



Morven Hawthorn Pit Grid Connection Project

Preliminary Environmental Information Report

Volume 3, Chapter 8: Land Use Tourism and
Recreation

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Glossary

Term	Meaning
Agricultural Land Classification (ALC)	ALC is a grading system used to assess and compare the quality of agricultural land in England and Wales. ALC agricultural land is graded from 1, the highest quality land to 5, the lowest quality land.
Alternating Current (AC) cables	AC cables that will connect the proposed onshore land substation to the National Grid Hawthorn Pit Substation.
Arable land	Land suitable for growing crops.
Best and most versatile (BMV)	Agricultural land that is the best and most versatile for growing crops, defined as ALC grade 1, 2 or 3a.
Blue Onshore Land Substation (LSS) Option Area	Proposed location option for the onshore land substation, located west of the A19 and south of the access road to the Jade Business Park.
Commitments	Measures (embedded mitigation & secondary) to be adopted during the construction, operation and maintenance, and decommissioning phases of the Morven Hawthorn Pit Grid Connection (MHPGC) Project.
Cumulative effect	For each environmental topic, the baseline environment will be characterised, and the likely significant effect will be described within a topic-specific Study Area. Specific Study Areas are defined for each topic and are based on the maximum spatial extent
Cumulative effects assessment	Assessment of the likely effects arising from the MHPFC Project alongside the likely effects arising from other proposed developments on the same receptor or resource.
Embedded mitigation	Measures included as part of the project design. Includes both primary and tertiary mitigation.
Environmental Impact Assessment (EIA)	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Farm Holding	Buildings and associated land used for agricultural purposes including horticulture, livestock, grazing and various other uses which are commercial in nature.
Green LSS Option Area(s)	Proposed location option for the onshore land substation, located between Jade Business Park (Spring Rd, Murton, Seaham SR7 9DR) and the National Grid Hawthorn Pit Substation.
Inter-related effects	Effects that may arise from the interactions between different EIA topic effects considered within the alone assessment, potentially leading to more significant effects than if they were to be considered in isolation.
Landfall	The area in which the offshore export cables make landfall (come onshore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area between the trenchless technique exit pits and the transition joint bay inclusive of all construction works.

Term	Meaning
Magnitude	A combination of the spatial extent, duration, frequency and reversibility of an impact.
Maximum design scenario (MDS)	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the MHPGC Project.
Mean High Water Springs (MHWS)	The most inshore level location reached by the sea at high tide during mean high water spring tide. This is defined as the average throughout the year, of two successive high waters, during a 24-hour period in each month when the range of the tide is at its greatest.
Mean Low Water Springs (MLWS)	The average height of the low water levels of each pair of successive low waters during the periods of about 24 hours when the tidal range is at its greatest.
MHPGC Project Scoping Report	A Scoping Report for the MHPGC Project, scoping the likely significant effects of the project on the environment, was submitted and accepted by PINS and submitted to the Scottish Ministers, via the MD-LOT in February 2025.
MHPGC Project Scoping Opinions	Separate scoping opinions received from PINS (on behalf of the Secretary of State) and MD-LOT (on behalf of the Scottish Ministers) in response to the MHPGC Project Scoping Report. The MHPGC Project Scoping Opinions contain the range of issues that PINS, and MD-LOT in consultation with statutory stakeholders, have identified should be considered within the EIA process.
MHPGC Project	The MHPGC Project is comprised of the offshore export cables in Scottish and English waters from the Morven North or the Morven South offshore substation platform(s) (OSP), landfall, onshore export cables, the onshore land substation (LSS) and AC connection cables.
MHPGC Project PEIR Red Line Boundary: Onshore	Spatial extent used to define the environmental assessment within the PEIR. The area within which all onshore components of the MHPGC Project will be located landward of Mean High Water Springs, including areas required on a temporary basis during construction and/or decommissioning (e.g. construction compounds).
National Cycle Route	Routes listed on the National Cycle Network (NCN), which is comprised of a UK-wide network of paths and routes for walking, wheeling, cycling and exploring outdoors.
National Grid Hawthorn Pit Substation	The National Grid substation at Hawthorn Pit, County Durham, which the AC connection cables will connect into from the LSS.
Onshore export cables	High Voltage Direct Current (HVDC) which bring electricity from either the Morven North or Morven South offshore substation platform to the TJB at landfall.
Onshore land substation (LSS)	A purpose-built site comprising a compound containing the electrical components for converting the HVDC to High Voltage Alternating Current (HVAC) power. The LSS site associated with the MHPGC Project adjusts the power quality and power factor to meet the requirements of power supply being fed to the National Grid Hawthorn Pit Substation.

Term	Meaning
Operations and maintenance phase (O&M)	The operational and maintenance phase of the MHPGC Project lifecycle.
Planning Inspectorate (PINS)	The PINS is an executive agency of the UK Government responsible for administering and examining Development consent order (DCO) applications for NSIPs in England. PINS manages the application process, oversees consultation and examination, and makes a recommendation to the relevant Secretary of State on whether consent should be granted.
MHPGC Project Preliminary Environmental Information Report (PEIR)	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project and which helps to inform consultation responses.
Primary mitigation	Measures included as part of the location or design of the MHPGC Project made during the pre-application phase that are an inherent part of the MHPGC Project and do not require additional action to be taken. This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the MHPGC Project, the parameters and associated commitments secured by the DCO and marine licence, or both.
Recreational resources	A collective term used for recreational facilities and assets (i.e., coastal areas, sports facilities, Heritage Coast, National Trust Land etc), Public Rights of Way (PRoW) and other promoted routes (i.e., National Cycle Routes (NCRs) and Long Distance Footpaths).
Residual effects	Effects that continue to exist after mitigation has been applied.
Secondary mitigation	Actions that will require further activity to achieve the anticipated outcome and may be imposed as part of the planning consent. These include measures required to reduce the significance of environmental effects and may be secured through an environmental management plan. For secondary mitigation measures both pre-mitigation and residual effects are presented.
Significance	Effect factor that is determined by the magnitude of impact along with the sensitivity of the receptor.
Tertiary mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
The Study Area	For each environmental topic, the baseline environment will be characterised, and the potential environmental impacts will be described within a topic-specific Study Area. Specific Study Areas are defined for each topic and are based on the maximum spatial extent across which potential impacts of MHPGC Project may be experienced by the relevant receptors (i.e. Zone of Influence).
Transboundary impact	Potential impacts resulting from MHPGC Project and affecting another European Economic Area (EEA) state.

Term	Meaning
Transboundary effects	Assessment of potential significant effects resulting from MHPGC Project on the interests of another EEA state(s).

