs are temporary, they represent a positive economic effect for a substantial period that can be estimated as the function of the scale and type of activities required to decommission the Site.

12.8.60 It is assumed based on the activities taking place that the same number of jobs required for constructing the Scheme will be needed to carry out the activities required to remove the infrastructure from the Site. Therefore, an average of 500 gross FTE jobs will be on-site per day during this decommissioning period.

Net Decommissioning Employment

12.8.61 **Table 12-26** presents the temporary employment generated by the Scheme identified above, accounting for leakage, displacement and multiplier effects as identified in the above section of the construction period. The Scheme will support, on average, 428 total net jobs per annum during the decommissioning period. Of these, 192 jobs per annum will be expected to be taken-up by residents within the study area, whilst 236 jobs will likely be taken-up by workers living outside of the study area.

Table 12-26: Net Additional Decommissioning Employment per annum from the Scheme

	Study Area (60-minute travel area)	*Outside Study Area*	*Total*
Gross Direct Employment	171	209	380
Displacement	-43	-52	-95
Net Direct Employment	128	157	285
Indirect & Induced Employment	64	79	143
Total Net Employment[8]	192	236	428

Source: AECOM Calculations 2021

[8] Sum of Net Direct Employment and Indirect & Induced Employment

12.8.62 The direct, indirect and induced employment, expenditure and upskilling created from the decommissioning of the Scheme must be judged in the context of the labour pool of construction workers in the study area. The study area currently has around 2,280 workers in its construction sector (Ref 12-18). The impact of decommissioning employment generation in the local economy has been assessed as temporary medium beneficial, which results in a medium-term temporary **moderate beneficial effect**. This is considered significant.

Employment loss following Decommissioning (permanent long-term)

12.8.63 It can be expected that when the Scheme is decommissioned, the employment required to carry out maintenance activities (eight FTE jobs) will no longer be generated at this point. These workers can be expected to be integrated into the economy and find new employment after the loss of their job at the Scheme. As the Scheme will revert back to agricultural land after decommissioning, it is likely that the existing eight jobs related to agriculture activities would be generated again.

12.8.64 The impact of employment loss in the local economy during the decommissioning phase during the long-term has been assessed as permanent very low adverse. This results in a permanent **negligible effect**, which is not considered significant.

Public Rights of Way

12.8.65 Changes to journey times, local travel patterns, and certainty of routes for users would arise from the temporary diversions of PRoW. Effects during decommissioning on relevant routes are set out in the following paragraphs for the Order limits. Most PRoW within the Order limits will be unaffected during the decommissioning phase and there may be temporary diversions but no permanent closures. The new permissive routes will be in place for the lifetime of the Scheme and may be removed by following decommissioning if the landowner wishes. All other PRoW will revert back to the original PRoW network following decommissioning. Therefore, effects are only assessed for PRoW that will experience temporary diversions.

12.8.66 It is not possible to confirm with certainty the length of time any impacted routes would be affected for, so as a worst-case scenario it is assumed the PRoW are diverted for the entire length of the decommissioning period.

12.8.67 Temporary disruption to users making local journeys on these PRoW would be experienced due to the temporary diversion of routes, which may increase journey times, but the negligible length of the diversions in place would be unlikely to have significant effects on users of PRoW within the Order limits.

12.8.68 It is not anticipated that any PRoW will be permanently closed, and a number of additional mitigation measures, including the establishment of new routes, installation of crossings, and separation of PRoW from construction traffic during the decommissioning phase are detailed in Section 12.9.

12.8.69 Owing to the limited scale of the additional journey length, impacts arising from this on journeys and users of PRoW are assessed to be temporary low

adverse, which results in temporary **negligible effect**. This is not considered significant.

Agricultural Land

12.8.70 Prior to the commencement of decommissioning, an assessment will be made of the land and soil, and a programme of remedial action will be agreed and during decommissioning undertaken to return land to arable agricultural use. A programme may include subsoiling and installation of a field drainage scheme. An increase in soil organic matter content may occur during the lifetime of the solar farm. The land will therefore be in the same or better condition than it is currently as a result of the expected natural enhancement through approximately 40 years of being set-aside and the remedial actions undertaken, however this is likely to be temporary and subject to good agricultural land management practices being adopted after decommissioning. Soil management measures to protect the soil resource on site, and maintain the physical properties of the soil during decommissioning are detailed in the Outline SRMP appended to the ***OCEMP*** **[EN010118/APP/7.10]**.

