Proposed Solar PV Development

RWE

Byers Gill Solar
EN010139

6.2.9 Environmental Statement Chapter 9 Land use and Socioeconomics

Planning Act 2008

APFP Regulation 5(2)(a)

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

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9. Land use and Socioeconomics

9.1. Introduction

9.1.1. This Environmental Statement (ES) chapter presents the impact assessment and likely significant effects of Byers Gill Solar ('the Proposed Development') on Land use and Socioeconomics.

9.1.2. The Environmental Impact Assessment (EIA) Scoping Report (ES Appendix 4.1) (Document Reference 6.4.4.1) sets out the scope of the Land use and Socioeconomic assessment. In summary, the following have been assessed in this chapter of the ES:

- socioeconomic – focusing on employment opportunities during construction, operation and decommissioning;
- other land uses potentially affected by the Proposed Development, including recreational and community facilities, PRoW and development land; and
- agricultural land and soil resources receptors during construction and operational phases.

9.1.3. This ES chapter:

- summarises the requirements of principal legislation, policy and guidance relevant to this assessment;
- details the methodology followed for the assessment, and any associated assumptions and limitations;
- describes the existing socioeconomic and land use environment surrounding the Proposed Development;
- describes the potential effects of the Proposed Development on socioeconomic, community and recreational, Public Rights of Way (PRoW) and land use receptors and describe the associated mitigation measures.

9.1.4. This ES chapter is also supported by ES Appendix 9.1 Agricultural Land Classification and Soil Resources (Document Reference 6.4.9.1) and ES Appendix 9.2 Agricultural Land Assessment Criteria (Document Reference 6.4.9.2).

9.1.5. This ES chapter is also supported by the following figures:

- ES Figure 9.1 Study Area (Document Reference 6.3.9.1);
- ES Figure 9.2 Other Land Uses (Document Reference 6.3.9.2);
- ES Figure 9.3 Existing Public Rights of Way (Document Reference 6.3.9.3); and,
- ES Figure 9.4 Community and Recreational Facilities (Document Reference 6.3.9.4).

9.1.6. This ES chapter should be read in combination with ES Chapter 7 Landscape and Visual (Document Reference 6.2.7), ES Chapter 11 Noise and Vibration (Document Reference 6.2.11), and ES Chapter 12 Traffic and Transport (Document Reference

6.2.12), to provide a full understanding of the context and the likely impacts on land use and socioeconomic receptors.

9.1.7. Where in-combination effects are identified across topics, or cumulative effects with other projects in the local area, these have been considered during the assessment process and are reported within Chapter 13 Cumulative Effects of the ES (Document Reference 6.2.13).

9.1.8. This ES chapter and the supporting ES Appendices and ES Figures have been prepared by competent experts at Arup and Reading Agricultural Consultants. Full details of these competent experts are provided in ES Appendix 1.1 Competent Expert Evidence (Document Reference 6.4.1.1).

9.2. Legislative and policy framework

9.2.1. There is no legislation specific to the assessment of socio-economic effects. Therefore, the assessment draws on guidance within policy documents and wider publications, utilising a methodology and approach which has been developed and tested on other schemes across the UK.

9.2.2. The relevant planning policy and guidelines which underpin the assessment methodology for socioeconomics and land use are outlined in this section.

Legislation

9.2.3. As described above, there is no legislation specific to the assessment of socio-economic or land use effects arising as part of the Proposed Development. Where relevant, legislation specific to elements of the assessment such as the Countryside and Rights of Way Act 2000 and the Climate Change Act 2008 are be referenced.

Policy

9.2.4. Under Section 104 of the Planning Act 2008 (the Act), the Secretary of State (SoS) is directed to determine a Development Consent Order (DCO) application with regard to the relevant National Policy Statement (NPS), the local impact report, matters prescribed in relation to the Proposed Development, and any other matters regarded by the SoS as important and relevant. Following their designation on 17 January 2024, there are three NPSs which are considered to be 'relevant NPS' under Section 104 of the Act:

- Overarching NPS for energy (NPS EN-1)
- NPS for renewable energy infrastructure (NPS EN-3)
- NPS for electricity networks infrastructure (NPS EN-5)

9.2.5. It is considered that other national and local planning policy will be regarded by the SoS as 'important and relevant' to the Proposed Development. A detailed account of the planning policy framework relevant to the Proposed Development is provided in the Planning Statement (Document Reference 7.1). The Policy Compliance Document

(Document Reference 7.1.1) evidences how this assessment has been informed by and is in compliance with the NPSs and relevant national and local planning policies. It provides specific reference to relevant sections of the ES which address requirements set out in policy.

9.2.6. The following guidance has informed the assessment:

- Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites [1];
- Ministry of Agriculture, Fisheries and Food (MAFF) (1988), Agricultural Land Classification of England and Wales - Revised guidelines and criteria for the grading of the quality of agricultural land [2];
- Institute of Quarrying, Good Practice for Handling Soils in Mineral Workings [3];
- Natural England, Guide to assessing development proposals on agricultural land [4];
- British Society of Soil Science, Working with Soil Guidance Note Document 3: Benefitting from Soil Management in Development and Construction [5];
- Institute of Environmental Assessment and Management, A New Perspective of Land and Soil in Environmental Assessment [6] and;
- Soils in Planning and Construction Task Force, Building on soil sustainability: Principles for soils in planning and construction [7].

9.2.7. In addition, guidance published through the Design Manual for Roads and Bridges (DMRB) [8] in relation to the assessment of potential impacts on Population and Human Health (LA112) have been used where relevant to the scope of the assessment.

9.3. Scoping and consultation

9.3.1. This section describes the scope of this land use and socioeconomic assessment, including how the assessment has responded to the Scoping Opinion. A description of the consultation and engagement undertaken with relevant technical stakeholders to develop and agree this scope is also provided.

Scoping

9.3.2. The EIA Scoping Report set out the proposed scope and assessment methodologies to be employed in the EIA and is provided in ES Appendix 4.1 EIA Scoping Report (Document Reference 6.4.4.1).

9.3.3. In response to the EIA Scoping Report, a Scoping Opinion was received from the Planning Inspectorate (PINS) on 6 December 2022 and is provided in ES Appendix 4.2 EIA Scoping Opinion (Document Reference 6.4.4.2).

9.3.4. ES Appendix 4.3 EIA Scoping Opinion Response Matrix (Document Reference 6.4.4.3) contains a table that outlines all matters identified by PINS in the EIA Scoping Opinion

and how these have been addressed in the ES or other DCO application documentation.

Consultation

9.3.5. Engagement in relation to land use and socioeconomics has been undertaken within a number of stakeholders throughout the EIA process. The stakeholders consulted were:

- Darlington Borough Council;
- Stockton-on-Tees Borough Council;
- Durham County Council; and
- Natural England.

9.3.6. These stakeholders were specifically consulted in relation to the approach, method and likely effects of the Proposed Development in relation to the PRoW network and the agricultural land and soil resources assessment.

9.3.7. The Consultation Report (Document Reference 5.1) submitted alongside the DCO application contains a full account of the previous statutory consultation process and issues raised in feedback.

9.4. Assessment Methodology

9.4.1. This section outlines the methodology employed for assessing the likely significant effects on Land use and Socioeconomics from the construction, operation and decommissioning of the Proposed Development.

9.4.2. The Proposed Development has the potential to have a range of effects, as detailed in Section 9.8 of this chapter, the majority of which are most likely to occur during the construction phase and therefore considered to be temporary in nature. For the purposes of this ES, the following receptor types have been considered:

- socioeconomic – focusing on employment opportunities;
- land use receptors – focusing on recreational and community facilities, development land (including mineral resources), and public rights of way (ProW); and
- agricultural land and soil resources.

Socioeconomics

9.4.3. The assessment of employment effects during construction, operation and decommissioning has been informed by data provided by the Applicant and is based on staffing requirements of other UK based solar projects. The likely workforce demand is calculated based on this information and assumptions made in relation to the proportion of this workforce who may come from the immediate region.

9.4.4. The HCA Additionality Guide [9] is used to calculate potential leakage and displacement in order to develop a net direct employment estimate for the Proposed Development.

9.4.5. Indirect and induced effects are also considered using ready reckoner figures from the HCA Additionality Guide.

Land Use Receptors

9.4.6. The assessment of land use receptors, including recreational and community facilities, development land and PRoW considers the potential direct and indirect effects during construction, operation and decommissioning of the Proposed Development.

9.4.7. Receptors have been identified using both published data, as well as consultation responses at PEIR stage. The sensitivity of each receptor is defined based on the criteria presented in Table 9-1 and consideration given to the potential for direct and indirect effects during each phase of the Proposed Development.

9.4.8. Professional judgement is used to consider the potential effects on each of the land use receptors and mitigation requirements considered where necessary.

Agricultural Land and Soil Resources

9.4.9. The survey methodology followed the well-established guidelines and criteria for classifying the quality of agricultural land [2]. The data collection first involved an interpretation of published geological, topographical, soil and agro-climatic information, followed by the site surveys examining soil profiles using hand-held augers and spades at an observation density of approximately one per hectare, with additional observation of subsoil structures from excavated soil pits.