Acronyms

Acronym	Meaning
AC	Alternating Current
ALC	Agricultural Land Classification
BMV	Best and Most Versatile
CEA	Cumulative Effect Assessment
CoCP	Code of Construction Practice
CRoW	Countryside and Rights of Way
DCC	Durham County Council
DCO	Development Consent Order
DENSZ	Department for Energy Security and Net Zero
DMRB	Design Manual for Roads and Bridges
ECP	England Coast Path
EIA	Environmental Impact Assessment
ES	Environmental Statement
HGV	Heavy Good Vehicle
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
ISEP	Institute of Sustainability and Environment Professionals
LSS	Onshore land substation
MAGIC	Multi-Agency Geographic Information for the Countryside
MAFF	Ministry of Agriculture, Fisheries and Food
MCAA	Marine and Coastal Access Act
MD-LOT	Marine Directorate Licensing Operations Team
MDS	Maximum Design Scenario
MHCLG	Ministry of Housing, Communities and Local Government
MHPGC	Morven Hawthorn Pit Grid Connection
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NCN	National Cycle Network
NCR	National Cycle Route
NPPF	National Planning Policy Framework

Acronym	Meaning
NPS	National Policy Statements
O&M	Operations and Maintenance
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PPG	Planning Practice Guidance
PRoW	Public Right of Way
SoS	Secretary of State
TJB	Transition Joint Bay
WCH	Walkers, Cyclists and Horse-riders

Units

Unit	Meaning
ha	Hectare
km	Kilometre
m	Meter
mm	Millimetre
m ²	Square meter
m ³	Cubic meter

8 Land Use, Tourism and Recreation

8.1 Introduction

- 8.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the preliminary findings of the Environmental Impact Assessment (EIA) work undertaken to date for the Morven Hawthorn Pit Grid Connection Project (hereafter 'MHPGC Project'), as described in **Volume 1, Chapter 2: Project Description, of the PEIR**.
- 8.1.1.2 The chapter considers the potential impacts and effects on land use, tourism and recreation that could result from the construction, operation and maintenance (O&M) and decommissioning phases of the MHPGC Project. Specifically, it relates to the onshore elements of the MHPGC Project landward of Mean High Water Springs (MHWS) to the National Grid Hawthorn Pit Substation in England. Recreational marine activities are considered within **Volume 2, Chapter 10 Infrastructure and Other Sea Users, of the PIER**.
- 8.1.1.3 This chapter describes the methodology, datasets that have informed the preliminary assessment, baseline conditions, including future baseline, mitigation measures and the preliminary residual significant effects on land use, tourism and recreation that could result from the MHPGC Project.
- 8.1.1.4 The assessment is informed by the following chapters of the PEIR:
- **Volume 1, Chapter 2: Project Description, of the PEIR;**
 - **Volume 1, Chapter 3: Site Selection & Consideration of Alternatives, of the PIER;**
 - **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR;**
 - **Volume 1, Chapter 5: Policy and Legislation, of the PEIR;**
 - **Volume 3, Chapter 5: Traffic and Transport, of the PEIR;**
 - **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR;**
 - **Volume 3, Chapter 7: Onshore Air Quality, of the PEIR;**
 - **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR;**
 - **Volume 4, Chapter 5: Inter-related Effects, of the PEIR.**
- 8.1.1.5 The chapter also draws on information contained within the following annexes of the PEIR:
- **Volume 1, Annex 4.1: Draft Commitments Register, of the PEIR;**
 - **Volume 1, Annex 4.2: Transboundary Screening, of the PEIR;**
 - **Volume 1, Annex 4.3: Cumulative Screening and Location Plan, of the PEIR.**
- 8.1.1.6 This PEIR will offer a comprehensive overview of the MHPGC Project's potential environmental impacts and mitigation measures, presenting essential data to stakeholders for review and feedback. The PEIR will also be informed by the ongoing pre-application consultation process.
- 8.1.1.7 Following consultation on the PEIR, comments will be reviewed and considered to inform preparation of the Environmental Statement (ES) that will accompany the application to the Planning Inspectorate (PINS) for development consent.

8.2 Legislative and policy context

8.2.1 Overview

- 8.2.1.1 The full relevant legislation and policy context for the MHPGC Project has been detailed in **Volume 1, Chapter 5: Policy and Legislation, of the PEIR**. This section sets out the legislation and planning policy that is relevant to the preliminary land use, tourism and recreation assessment.

8.2.2 Legislation

Wildlife and Countryside Act 1981

- 8.2.2.1 Part III, sections 53 to 66, of the Wildlife and Countryside Act 1981 places a duty on local authorities to keep the definitive map and statement of public rights of way (PRoW) under continuous review and maintain and protect definitive public rights of way. Relevant PRoW have been identified within

Section 8.4 of this chapter. A preliminary assessment of effects as a result of the MHPGC Project in relation to relevant PRoW (in addition to other linear recreation routes and trails) is set out within **Section 8.8** of this chapter.

Countryside and Rights of Way Act 2000

- 8.2.2.2 Part I of the Countryside and Rights of Way Act 2000 (CRoW Act) prescribes a right of public access for recreation to certain types of open land, including areas of open country and registered common land.
- 8.2.2.3 The Land Use, Tourism and Recreation Study Areas includes an area of Access Land along the King Charles III England Coast Path (ECP), designated under the CRoW Act. A preliminary assessment of effects as a result of the MHPGC Project in relation to open space is outlined within **Section 8.8** of this chapter.

Marine and Coastal Access Act 2009

- 8.2.2.4 Sections 296 to 310 of the Marine and Coastal Access Act 2009 (MCAA) establishes public rights of access to English coastline and adjacent coastal land while balancing public interest with the rights of landowners.
- 8.2.2.5 The Land Use, Tourism and Recreation Study Areas intersects a section of the King Charles III England Coast Path (ECP) as identified within **Section 8.4** of this chapter. Coastal access rights came into force along the stretch relevant to the Land Use, Tourism and Recreation Study Area on 11 April 2014 by order of the relevant Secretary of State (SoS). As well as the ECP itself, a coastal margin has been identified which includes all land seaward of the trail. Much of the land as part of this coastal margin, including that within the Land Use, Tourism and Recreation Study Area, is open access land as defined by the CRoW Act. A preliminary assessment of effects in relation to linear recreational routes, including the King Charles III ECP and the coastal margin, is outlined within **Section 8.8** of this chapter.

Localism Act 2011

- 8.2.2.6 This legislation devolves power to local councils, communities, and individuals to act on local priorities, giving greater control over decisions such as housing and planning.

Environment Act 2021

- 8.2.2.7 This legislation outlines guidance and targets relating to the natural environment within England and Wales, providing a focused approach to improving the quality of environment for plants, animals and people.