12.8.71 The Solar PV Array Works Area and related components, Ancillary Infrastructure, Longfield Substation and the BESS Compound will be removed and recycled or disposed of in accordance with good practice and market conditions at that time, which are likely to have advanced. The underground cable within the Grid Connection Route would be either left in-situ or removed and the ground reinstated. Approximately 20 hectares of agricultural land where farming was not possible during operation, such as the BESS, substations, Access Tracks and Balance of Solar System (BoSS), will be reinstated for farming.

12.8.72 The Order limits will not be available for farming during decommissioning activities, while works are happening on site, leading to a temporary sterilisation of the land. However, as long as it is safe to do so, farming will be allowed in fields cleared of Solar PV and associated infrastructure while decommissioning activities occur in other fields. This sterilisation will therefore only be a few weeks or months duration in each field.

12.8.73 Overall, given the short time frame of any disruption to farming activities during decommissioning and the return of the Order limits to solely farming practices following completion of decommissioning, the magnitude of change during the decommissioning phase is considered to be Low and the significance of effect therefore **minor adverse**. This impact ends following completion of the decommissioning activities when the land is returned to farming use.

Local Amenities and Land use

Residential Properties, Business Properties, and Community Facilities

12.8.74 The decommissioning of the Scheme may result in temporary effects on residents, businesses and users of community facilities where these lie in close proximity to the Scheme as a result of environmental effects occurring in-combination that may impact their amenity i.e. quality of life for residents or levels of trade or patronage for businesses and community facilities. Taking into account the residual effect assessment results of the air quality,

noise/vibration and visual assessments there are no receptors that would experience a significant effect on their amenity during decommissioning. Therefore, there are no effects arising from the Scheme on local amenities which results in a **negligible effect**, which is not considered significant.

Development Land

12.8.75 There are no known planning applications / permissions known to be affected by land required for the decommissioning of the Scheme and as such there would be **no effect**.

Combined Effects on Receptors

12.8.76 The assessment has been undertaken for the Scheme as a whole, and therefore, the effects defined above already take into account the in-combination effects. There are no combined effects on receptors related to socio-economic effects in the decommissioning phase.

12.8.77 The decommissioning effects (pre-mitigation) are listed in **Table 12-27**.

Table 12-27: Summary of Magnitude of Impact and Significance of Effect for the Decommissioning Phase of the Scheme

Receptor	*Sensitivity (Value)*	*Description of Impact*	*Magnitude of Impact*	*Effect Category*	*Significant effect (Yes / No)*
Local economy	Medium	Employment generation during the temporary decommissioning phase	Medium beneficial	**Moderate beneficial**	**Yes**
Local economy	Low	Employment loss during the permanent decommissioning phase	Very low adverse	**Negligible**	**No**
Users of PRoW	Low	Impacts on PRoW users during the decommissioning phase	Low adverse	**Negligible**	**No**
Agricultural Land	Medium	Temporary disruption during decommissioning activities, followed by the return of BMV agricultural land for arable farming through completion of decommissioning	Low adverse	**Minor adverse**	**No**
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Varies	Impacts on the amenity of nearby residents, businesses and users of community facilities during the decommissioning phase	No effect	**Negligible**	**No**
Local amenities and land use – Development Land	Medium	Land take of development land affecting viability for future development of the land allocation	No effect	**No effect**	**No**

12.9 Additional Monitoring, Mitigation and Enhancement Measures

12.9.1 There are no significant adverse residual effects assessed on PRoW during the construction or decommissioning phases of the Scheme. No further mitigation beyond those measures outlined in **Table 12-29** below, which states that during operation the temporary diversions will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users.

12.9.2 During the construction phase, a Local Skills and Employment Plan will be implemented. The purpose of this is to promote employment and training opportunities associated with the construction and operation of the Scheme. The implementation of this Plan will help to maximise the positive gain for the local economy from the beneficial significant effect arising from employment generation.

12.9.3 The Applicant has detailed a structure of proposed additional community benefits in the Community Benefit Fund Structure document. A Skills and Education contribution would be made available for utilisation to potentially further enhance the beneficial significant effect arising from employment generation and to mitigate the potential lost opportunity in relation to agricultural employment.

