Proposed Solar PV Development

Preliminary Environmental Information Report Chapter 9 Land use and Socio-economics

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9.1. Introduction

9.1.1. This chapter presents the findings of the preliminary assessment of the likely significant effects arising from the construction, operation and decommissioning of the Proposed Development on socioeconomic and land use receptors.

9.1.2. This chapter details the methodology followed for the assessment, summarises the regulatory and policy framework, and describes the existing environment in the area surrounding the Proposed Development. Following this, the design, mitigation and residual effects of the Proposed Development are discussed, along with the limitations of the assessment.

9.1.3. In line with the Scoping Report and Scoping Opinion, the socio-economic and land use aspects considered within the chapter for the Proposed Development include:

- 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.

9.1.4. Some of the content discussed in this chapter will cross-refer with discussions in other chapters. It may be useful to make reference to other chapters, most notably; Chapter 7 Landscape and Visual, Chapter 11 Noise and Vibration and Chapter 12 Traffic and Transport.

9.1.5. The approach to cumulative assessment of both in-combination effects across disciplines and with other projects is outlined in Chapter 13 Cumulative Effects. Further information is required to allow for a proportionate assessment to be made including the agreement of a list of cumulative developments to be considered.

9.1.6. Where in-combination effects are identified across topics, these will be considered during the assessment process and reported within the appropriate topic chapters in the Environmental Statement (ES) where the effect has been identified.

9.2. Competent expert advice

9.2.1. The land use and socio-economics chapter is led by David Brown. David is a Chartered Town Planner (MRTPI) working for Arup with more than eighteen years' relevant experience including EIA. His qualifications include a BSc in Human Geography and an MSc in Regeneration Studies, both from the Cardiff University School of City and Regional Planning. David has led a number of solar projects through the planning

process and has extensive experience in the assessment and consenting of renewable energy projects, including acting as Expert Witness on land use and planning matters. The chapter was co-authored by Lucia Maclachlan, a senior consultant working for Arup who has over five years' relevant experience and whose qualifications include an MSc in Urban Planning.

9.2.2. The agricultural land and soils assessment is being led by Alastair Field, BA (Hons), MSc, FBIAC, PIEMA, MI Soil Sci, who is a Director of Reading Agricultural Consultants Ltd with over thirty years' experience of assessing the impacts of developments on agricultural land and soils, and considerable experience of providing expert evidence at public inquiries, hearings and DCO examinations. He is supported by Sophie Webb, BSc (Hons), MSc, MI Soil Sci who is an Associate of Reading Agricultural Consultants with eleven years' experience as a soil scientist, assessing impacts of developments on agricultural land and soils.

9.3. Legislative and policy framework

9.3.1. 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.

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

Legislation

9.3.3. 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

9.3.4. The following national and local policies of relevance have been considered:

National

9.3.5. The national policies of relevance include:

- NPS EN-1, with reference to paragraph 4.1.4 which discusses adverse effects and benefits, paragraph 4.2.1, paragraph 4.2.2 in relation to socioeconomics, paragraph 5.10.8 in relation to impacts on best and most versatile (BMV) agricultural land, and paragraph 5.12.2 in relation to socioeconomics;
- NPS EN-3, Renewable Energy Infrastructure is currently in the process of being updated. The current NPS does not include specific reference to solar technologies however, the latest Draft NPS includes a section on solar photovoltaic generation and this will be considered as the draft progresses;

- The NPPF [1] sets out the government's planning policies for England and how these should be applied. Whilst the policies set may be relevant to the assessment, the NPPF does not form the basis for a decision on an NSIP. The assessment would therefore focus on a number of key sections, including Building a strong, competitive economy (Section 6), paragraphs 80, 82 and 83, Achieving well designed places (Section 12), paragraphs 127 and 128, and Conserving and enhancing the natural environment (Section 15), paragraphs 170b, 174 and 175, and footnote 58;
- National Economic Development Policy and in particular the Government's Industrial Strategy [2];
- Planning Practice Guidance – Natural Environment paragraphs 001 and 002 [3]; and
- Planning Practice Guidance – Renewable and Low Carbon Energy paragraph 013 [4].

Local

9.3.6. The Proposed Development lies within the administrative boundaries of Darlington Borough Council, Stockton-on-Tees Borough Council and Durham County Council. Planning policy of relevance to the assessment which are considered includes:

- Darlington Local Plan (2016-2036)
- Stockton-on-Tees Borough Council Local Plan
- County Durham Plan (2020)
- The Joint Minerals and Waste Plan
- Any supplementary or supporting documentation of relevance.

Guidance

9.3.7. The following industry guidance has been used to inform the assessment:

- Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites [5];
- 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;
- Natural England (2010), North East Region 1:250,000 Series Agricultural Land Classification;
- Soil Survey of England and Wales (1984), Soils of Northern England (1:250,000), Sheet 1; and
- Jarvis et al (1984), Soils and Their Use in Northern England. Soil Survey of England and Wales Bulletin 10, Harpenden.

9.3.8. In addition, guidance published through the Design Manual for Roads and Bridges (DMRB) 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.

9.4. Assessment Methodology

9.4.1. The assessment considers the potential direct and indirect effects of the Proposed Development for socioeconomic receptors and agricultural land and soil resources. Effects are considered during the construction, operational and decommissioning phases of the Proposed Development.