8.2.3 National policy context

National Policy Statements

- 8.2.3.1 National Policy Statements (NPS) set out the primary policy framework for a Development Consent Order (DCO) under which the MHPGC Project will be considered. This framework includes guidelines, requirements and criteria that the MHPGC Project must meet to obtain consent and proceed with development. **Table 8.1** provides details of the NPS relevant to land use, tourism and recreation and how and where they are covered in the PEIR:
- Overarching NPS for energy (EN-1) (Department for Energy Security and Net Zero (DESNZ), 2025a);
 - NPS for electricity networks infrastructure (EN-5) (DESNZ, 2025c).
- 8.2.3.2 The NPS for renewable energy infrastructure (EN-3) (DESNZ, 2025b) has no applicable or additional policy relevant to this topic.

Table 8.1: Summary of the NPS provisions relevant to land use, tourism and recreation

Summary of relevant NPS provisions	How and where considered in the PEIR
NPS EN-1	
Paragraph 5.11.1 of EN-1 states that <i>"An energy infrastructure project will have a direct effect on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including green and blue infrastructure."</i> Paragraph 5.11.8 of EN-1 goes on to state that <i>"The ES ... should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing... The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors..."</i>	Existing and proposed land uses (current and future baseline) in relation to the Land Use, Tourism and Recreation Study Areas have been identified within Section 8.4 of this chapter. A preliminary assessment of the likely significant effects to result from the MHPGC Project are outlined within Section 8.8 of this chapter. There are publicly accessible open spaces within the MHPGC Project PEIR Red Line Boundary: Onshore and the Land Use and Recreation Study Area, however there are no permanent effects on these assets anticipated.
Paragraph 5.11.6 of EN-1 states that <i>"The government's policy is to ensure there is adequate provision of high quality open space and sports and recreational facilities to meet the needs of local communities. Connecting people with open spaces, sports and recreational facilities all help to underpin people's quality of life and have a vital role to play in promoting healthy living."</i> NPS EN-1 goes on to state in paragraph 5.11.9 and 5.11.10 that <i>"Applicants will need to consult the local community on their proposals to build on existing open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green and blue infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. When considering proposals for green infrastructure, applicants should refer to the Green Infrastructure Framework."</i> <i>"Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements."</i>	Recreational resources, including open space, within the Land Use, Tourism and Recreation Study Areas is identified within Section 8.4.6. The assessment of the potential impacts of the MHPGC Project in relation to recreational resources, including open space is set out within Section 8.8. There are no significant permanent effects anticipated. Consultation undertaken to date (see Section 8.3) and statutory and non-statutory consultation which will take place in the future will continue to liaise with local community groups to identify their needs.
Paragraph 5.11.11 of EN-1 states that <i>"During any pre-application discussions with the applicant the LPA should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements."</i>	Consultation is a key component of the Development Consent Order (DCO) application process. Consultation to date in relation to land use, tourism and recreation is outlined within Section 8.3 of this chapter.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraph 5.11.23 of EN-1 states that <i>“Although in the case of most energy infrastructure there may be little that can be done to mitigate the direct effects of an energy project on the existing use of the proposed site (assuming that some of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the application of good design principles, including the layout of the project and the protection of soils during construction.”</i>	Section 8.4 of this chapter describes the existing land uses within the Land Use and Recreation Study Area which predominantly consists of arable land in agricultural use. In exception to the area occupied by the onshore land substation (LSS), it is assumed existing land uses could continue during the operational phase of the MHPGC Project at the respective land owners’ and/or tenant farmer’s discretion, albeit subject to relevant wayleave and easement conditions (the potential impacts of which are assessed within Section 8.8 of this chapter).
Paragraphs 5.11.24 to 5.11.26 of EN-1 state that <i>“Where green infrastructure is affected, the Secretary of State should consider imposing requirements to ensure the functionality and connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space including appropriate access to National Trails and other public rights of way and new coastal access routes.”</i> <i>“The Secretary of State should also consider whether any adverse effect on green infrastructure and other forms of open space is adequately mitigated or compensated by means of any planning obligations, for example exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness and quality, and accessibility.”</i> <i>“Alternatively, where sections 131 and 132 of the Planning Act 2008 apply, replacement land provided under those sections will need to conform to the requirements of those sections.”</i>	Recreational resources, including open space, within the Land Use, Tourism and Recreation Study Areas is identified within Section 8.4.6. The assessment of the potential impacts of the MHPGC Project in relation to recreational resources, including open space is set out within Section 8.8. There are no permanent effects anticipated and the functionality and connectivity of green infrastructure is anticipated to be maintained. Mitigation measures such as those included in an Outline Public Right of Way Management Plan (see CoT35 in Table 8.25) will be submitted as part of the DCO Application.
Paragraphs 5.11.30 and 5.11.31 of EN-1 state that <i>“PRoW, National Trails, and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The Secretary of State should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve or create new access. In considering revisions to an existing right of way, consideration should be given to the use, character, attractiveness, and convenience of the right of way.”</i> <i>“The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements or other provisions in respect of these measures should be included in any grant of development consent.”</i>	Measures adopted as part of the MHPGC Project to avoid, reduce, manage and mitigate impacts on recreational receptors, including linear recreational routes and open space within the Land Use and Recreation Study Area are outlined within Section 8.7 of this chapter. An Outline PRoW Management Plan (CoT35) will be produced and submitted as part of the DCO Application, setting out measures to reduce disruption to linear recreational routes.

Summary of relevant NPS provisions	How and where considered in the PEIR
Paragraphs 5.11.32 and 5.11.33 state that: <i>"The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements or the Secretary of State determines that the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities."</i> <i>"The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location."</i>	The Durham County Council Open Space Needs Assessment (DCC, 2018) highlighted that there is no open space which is surplus to requirements. The MHPGC Project has been designed to minimise the effects on designated open space and as such no permanent effects are anticipated. There are no playing fields which would be affected by temporary or permanent land take of the MHPGC Project.
Paragraph 5.11.35 of EN-1 states that, <i>"In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the Secretary of State should consider the implications for development of the creation of a continuous signed and managed route around the coast, as provided for in the Marine and Coastal Access Act 2009."</i>	The MHPGC Project has sought to take advantage of opportunities to avoid impacts to coastal access through design. The entry pit for the landfall drill would be located landward of the King Charles III Coast Path and associated access land to avoid direct impacts.. Consideration of access has been included in the assessment, as detailed in Sections 8.8.2, 8.8.3 and 8.8.4.