9.4.10. In total, 413 soil profiles were examined using an Edelman (Dutch) auger, together with additional examination of subsoil structures and stone content in four hand-dug pits, and the submission of 13 topsoil samples for laboratory analysis of particle size distribution, pH, organic matter content and nutrient content.

9.4.11. The following characteristics were assessed for each soil horizon up to a maximum depth of 120cm or any impenetrable layer:

- soil texture;
- stone content;
- soil colour (including local gley and mottle colours);
- consistency;
- structural condition;
- free carbonate; and
- depth.

9.4.12. The soil characteristics were then analysed in terms of the Agricultural Land Classification (ALC) guidelines to establish the grade of agricultural land within the site. The data and analysis are contained in Appendix 9.1.

9.4.13. As set out in the Scoping Report and the PEIR, the assessment methodology is based on determining the sensitivity and magnitude of change on the relevant receptors of agricultural land and soil resources.

9.4.14. The sensitivity of agricultural land is determined according to its ALC grade, with Grade 1 being the most sensitive and Grade 5 the least. The sensitivity of soil resources is determined according to their resilience to handling and disturbance, which is determined largely by their texture and moisture content. The sensitivity of the agricultural land and soil receptors is determined as set out in **Error! Reference source not found.**.

9.4.15. The magnitude of impact on agricultural land is based on the area that would be temporarily or permanently affected by the Proposed Development. The magnitude of impact on the soil resource is based on the extent to which it would be able to continue to meet its various ecosystem functions as a result of the Proposed Development. The criteria used are set out in Table 9-2.

9.4.16. The general approach to assessment is the same as that adopted in the IEMA guidance [10] but there are differences in the terminology and detailed assessment criteria used. The effects of applying the IEMA assessment criteria are set out in Appendix 9.2. In applying the IEMA guidance, the conclusions of the assessment result in a reduction in the significance of effect. A worst-case scenario, using the methodology as agreed during Scoping, is set out within this Chapter.

Significance criteria

9.4.17. As there is no definitive guidance on the assessment of socioeconomic and land use effects, the assessment draws on industry accepted practice and methodology which has been tested through a number of previous and comparable projects, as detailed within the remainder of this section. The focus of the assessment is on determining whether effects would change patterns of activity, social or economic.

9.4.18. Significance is measured as a function of the sensitivity or value of receptors affected, and the magnitude of the impact. Appropriate sensitivity and magnitude criteria have been developed, based on professional judgement and industry best practice.

9.4.19. **Error! Reference source not found.** provides definitions of the sensitivity criteria used in the assessment.

Table 9-1 Sensitivity or value of receptors

Sensitivity	Definition of sensitivity
High	▪ Businesses, individuals, groups of individuals, or other receptors possessing very significant economic, social and/or community value. ▪ These receptors are considered very likely to incur a significant loss or gain as a result of potential changes in the environment, with little to no potential for substitution. For example: residential properties, a regional or national trail, directly affected business premises or community facilities. ▪ Grade 1 BMV agricultural land, and/or soils with high clay and silt fractions or peat.
Medium	▪ Businesses, individuals, groups of individuals, or other receptors possessing some significant economic, social and/or community value. ▪ These receptors are considered likely to incur some loss or gain as a result of potential changes in the environment, with limited potential for substitution. For example: a footpath or bridleway or land associated with a residential or business receptor. ▪ Grades 2 and Subgrade 3a BMV agricultural land and/or silty loams, medium clay loams and sandy clay loams.
Low	▪ Businesses, individuals, groups of individuals, or other receptors possessing some economic, social and/or community value. ▪ These receptors are not considered likely to incur a loss or gain as a result of potential changes in the environment, with potential for substitution. For example: a permissive trail. ▪ Subgrade 3b and Grade 4 agricultural land and/or soils with a high sand fraction.
Negligible	▪ Grade 5 agricultural land.

9.4.20. **Error! Reference source not found.** provides definitions of the magnitude of impact criteria used in the assessment.

Table 9-2 Magnitude of impact

Magnitude	Definition of magnitude
High	▪ An adverse or beneficial effect that would be likely to result in total loss of an individual receptor or permanent changes to baseline situation for a large number of businesses, individuals or groups of individuals. ▪ Development would directly lead to the loss of over 50ha of agricultural land. ▪ The soil displaced from development is unable to fulfil one or more of the primary soils functions.
Medium	▪ An adverse or beneficial effect that would be very likely to result in partial changes to baseline situation for a moderate number of businesses, individuals or groups of individuals. ▪ Development would directly lead to the loss of between 20ha and 49ha of agricultural land. ▪ The soil displaced from development mostly fulfils the primary soil functions off-site or has a reduced capacity to fulfil the primary functions on site.
Low	▪ An adverse or beneficial effect that would be likely to result in minor changes to baseline situation for a small number of businesses, individuals or groups of individuals. ▪ Development would directly lead to the loss of between 5ha and 19ha of agricultural land.

Magnitude	Definition of magnitude
	▪ The soil displaced from development mostly fulfils the primary soil functions on-site.
Negligible	▪ An adverse or beneficial effect that would be likely to result in little or no change to baseline situation for businesses, individuals or groups of individuals. ▪ Development would directly lead to the loss of less than 5ha of agricultural land. ▪ The soil retains its existing functions on-site.

9.4.21. **Error! Reference source not found.** illustrates how the sensitivity and magnitude criteria are used to assess significance. Those that are highlighted in a grey text box i.e., those that are moderate and major, are to be considered as significant in their effect.

Table 9-3 Significance of effects

		Sensitivity			
		High	**Medium**	**Low**	**Negligible**
Magnitude	**High**	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible

9.5. Assessment Assumptions and Limitations

9.5.1. This section provides a description of the assumptions and limitations to the Land use and Socioeconomics assessment.

9.5.2. The assessment is based on the baseline information available at the time of writing this ES, and provides information based on the updated and refined design following statutory consultation.

9.6. Study Area

9.6.1. The study area to be used for the assessment of socioeconomic and land use effects varies dependent on the geographical area associated with a given receptor. This depends on both the nature and type of receptor, as well as the nature of the potential effect(s). The following study areas were consulted on at Scoping stage and again at PEIR stage, and have therefore been used as the study area for the assessments in this chapter:

- potential employment effects may be felt over a wide area given the somewhat specialist nature of some of the construction and operational tasks. The study area for consideration of economic effects would therefore be the immediate authority areas of Darlington, Stockton-on-Tees and Durham, as well as the wider North East Region;

- potential effects on other land uses including community facilities and development land would focus on the areas immediately adjacent to the Proposed Development, within 500m of the Order Limits;
- potential effects on the PRoW network would focus on the Order Limits but extend beyond the site where indirect effects are identified; and
- potential impacts on agricultural land and soil resources would extend to the Order Limits.

9.7. Baseline Conditions

9.7.1. This section provides a description of existing conditions in the study area at the time of the ES.

Existing conditions

Socioeconomic

Population

9.7.2. At the time of the 2021 Census, the profile of the study area, including Darlington, Stockton-on-Tees and County Durham, supported a resident population of 107,801 residents, 196,595 residents and 522,071 residents respectively.

9.7.3. The population of the three authorities within the study area comprises approximately 31% of the population of the North East region.

Age structure

9.7.4. At the time of the 2021 Census, the proportion of the population within the study area who are of working age was as follows:

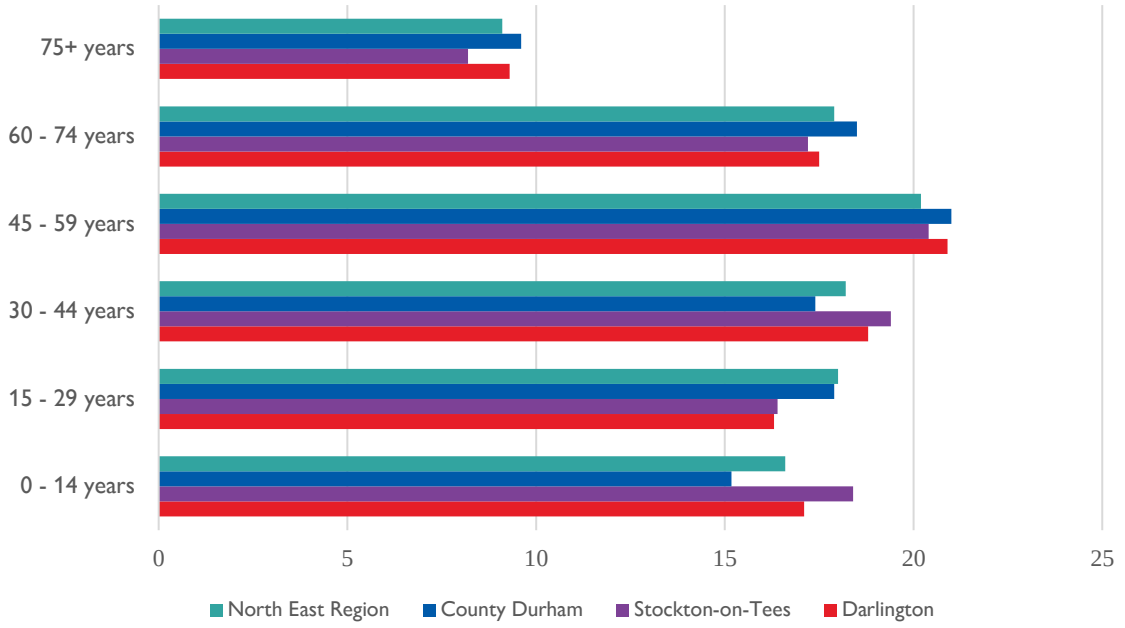
- Darlington: 88,103 people (81.7% of the total area population)
- Stockton-on-Tees: 158,008 people (80.4% of the total area population)
- County Durham: 433,958 people (83.1% of the total area population)

9.7.5. Within the context of the North East county of England, the proportion of the population who are of working age is approximately 31%. At the time of the 2021 Census, the North East Region supported a resident population of 2,647,013 people, the age demographic of which is shown in **Error! Reference source not found.**.