9.4.2. The Proposed Development has the potential to have a range of effects, as detailed in section 9.11 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 PEIR assessment, the following receptor types have been considered:

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

9.4.3. As there is no definitive guidance on the assessment of socioeconomic 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.

Agricultural land and soil resources

9.4.4. The survey methodology followed the well-established guidelines and criteria for classifying the quality of agricultural land [6]. 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.

9.4.5. 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.

9.4.6. Topsoil samples were submitted for laboratory analysis of particle size distribution, pH, organic matter content and nutrient content.

9.4.7. The soil characteristics were then analysed in terms of the ALC guidelines to establish the grade of agricultural land within the site.

9.4.8. As set out in the Scoping Report, the assessment methodology is based on determining the sensitivity and magnitude of change on the relevant receptors of agricultural land and soil resources. 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 Table 9-1.

Significance criteria

9.4.9. 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.

9.4.10. Table 9-1 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 material 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 or community facilities, irreversible effects on Grade 1 BMV agricultural land, and/or soils with high clay and silt fractions.
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 material loss or gain as a result of potential changes in the environment, with limited potential for substitution. For example: a footpath or bridleway, irreversible effects on 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 material loss or gain as a result of potential changes in the environment, with potential for substitution. For example: a permissive trail, effects on Grades 3b and 4agricultural land and/or soils with a high sand fraction.

Sensitivity	Definition of sensitivity
Negligible	Grade 5 agricultural land.

9.4.11. Table 9-2 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 conditions 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 conditions for a moderate number of businesses, individuals or groups of individuals. Development would directly lead to the loss of between 20ha and 50ha 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 conditions for a small number of businesses, individuals or groups of individuals. Development would directly lead to the loss of between 5ha and 20ha of agricultural land. 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 conditions 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.

9.4.12. Table 9-3 illustrates how the sensitivity and magnitude criteria are used to assess significance.

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. Scoping and Consultation

Scoping

9.5.1. A scoping report was submitted to PINS on 27 October 2022, with a Scoping Opinion received on 6 December 2022. Table 9-4 includes a summary of how this chapter of the PEIR has responded to each scoping opinion comment.

9.5.2. Consultation with Darlington Borough Council's Public Right of Way Officer has taken place to inform the development of the Outline Environmental Management Plan (EMP). This has included discussions in relation to PRoW impacted by the scheme and potential mitigation solutions which have subsequently been embedded into the scheme design (see section 9.10 of this chapter).

9.5.3. Consultation with Darlington Borough Council's Minerals and Waste Officer is ongoing, and further details will be provided at ES stage.

Table 9-4 Response to the Scoping Opinion

Reference	Stakeholder	Comment	Response
3.5.1	▪ PINS	▪ Agrees to scope out socio-economics effects related to the local population on the basis that it will be considered by other assessment chapters e.g. visual amenity and other amenity impacts.	▪ Specific potential impacts on the local population are considered in other PEIR chapters e.g., Chapter 7 Landscape and Visual, Chapter 11 Noise and Vibration and Chapter 12 Traffic and Transport.
3.5.2		▪ PINS agrees to scope out impacts on mineral assets if the Applicant can confirm there are no plans to extract the limestone form the Darlington Borough Council's Mineral Safeguarding Zone during the lifetime of the Proposed Development.	▪ Consultation is ongoing with Darlington Borough Council and this point will be confirmed at ES stage.
3.5.3		▪ PINS agrees to scope out impacts to soil resources during operation.	▪ Noted. Impacts will take place during construction, and these have been reported in section 9.11 of this chapter.
3.5.4		▪ PINS agreed to scope out effects on agricultural land during the operation phase of the Proposed Development on the basis that significant effects on agricultural land are likely to be restricted to the construction and decommissioning phases.	▪ Section 9.11 of this chapter summarises the assessment of likely significant effects during the construction, decommissioning and operation of the Proposed Development.
3.5.6		▪ New census data was published on 28 June 2022. This should be used to inform baseline data and the ES assessment.	▪ Baseline data presented in section 9.8 of this chapter utilises the data published as part of the 2021 census outputs.
3.5.7		▪ Paragraph 9.6.7 of the Scoping Report states that the Applicant is exploring the potential for continued agricultural use of the site within the solar PV module areas. The ES should set out the type of agricultural use being considered and assess potential effects on land use and socioeconomics, where significant effects are likely.	▪ The potential for continued agriculture on the site is still being explored and will be confirmed and considered at ES stage.