Summary of relevant NPS provisions	How and where considered in the PEIR
NPS EN-5	
In the context of siting substations in accordance with the Horlock Rules, applicants should consider the land use effects of the proposal when planning the siting of substations and use space effectively to limit the area required for development consistent with appropriate mitigation measures and to minimise the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation (paragraph 2.9.19 of NPS EN-5).	The siting of the LSS Options was identified in accordance with the principles of the Horlock Rules and sought to avoid direct impacts to rights of way. Existing land uses relative to the siting areas considered were assessed in the identification of LSS Options. Further details are considered outlined within Volume 1, Annex 3.3: Selection and Refinement of the Onshore Infrastructure, of the PEIR. As outlined within Section 8.8 of this chapter, neither LSS Option would result in direct impacts on linear recreational routes (including rights of way). The preferred LSS Option would result in a permanent change in land use to a localised area within its respective footprint. Due consideration has been given as part of the site selection process to locate LSS Options in areas less frequent in operational activity or considered unlikely to have a significant effect on the viability of associated land uses, namely businesses or farm holdings, based on available information.
Paragraphs 2.13.21 – 2.13.23 state that: <i>“The sensitivities of many coastal locations and of the marine environment as well as the potential environmental, community and other impacts in neighbouring onshore areas must be considered in the identification of onshore connection points.</i> <i>“Onshore connection points for offshore transmission bringing power from offshore wind farms must be considered as part of the overall offshore transmission network design and in conjunction with the onshore network by the body responsible for the design. Onshore connection locations for offshore transmission must seek to minimise environmental and other impacts, both onshore and in the marine environment and including to local communities.</i> <i>“Onshore connection locations for offshore transmission must seek to minimise environmental and other impacts, both onshore and in the marine environment and including to local communities.”</i>	The assessment present in Section 8.8 considers the effects on neighbouring communities in the onshore areas. The design of the MHPGC Project has sought to minimise environmental impact through the siting of the LSS Options.

National Planning Policy Framework

- 8.2.3.3 The National Planning Policy Framework (NPPF) is considered relevant to the SoS consideration of the MHPGC Project (Ministry of Housing, Communities and Local Government (MHCLG), 2026). **Table 8.2** provides details of the elements of the NPPF that are relevant to land use, tourism and recreation and how and where they are covered in the PEIR.

Table 8.2: Summary of NPPF requirements relevant to land use, tourism and recreation

NPPF section	How and where this is considered in the PEIR
Overarching Policy 7: Building a strong, effective economy. Policies E2 to E4 highlight the need to: • Ensure the need for business land and premises is met (E2). • Support effective and efficient freight and logistics (E3). • Support rural business development (E4).	The potential effects of the MHPGC Project on the local economy and employment are considered as part of Volume 4, Chapter 3: Socio-Economics, of the PEIR. The land use, tourism and recreation assessment has considered the potential effects of the MHPGC Project on land use, tourism and recreation related receptors as presented in Section 8.8. A preliminary qualitative assessment has considered the extent to which the MHPGC Project would prevent or limit access to a feature or asset such that its viability or activity levels are impacted. This includes the consideration of potential effects of the MHPGC Project on community facilities, businesses and tourism assets.
Overarching Policy 12: Making effective use of land Policy L2 states that development proposals should aim to “<i>remediate despoiled, degraded, derelict, contaminated or unstable land,</i>” or make “<i>better use of vacant and underutilised land and buildings</i>”.	Through undergrounding the onshore export cables and the AC connection cables, the MHPGC Project reduces the area of land take subject to permanent change to those areas occupied by the transition joint bays, link boxes and joint bays associated with the onshore export cables, the footprint of a preferred LSS Option and link boxes and joint bays associated with the AC connection cables. Temporary working areas would be reinstated to the pre-existing condition as far as reasonably practicable (see CoT29). In addition, the temporary and permanent footprint of the MHPGC Project will avoid areas of sensitive historic, cultural, ecological and other environmental receptors (see CoT17).
Overarching Policy 15: Promoting Sustainable Transport: Policy TR8 states that: <i>“Development proposals should:</i> <i>Protect and enhance the network of public rights of way, including through suitable diversions agreed with the highway authority; and</i> <i>Take opportunities to extend, link or improve the quality of existing routes where this enables one or more of the following:</i> <i>Improved access to green spaces and the countryside;</i> <i>New direct and circular routes and connections between local and long-distance footpaths, bridleways and cycle routes;</i> <i>The provision of accessible, safe and convenient links to services and facilities; and</i> <i>Improved connections with public transport stops and interchanges.”</i>	Recreational resources, including PROWs, National Trails and cycle routes within the Land Use, Tourism and Recreation Study Areas are identified within Section 8.4.6. The assessment of the potential impacts of the MHPGC Project in relation to recreational resources, including recreational routes is set out within Section 8.8. There are no permanent effects anticipated and the functionality and connectivity of recreational routes is anticipated to be maintained. Mitigation measures such as those included in an Outline Public Right of Way Management Plan (see CoT35 in Table 8.25) will be submitted as part of the DCO Application.

NPPF section	How and where this is considered in the PEIR
Overarching Policy 16: Promoting healthy communities Policies HC6 to HC7 highlight the need to: - Ensure that key community facilities and public service infrastructure would be retained. If retention is not possible, there should be sufficient alternative provision. (HC6). - Ensure development proposals do not result in the loss of existing open space, sports and recreational buildings and land. Where there is loss, this should be replaced by equivalent or better provision, in a location which offers comparable or improved accessibility (HC7).	Volume 1, Chapter 3: Site Selection & Consideration of Alternatives, of the PIER outlines the process that has been used to consider the most appropriate location for the infrastructure, which limits effects on community assets. For the purposes of the assessment, it has been assumed permanent impacts to land use function would be restricted to the area occupied by the transition joint bays (TJB), link boxes and joint bays associated with the onshore export cables, AC connection cables and the footprint of the preferred LSS Option. The assessment presented in Section 8.8 concludes that there is likely to be permanent land take from agricultural land. There are areas of designated open space within the MHPGC Project PEIR Red Line Boundary: Onshore which may experience temporary effects, however no permanent effects are anticipated at this stage.

8.2.4 Local policy context

8.2.4.1 The MHPGC Project lies within the jurisdiction of Durham County Council. The following local policy that is relevant to Land Use, Tourism and Recreation and has informed the assessment of preliminary effects in this chapter, their relevance to the MHPGC Project is outlined in **Table 8.3**. This includes the County Durham Plan (Durham County Council, 2020) and the Heritage Coast Management Plan (Durham Coast Partnership, 2018).