9.7.6. **Error! Reference source not found.** presents the percentage of each age demographic of the three relevant local planning authority areas in the context of the wider North East region, summarised into 14-year age bands.

Plate 9-1 Age profile of Darlington, Stockton-on-Tees and County Durham in the context of the North-East region

Source: Nomis, TS007A – Age by five-year age bands, 30 August 2023



Employment and economic activity

9.7.7. **Error! Reference source not found.** shows the proportion of residents within Darlington, Stockton-on-Tees and County Durham which are: economically activity (excluding full-time students), economically active and in employment, economically active but unemployed, and those who are economically inactive (i.e., retired, students, looking after home or family or long-term sick or disabled residents).

9.7.8. Similarly to the age profile above, this has been set within the context of the wider North East region. The data shows a broad trend of economic activity within Darlington and Stockton-on-Tees, with a greater proportion of the population economically active and/or in employment when compared to Durham and the wider region.

Plate 9-2 Employment and economic activity

Source: Nomis, TS066 – Economic activity status, 30 August 2023

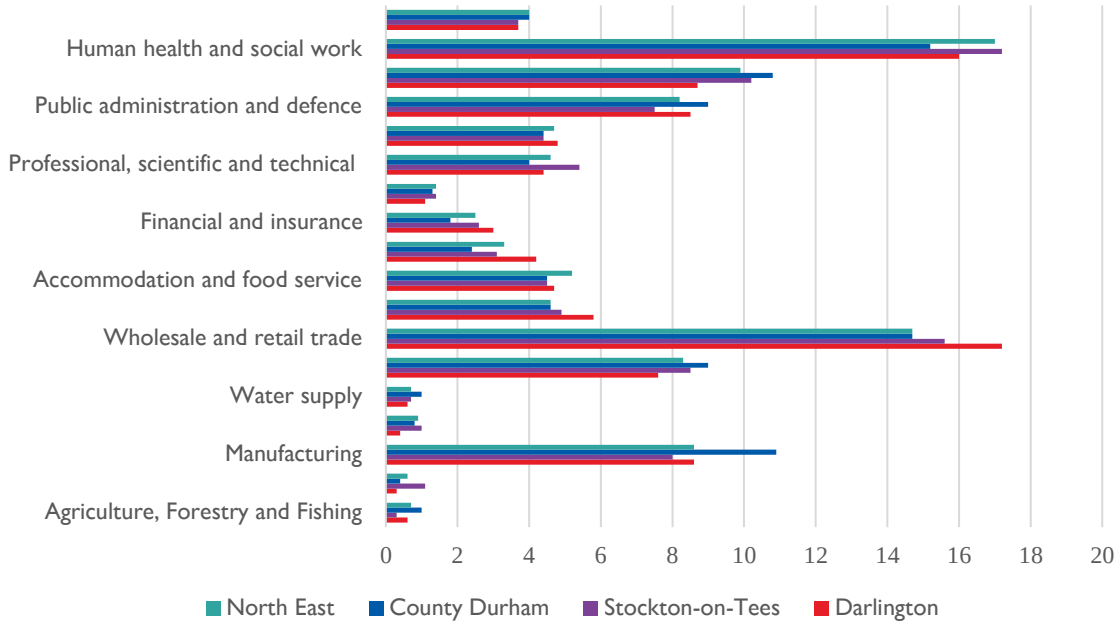
Key sectors

9.7.9. **Error! Reference source not found.** shows the percentage of those in current employment by industry for Darlington, Stockton-on-Tees and County Durham as recognised within the 2021 Census.

9.7.10. The plate shows that across the three relevant local planning authorities, the industries which employ the greatest population are human health and social work; wholesale and retail trade and education. Other prominent industries include public administration and defence, construction and manufacturing.

Plate 9-3 Employment by industry

Source: Nomis, TS060 – Industry, 30 August 2023



Land Use receptors

Recreational and community facilities

9.7.11. Table 9-4 below identifies the community facilities which are located within the study area, including recreational assets and community facilities and provides an appropriate allocation of sensitivity. These are also shown on ES Figure 9.4 Community and Recreational Facilities (Document Reference 6.3.9.4)

Table 9-4 Community facilities and services

Receptor	Location	Description	Sensitivity
Planet	Newton Aycliffe, Durham	Leisure Centre	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
ROF 59 Activity Centre	Newton Aycliffe, Durham	Leisure Centre	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Fisk Tank, Swimming Pool	Newton Aycliffe, Durham	Recreational facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Glow Church	Newton Aycliffe, Durham	Place of worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
UTC South Durham	Newton Aycliffe, Durham	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Ruff 'n' Tumble Adventure World	Newton Aycliffe, Durham	Recreational facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St Andrew's Church	Newton Aycliffe, Durham	Place of worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Aycliffe Village Hall	Newton Aycliffe, Durham	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Aycliffe Village Primary School	Newton Aycliffe, Durham	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The County	Newton Aycliffe, Durham	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Royal Telegraph	Newton Aycliffe, Durham	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Hammer and Pincers	Preston-le-Skerne, Durham	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Receptor	Location	Description	Sensitivity
Stillington Forest Park	Stillington, Durham	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St. John's Church	Stillington, Durham	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Stillington Youth & Community Centre	Stillington, Durham	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
William Cassidi C of E Primary School	Stillington, Durham	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Stillington Forest Park	Stillington, Durham	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Skerningham Community Woodland	Darlington	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hall Garth Golf & Country Club	Brafferton, Darlington	Recreational facility	Low – receptor has some economic, social and/or community value, but function/use unlikely to experience loss or gain
Brafferton Village Hall	Brafferton, Darlington	Community facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Foresters Arms	Brafferton, Darlington	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Bishopton Redmarshall Primary School	Bishopton, Darlington	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
North East Wake Park	Bishopton, Darlington	Recreational facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St Peter's Church	Bishopton, Darlington	Place of worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Receptor	Location	Description	Sensitivity
Bishopton Village Hall	Bishopton, Darlington	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Talbot	Bishopton, Darlington	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Blue Bell Inn	Bishopton, Darlington	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Bishopton Community Woodland	Bishopton, Darlington	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
All Saints Church	Great Stainton, Darlington	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St. Cuthbert's Church	Redmarshall, Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Ship	Redmarshall, Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Dogwood Adventure Play	Redmarshall, Stockton-on-Tees	Recreational facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St. James' Church	Thorpe Thewles, Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Grindon Parish Hall	Thorpe Thewles, Stockton-on-Tees	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Vane Arms	Thorpe Thewles, Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hamilton Russell Arms	Thorpe Thewles, Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Receptor	Location	Description	Sensitivity
Carlton Methodist Church	Carlton, Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Smiths Arms	Carlton, Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Honeypot Wood	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Baptist Church	Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St. Andrew's Methodist Church	Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Norton Baptist Church	Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St. Chad's Church and Vicarage	Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Catholic Church of the English Martyrs and Saints Peter and Paul	Stockton-on-Tees	Place of Worship	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Social Club	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Community Centre	Stockton-on-Tees	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Redhill Family Hub	Stockton-on-Tees	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Roseworth Community & Social Club	Stockton-on-Tees	Community Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Receptor	Location	Description	Sensitivity
Outwood Academy Bishopsgarth	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Green Primary Academy	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
ESPA College	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Abbey Hill Academy	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Harrow Gate Primary Academy	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Rosebrook Primary School	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
William Cassidi C of E Primary School	Stockton-on-Tees	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Park Lane Surgery	Stockton-on-Tees	Health	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
University Hospital of North Tees	Stockton-on-Tees	Health	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Nuffield Health Tees Hospital	Stockton-on-Tees	Healthcare	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Park Lane Surgery	Stockton-on-Tees	Healthcare	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Mitre	Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Receptor	Location	Description	Sensitivity
The Five Alls	Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Hardwick Pub	Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Sheraton	Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
The Horse & Jockey	Stockton-on-Tees	Public House	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Green Multi-Use Games Area	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Hardwick Dene Nature Reserve	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Bishopsgarth Park	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Newham Grange Park	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Redbrook Play Area	Stockton-on-Tees	Recreational Facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain

Development Land

9.7.12. To inform the assessment, a review of each designated Local Plan for the three local authority areas, with a specific focus on development allocations, has been undertaken.