Reference	Stakeholder	Comment	Response
	▪ Darlington Borough Council	▪ The Council would question the scoping out of agricultural land during the operational phase when it is scoped in for both the construction and decommissioning phases. The Council is of the view that that the agricultural land may also in effect be lost during this phase as the ES states that it is not clear if it will be available for agricultural use during operation. This is also particularly when there is the potential for BMV quality agricultural land which would not available for the type of agriculture it is best used for and the growing of crops. Should it occur any agricultural use is likely to be restricted to occasional grazing. Therefore the loss of BMV quality agricultural land during the proposals operation could be significant and should be considered as part of the ES.	▪ The Inspectorate has confirmed at ID 3.5.3 and ID 3.5.4 of the Scoping Opinion that the impact to soil resources during operation and the impact on agricultural land during operation can be scoped out on the basis that impacts (e.g. taking land out of production) and potential for significant effects would occur during the construction phase of the Proposed Development. ▪ The Applicant is continuing to explore the potential for continued agricultural practices and these will be fully reported at ES stage.
	▪ Natural England	▪ The following issues should be considered and, where appropriate, included as part of the ES; ▪ The degree to which soils would be disturbed or damaged as part of the development ▪ The extent to which agricultural land would be disturbed or lost as part of this development, including whether any BMV agricultural land would be impacted. ▪ Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, supported by pits. ▪ The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan.	▪ The degree of disturbance to the different soil types and land grades has been assessed. ▪ An ALC and soil survey was required and was undertaken in accordance with the established guidelines, at an observation density of one per hectare and supported by soil pits.

Reference	Stakeholder	Comment	Response
		▪ The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning […].	▪ Details of how adverse impacts on soils can be minimised are set out under section 9.10 of this chapter.

9.6. Assessment Assumptions and Limitations

9.6.1. This PEIR provides preliminary information based on the design development to date and the data gathered at this point in time, including an assumption that the construction period will last for 12-months. Some of the information gathered will be supplemented and provided in full and final form within the ES.

9.6.2. The PEIR is intended to inform consultation responses and a more detailed assessment of the identified direct effects and potential indirect amenity effects on identified sensitive receptors will be undertaken at the ES stage, drawing on the further assessment work of other disciplines.

9.6.3. Discussions in relation to the limestone mineral resource affected by the Proposed Development are ongoing, and therefore the assessment has been based on information available through published data. However, the minerals and waste policies do not currently identify proposals for mineral extraction in the area.

9.6.4. Specific to the Agricultural Land Classification (ALC) Survey, this PEIR reports on findings to date. Access to one parcel of land was not possible to inform the PEIR, however the survey will be completed on the land parcel prior to submission of the ES. The results of the survey work on adjoining land have been used as a proxy for the PEIR assessment.

9.6.5. Information gaps at the PEIR stage will be addressed as part of the ES. Mitigation measures will continue to evolve as the design progresses and will be considered at the ES stage.

9.7. Study Area

9.7.1. The study area to be used for the assessment of socio-economic 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). Further detail in relation to the relevant study areas will be provided within the ES, however the following are recommended as part of this EIA Scoping Report:

- 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.

9.8. Baseline Conditions

9.8.1. The baseline conditions for the Proposed Development at the time of the PEIR are presented below.

Socioeconomic

Population

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

9.8.3. Within the context of the North East county of England, the population of the three authorities within the study area comprises approximately 31%.

Age Structure

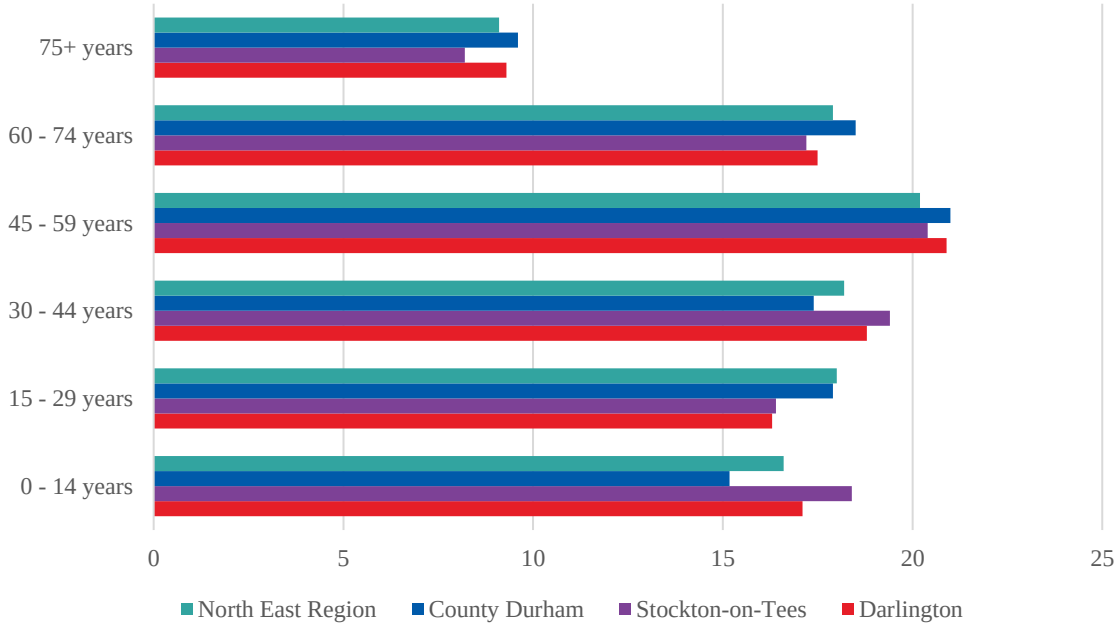
9.8.4. At the time of the 2021 Census, the proportion of the population within the study area who are of working age was as follows:

- 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)

9.8.5. 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 supports a resident population of 2,647,013 people [1], the age demographic of which is shown in Plate 9-1.