Table 8.3: Local policy relevant to land use, tourism and recreation

Policy description	How and where considered in the PEIR
Durham County Council: County Durham Plan (adopted October 2020)	
Policy 6: Development on Unallocated Sites Policy 6 states that “The development of sites which are not allocated in the Plan or in a Neighbourhood Plan which are either (i) within the built-up area; or (ii) outside the built-up area (except where a settlement boundary has been defined in a neighbourhood plan) but well-related to a settlement, will be permitted provided the proposal accords with all relevant development plan policies...” Relevant to this assessment, the policy also states that development should not result in the loss of open land that has recreational, ecological or heritage value, or contributes to the character of the locality, which cannot be adequately mitigated or compensated for.	The MHPGC Project has sought to avoid or reduce potential impacts to recreational receptors, including linear routes, as demonstrated Volume 1, Chapter 3: Site Selection & Consideration of Alternatives, of the PIER. The commitments adopted as part of the iterative design process are presented in Section 8.7.
Policy 26: Green Infrastructure Policy 26 of the County Durham Plan states that development would be expected to “<i>maintain or improve the permeability of the built environment and access to the countryside for pedestrians, cyclists and horse riders. Proposals that would result in the loss of, or deterioration in the quality of, existing Public Rights of Way (PROWs) will not be permitted unless equivalent alternative provision of a suitable standard</i>”	The MHPGC Project has sought to avoid or reduce the potential impacts to recreational related receptors, including linear recreational routes, through the adoption of commitments as part of the iterative design process, as set out within Section 8.7. Where potential temporary diversion of linear recreational routes would be required, measures to reduce potential impacts will be set out within the

Policy description	How and where considered in the PEIR
<i>is made. Where diversions are required, new routes should be direct, convenient and attractive, and must not have a detrimental impact on environmental or heritage assets."</i>	Outline PROW Management Plan which will be submitted as part of the DCO Application. Measures would include the requirement for the implementation of appropriate diversion routes and corresponding signage requirement.
Policy 37: Durham Heritage Coast and Wider Coastal Zone This policy states that <i>"Development proposals within the Durham Heritage Coast or wider Coastal Zone, as defined on the Policies Map, or that have the potential to individually or cumulatively impact on their setting must be appropriate in terms of scale, massing and design; not give rise to adverse impacts upon the tranquil or isolated character of the area; not increase the risk from climate change, flooding, erosion or land instability; demonstrate consistency with the protection, conservation and enhancement of its natural assets and heritage features; and not be inconsistent with the purposes of the Heritage Coast and objectives of the Heritage Coast Management Plan.</i> <i>Development proposals within, or within the setting of, the Durham Heritage Coast or wider Coastal Zone which meet the above criteria and support appropriate public access, enjoyment and understanding of this resource will be permitted. Small scale proposals for agriculture, forestry, fisheries, the operation of the port or to meet community needs will be supported where appropriate".</i>	The MHPGC Project has sought to avoid or reduce the potential impacts to the Heritage Coast and associated tourist attractions, through the adoption of commitments as part of the iterative design process, as set out within Section 8.7. Volume 1, Chapter 3: Site Selection & Consideration of Alternatives, of the PIER also demonstrates the process that has been chosen to limit effects on these receptors.
Durham Heritage Coast Management Plan (2018):	
<i>"The Durham Heritage Coast Management Plan, drafted by the Heritage Coast Partnership, contains a number of objectives for the area. Of these, the most pertinent to the Land Use, Tourism and Recreation chapter is: "To facilitate and enhance the enjoyment, understanding and appreciation of the public by improving and extending opportunities for recreational, educational and tourist activities, including sport and art, that draw on, and are consistent with the conservation of its natural beauty and the protection of its heritage features."</i>	The MHPGC Project has sought to avoid or reduce the potential impacts to the Heritage Coast and associated tourist attractions, through the adoption of commitments as part of the iterative design process, as set out within Section 8.7. Volume 1, Chapter 3: Site Selection & Consideration of Alternatives, of the PIER also demonstrates the process that has been chosen to limit effects on these receptors.

8.3 Consultation and engagement

8.3.1 Scoping

- 8.3.1.1 A Scoping Report for the MHPGC Project was issued to the PINS and MD-LOT in February 2025 (RPS, 2025). Following consultation with the appropriate statutory bodies, PINS (on behalf of the SoS) and MD-LOT both provided Scoping Opinions in March 2025 (PINS, 2025; MD-LOT, 2025, respectively).
- 8.3.1.2 **Table 8.4** sets out the key comments raised during the scoping process specific to land use, tourism and recreation, with details of how these comments have been addressed within the PEIR.

Table 8.4: Summary of scoping responses relevant to land use, tourism and recreation

Comment	How and where considered in the PEIR
PINS	
ID4.8.1: The Scoping Report proposes to scope out an assessment of temporary change to land use and/ or land cover used for public access, public open space, or other community activity during the operation phase on the basis that this effect is only likely to occur as a result of construction and decommissioning activities such as working corridors and temporary compounds. Given the nature of the MHPGC Project and the information provided within the Scoping Report the Inspectorate agrees to scope this matter out of assessment for operation.	As agreed with PINS, temporary change to land use and / or land cover used for public access, open space or other community activity is scoped out for operation and maintenance and are not considered further. Temporary change to land use and / or land cover used for public access, open space or other community activity is scoped in for construction and decommissioning, as noted in Table 8.23.
ID4.8.2 The Scoping Report proposes to scope out an assessment of temporary change to land use and/ or land cover temporarily restricting access to/ use of land for agriculture, forestry or commercial activity during the operation phase on the basis that this effect is only likely to occur as a result of construction and decommissioning activities such as working corridors and temporary compounds. Given the nature of the MHPGC Project and the information provided within the Scoping Report, the Inspectorate agrees to scope this matter out of assessment for operation.	As agreed with PINS, temporary change to land use and or land cover which temporarily restricts access to the use of land for agriculture, forestry or commercial activity is scoped out during operation and maintenance. Temporary change to land use and or land cover which temporarily restricts access to the use of land for agriculture, forestry or commercial activity is scoped in for construction and decommissioning, as noted in Table 8.23.
ID4.8.9 The proposed study area of a 250m buffer beyond the scoping boundary has not been adequately justified in the Scoping Report. It is likely that a wider area may be required to address any tourism and recreation impacts.	Land use and recreational receptors have been considered within 500m of the MHPGC Project PEIR Red Line Boundary: Onshore, in line with Design Manual for Roads and Bridges (DMRB) LA 112 guidance. The land use, tourism and recreation preliminary assessment has considered impacts to recreational receptors in terms of the potential for the MHPGC Project to impact their existing function as a result of change to land use. The Study Area for tourist attractions and accommodation is 5km from the MHPGC Project PEIR Red Line Boundary: Onshore. This is based on previous experience of similar projects. Further detail on the Study Areas and the Methodology is provided in Sections 8.4.1 and 8.5 respectively.

8.3.2 Further consultation and engagement

- 8.3.2.1 No further formal consultation has been undertaken for the land use, recreation and tourism chapter. Informal non-statutory consultation has taken place and will continue throughout the DCO Application process.

8.4 Baseline Characterisation

8.4.1 Overview

- 8.4.1.1 **Volume 1, Chapter 2: Project Description, of the PEIR** sets out the description of the MHPGC Project and **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** sets out the overarching approach that has been used in developing the preliminary environmental information.
- 8.4.1.2 This section describes the methods and data sources used to characterise the baseline for land use, tourism and recreation within the Study Areas and describes the existing baseline characteristics.
- 8.4.1.3 For the purposes of the assessment, the following baseline conditions have been considered:
- Land use, including in relation to:
 - Private property and housing;
 - Development land and businesses;
 - Agricultural land holdings.
 - Tourism, including in relation to:
 - Tourism attractions;
 - Tourist accommodation.
 - Recreation, including in relation to:
 - Community land and assets (including recreational facilities);
 - Routes used by Walkers, Cyclists and Horse-riders (WCH) (including PRoW and National Cycle Routes).