9.7.13. Two development site allocations appear in relation to Darlington Borough Council's housing allocation commitments:

- Berrymead Farm (site reference 008); and
- Skerningham (site reference 251).

9.7.14. These urban extensions are allocated through Policy H10: Strategic Housing Allocation of Darlington Borough Council's Local Plan, and are located at the South West corner of the study area, on either side of the A167. The location of the extensions are shown on ES Figure 9.2 Other Land Uses (Document Reference 6.3.9.2), which shows that both allocations are approximately 0.8 miles from the Order Limits.

9.7.15. Other wider land uses in the study area focus on the dispersed settlements with no formal allocations identified in relation to development land which may be affected by the Proposed Development.

9.7.16. As identified in the Scoping Report, parts of the Proposed Development are situated within Darlington Borough Council's Minerals Safeguarding zones for limestone (Shallow) as identified through the Joint Minerals and Waste Plan, and therefore has the potential to impact the identified resource. See section 9.8 of this chapter for more details.

Public Rights of Way

9.7.17. This section of the baseline considers all routes in the study area which have a legal status (i.e. PRoW) as identified by the definitive maps of each respective local authority as outlined in section 9.6, are promoted for use by non-motorised travellers or have been identified through consultation.

9.7.18. There are no National Cycle Network routes through the study area, but the local road network is known to be used for recreational cycling.

9.7.19. Table 9-5 below provides a summarised description of each PRoW which interacts with the scheme, and its sensitivity. The routes are also shown on ES Figure 9.2 Public Rights of Way (Document Reference 6.3.9.2).

9.7.20. It is important to note that whilst the identified PRoW in Table 9-5 all interact with the Proposed Development, this does not mean that they will all be directly affected by the Proposed Development. Further information is in section **Error! Reference source not found.** of this Chapter, which identifies the PRoW which will be impacted by the construction, operational and decommissioning phases of the Proposed Development, respectively. Additionally, those marked with an asterisk in

Table 9-5 are those which interact but are not directly affected by the Proposed Development (e.g., there is potential for indirect effects only).

9.7.21. It is considered that the PRoW identified in Table 9-5 below are of medium sensitivity given none identified are part of recognised regional or national trails.

9.7.22. All PRoWs potentially affected by the Proposed Development are considered in this assessment. As part of the approach described in ES Chapter 3 Assessment of Alternatives (Document Reference 6.2.3) the final alignment of various cable routes forming part of the Proposed Development will be identified as part of the detailed design approvals. It may therefore be that a number of these potential effects do not arise - if for example off-road cable routes are chosen at that detailed design stage.

Table 9-5 Existing PRoW that interact with the Proposed Development

PRoW reference	
Parish of Brafferton (Darlington)	
Footpath No. 7 (1,199m)	Footpath No. 20 (545m)
Footpath No. 8 (1,857m)	Bridleway No. 1 (2,010m) *
Footpath No. 9 (1,619m)	Bridleway No. 4 (2,183m) *
Footpath No. 10 (1,847m)	Bridleway No. 11 (2,452m)
Footpath No. 12 (1,154m)	Bridleway No. 13 (1,773m)
Footpath No. 15 (1,286m)	Bridleway No. 14 (1,822m)
Footpath No. 17 (931m) *	Bridleway No. 19 (750m) *
Parish of Barmpton (Darlington)	
Footpath No. 7 (711m) *	Bridleway No. 9 (818m) *
Bridleway No. 8 (1,122m) *	Bridleway No. 13 (428m) *
Parish of Great Stainton (Darlington)	
Footpath No. 3 (874m)	Footpath No. 6 (1,437m)
Footpath No. 4 (1,576m)	Footpath No. 7 (615m) *
Footpath No. 5 (438m) *	Footpath No. 8 (877m)
Parish of Little Stainton (Darlington)	
Footpath No. 1 (1,526m)	Footpath No. 5 (1,205m) *
Footpath No. 2 (794m)	Footpath No 5a (407m) *
Footpath No 3 (589m) *	Bridleway No. 6 (855m) *
Footpath No 4 (614m) *	
Parish of Bishopton (Darlington)	
Footpath No. 1 (1,581m) *	Footpath No. 6 (528m) *

PRoW reference	
Footpath No. 2 (499m)	Footpath No. 7 (1,812m)
Footpath No. 3 (729m)	Bridleway No. 5 (1,181m) *
Footpath No. 4 (1,098m)	
Parish of Redmarshall (Stockton-on-Tees)	
Footpath FP1 (length unknown)	Footpath FP2 (length unknown)
Footpath FP3 (length unknown) *	
Parish of Carlton (Stockton-on-Tees)	
Footpath FP1 (length unknown) *	Footpath FP2 (length unknown) *
Footpath FP3 (length unknown) *	Footpath FP4 (length unknown) *
Footpath FP5 (length unknown) *	Footpath FP6 (length unknown)
Footpath FP7 (length unknown)	Footpath FP8 (length unknown) *
Parish of Whitton / Stillington (Stockton-on-Tees)	
Footpath FP5 (length unknown) *	
Parish of Mordon (County Durham)	
Footpath 1 (length unknown) *	

Agricultural Land and Soil Resources

9.7.23. The baseline conditions at each of the Panel Areas, including the component developments, and the cable routes are detailed in turn. The full schedule of observations is included in Appendix 9.1.

Panel Area A: Brafferton

9.7.24. Panel Area A is characterised by mixed-use agricultural land, generally comprising grassland in the west and arable land in the east.

9.7.25. The topography largely centres around a shallow valley which directs water into the River Skerne. Altitudes range from around 65m above Ordnance Datum (AOD) in the south-west to around 95m AOD in the north-east. The slopes are typically shallow.

9.7.26. The climate at Panel Area A is cold with moderate rainfall. There is an overriding climatic limitation to Grade 2.

9.7.27. The soils predominantly comprise medium clay loam or heavy clay loam topsoil often directly overlying clay subsoil. The clay is slowly permeable, and the profiles are in Wetness Class (WC) IV. Most (approximately 96ha) of Panel Area A is classified as Subgrade 3b due to a soil wetness limitation.

9.7.28. A secondary soil type is present that includes medium clay loam or sandy clay loam topsoil over heavy clay loam, clay or occasionally sandy clay loam upper subsoil, and passing to clay lower subsoil which is commonly slowly permeable. These profiles are mostly in WC III and are limited to Subgrade 3a by soil wetness. This area extends to approximately 19ha.

Panel Area B: Hauxley Farm

9.7.29. The land in Panel Area B is under arable cultivation.

9.7.30. The main topographic feature is a hilltop in the north. The land slopes down from north to south from altitudes of around 110m AOD to 90m AOD. The slopes are shallow and help to drain the land toward Byers' Gill.

9.7.31. The climate at Panel Area B is cold with moderate rainfall. There is an overriding climatic limitation to Grade 2.

9.7.32. The topsoil is clay or occasionally heavy clay loam and overlies slowly permeable clay subsoil. The profiles are in WC IV and are limited by soil wetness to Subgrade 3b.

Area C: Byers' Gill Wood

9.7.33. The land in Panel Area C is mainly under arable cultivation. A small area north of Byers' Gill Wood is under permanent grass.

9.7.34. There is a general fall in altitude from around 100m AOD in the north to 65m AOD in the south. The landform undulates across the slopes which facilitate drainage of the site in addition to Byers' Gill.

9.7.35. The climate at Panel Area C is cold with moderate rainfall. There is an overriding climatic limitation to Grade 2.

9.7.36. The topsoil is clay or occasionally heavy clay loam and overlies slowly permeable clay subsoil. The profiles are in WC IV and are limited by soil wetness to Subgrade 3b.

Panel Area D: Great Stainton

9.7.37. The north of Panel Area D is under permanent grassland but most is in arable use.

9.7.38. The site occupies an overall south-facing slope with altitudes falling from 90m AOD in the north to around 60m AOD in the south. There is a large central plateau at around 70m AOD. Drainage is via the slope which directs water to Little Stainton Beck.

9.7.39. The climate at Panel Area D is cold with moderate rainfall. There is an overriding climatic limitation to Grade 2.

9.7.40. The topsoil is heavy clay loam or clay and overlies clay subsoil. In most areas the subsoil is slowly permeable from immediately below the topsoil (WC IV) but some

profiles are permeable to depths of up to 60cm and are in WC III. With heavy topsoil textures, profiles are mostly limited by soil wetness to Subgrade 3b.

9.7.41. In the very north, the topsoil is a deep sandy clay loam topsoil which lies over a permeable sandy clay loam or sandy loam upper subsoil and occasional slowly permeable sandy clay or clay lower subsoil. These profiles are mainly in WC III and limited by soil wetness to Subgrade 3a.

Panel Area E: West of Bishopton

9.7.42. Panel Area E comprises two large arable fields.

9.7.43. The Area occupies a shallow east-facing slope. Altitudes are between 55m and 60m AOD. The land drains to the east into Bishopton Beck.

9.7.44. The climate at Panel Area E is cool with low rainfall.

9.7.45. The topsoil is clay or occasionally heavy clay loam in the west and overlies slowly permeable clay subsoil. The profiles are in WC IV and are limited by soil wetness to Subgrade 3b.