9.8.6. Plate 9-1 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, 22 March 2023



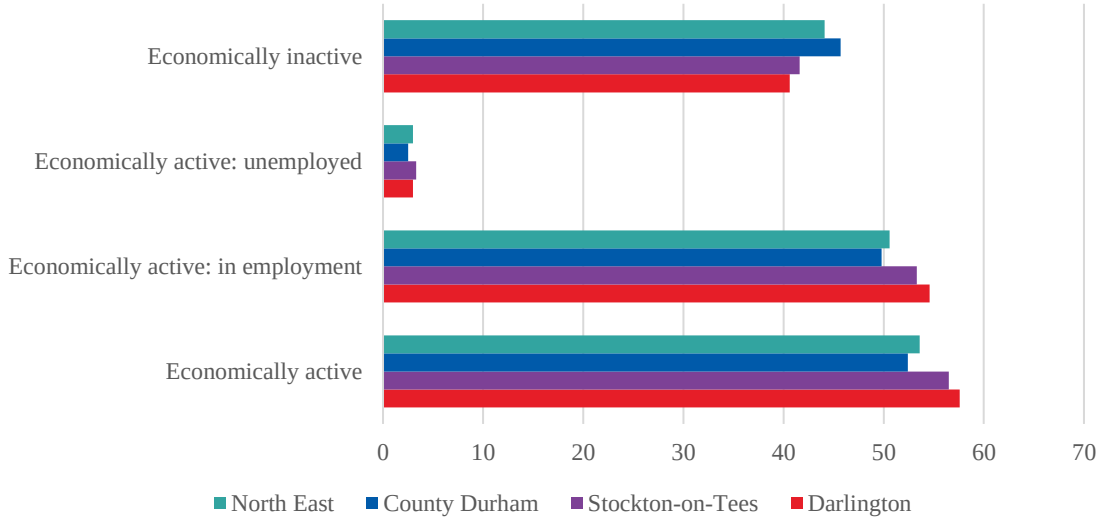
Employment and Economic Activity

9.8.7. Plate 9-2 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).

9.8.8. 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, 23 March 2023



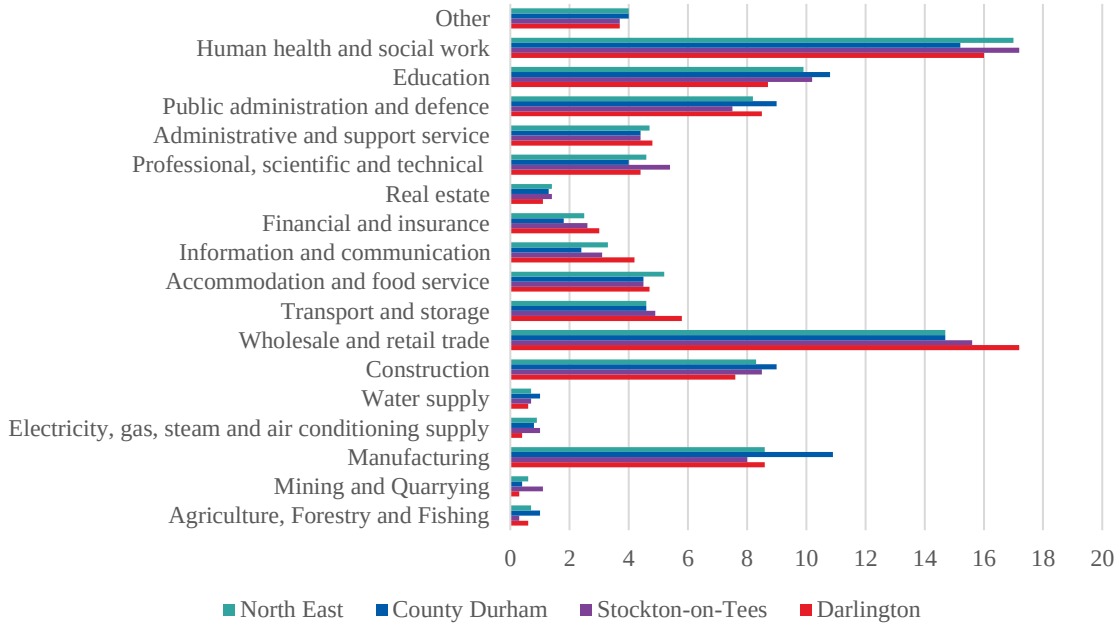
Key Sectors

9.8.9. Plate 9-3 shows the percentage of those in current employment by industry for Darlington, Stockton-on-Tees and County Durham as recognised within the 2021 Census.

9.8.10. 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, 24 March 2023



Recreational and community facilities

9.8.11. Table 9-5 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 PEIR Figure 9.3.

Table 9-5 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
Hall Garth Golf & Country Club	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	Community facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
Bishopton Redmarshall Primary School	Bishopton	Education	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
North East Wake Park	Bishopton	Recreational facility	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

Receptor	Location	Description	Sensitivity
Dogwood Adventure Play	Stockton-on-Tees	Recreational facility	Low – receptor has some social and/or community value, but function/use unlikely to experience loss or gain
St Peter's 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
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
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
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
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
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
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

Development land

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

9.8.13. As identified in the Scoping Report, parts of the Proposed Development is 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 9.11 of this chapter for more details.