8.4.2 Land Use, Tourism and Recreation Study Areas

- 8.4.2.1 The Study Areas for land use, tourism and recreation are detailed below for each element of the assessment and varies according to the receptor. The Study Areas have been refined following feedback from the Scoping Opinion.

Land Use

- **Private property and housing:** Private properties and dwellings that lie within the MHPGC Red Line Boundary: Onshore and a 500m buffer, (or those which have a direct means of access within the Study Area) in line with guidance in DMRB LA 112.
- **Development land and businesses:** Development land and businesses that lie within the MHPGC Project PEIR Red Line Boundary: Onshore and a 500m buffer, (or those which have a direct means of access within the Study Area) in line with guidance in DMRB LA 112.
- **Agricultural land holdings:** Agricultural land holdings that lie within the MHPGC Project PEIR Red Line Boundary: Onshore and a 500 m buffer, (or those which have a direct means of access within the Study Area) in line with guidance in DMRB LA 112.

Tourism

Tourist attractions and tourist accommodation: Tourist attractions and accommodation providers located within the MHPGC Project PEIR Red Line Boundary: Onshore and the 5km buffer from the MHPGC Project PEIR Red Line Boundary: Onshore (or those which have a direct means of access within the Study Area) will be used in order to capture those attractions or accommodation providers most likely to be affected by the MHPGC Project. There is no specific legislation or guidance on catchments relating to tourism assessments; as such, this Study Area is based on prior experience on similar projects and professional judgement, capturing those receptors most likely to experience effects.

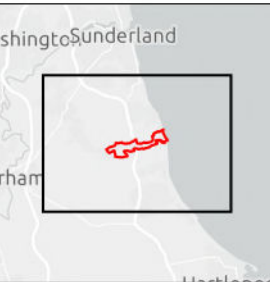
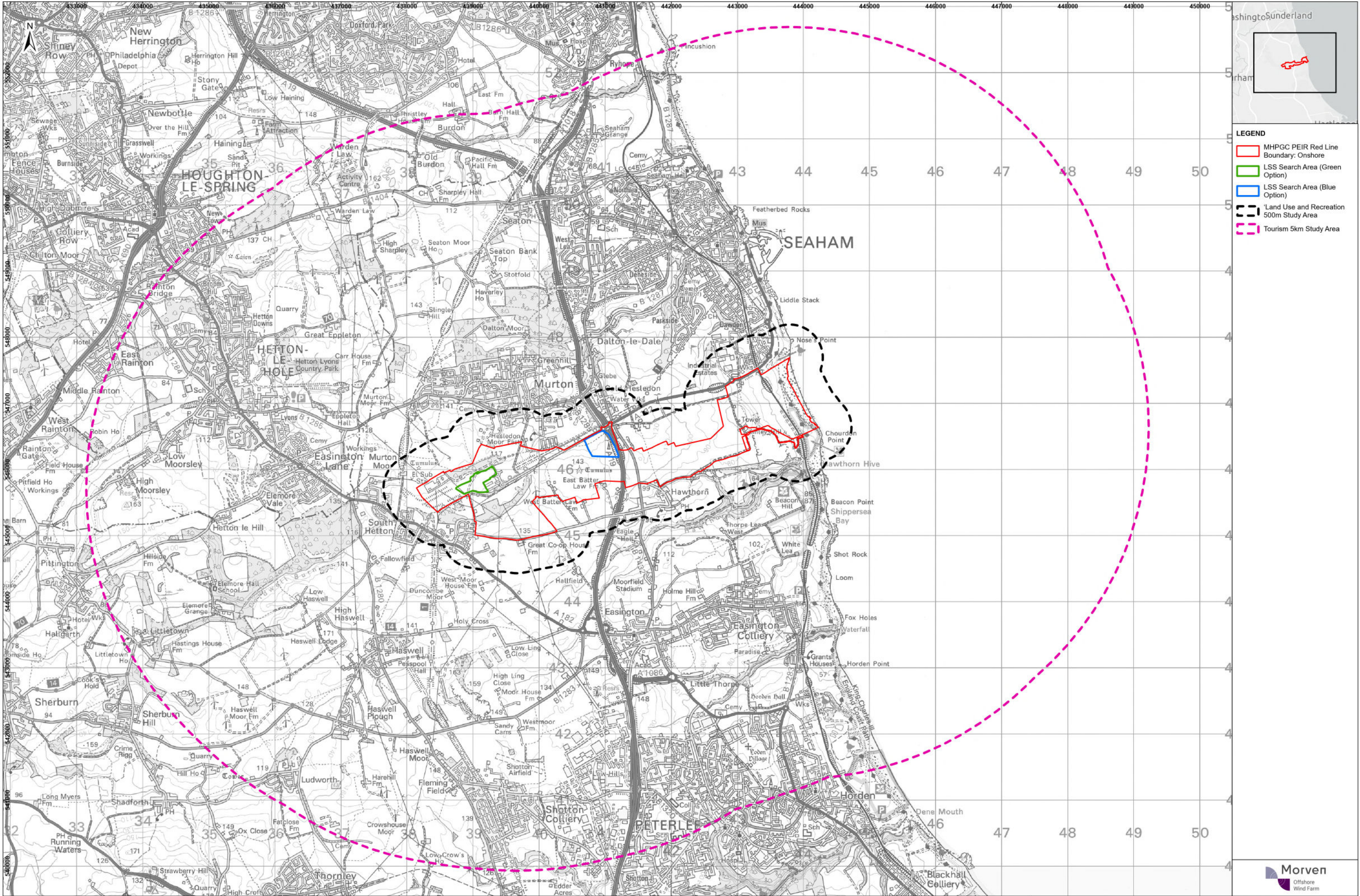
Recreation

- **Community land, assets and recreational facilities:** Community land, assets and recreational facilities that lie within the MHPGC Project PEIR Red Line Boundary: Onshore and a 500m

buffer, (or those which have a direct means of access within the Study Area) in line with guidance in DMRB LA 112.

- **WCH:** Those PRowS located within the Red Line Boundary and a 500m buffer (or those which have a direct means of access within the Study Area) will be used for the assessment of change in accessibility and amenity value of recreational routes used by WCH, in line with guidance in DMRB LA 112.

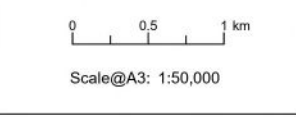
8.4.2.2 The 500m Study Area (hereafter referred to as the 'Land Use and Recreation Study Area') and the 5km Study Area (hereafter referred to as the 'Tourism Study Area') for purposes of the preliminary assessment are set out within **Figure 8.1**.