Panel Area F: North of Bishopton

9.7.46. The land at Panel Area F is under arable cultivation.

9.7.47. The topography across much of the east and south is largely level at around 55m AOD. Land in the north and west slopes down into the valley containing Bishopton Beck at around 40m AOD. Drainage of the land is via the slopes and the beck.

9.7.48. The climate at Panel Area F is cool with low rainfall.

9.7.49. The main topsoil type is clay or heavy clay loam and overlies slowly permeable clay subsoil. The profiles are in WC IV and are limited by soil wetness to Subgrade 3b.

9.7.50. Along the southern edge of Area F the topsoil is sandy clay loam. The upper subsoils comprise sandy clay loam or sandy loam, and in one location there is a lower subsoil of sandy clay. Profiles in this soil type are in WC II and are classified as Grade 2. There are also transitional profiles between the two soil types which are classified as Subgrade 3a either due to heavy clay loam topsoil in WC II profiles or sandy clay loam topsoils in WC III profiles.

Cable routes

9.7.51. Most of the soils along the cable routes which are located outside of the panel areas comprise clay topsoils which lie directly over slowly permeable clay subsoils which are poorly drained in WC IV and are limited by wetness to Subgrade 3b.

9.7.52. There are occasional profiles which contain a permeable upper subsoil or a deeper topsoil, both of which make these slightly better drained in WC III. However, with heavy clay loam or clay topsoils, these profiles are still classified as Subgrade 3b.

9.7.53. There is a contrasting soil type east of Bishopton which comprises sandy clay loam throughout, is permeable, in WC II and classified as Grade 2.

9.7.54. Table 9-6 summarises each Panel Area and the cable routes, their land classification and subsequent sensitivity. This is shown on Figure 2 of Appendix 9.1. Non-agricultural land extends to 33.1ha and comprises the Norton substation and highway land, as also shown on Figure 2 of Appendix 9.1.

Table 9-6 Agricultural land and soil resource sensitivities

Panel Area	Agricultural Land Classification			Sensitivity
	Grade 2 Ha (%)	Subgrade 3a Ha (%)	Subgrade 3b Ha (%)	
A: Brafferton	0	18.9 (16)	95.8 (84)	Low
B: Hauxley Farm	0	0	53.2 (100)	Low
C: Byers' Gill Wood	0	1.0 (1)	78.9 (99)	Low
D: Great Stainton	0	3.4 (4)	72.5 (96)	Low
E: West of Bishopton	0	0	26.5 (100)	Low
F: North of Bishopton	1.8 (3)	3.7 (5)	66.1 (92)	Low
Cable routes	0.6 (2)	0.6 (2)	34.1 (96)	Low
Total	2.4 (1)	27.6 (6)	425.5 (93)	Low

Future Baseline

9.7.55. The general approach to defining future baseline for the Proposed Development is described in ES Chapter 4 Approach to EIA (Document Reference 6.2.4).

9.7.56. The future baseline is anticipated to remain largely the same as the existing baseline for land use and socioeconomics.

9.7.57. It would however be reasonable to assume a population increase within Darlington Borough, Stockton-on-Tees Borough and Durham County. In correlation to the expected population increase, it is also reasonable to assume that employment within the North East region would also increase. Despite these increases, it is anticipated that proportional employment across key sectors would remain fairly consistent to the data presented as part of the baseline and assumptions in relation to the split of

employment (local vs regional/national) made for construction would be similar for decommissioning.

9.7.58. It is further expected that the PRoWs will continue to be used where applicable, and all diverted routes would also be utilised. Whilst there may be existing businesses or community facilities which close down, or new facilities opening, it is not expected that there will be any perceptible changes to the economic activity, and recreational and community facility baseline conditions.

9.8. Potential impacts

9.8.1. Based on the design of the Proposed Development during operation and associated construction and decommissioning activities, the Proposed Development has the potential to impact on Land use and Socioeconomics during construction, operation and decommissioning.

9.8.2. Certain mitigation measures have been incorporated into the design and construction of the Proposed Development and these are reported as embedded mitigation in ES Chapter 2 The Proposed Development (Document Reference 6.2.2). Any further embedded mitigation is reported in section 9.9 of this Chapter.

9.8.3. Potential impacts of the Proposed Development, prior to the implementation of the embedded mitigation measures described in section 9.9, are described in this section. Residual effects of the Proposed Development, accounting for this essential mitigation, are then described in section 9.10.

Construction

Socioeconomics

9.8.4. As outlined in PEIR Chapter 9 Land use and Socioeconomics, it is considered that there may be potential effects on temporary construction employment and supply chain opportunities during the construction phase of the Proposed Development.

9.8.5. Benefits of localised spending to enable the construction of the Proposed Development may also be felt, i.e., through ongoing engagement with the local supply chain to purchase plant hire, and also through construction workers staying and spending locally.

Land Use

Recreational and community facilities

9.8.6. Effects on recreational and community facilities, such as places of worship, educational facilities, health centres and public houses are considered as part of this chapter, with a particular focus on maintaining access to ensure no adverse economic effects are felt during the construction phase of the Proposed Development.

Development Land

9.8.7. Effects on wider land uses, including development land, have been considered as part of this assessment.

9.8.8. For example, parts of the Proposed Development are located within Darlington Borough Councils Minerals Safeguarding zones for limestone (Shallow). However, mineral deposits within Safeguarding Areas will not be permanently sterilised by the Proposed Development and the minerals and waste policies do not currently identify proposals for mineral extraction in the area.

Public Rights of Way

9.8.9. Effects on recreational resources, such as PRoW, during the construction phase of the Proposed Development have been considered as part of this assessment, with a particular focus on the need to divert and/or extinguish existing PRoW within the proposed Panel Areas and maintaining connectivity where safe and practicable during the construction phase.

Agricultural Land and Soil Resource

9.8.10. During construction, agricultural uses will cease within each of the panel areas and for laying the underground cables. Subject to demand, agricultural uses including sheep grazing may resume within the panel areas once construction is complete, other than in the areas proposed for the on-site substation, operational access tracks and other infrastructure such as BESS, inverters, switchgear and spare containers.

9.8.11. Agricultural activities will therefore be lost during the construction period. The vast majority (94%) of the land required is moderate quality agricultural land or non-agricultural land and falls outside of the category of Best and Most Versatile (BMV) quality (Grades 1, 2 and 3a).

9.8.12. The level of disturbance caused by the installation of solar panels is variable: the most significant disturbance is anticipated to be due to the installation of access tracks, substations, compounds etc. rather than the panels. Given the very high proportion of non-BMV land within the site, almost all these elements avoid the use of BMV land. The on-site substation has been sited on non-BMV Subgrade 3b land; the inverter stations use 96% Subgrade 3b land; the internal access tracks use 98% Subgrade 3b or non-agricultural land; and the temporary construction compounds use all Subgrade 3b land. The area of BMV land affected by these elements of the Proposed Development amount to only 0.2ha of Subgrade 3a land.

9.8.13. The Scoping Opinion agrees with the Scoping Report at ID 3.5.5 that the wider impacts on farm holdings can be scoped out on the basis that landowners that form part of the Proposed Development have signed up to a voluntary agreement and have considered the potential effects on the viability of farm holdings. The Inspectorate has

indicated that it is content to scope out this matter, subject to the Applicant providing evidence of such agreements.

9.8.14. There is however the potential that some of the land required for the installation of the underground cables may not have signed a voluntary agreement in time for the submission of the draft DCO. The assessment therefore assesses the temporary effects from installing the underground cables on those farm holdings.

Operation

9.8.15. As outlined in section 9.8 of this chapter, many of the impacts on socioeconomic and land use receptors generated by the Proposed Development would be experienced during the construction phase.

9.8.16. During the operational phase, it is anticipated that impacts on these receptors would primarily be as a result of maintenance and management activities, whereby during such times there may be a need for short-term closures and/or temporary diversions of PRoW. The details of these closures will be provided in a future Public Right of Way Management Plan, to be provided by the principal contractor and subject to agreement with the relevant Local Planning Authority.

Agricultural Land and Soil Resource

9.8.17. There are no direct effects on agricultural land or soil resources anticipated to occur during the operational phase of the Proposed Development. The reduction in area of productive agricultural land resulting from construction activities may be reduced if grazing by livestock is continued beneath the panels.

9.8.18. The Scoping Opinion confirms at ID 3.5.3 and ID 3.5.4 that effects on soil resources and agricultural land during the operational phase of the Proposed Development can be scoped out on the basis that significant effects on agricultural land are likely to be restricted to the construction and decommissioning phases.

9.8.19. The Scoping Opinion also agrees with the Scoping Report at ID 3.5.5 that the wider impacts on farm holdings during the operational life of the Proposed Development can be scoped out on the basis that landowners that form part of the Proposed Development have signed up to a voluntary agreement and have considered the potential effects on the viability of farm holdings. The Inspectorate has indicated that it is content to scope out this matter, subject to the Applicant providing evidence of such agreements.

Decommissioning

Socioeconomics

9.8.20. It is anticipated that the potential effects of the decommissioning of the Proposed Development would be similar to those identified for construction in relation to job creation and supply chain opportunities.