Public Rights of Way

9.8.14. This section of the baseline considers all routes in the study area which have a legal status (i.e. PRoW), are promoted for use by non-motorised travellers or have been identified through consultation.

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

9.8.16. Table 9-6 below provides a summarised description of each PRoW which interacts with the scheme, and the sensitivities against each of these. These are shown on PEIR Figure 9.2.

9.8.17. It is considered that the PRoW identified in Table 9-6 below are of medium sensitivity given none identified are part of recognised regional or national trails.

9.8.18. There are also a number of footpaths along the potential cable route into Stockton-on-Tees within the vicinity of the settlements of Redmarshall and Carlton. When the cable route is fixed, a definitive list of PRoW potentially affected would be defined and potential impacts during construction considered.

Table 9-6 Existing PRoW that interact with the scheme

PRoW reference	
Parish of Brafferton	
Footpath No. 2 (397m)	Footpath No. 20 (545m)
Footpath No. 7 (1,199m)	Bridleway No. 1 (2,010m)
Footpath No. 8 (1,857m)	Bridleway No. 4 (2,183m)
Footpath No. 9 (1,619m)	Bridleway No. 11 (2,452m)
Footpath No. 10 (1,847m)	Bridleway No. 13 (1,773m)
Footpath No. 12 (1,154m)	Bridleway No. 14 (1,822m)
Footpath No. 15 (1,286m)	Bridleway No. 19 (750m)
Footpath No. 17 (931m)	
Parish of Barmpton	
Footpath No. 7 (711m)	Bridleway No. 9 (818m)
Bridleway No. 8 (1,122m)	Bridleway No. 13 (428m)
Parish of Great Stainton	
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	
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	
Footpath No. 1 (1,581m)	Footpath No. 6 (528m)
Footpath No. 2 (499m)	Footpath No. 7 (1,812m)
Footpath No. 4 (1,098m)	Bridleway No. 5 (1,181m)
Footpath No. 3 (729m)	

Agricultural Land and Soil Resources

9.8.19. The Proposed Development area comprises six Panel Areas. The baseline conditions at each are detailed in turn. The full schedule of observations is included in Appendix 9.1.

Panel Area A: Brafferton

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

9.8.21. 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.

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

9.8.23. 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. There is a wetness limitation to Subgrade 3b across most of Area A (approximately 96ha).

9.8.24. A secondary soil type is present that incudes 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. This area extends to approximately 18ha.

Panel Area B: Hauxley Farm

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

9.8.26. 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.

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

9.8.28. 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 wetness to Subgrade 3b.

Panel Area C: Byers' Gill Wood

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

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

9.8.31. 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 wetness to Subgrade 3b.

9.8.32.

Panel Area D: Great Stainton

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

9.8.34. 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.

9.8.35. Drainage is via the slope which directs water to Little Stainton Beck.

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

9.8.37. 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, all profiles are limited by wetness to Subgrade 3b.

Panel Area E: West of Bishopton

1.1.1 Panel Area E comprises two large arable fields.

1.1.2 The Area occupies a shallow east-facing slope. Altitudes are between 55m and 60m AOD.

1.1.3 The land drains to the east into Bishopton Beck.

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

1.1.5 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 wetness to Subgrade 3b.

Panel Area F: North of Bishopton

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

9.8.39. 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.

9.8.40. Drainage of the land is via the slopes and the beck.

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

9.8.42. 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 wetness to Subgrade 3b.

9.8.43. 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.

9.8.44. Table 9-1 below summarises each Panel Area, their land classification and subsequent sensitivity. This is shown on Figure 2 of PEIR Appendix 9.1.

Table 9-7 Agricultural Land and Soil Resource sensitivities

Panel Area	Agricultural Land Classification	Sensitivity
Panel Area A: Brafferton	84% Subgrade 3b; 16% Subgrade 3a	Low
Panel Area B: Hauxley Farm	100% Subgrade 3b	Low
Panel Area C: Byers' Gill Wood	100% Subgrade 3b	Low
Panel Area D: Great Stainton	4% Subgrade 3a; 96% Subgrade 3b	Low
Panel Area E: West of Bishopton	100% Subgrade 3b	Low
Panel Area F: North of Bishopton	6% Grade 2; 94% Subgrade 3b	Low

9.9. Potential effects

9.9.1. This section provides an overview of potential impacts from the Proposed Development on the receptor groups identified within section 9.4 of this chapter, before any mitigation or enhancement has been incorporated, during the construction, operation and decommissioning stages.

Construction

Socioeconomics

9.9.2. As outlined in the Scoping Report, 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.

9.9.3. Data in relation to construction employment will be presented at ES stage, and will consider the likely workforce requirements across the construction programme.

Recreational and community facilities

9.9.4. Effects on recreational and community facilities, such as places of worship, educational facilities and health centres 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

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

9.9.6. 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.

9.9.7. The Applicant is continuing to engage with Darlington Borough Council on this matter and further information will be provided at ES stage.

PRoW

9.9.8. Effects on recreational resources, such as PRoW, during the construction phase of the Proposed Development have been considered as part of this PEIR 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

9.9.9. During construction, agricultural uses will cease within each of the panel areas. Subject to further investigations and discussions, agricultural uses 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.

9.9.10. Agricultural activities will therefore be lost during the construction period. The vast majority (94% based on current survey data) of the agricultural land falls outside of the category of Best and Most Versatile (BMV) quality (Grades 1, 2 and 3a).