- LEGEND**
- MHPGC PEIR Red Line Boundary: Onshore
 - LSS Search Area (Green Option)
 - LSS Search Area (Blue Option)
 - 'Land Use and Recreation 500m Study Area
 - Tourism 5km Study Area

Project Name:
MORVEN HAWTHORN PIT GRID
CONNECTION PROJECT

Drawing Title:
FIGURE 8.1 LAND USE TOURISM AND RECREATION STUDY AREAS



Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
BP, Ordnance Survey, Historic England

Service Layer Credits:
Light Gray Reference: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
Light Gray Base: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
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Morven
Offshore
Wind Farm

Drawing Number:
MHPGC-WSP-PEIR-090

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8.4.3 Relevant guidance

8.4.3.1 The preliminary assessment has been carried out in accordance with the following guidance documents:

- DMRB LA 112: Population and Human Health (Highways England, 2020a);
- DMRB LA 104 Environmental Assessment and Monitoring (Highways England, 2020b)
- Planning Practice Guidance - Open Space, Sports and Recreation Facilities, Public Rights of Way and Local Green Space (MHCLG, 2025a)

8.4.4 Baseline data sources

Desk study

8.4.4.1 Baseline information in relation to the identification of land use, tourism and recreation related receptors was collated through a detailed desk review of existing studies and datasets. These are summarised within **Table 8.5**.

Table 8.5: Land use, tourism and recreation data sources

Factor assessed	Source of desk study data
Land use	
Residential properties	• Google Earth Pro (Google, 2026); • OpenStreetMap (OSM) (OSM, 2026);
Development land	• County Durham Plan (DCC, 2020);
Business properties	• Google Earth Pro (Google, 2026); • OpenStreetMap (OSM, 2026).
Agricultural land	• Agricultural Land Classification (ALC) Grades - Post 1988 (England) (Natural England, 2025); • Provisional Agricultural Land Classification (ALC) (England) (Natural England, 2024);
Tourism	
Tourism attractions and accommodation	• Google Earth Pro (Google, 2026); • OpenStreetMap (OSM, 2026); • This is Durham top attractions page (This is Durham, 2026).
Tourism Statistics	• Visit Britain (Visit Britain, 2026).
Recreation	
Community facilities	• Google Earth Pro (Google, 2026); • County Durham Plan (Historic Parks and Gardens) (DCC, 2020); • OpenStreetMap (OSM, 2026).
Linear recreational routes	• OpenStreetMap (OSM, 2025); • DCC Public Rights of Way Definitive Map (DCC, 2026); • National Cycle Network Mapping (Walk Wheel Cycle Trust, 2026); • National Trails (National Trails, 2026); • Long Distance Paths (Long Distance Walking Association, 2026).
Open space	• County Durham Open Space Needs Assessment (DCC, 2018a); • County Durham Open Space Needs Assessment Mapping (DCC, 2018b); • Google Earth Pro (Google, 2025); • OpenStreetMap (OSM, 2025).

Site specific surveys

- 8.4.4.2 No surveys are required for the land use, tourism and recreation chapter.

Data limitations and assumptions

- 8.4.4.3 This assessment has relied, in part, on the most up-to-date data available at the time of writing, provided by third parties (e.g., Ordnance Survey Mapping). No significant changes or limitations in the datasets used have been identified that would affect the robustness of the assessment. Baseline data will be kept under review in order to ensure that (where practicable) the most recently published data are utilised.

8.4.5 Overview of baseline environment

- 8.4.5.1 The baseline environment has been characterised through a review of land use, tourism and recreation receptors located within the Land Use and Recreation and Tourism Study Areas. Receptors have been grouped according to their function, including private property and housing, development land and businesses, tourist attractions and accommodation, community land and assets, and WCH routes. A sensitivity classification (see **Table 8.7, Table 8.10, Table 8.13, Table 8.16 and Table 8.19**) has been assigned to each receptor to reflect its importance, scale and function, with further details of the sensitivity assessment presented in **Volume 3, Annex 8.1 Land Use, Tourism and Recreation Receptors, of the PEIR**

Land Use

Private Property and Housing Sensitive Receptors

- 8.4.5.2 The Land Use and Recreation Study Area encompasses a number of settlements. Private properties and housing allocations located within the Land Use and Recreation Study Area are outlined in detail in **Volume 3, Annex 8.1 Land Use, Tourism and Recreation Receptors, of the PEIR**, with a breakdown of the approximate numbers of dwellings and settlement area, alongside a justification for their sensitivity.
- 8.4.5.3 There are approximately four isolated rural dwellings within the MHPGC Project PEIR Red Line Boundary: Onshore, and the Seaham Garden Village is also located partially within the MHPGC Project PEIR Red Line Boundary: Onshore. Within the Land Use and Recreation Study Area, there are approximately 2,200 properties, including dispersed rural properties and committed housing developments. The closest settlements to the MHPGC Project PEIR Red Line Boundary: Onshore, and located within the Land Use and Recreation Study Area are South Hetton, a former mining village to the southwest of the MHPGC Project PEIR Red Line Boundary: Onshore, and Hawthorn, a small agricultural village, located to the south of the MHPGC Project PEIR Red Line Boundary: Onshore. Murton, located to the north of the MHPGC Project PEIR Red Line Boundary: Onshore, is a larger former mining settlement characterised by a mix of historic and modern residential development and is partially within the Land Use and Recreation Study Area.
- 8.4.5.4 Seaham Garden Village (DM/18/00829/OUT), located along the A182 and partially within the MHPGC Project PEIR Red Line Boundary: Onshore, is a committed residential development currently under construction, with a number of dwellings already completed. Upon full build out, the development is anticipated to deliver approximately 1,500 dwellings, and have publicly accessible open space.
- 8.4.5.5 There is also a residential estate in Murton, comprising 120 to 150 dwellings, along Barwick Street, Forster Avenue, Hawkins Road and Oliver Street adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore.
- 8.4.5.6 Slightly further north of this cul-de-sac is Grasmere Terrace, Ellen Street East, Ellen Street West, Ada Street East, the Crofts and Brooklyn Terrace North, comprising 65 detached and semi-detached properties and therefore characterised with high sensitivity.
- 8.4.5.7 The closest cluster of residential receptors located within Hawthorn are located approximately 55m south of the MHPGC Project PEIR Red Line Boundary: Onshore, along St Michael's Rise and the Paddocks, approximately 80m south of the MHPGC Project PEIR Red Line Boundary: Onshore. Within South Hetton, the closest residential receptors are located along Windermere Road, and the Hawthorn Cottages, the nearest receptors are approximately 50m from the MHPGC Project PEIR Red

Line Boundary: Onshore, and the furthest are approximately 180m south of the MHPGC Project PEIR Red Line Boundary: Onshore.