Land Use

Recreational and community facilities

9.8.21. Potential effects on recreational and community facilities during decommissioning are also considered to be similar to those experience during the construction phase, with effects largely associated with an increase in traffic on the local road network, and decommissioning activities on site.

Development Land

9.8.22. A review of potential effects on development land would need to be undertaken at the necessary stage, as the baseline currently contains no allocations which may be affected by the Proposed Development.

9.8.23. Upon decommissioning of the Proposed Development, the mineral resource (limestone) would become available for extraction and the potential effects of this would need to be assessed based on demand at that time.

Public Rights of Way

9.8.24. It is considered likely that the PRoW diverted during the construction phase, as part of the Proposed Development, would remain on their operational alignment and therefore would not revert back to the previous – or baseline – alignment. This will be discussed and agreed on an individual basis with the landowner(s) at the appropriate time. However, they could revert back to the baseline alignment and alter the beneficial effects felt during construction and operation.

Agricultural Land and Soil Resource

9.8.25. Removal of the panels and all associated infrastructure will cause disturbance to the land, potentially affecting the agricultural land quality, for example if voids are left in the ground or if the ground becomes compacted.

9.9. Embedded mitigation

9.9.1. The Proposed Development has been designed to avoid and prevent adverse environmental effects on land use and socioeconomics through the process of design development and consideration of good design principles.

9.9.2. Mitigation measures incorporated in the design and construction of the Proposed Development, considering the potential impacts, are reported as embedded mitigation in ES Chapter 2 The Proposed Development (Document Reference 6.2.2). The effects of the Proposed Development are assessed considering embedded mitigation is in place and are reported in Section 9.10.

9.9.3. Where required further mitigation is deemed required as a result of a potentially significant effect, this is termed essential mitigation. Essential mitigation is set out as part of the assessment of effects in Section 9.10.

9.9.4. A further definition of these classifications of mitigation and how they are considered in the EIA is provided in Section 4.5 in ES Chapter 4 Approach to EIA (Document Reference 6.2.4).

9.10. Assessment of likely significant effects

9.10.1. This section presents the likely effects on Land use and Socioeconomics resulting from the construction, operation and decommissioning of the Proposed Development.

9.10.2. The assessment of effects takes into account the potential impacts to each receptor (as set out in Section 9.8) following the implementation of embedded mitigation (as set out in Section 9.9). Where required to mitigate potentially significant effects, essential mitigation measures are outlined as part of the assessment, and the overall significance of residual effects set out.

Construction

Socioeconomic

9.10.3. ES Chapter 2 The Proposed Development (Document Reference 6.2.2) outlines the proposed working hours during the construction stage of the Proposed Development; between 8am – 6pm Monday to Friday, 8am – 2pm on Saturdays, with no construction activities taking place on Sundays or Bank/Public Holidays.

9.10.4. As outlined in Table 2-4 of ES Chapter 2 The Proposed Development (Document Reference 6.2.2), based on a worst-case scenario of construction of the Proposed Development taking between 12 and 18 months, it is anticipated that during the peak construction period there would be a maximum of 300no. workers on site at any one time. In this scenario, it is assumed that no more than 100no. workers would be working on a single panel area. It is also considered that no more than half of the panel areas would be worked on at any one time.

9.10.5. The exact number of workers per phase of the construction will be confirmed by the appointed contractor and would be based on the activities taking place across the construction period, leading to some fluctuation in numbers. For example, the initial site set up stage of the Proposed Development would require relatively few workers (in the region of 100no. for 3no. panel areas), whereas panel installation, alongside the installation of BESS and mitigation measures would see a peak in activity on site.

9.10.6. At this stage, the Applicant estimates the following construction staff profile across the construction period:

Table 9-7 Likely Construction Employment (3no. panel areas)

Construction Phase	Estimated Period (Months)	Estimate Staff Requirement
Enabling / Preparatory Works	2 months	100
Foundations, Module Delivery and Installation, cabling and substation	4-5 months	300
Commissioning and Site Reinstatement	2 months	100

9.10.7. This would lead to an average employment on site of circa 210 personnel per month across the 18-month period, or 210 gross direct full time equivalent (FTE) on site during the construction period.

9.10.8. Given the nature of the construction work and the general employment profile of the construction section in the study area (see Plate 9-3), it is estimated that, subject to labour availability and take-up, circa 60% of construction employment could be retained within the immediate authority areas of Darlington, Stockton-on-Tees and Durham, with the remaining 40% being taken up by those within the wider North-East Region. Applying this leakage factor to the estimated 210 gross direct construction jobs, it is estimated that the Proposed Development would create circa 126 FTE jobs per annum for residents within the immediate authority areas which is considered to be a reasonable assumption based on the Applicant's experience of buildings solar schemes elsewhere in the country.

9.10.9. Displacement is also a consideration when estimating potential construction employment, measuring the extent to which the benefits of the Proposed Development are potentially offset by reductions elsewhere (e.g., workers leaving other projects to work on the Proposed Development). Without specific local information, a displacement factor of 25% is considered appropriate for the construction labour force as taken from the HCA Additionality Guide [9]. When applied to the potential FTE jobs, this would give a net direct employment figure of 158 FTE jobs per annum.

9.10.10. In addition to the direct employment opportunities in constructing the Proposed Development, indirect and induced effects will also be felt through supply change benefits, as well as non-local construction staff staying and spending locally during the construction period, bringing wider indirect benefits to the construction supply chain, local accommodation, businesses and service providers.

9.10.11. Using ready reckoner figures from the HCA Additionality Guide and given the likely regional nature of any effects, a 1.5 composite multiplier has been selected. When applied to the total net direct figure of 158 FTE, this would suggest an additional net indirect and induced employment benefit of 79 jobs per annum over the construction period.

Table 9-8 Net Construction Employment Estimate

Source: Arup calculations 2023, based on employment figures provided by the Applicant

	Immediate Study Area	Wider Region	Total
Gross Direct Employment	126	84	210
Displacement	-31	-21	-52
Net Direct Employment	95	63	158
Indirect and Induced	47	32	79
Total Net Employment	**142**	**95**	**237**

9.10.12. The sensitivity of the local labour market is considered to be medium, and given the temporary nature of the construction period, the magnitude of impact is considered to be low, leading to a minor beneficial effect, which is not significant.

9.10.13. No essential mitigation is required, and as such residual effects remain as reported.

Land use

Recreational and community facilities

9.10.14. As identified within Table 9-4, all recreational and community facilities within the study area are of low sensitivity to change.

9.10.15. The construction of the Proposed Development would not lead to any direct effects on any of the receptors identified.

9.10.16. All potential effects on recreational and community facilities will therefore be indirect and temporary in nature and will be largely associated with construction traffic and construction noise. Measures are identified in the Outline Construction Traffic Management Plan (CTMP) (Document Reference 6.4.2.8) to ensure continued access to all recreational and community facilities and any noise mitigation measures are identified through ES Chapter 11 Noise and Vibration (Document reference 6.2.11).

9.10.17. On the basis of the above, the magnitude of impact on all receptors identified is considered to be low with minor adverse changes to the baseline position. When combined with their low sensitivity, this would lead to a negligible effect which is not significant.

9.10.18. No essential mitigation is required, and as such residual effects remain as reported.

Development Land

9.10.19. Whilst it is recognised that there are two areas of development allocations within the study area, these would remain unaffected by the Proposed Development as they are located outside of the Order Limits (although within the study area). Therefore, there would be no effects on allocated development land during construction.

9.10.20. Part of Panel Areas C and D have the potential to affect a safeguarded limestone mineral resource. At the time of writing, the Applicant is not aware of any proposals to utilise this resource in the short to medium term. Given its economic value and limited potential for substitution, the resource is considered to be of medium sensitivity.

9.10.21. The area covered by the Proposed Development is only a small element of the overall limestone resource within the county. Construction of the Proposed Development would temporarily sterilise the mineral resource, although the resource would remain in situ for the duration of the Proposed Development and could be extracted following decommissioning.

9.10.22. The magnitude of impact on the limestone mineral resource is therefore considered to be low, which when combined with a medium sensitivity would lead to a minor adverse effect which is not significant.

9.10.23. No essential mitigation is required, and as such residual effects remain as reported.

Public Rights of Way

9.10.24. It is anticipated that there will be a requirement for local management and/or short-term, temporary closures of some PRoW to facilitate the construction of the Proposed Development. The nature of these short-term, temporary closures are dependent on the final construction methodology to be employed by the contractor but will follow the hierarchy as outlined in the Outline Public Rights of Way Management Plan (PRoW Management Plan) (Document Reference 6.4.2.15), which will be updated and subject to agreement with the Local Planning Authority (LPA) in advance of the construction stage of the Proposed Development.

9.10.25. In the context of the Outline PRoW Management Plan (Document Reference 6.4.2.15), the appointed contractor will seek to keep access open throughout the construction stage wherever it is safe and practicable to do so.

9.10.26. There are also very few instances where the proposed construction access route interacts with or sits wholly within an existing Right of Way. Where this is the case, measures will be put in place to ensure that the route will remain accessible throughout the construction period, where it is safe and practicable to do so. Further information is set out in the Outline PRoW Management Plan (Document Reference 6.4.2.15).