9.9.11. 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, virtually all of the long-term structures avoid the use of BMV land, and the on-site substation in particular has been sited on non-BMV Subgrade 3b land.

Operation

9.9.12. As outlined in the Scoping Report, and section 9.11 of this chapter, many of the impacts on socioeconomic, recreational and community facilities and PRoW receptors generated by the Proposed Development would be experienced during the construction phase. Where possible, pre-emptive mitigation measures have been embedded into the design and specifically for the anticipated construction effects (e.g., impacts on PRoW, continued access at all times etc.). These measures, as described in section 9.10 of this chapter, have been designed in such a way that they provide a permanent design solution.

9.9.13. These measures also seek to bring about enhancements to receptors and some of these enhancements (e.g., new sections of PRoW) will be implemented during the construction stage of the Proposed Development and therefore available in the operational phase of the Proposed Development.

Agricultural Land and Soil Resource

9.9.14. 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.

9.9.15. The Scoping Opinion confirms at ID 3.5.3 and ID 3.5.4 that effects on soil resources and agricultural land during the operation 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.

9.9.16. The Scoping Opinion also 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.

Decommissioning

Socioeconomics

9.9.17. 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.

Recreational and community facilities

9.9.18. 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

9.9.19. 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.

9.9.20. 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.

PRoW

9.9.21. 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

9.9.22. 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.

9.10. Design, mitigation and enhancements

Embedded design measures

9.10.1. The Proposed Development has been designed to avoid, eliminate or reduce potential impacts wherever possible, with certain mitigation embedded into the design. That mitigation has therefore been considered as part of this assessment.

9.10.2. 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.

9.10.3. Walking and cycling connectivity enhancements are further detailed in Chapter 7 Landscape and Visual and Chapter 12 Traffic and Transport.

9.10.4. Additionally, built structures such as access tracks, substations and compounds that would require soil stripping and disturbance have been directed toward the lower quality land available (that in Subgrade 3b quality), in order to avoid potential compaction or physical contamination of any BMV quality agricultural land.

Construction mitigation

Socioeconomics

9.10.5. The Applicant is committed to bringing benefit to the local economy during the construction of the Proposed Development and will continue to work with the Local Authorities and other interested parties to promote employment and supply chain opportunities within the local area.

9.10.6. Specific measures will be identified and committed through the ES.

Recreational and community facilities

9.10.7. To mitigate any indirect impacts during the construction period, the Applicant is committed to ensure continued access to the identified receptors throughout the construction of the Proposed Development, wherever possible and practicable to do so.

9.10.8. These measures are further identified and explained in the Construction Traffic Management Plan.

PRoW

9.10.9. Wherever possible, the Applicant is committed to maintaining access along the local PRoW network during the construction phase of the Proposed Development and will only restrict access where safety reasons dictate. At this stage it is proposed that PRoW are managed through the following hierarchy of measures for the construction phase:

- Use of signage where PRoW can remain open but users need to be warned of the presence of construction vehicles (local management)

- Implementation of short, temporary closures where local works might affect safety of users (local closures)
- Closure / extinguishment of a PRoW following early implementation of an alternative / new route (early re-provision)

9.10.10. Further detail on specific management measures and approaches will be provided through an Outline PRoW Management Plan which will be produced in support of the ES.

Agricultural Land and Soil Resource

9.10.11. There are no measures to mitigate the direct loss of agricultural land during construction.

9.10.12. There is a risk of long-term damage to soil structure, and the loss of potentially valuable soil, if there is uncontrolled trafficking of land and soil by heavy machinery, especially wheeled machinery.

9.10.13. A Soil Management Strategy (SMS) will be followed throughout the construction phase in order to avoid such damage. The SMS would set out rainfall criteria and a series of field tests which are used to determine the suitability of soil conditions prior to them being handled or tracked over.

9.10.14. In areas where the stripping and stockpiling of topsoil is necessary, best practice guidance, which would also be detailed in the SMS, should be adhered to.

Operation mitigation

9.10.15. During operation of the scheme, it is considered that the mitigation measures of relevance to socio-economic and land use receptors would already be in place, having been implemented early during the construction phase.

9.10.16. Some specific mitigation measures may be developed in relation to the management of land within the Site Area (e.g. continued agricultural practices and / or soil treatments) and these will be reported through the ES.

Enhancement

9.10.17. The Proposed Development offers a number of opportunities for enhancement and the Applicant is committed to continuing to explore these opportunities through the statutory consultation and beyond.

9.10.18. In relation to local access, the embedded design includes a number of permissive trails which have been identified as potentially enabling a more cohesive public right of way network. These, as well as other opportunities will continue to be reviewed with the relevant land owners and the initial proposed enhancements are shown on the Conceptual Landscape Masterplan (PEIR Figure 2.11).

9.10.19. In addition, the Applicant is committed to exploring wider community benefits as part of the Proposed Development and is seeking feedback on this through the statutory

consultation process. Any specific enhancement measures agreed / in place at the time of submission will be reported and assessed as part of the ES.

9.11. Assessment of likely significant effects

Construction

Socioeconomics

9.11.1. Data in relation to construction employment will be presented at ES stage, and will consider the likely workforce requirements across the construction programme, providing an indication of FTE equivalent jobs.