12.9.4 A Community Liaison Group (CLG) will also be established to provide the local community with a forum for discussion, information exchange and feedback relating to the project during the construction phase and beyond. The CLG is intended to provide an opportunity for regular and formal discussion between Longfield Solar Farm and the local community's representatives in relation to the construction and operational aspects of the site.

12.9.5 No other additional mitigation measures, over and above that stated in the other technical chapters, are required to avoid or minimise the socio-economic effects identified in this chapter.

12.10 Residual Effects and Conclusions

12.10.1 This section summarises the residual significant and not significant effects of the Scheme on socio-economics and land use following the implementation of mitigation.

12.10.2 Significant residual effects are defined as moderate or major (adverse or beneficial). These are listed in **Table 12-28** (Scheme construction), **Table 12-29** (Scheme operation) and **Table 12-30** (Scheme decommissioning).

12.10.3 The construction phase residual significant effects are due to the employment and GVA generated during the construction of the Scheme resulting in beneficial effects within the study area. Loss of the majority of BMV agricultural land will be temporary with permanent loss being less than 20ha and there will be minimal effects on PRoW during temporary diversions.

12.10.4 There are no significant residual effects in the operational phase, shown in **Table 12-29**, as the employment generated during the operation phase is considered negligible. Only eight permanent jobs will be created to manage the Scheme as well as additional part-time employment for occasional

maintenance works. The Scheme will also include two new permissive paths expected to have minor beneficial effect on users during operation of the Scheme.

12.10.5 The decommissioning phase residual significant effects are expected to be similar to those during the construction phase whereby temporary employment is generated in the local economy to remove the solar panel infrastructure. There will be minimal effects on PRoW during temporary diversions.

12.10.6 All residual socio-economics and land use effects (significant and not significant) for the above phases are set out in **Table 12-28**, **Table 12-29**, and **Table 12-30**.

Table 12-28: Summary of residual effects (construction)

Receptor	*Description of impact*	*Significance of effect without mitigation*	*Mitigation/Enhancement measure*	*Residual effect after mitigation*
Local economy	Employment generation during the construction phase	***Moderate beneficial*** ***Significant***	*N/A*	***Moderate beneficial*** ***Significant***
Local economy	GVA generation during the construction phase	***Moderate beneficial*** ***Significant***	*N/A*	***Moderate beneficial*** ***Significant***
Users of PRoW	Impacts on PRoW during the construction phase.	***Negligible*** ***Not Significant***	*The temporary diversions will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users*	***Negligible*** ***Not Significant***
Agricultural land	Permanent impacts on agricultural land arising during the construction phase amount to 15ha being used for retained habitats, 6ha of which is BMV land. Temporary area used is fully reversible following the operation phase.	***Not Significant***	*N/A*	***Not Significant***
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Impacts on residential properties, business premises and community facilities during the construction phase	***No effect***	*N/A*	***No effect***
Local amenities and land use –	Land take of development land affecting viability for future	***Minor adverse*** ***Not Significant***	*N/A*	***Minor adverse*** ***Not Significant***

Development Land	development of consented minerals sites and MCA			
	Land take of development land affecting viability for future development of MSA	***Negligible*** ***Not Significant***	*N/A*	***Negligible*** ***Not Significant***

Table 12-29: Summary of residual effects (operation)

Receptor	*Description of impact*	*Significance of effect without mitigation*	*Mitigation/Enhancement measure*	*Residual effect after mitigation*
Local economy	Employment generation during the operational phase	***Negligible*** ***Not Significant***	*N/A*	***Negligible*** ***Not Significant***
Users of PRoW	Impacts on public rights of way during the operational phase	***Minor beneficial*** ***Not Significant***	*N/A*	***Minor beneficial effect*** ***Not Significant***
Agricultural land	No additional impacts to those occurring from construction. Some forms of farming can co-exist with the Scheme during operation.	***No effect***	*N/A*	***No Effect***
Local amenities and land use – Residential Properties, Business Premises and Community Facilities	Impacts on residential properties, business premises and community facilities during the operational phase	***No effect***	*N/A*	***No effect***
Local amenities and land use – Development Land	Land take of development land affecting viability for future development of the land allocation	***No effect***	*N/A*	***No effect***