9.10.27. Where stopping up of PRoW is proposed, with a replacement or new route to be provided, these works will take place in advance of construction, allowing continued access to the public across the diverted or new route.

9.10.28. Table 9-9 below identifies the PRoW that will interact with the Proposed Development during its construction phase. It also provides a description of the perceived impact and the mitigation measures proposed to reduce the significance of effect wherever practicable and possible to do so.

Table 9-9 Construction effects on PRoW

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
Parish of Brafferton (Darlington)			
Footpath No.7 (1,199m) (FP-Bfn.7)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate installation of solar PV panel area. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.8 (1,857m)	~205m stopped up at its western extent, between its intersection with Highhouse Lane and Footpath No.9.	Rerouting along Footpath No.7 from its intersection with Footpath No.9, and a new footpath for a length of ~150m between Footpath No.7 and the existing Footpath No.8.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.9 (1,619m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.10 (1,847m)	~450m stopped up at its mid-northern extent and mid-eastern extent.	Rerouting along north-western boundary for a length of ~470m.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.12 (1,154m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
Footpath No.15 (1,286m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.20 (545m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Bridleway No.11 (2,452m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Bridleway No.13 (1773m)	No change. Bridleway remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Bridleway No. 14 (1,822m) – panel area	No change. Bridleway remains on current alignment.	Bridleway will remain a minimum of 3m wide, with 3m wide hedgerow either side, to allow for pedestrian and equestrian to pass without conflict.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Parish of Great Stainton (Darlington)			

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
Footpath No.3 (874m)	Partial stopping up of Footpath no.3 of ~290m, between Gebe Road and The Green.	A diversion and rerouting of ~430m to follow the existing access track alignment and existing field boundaries.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.4 (1,576m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.6 (1,437m)	No change. Footpath remains on current alignment.	Manage short-term closure with minimal localised diversion to accommodate panel installation. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.8 (977m)	A total stopping up of Footpath No.8.	A diversion and rerouting of ~865m which follows the alignment of Elstob Lane and Bishopton Lane.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.12 (1,154m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Parish of Little Stainton (Darlington)			
Footpath No.1 (1,526m)	No change. Footpath remains on current alignment.	Manage short-term closure with minimal localised diversion to accommodate panel	This would lead to a minor change to the baseline conditions which is of low

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
		installation. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	magnitude, leading to a minor adverse effect.
Footpath No.2 (794m)	No change. Footpath remains on current alignment.	Manage short-term closure with minimal localised diversion to accommodate panel installation. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.5a (407m)	No change. Footpath remains on current alignment.	Manage short-term closure with minimal localised diversion to accommodate panel installation. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Parish of Bishopton (Darlington)			
Footpath No.2 (499m)	Partial stopping up -490m of its northeastern extent.	Diversion or rerouting of ~960m of new right of way connecting to the existing Footpath No.5 and running adjacent to Folly Bank.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.3 (729m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath No.4 (1,098m)	Partial stopping up ~600m of its northern extent.	Diversion or rerouting of ~600m of new right of way in between the proposed panel areas,	This would lead to a minor change to the baseline conditions which is of low

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
		connecting to Footpath No.3 in the Parish of Bishopton.	magnitude, leading to a minor adverse effect.
Footpath No.7 (1.812m)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Parish of Redmarshall (Stockton-on-Tees)			
Footpath FP1 (length unknown)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath FP2 (length unknown)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Parish of Carlton (Stockton-on-Tees)			
Footpath FP1 (length unknown)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.

Right of way reference	Extent of impact	Mitigation proposed	Significance of effect
Footpath FP6 (length unknown)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.
Footpath FP47 (length unknown)	No change. Footpath remains on current alignment.	Manage short-term closure with potential with minimal localised diversion to accommodate cable laying. Exact mitigation will be confirmed by contractor through an update to the PRoW MP prior to construction and subject to agreement with the LPA.	This would lead to a minor change to the baseline conditions which is of low magnitude, leading to a minor adverse effect.

9.10.29. As part of this assessment, it is particularly important to highlight the proposed addition of permissive trails throughout the Proposed Development's boundary, enabling a more cohesive public right of way network. These permissive routes will be further enhanced through the provision of signage and local management, in agreement with the LPA.

9.10.30. No essential mitigation is required, and as such residual effects remain as reported.

Agricultural Land and Soil Resources

9.10.31. The Proposed Development would require the temporary loss of approximately 457ha of agricultural land within the six panel areas and the underground cables, in addition to approximately 33ha of non-agricultural land (particularly at the Norton substation). The vast majority (93%) of the agricultural land is of Subgrade 3b quality; areas of BMV quality land in Grades 2 and 3a total 30ha or 6.6% of the agricultural land used temporarily.

9.10.32. Land of Subgrade 3b quality is a resource of low sensitivity and the magnitude of change is high. The BMV quality land is primarily of medium sensitivity and the magnitude of change is medium.

9.10.33. The effect of the Proposed Development on all agricultural land during construction would therefore be a direct, temporary, long-term moderate adverse effect, which is significant. The effect on BMV quality land would also be moderate adverse, which is significant.

9.10.34. Most of the soils within the Proposed Development area are clay or heavy clay loam which are soil textures of high sensitivity. Following best practice guidance on soil management set out in the Outline Soil Resources Management Plan (Document Reference 6.4.2.12) should ensure that any damage is minimal and that the soil will continue to be able to fulfil its various ecosystem functions, which would be a low magnitude of change. The effect on soil resources would therefore be moderate adverse during construction.

9.10.35. No essential mitigation is available, and as such residual effects remain as reported.

Wider impact on farm holdings

9.10.36. At the time of Scoping and PEIR it was the ambition of the Applicant to be able to secure all necessary land required for the preferred underground cable routes for the Proposed Development through voluntary agreements. However, at the time of submission of the DCO Application, this has not been secured and land is included within the Order Limits for either on-road or off-road routes, with the off-road options being the preference of the Applicant.

9.10.37. The Scoping Opinion (Document Reference 6.4.4.2) confirmed that wider impact on farm holdings could be scoped out of the assessment where agreements with

landowners were in place. Given that such agreements have not yet been reached for the off-road cable routes, this section of the assessment considers potential wider impacts on farm holdings that may emerge from the laying of cables in areas outside of the Panel Areas for which agreements have been signed. This considers all potential off-road cable routes and is considered a worst-case assessment.

9.10.38. Where agreement cannot be reached, the draft DCO (Document Reference 3.1) seeks compulsory acquisition powers for off-road areas in order to enable cables to be laid in between panel areas, as well as from the on-site substation to the Norton Substation. As described in Chapter 2 The Proposed Development (Document Reference 6.2.2) the preferred method of cable installation is via cable plough, as the most efficient and least impactful method of installation, causing minimal disruption to the ground by cutting, installing and back-filling in one operation. This system means that land is only required for a short period of time and following installation of the cable along the agreed route, the land will return to its existing use and the relevant landowner(s) will be able to use and access the land at all times, unless otherwise stated or agreed (i.e., maintenance).

9.10.39. The sensitivity of the farm holdings within this context is considered to be medium, and the magnitude of impact during the construction phase is considered to be low, leading to a minor effect which is not significant.

9.10.40. No essential mitigation is required, and as such residual effects remain as reported.

Operation

Socioeconomic

9.10.41. During the operational phase of the Proposed Development there would be a minimal amount of maintenance required, and it is considered likely that the workforce would comprise part of a wider national team that are responsible for the maintenance of a number of solar farms across the UK.

9.10.42. The sensitivity of the local labour market is considered to be medium, and the magnitude of impact during the operational phase is considered to be negligible, leading to a negligible effect which is not significant.

9.10.43. The Applicant is also providing a Community Benefit Fund of ~£1.5m across the lifecycle of the Proposed Development. How the Community Benefit Fund will be allocated is subject to agreement, but previous projects delivered by the Applicant have ensured that the funds are spent on things such as accessible footpaths, new native planting, improved highway safety, outdoor play areas, picnic benches, community orchards, rooftop solar for community buildings and funding for other local sustainable initiatives.

9.10.44. No essential mitigation is required, and as such residual effects remain as reported.

Land Use

Recreational and community facilities

9.10.45. As outlined above, it is considered that the effects on recreational and community facilities will be indirect and temporary in nature and be primarily felt during the construction period due to an increase in construction traffic.

9.10.46. It is considered that there would be a negligible impact during this time, and therefore the effect is not reported again here.

9.10.47. No essential mitigation is required, and as such residual effects remain as reported.

Development Land

9.10.48. The impact on the identified safeguarded limestone mineral resource is reported during the construction phase of the Proposed Development in paragraphs 9.10.17 – 9.10.20 of this Chapter, and it is considered that the impact would occur during that time and remain as is during the operational phase. Therefore, the effect is not reported on again here.

9.10.49. No essential mitigation is required, and as such residual effects remain as reported.

Public Rights of Way

9.10.50. The Applicant is proposing to provide an additional ~3600m of permissive paths, during the construction stage, in order to create an enhanced and better-connected network in the local area.

9.10.51. As outlined above, it is proposed that a total of ~3600m of permissive paths will be implemented during the construction stage of the Proposed Development. It is the intention of the Applicant to retain access during the operational stage wherever safe and practicable to do so. Temporary closures or diversions to allow for maintenance activities will be subject to agreement with the Local Planning Authority through the provision of an updated Public Rights of Way Management Plan.