9.11.2. The Proposed Development is likely to offer a number of direct and indirect economic benefits during construction, including some direct employment of construction staff as well as local supply chain opportunities. For example, ground works and the supply of materials are likely to be sourced locally. The construction of the Proposed Development will however require some more specialist skills which may be sourced from outside the local area.

9.11.3. In addition to the above employment opportunities, non-local construction staff would be staying and spending locally during the construction period, bringing wider indirect benefits to local accommodation, businesses and service providers.

9.11.4. 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.**

Recreational and community facilities

9.11.5. As demonstrated in Table 9-5, all recreational and community facilities identified within the study area are of low sensitivity to change.

9.11.6. All potential effects on recreational and community facilities will be indirect in nature and will be largely associated with construction traffic and construction noise. Measures will be identified in the CTMP to ensure continued access to all recreational and community facilities and any noise mitigation measures are identified through Chapter 11 Noise and Vibration.

9.11.7. 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.

Development Land

9.11.8. Given the absence of development allocations within the study area, there would be no effects on allocated development land during construction.

9.11.9. Part of Panel Areas C and D have the potential to affect a safeguarded limestone mineral resource. At this PEIR stage, the Applicant is not aware of any proposals to utilise this resource in the short to medium term. However, confirmation is being sought from Darlington Borough Council. Given its economic value and limited potential for substitution, the resource is considered to be of medium sensitivity.

9.11.10. 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 sterilise the mineral resource, although the resource would remain in situ for the duration of the Proposed Development and could be extracted following decommissioning.

9.11.11. 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.

PRoW

9.11.12. The Proposed Development would not result in any direct or indirect impacts on the majority of identified PRoWs within the study area.

9.11.13. It is recognised in Chapter 7 Landscape and Visual that some PRoW will be affected during the construction phase, and as such, embedded mitigation has been proposed and is outlined on the Conceptual Landscape Masterplan (PEIR Figure 2.11). Further detail will be provided in a Public Rights of Way Management Plan at ES stage.

9.11.14. 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 medium sensitivity, this would lead to a **minor adverse effect** which is not significant.

Agricultural Land and Soil Resource

9.11.15. The Proposed Development would require the temporary loss of 497ha of agricultural land within the six panel areas during construction, in addition to 54.5ha of mostly agricultural land required for the underground cables and 11ha of non-agricultural land for the Norton substation. The vast majority (94% on the basis of current survey data) of the land is of Subgrade 3b quality; areas of BMV quality land in Grades 2 and 3a total approximately 26ha on the basis of currently surveyed areas.

9.11.16. 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.

9.11.17. The effect of the Proposed Development on all agricultural land during construction would therefore be a direct, long-term **moderate adverse effect**. The effect on BMV quality land would also be moderate adverse.

9.11.18. 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 a SMS 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.

Operation

Socioeconomics

9.11.19. 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.

9.11.20. 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.

Recreational and community facilities

9.11.21. It is not considered that there will be any impacts on the identified recreational and community facility receptors during the operational phase of the Proposed Development.

9.11.22. As demonstrated in Table 9-5, all recreational and community facilities identified within the study area are of low sensitivity to change. On the basis of the above, the magnitude of impact on all receptors identified is considered to be negligible, leading to a **negligible effect** which is not significant.

Development Land

9.11.23. Given the absence of development allocations within the study area, there would be no effects on allocated development land during operation.

9.11.24. The impact on the identified safeguarded limestone mineral resource is reported during the construction phase of the Proposed Development, 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.

PRoW

9.11.25. It is the intention of the Applicant to ensure that required RoW diversions in order accommodate the Panel Areas will take place during the construction stage only. As such, the impacts will only be experienced during the construction phase and the network will be unaffected during the operational phase of the Proposed Development.

9.11.26. Additionally, the Applicant is currently exploring the possibility of including additional permissive routes, the details of which will be reported on and considered at ES stage.

9.11.27. Therefore, in consideration of the receptor's medium sensitivity to change and negligible magnitude of impact on the identified receptors during the operational phase, the overall effect would be **negligible** which is not significant.

Agricultural Land and Soil Resource

9.11.28. The effects on soils and agricultural land during the operation of the Proposed Development are scoped out of the assessment. There is the potential for some of the land to continue to be used in an agricultural capacity during the lifetime of the Proposed Development, and for the soil resources to benefit from a less intensive management than under agricultural use. These arrangements will be described in the ES.

Decommissioning

Socioeconomics

9.11.29. It is considered that the effects on socioeconomic receptors during decommissioning of the Proposed Development will be similar in nature to the construction stage and are therefore not repeated here.

9.11.30. 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.**

Recreational and community facilities

9.11.31. 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.

9.11.32. 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.

Development Land

9.11.33. 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.

9.11.34. 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**.

PRoW

9.11.35. 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.

9.11.36. 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.

9.11.37. 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.

Agricultural Land and Soil Resource

1.1.6 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 agricultural land 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 voids left by removal of panels and cable routes could potentially improve the drainage status of the land by introducing artificial drainage channels in what was originally poorly drained clay soil, however this assessment cannot assume or predict the extent of any improvements.

9.12. Monitoring

Socioeconomics

9.12.1. 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.