Table 12-30: Summary of residual effects (decommissioning)

Receptor	*Description of impact*	*Significance of effect without mitigation*	*Mitigation/Enhancement measure*	*Residual effect after mitigation*
Local economy	Employment generation during the temporary decommissioning phase	***Moderate beneficial*** ***Significant***	*N/A*	***Moderate beneficial*** ***Significant***
Local economy	Employment loss during the permanent decommissioning phase	***Negligible*** ***Not Significant***	*N/A*	***Negligible*** ***Not Significant***
Users of PRoW	Impacts on public rights of way during the decommissioning phase	***Negligible*** ***Not Significant***	*The temporary diversions will be supported by appropriate and clearly signed alternative routes and where possible will be planned and programmed to minimise disruption to users*	***Negligible*** ***Not Significant***
Agricultural land	Temporary disruption during decommissioning activities, followed by the return of BMV agricultural land for arable farming through completion of decommissioning	***Minor adverse*** ***Not Significant***	*N/A*	***Minor adverse*** ***Not Significant***
Local amenities and land use- Residential Properties, Business Premises and Community facilities	Impacts on residential properties, business premises and community facilities during the decommissioning phase	***No effect***	*N/A*	***No effect***
Local amenities and land use – Development Land	Land take of development land affecting viability for future development of the land allocation	***No effect***	*N/A*	***No effect***

12.11 Cumulative Effects

12.11.1 This section of the chapter assesses the potential effects of the Scheme in combination with the potential effects of other development schemes (referred to as 'cumulative schemes') within the surrounding area, as listed within ***Appendix 5A: Long List of Cumulative Schemes*** of the ES **[EN010118/APP/6.2]**. The existing developments within the Order limits have already been considered to form the baseline of the assessment and therefore do not require assessment here.

Construction

12.11.2 All the approved cumulative schemes and submitted applications listed in ***Chapter 5: EIA Methodology*** of the ES **[EN010118/APP/6.1]**. will generate additional construction-related employment demand either in the study area or surrounding areas if they were to go ahead.

12.11.3 The combined effect of the construction of the cumulative developments is likely to bring considerable additional employment to the local economy. Information on construction employment is not available for all schemes. Applying an assumption that 2 direct temporary jobs are generated for every residential unit constructed, and adding this to the available information on employment for all other schemes results in an estimated 15,600 temporary construction jobs being created over the timeframes of the cumulative schemes. Based on the scale of this increase, the overall cumulative effect from the generation of construction workers is likely to be a temporary moderate beneficial effect on the economy of the study area, resulting in a temporary **moderate beneficial** effect, which is considered significant.

12.11.4 Given the scale of the employment associated with the construction of the cumulative developments, an assessment has been undertaken to confirm whether there is likely to still be surplus capacity within the hotel, bed and breakfast, and inns accommodation sector within a 60-minute drive time.

12.11.5 For the purposes of this assessment, it is assumed that the demand for bedspace within a 60-minute travel area arising from the cumulative schemes that are not solar schemes, would equate to approximately 20% of the total construction workforce associated with these schemes. This is on the basis that a large proportion of unspecialised jobs will be provided locally and not require accommodation, particularly for the smaller residential developments which make up the majority of cumulative schemes. For the solar energy schemes, it is assumed that all of the construction workforce could require bedspaces within a 60-minute drive time of the Order limits, albeit it is likely that as is the case with the Scheme, many of these jobs could be sourced locally. This is assuming a worst-case scenario whereby the construction programmes would mostly overlap with that of the Scheme and highest occupancy of existing bedspaces.

12.11.6 Applying these assumptions results in demand arising from all considered schemes, including the Scheme, in the order of approximately 2,042 spare bedspaces from an available supply in the peak occupancy month (July) of 5,790 bedspaces. This indicates that there would still be sufficient rooms available within the hotel, bed and breakfast, and inns accommodation sector to accommodate demand arising from all consented schemes and there would

still be **no effect** on the integrity of the hotel, bed and breakfast, and inns accommodation sector arising from the Scheme.