9.10.52. Table 9-10 below identifies the proposed permissive paths, which are also shown on the Environmental Masterplan (Document Reference 2.10).

Table 9-10 Proposed permissive routes

Reference no.	Length of route and connectivity into existing network
PR-GtStn.1	New route to abut the northern extent of Oat Hill Farm, connecting into Footpath No.4 in the Parish of Great Stainton
PR-GtStn.2	New route to connect Footpath No.3 and diverted Footpath No.8 in the Parish of Great Stainton

Reference no.	Length of route and connectivity into existing network
PR-LtStn.1	New route to connect into Footpath No.1 in the Parish of Little Stainton and Footpath No.6 in the Parish of Great Stainton
PR-Btn.1	New route to connect into Footpath No.3 in the Parish of Bishopton
PR-Btn.2	New route to connect into Footpath No.4 in the Parish of Bishopton

9.10.53. No essential mitigation is required, and as such residual effects remain as reported.

Agricultural Land and Soil Resources

9.10.54. There are no direct effects on agricultural land or soil resources anticipated to occur during the operational phase of the Proposed Development and these effects are agreed to be scoped out of the assessment.

9.10.55. There is the potential for some of the land to continue to be used in an agricultural capacity as grazing land during the lifetime of the Proposed Development, and for the soil resources to benefit from a less intensive management than under agricultural use.

9.10.56. No essential mitigation is required, and as such residual effects remain as reported.

Wider impact on farm holdings

9.10.57. It is not anticipated that there will be any direct effects on farm holdings during the operational phase of the Proposed Development, and it is therefore scoped out of the assessment.

Decommissioning

Socioeconomic

9.10.58. It is considered that the effects on socioeconomic receptors during decommissioning of the Proposed Development will be similar in nature to the construction stage due to their similar nature with regards to duration, and type and location of activity, and are therefore not repeated here.

9.10.59. The sensitivity of the local labour market is considered to be medium and given the temporary nature of the decommissioning period the magnitude of impact is considered to be low, leading to a minor beneficial effect.

9.10.60. No essential mitigation is required, and as such residual effects remain as reported.

Land use

Recreational and community facilities

9.10.61. It is considered that the effects on the identified recreational and community facilities during decommissioning of the Proposed Development will be similar in nature to the construction stage and are therefore not repeated here.

9.10.62. The magnitude of impact on all receptors identified is considered to be low with minor adverse changes to the baseline position. When combined with their low sensitivity, this would lead to a negligible effect which is not significant.

9.10.63. No essential mitigation is required, and as such residual effects remain as reported.

Development Land

9.10.64. As highlighted in the construction effects, the identified safeguarded mineral resource would become available for extraction again during the decommissioning phase of the Proposed Development.

9.10.65. The magnitude of impact on the limestone mineral resource is therefore considered to be low, which when combined with a medium sensitivity would lead to a minor beneficial effect.

9.10.66. No essential mitigation is required, and as such residual effects remain as reported.

Public Rights of Way

9.10.67. It is the intention of the Applicant to, wherever possible, keep the PRoW network open during the decommissioning phase, with appropriate management and safety measures put in place. Similar to the construction phase, an updated PRoW Management Plan will be prepared and agreed with the LPA prior to the decommissioning phase, detailing how the relevant PRoW will be reverted back to their original alignment, or extinguished, where appropriate. The updated Public Rights of Way Management Plan will also include appropriate enhancement measures at that time.

9.10.68. It is considered likely that the PRoW diverted during the construction phase, as part of the Proposed Development, would remain on their operational alignment and therefore would not revert back to the previous – or baseline – alignment. This will be discussed and agreed on an individual basis with the landowner(s) at the appropriate time.

9.10.69. Due to the temporary nature of the anticipated impact, the magnitude of impact on the receptors is therefore considered to be low, which when combined with a medium sensitivity would lead to a minor adverse effect which is not significant.

9.10.70. No essential mitigation is required, and as such residual effects remain as reported.

Agricultural Land and Soil Resources

9.10.71. The effect on agricultural land quality at decommissioning will be influenced by the extent of disturbance caused by the removal of the solar panels, for example the presence and dimensions of leftover voids. There is a possibility that soil quality may have improved by the time of decommissioning as leaving land undisturbed under long-term grassland is likely to lead to benefits to soil health and structure. The ALC grading is however likely to remain as the baseline conditions.

9.10.72. The return of approximately 457ha to agricultural production following decommissioning would be a high magnitude of change on a resource of mostly low sensitivity, and results in a direct, long-term, moderate beneficial effect on agricultural land, which is significant.

9.10.73. No essential mitigation is available, and as such residual effects remain as reported.

Wider impact on farm holdings

9.10.74. As highlighted in the construction effects, the potential for a wider impact on farm holdings would be largely felt during the construction phase only. However, it is anticipated that similar effects would be felt during the decommissioning phase.

9.10.75. The sensitivity of the farm holdings within this context is considered to be medium, and the magnitude of impact during the decommissioning phase is considered to be low, leading to a minor effect which is not significant.

9.10.76. No essential mitigation is available, and as such residual effects remain as reported.

9.11. Monitoring

Socioeconomic

9.11.1. Due to the negligible and non-significant effect anticipated on the identified socioeconomic receptors, no monitoring will be required during the operational phase of the Proposed Development.

Land use

Recreational and community facilities

9.11.2. Due to the negligible and non-significant effect anticipated on the identified recreational and community facilities, no monitoring will be required during the operational phase of the Proposed Development.

Development Land

9.11.3. No monitoring will be required during the operational phase of the Proposed Development.

Public Rights of Way

9.11.4. No monitoring will be required during the operational phase of the Proposed Development.

Agricultural Land and Soil Resources

9.11.5. No monitoring will be required during the operational phase of the Proposed Development. The land will be re-assessed and monitored following decommissioning, as secured within the Outline Decommissioning Environmental Management Plan (DEMP) (Document Reference 6.4.2.7), to determine any lasting effects from the removal of solar farm infrastructure on the soil structure and agricultural land quality. A condition survey with amelioration measures as required will form part of the decommissioning management plan.

9.12. Summary

9.12.1. Table 9-11 provides a summary of the identified impacts, mitigation and likely effects of the Proposed Development on Land use and Socioeconomics. The table has been subdivided into effects for construction, operation and decommissioning, and considers the following receptor types:

- Socioeconomic – focusing on employment opportunities;
- Land Use - focusing on recreational and community facilities, development land (including mineral resources), and public rights of way (ProW); and
- Agricultural land and soil resources.

Table 9-11 Land use and Socioeconomics assessment summary

Receptor type	Impact	Embedded/Essential Mitigation and how secured	Receptor Sensitivity	Magnitude of impact	Significance of effect
Construction					
Socioeconomic receptors	Employment and supply chain opportunities	Employment and supply chain opportunities	Medium	Low	Minor beneficial, not significant
Land Use - Recreational and community facilities	Maintained access	Ensure continued access as identified in the Outline CTMP (Document Reference 6.4.2.8)	Low	Low	Negligible, not significant
Land Use – Development land	Sterilisation of safeguarded limestone mineral resource	N/A	Medium	Low	Minor adverse, not significant
Land Use – Public Rights of Way	Required closing / extinguishment of existing PRoW	Provision of diverted routes	Medium	Low	Minor adverse, not significant
Agricultural land	Loss of land for agricultural production	Outline Soil Resources Management Plan (Document Reference 6.4.2.12)	Low	High	Moderate adverse, significant
Soil resources	Disturbance of land	Outline Soil Resources Management Plan (Document Reference 6.4.2.12)	High	Low	Moderate adverse, significant
Operation					
Socioeconomic receptors	No relevant impacts	N/A	N/A	N/A	N/A
Land Use - Recreational and community facilities	No relevant impacts	N/A	N/A	N/A	N/A
Land Use - Development land	Sterilisation of safeguarded limestone mineral resource	N/A	Medium	Low	Minor adverse, not significant
Land Use – Public Rights of Way	Required closing / extinguishment of existing PRoW	Use of signage and permissive routes	Medium	Low	Minor, not significant

Receptor type	Impact	Embedded/Essential Mitigation and how secured	Receptor Sensitivity	Magnitude of impact	Significance of effect
Agricultural land and soil resources	Scoped out	N/A	N/A	N/A	N/A
Decommissioning					
Socioeconomic receptors	Employment and supply chain opportunities	Employment and supply chain opportunities	Medium	Low	Minor beneficial, not significant
Land Use – Recreational and community facilities	Maintained access	To be confirmed in a future Decommissioning Environmental Management Plan	Low	Low	Negligible, not significant
Land Use – Development land	N/A	N/A	N/A	N/A	N/A
Land Use - Public Rights of Way	To be confirmed in a future Decommissioning Public Rights of Way Management Plan		Medium	Low	Minor adverse, not significant
Agricultural land and soil resources	Improved soil health Return to agricultural production	Outline Soil Resources Management Plan (Document Reference 6.4.2.12) and leaving the land fallow	Low to high	High	Moderate beneficial, significant

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