Recreational and community facilities

9.12.2. 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

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

PRoW

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

Agriculture and Land Use

9.12.5. No monitoring will be required during the operational phase of the Proposed Development. The land may be re-assessed and monitored following decommissioning to determine any lasting effects on the soil structure and agricultural land quality although this is not considered imperative provided the SMS was adhered to.

9.13. Summary

9.13.1. This chapter has considered the following receptor types:

- socioeconomic – focusing on employment opportunities;
- development land;
- public rights of way (PRoW); and
- agricultural land and soil resources.

9.13.2. A summary of the assessment is provided in Table 9-8 below.

Preliminary Construction Assessment

9.13.3. Construction of the Proposed Development would have a minor beneficial effect on socioeconomic receptors, focusing on local employment and business opportunities.

9.13.4. The impact on the identified recreational and community facilities during the construction of the Proposed Development would be negligible, which is not significant.

9.13.5. Given the absence of development allocations within the study area, there would be no effects on allocated development land during construction.

9.13.6. However, a small part of the Proposed Development has the potential to affect a safeguarded limestone mineral resource, which would lead to a minor adverse effect, which is not significant.

9.13.7. The impact on PRoW during the construction phase would result in a minor adverse effect, which is not significant.

9.13.8. Construction of the Proposed Development would have a direct, short-term moderate adverse effect on agricultural land and soil resources.

Preliminary Operational Assessment

9.13.9. During the operational phase of the Proposed Development, it is concluded that there would be a negligible impact on socioeconomic receptors.

9.13.10. The impact on the identified recreational and community facilities during the operation of the Proposed Development is also considered to be negligible.

9.13.11. Given the absence of development allocations within the study area, there would be no effects on allocated development land during operation.

9.13.12. It is felt that any impact on the identified safeguarded limestone mineral resource would be felt during construction, and therefore no further effect is reported for the operational phase of the Proposed Development.

9.13.13. During operation, it is considered that any impact on PRoW would be negligible.

9.13.14. Operation of the Proposed Development would have no additional significant effects on agricultural land or soil resources.

Preliminary Decommissioning Assessment

9.13.15. The decommissioning of the Proposed Development would have a minor beneficial effect on socioeconomic receptors, particularly relating to temporary local employment and business opportunities.

9.13.16. The impact on the identified recreational and community facilities during the decommissioning of the Proposed Development is also considered to be negligible.

9.13.17. Given the absence of development allocations within the study area, there would be no effects on allocated development land during decommissioning.

9.13.18. The identified safeguarded mineral resource would become available for extraction again during decommissioning, leading to a minor beneficial effect.

9.13.19. The impact on PRoW during the decommissioning phase would result in a minor adverse effect, which is not significant.

9.13.20. This PEIR assessment cannot assume or predict the extent of any improvements of the agricultural land at the decommissioning phase of the Proposed Development, however there is a possibility that the ALC will have improved due to the period of time in which the land will be undisturbed under long-term grassland.

Table 9-8 Summary of effects

Receptor type	Description of potential impact	Embedded design, mitigation, and enhancement measures	Sensitivity of receptor	Duration and reversibility	Magnitude of impact	Significance of effect
Socioeconomic receptors	▪ Employment and supply chain opportunities during construction and decommissioning	▪ Employment and supply chain opportunities	▪ Medium	▪ Short-term, potential effects related to construction and decommissioning only	▪ Low	▪ Minor
Recreational and community facilities	▪ Maintained access during construction and decommissioning	▪ Ensure continued access as identified in the Construction Traffic Management Plan	▪ Low	▪ Short-term, potential effects related to construction and decommissioning only	▪ Low	▪ Negligible
Development land	▪ Sterilisation of safeguarded limestone mineral resource	N/A	▪ Medium	▪ Short-term, potential effects related to construction and decommissioning only	▪ Low	▪ Minor
PRoW	▪ Required closing / extinguishment of existing PRoW	▪ Permissive trails ▪ Use of signage ▪ Implementation of short, temporary closures	▪ Medium	▪ Short-term, potential effects related to construction only	▪ Low	▪ Minor

Receptor type	Description of potential impact	Embedded design, mitigation, and enhancement measures	Sensitivity of receptor	Duration and reversibility	Magnitude of impact	Significance of effect
		▪ Implementation of an alternative/new route(s)				
Agricultural land classification and soil resources	Disturbance of the land	▪ Soil management strategy	▪ Low	▪ Short-term, potential effects related to construction	▪ High	▪ Moderate

Further work

9.13.21. The soil and ALC survey will be completed as part of the ES, and further assessment and development of mitigation measures will be undertaken as part of the ES through the development of management plans.

9.13.22. Further assessment and development of mitigation measures will be undertaken as part of the ES, including:

- Data in relation to construction employment to better understand the impacts on socioeconomics during the construction stage;
- Ongoing engagement and consultation with landowners to explore the provision of permissive routes;
- Impact and associated mitigation for any effect on Darlington Borough Council's safeguarded limestone resource;
- The production of an Outline Public Rights of Way Management Plan;
- The potential for continued agriculture on the site;
- Soil and ALC survey, and subsequent further assessment and development of mitigation measures;
- The production of an Outline Soil Resource Management Plan; and
- Undertake the in-combination and cumulative effects assessments.

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