12.11.7 If the cumulative schemes that deliver transport improvements to the local area, such as the Radial Distributor Road, and Urban Extension which could feature a railway station, are delivered, there would be increased connectivity and accessibility of the site for construction workers in terms of convenience for the workforce, attractiveness of the employment at the Scheme for potential employees, and a widening of the catchment area relating to a reduction in travel times. Construction traffic flows would also benefit from this improvement, further minimising disruption to residents and businesses.

12.11.8 The overall cumulative effect from the generation of GVA from construction is likely to remain temporary minor beneficial on the local economy, resulting in a temporary **minor beneficial** effect, which is not considered significant.

12.11.9 The overall cumulative effect on PRoW is likely to be temporary minor adverse as the cumulative schemes adjacent to the Scheme, if constructed, could temporarily sever routes between Little Waltham and Terling, which traverse the Order limits of the Scheme. Therefore, there is likely to be a temporary **minor adverse** effect, which is not considered significant.

12.11.10 The overall cumulative effect on residential properties, business premises, and community facilities if all the cumulative schemes, including multiple residential developments, highway improvement works, and quarrying activities are constructed is likely to be **negligible** which is not considered significant, as there are no effects on the amenity of receptors arising from the Scheme.

12.11.11 The effect on agricultural land associated with the Scheme, is for the reversible in nature for the majority of the land and results in little or no loss of agricultural land or the soil resource, unlike built development. There is therefore no cumulative construction effect for soil and agricultural land resource. Any long term impact would be due to the other schemes and not cumulatively.

Operation

12.11.12 If all the schemes are to be realised there will be considerable additional employment demand from some of the cumulative schemes offering quarrying activities, office and retail space. Most cumulative schemes, however, will not generate considerable operational employment due to their nature as infrastructure or utilities projects or as purely residentially-led development projects. Therefore, the overall combined cumulative effect from the generation of workers during operation is likely to remain permanent low beneficial, resulting in a permanent negligible effect which is not considered significant.

12.11.13 The overall cumulative effects on PRoW during the operational phase will be long term minor adverse as the cumulative schemes have the potential to temporarily sever routes between Little Waltham and Terling that traverse the site. The effect is long term **minor adverse**, which is not considered to be significant.

12.11.14 The overall cumulative effect on residential properties, business premises and community facilities if all the cumulative schemes, including multiple residential developments, highway improvement works, and quarrying activities in proximity to the site is likely to be permanent **minor adverse**, which is not considered to be significant.

Decommissioning

12.11.15 The cumulative schemes do not affect the employment effects during decommissioning of the Scheme as all schemes would be assumed to be completed at this stage. Therefore, the effect for medium term job creation remains as a **moderate beneficial temporary effect**, which is considered significant. The permanent loss of employment on the Order limits will also remain as a **negligible** effect, this is not considered significant.

12.11.16 The overall cumulative effect on PRoW is likely to remain temporary minor adverse as the cumulative schemes adjacent to the site, if constructed, could temporarily sever routes between Little Waltham and Terling, which traverse the Order limits of the Scheme. Therefore, there is likely to be a temporary **minor adverse** effect, which is not considered significant.

12.11.17 The overall cumulative effect on residential properties, business premises, and community facilities if all the cumulative schemes, including multiple residential developments, highway improvement works, and quarrying activities are constructed is likely to be **negligible** due to the proximity of the cumulative schemes, which is not considered significant.

12.11.18 Following decommissioning, the land within the Order limits can be returned to agricultural use. There is therefore no cumulative decommissioning effect for agricultural land resource.

12.12 References

Ref 12-1 Department of Energy and Climate Change, (2011); Overarching National Policy Statement for Energy (EN-1). London: The Stationery Office.

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Ref 12-6 Ministry of Housing, Communities and Local Government (MHCLG), (2019); National Planning Policy Outline (NPPF). MHCLG.

Ref 12-7 Essex County Council, (2014); Essex Minerals Local Plan 2014-2019.

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Ref 12-11 Braintree District Council, (2021); Braintree District Draft Local Plan Section 1.

Ref 12-12 Braintree District Council, (2017); Braintree District Draft Local Plan Section 2.

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Ref 12-17 MHCLG, (2019); English Indices of Multiple Deprivation 2019.

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Ref 12-25 ONS, (2020); Population Estimates.

Ref 12-26 ONS, (2016); Gross Value Added (Income Approach) 2015.