Development land and businesses

- 8.4.5.8 The Land Use and Recreation Study Area encompass approximately 95 businesses and allocated development land. These businesses and justification for their sensitivity are provided in **Table 8.6**. There are 14 business and development land receptors located within the MHPGC Project PEIR Red Line Boundary: Onshore, with the majority of these receptors located within the Jade Business Park (allocated as Employment Land in the County Durham Plan (Durham County Council, 2020), with reference: EMP36).
- 8.4.5.9 There are three consented planning applications that are within the MHPGC Project PEIR Red Line Boundary: Onshore which have the potential to support employment opportunities. These include the expansion of Jade Business Park, a new manned converter station for Eastern Green Link 1 and a solar farm at Croup Hill.
- 8.4.5.10 Kinley Hill Pumpkin Patch, located at Kinley Hill Farm within the MHPGC Project PEIR Red Line Boundary: Onshore, comprises an established commercial enterprise occupying a relatively large site area of approximately 5ha. Also located within the MHPGC Project PEIR Red Line Boundary: Onshore is KZ Caravan Storage, situated on Windermere Road in South Hetton.
- 8.4.5.11 Jade Business Park (EMP36), located within and adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore, comprises a modern employment area accommodating a range of manufacturing, research, technology and energy-related businesses. Notable occupiers include Power Roll Ltd, CoreHaus, Low Carbon Materials and Sumitomo Electric Wiring Systems (Europe) Ltd (SEWS-E).
- 8.4.5.12 The Spectrum Business Park, located to the North East of the MHPGC Project PEIR Red Line Boundary: Onshore comprises a mix of office, industrial, retail, health and service-based businesses. Notable receptors in Spectrum Business Park include MRC Global, The Wheel Company, Castle Eden Brewery and the Equans Corporate Offices.
- 8.4.5.13 Richardson's Garden Centre, located along the B1432 and partially within the MHPGC Project PEIR Red Line Boundary: Onshore, is an established retail and visitor attraction comprising a garden centre, café and associated outdoor facilities. The business also includes reindeer paddocks located within the MHPGC Project PEIR Red Line Boundary: Onshore, which support seasonal visitor activities and contain animals that may be sensitive to disturbance.
- 8.4.5.14 Hawthorn Quarry, located in the east of the MHPGC Project PEIR Red Line Boundary: Onshore, is an active mineral extraction site operated for quarrying activities. The MHPGC Project PEIR Red Line Boundary: Onshore extends through part of the quarry access route to facilitate construction access. The quarry comprises operational extraction areas, associated plant and machinery, internal haul roads and supporting infrastructure, and represents an established employment-generating industrial land use.
- 8.4.5.15 Foxcover Distribution Park (Employment Land allocation: EMP24), located north of the MHPGC Project PEIR Red Line Boundary: Onshore, comprises a cluster of warehousing, logistics and commercial businesses. Key receptors include Mission Foods Seaham, The Sofa Delivery Company, CustomerKNECT and Ewals Cargo Care, which support local employment and distribution activities. The closest receptors include Mission Foods Seaham, The Sofa Delivery Company, CustomerKNECT and Ewals Cargo Care, located between approximately 320 m and 400 m north of the MHPGC Project PEIR Red Line Boundary: Onshore.
- 8.4.5.16 Cold Hesledon Industrial Estate (Employment Land Allocation EMP20), located immediately north of the MHPGC Project PEIR Red Line Boundary: Onshore, includes a cluster of small industrial, trade, engineering, vehicle repair, retail, fitness and service-based businesses. Located approximately 100-110m north of the MHPGC Project PEIR Red Line Boundary: Onshore are the Specialised Blasting & Coatings and The Plastic Centre, two manufacturing businesses.
- 8.4.5.17 Development land as allocated by the County Durham Plan (DCC, 2020), that is within or intersects with the Land Use and Recreation Study Area, or is otherwise considered to have potential for the MHPGC Project to prevent or limit access to it such that its viability or activity levels may be

impacted, is set out within **Table 8.6**. It should be noted that the businesses within these allocations are considered as separate receptors, and are listed in full in **Table 8.6**.

Table 8.6: Development allocations in relation to the Land Use and Recreation Study Area

Policy reference (County Durham Development Plan)	Type	Description	Area	Distance from MHPGC Project PEIR Red Line Boundary: Onshore	Planning status
EMP36	Employment Land Allocation	Jade Business Park	20.9ha	Within the MHPGC Project PEIR Red Line Boundary: Onshore and overlaps with the Green LSS Option.	Part of the site has been approved in outline under planning permission DM/21/02901/OUT. A variation of condition application (DM/25/02528/VOC) has been approved and a Reserved Matters application for Phase 2 (DM/25/02692/RM) comprising three industrial units and associated infrastructure has been submitted and remains under consideration.
EMP22	Employment Land – Protected Site	Spectrum Business Park (Seaham)	13.9ha	Approximately 110m north of the MHPGC Project PEIR Red Line Boundary: Onshore.	Operational – designated development land with safeguarded land use function.
EMP24	Employment Land – Protected Site	Foxcover Industrial Estate (Seaham)	20.7ha	Approximately 320m north of the MHPGC Project PEIR Red Line Boundary: Onshore.	Operational – designated development land with safeguarded land use function.
EMP20	Employment Land – Protected Site	Cold Hesledon Industrial Estate	9.1ha	Adjacent to (0m away from) the MHPGC Project PEIR Red Line Boundary: Onshore	Operational – designated development land with safeguarded land use function.

Agricultural land holdings

- 8.4.5.18 Much of the land in the area south of Seaham, where the MHPGC Project PEIR Red Line Boundary: Onshore is located, is dominated by farming, including a mixture of livestock and arable land. There are nine agricultural land holdings within the MHPGC Project PEIR Red Line Boundary: Onshore.
- 8.4.5.19 The majority of land across the MHPGC Project PEIR Red Line Boundary: Onshore (61.5%) is located within ALC grade 3a land, and 15.1% is classed as Grade 2. It should be noted that surveys are pending and will inform the DCO Application.
- 8.4.5.20 As reported in **Volume 3, Chapter 9: Agriculture and Soils, of the PEIR**, 89% of the Green LSS Option Area (11.2ha total) is entirely within previously developed land and is therefore classed as 'other' land and is not currently used for agriculture. The remaining 10.7% of land is classed as Urban. All land within the Blue LSS Option Area (13.7ha) is classed as Grade 3a by provisional ALC mapping and is thus considered to have the potential to be Grade 3a (and is therefore classed as BMV land).

- 8.4.5.21 The total number of agricultural landholdings across the MHPGC Project PEIR Red Line Boundary: Onshore is nine, with two landholdings in the Blue LSS Option. There are no agricultural land holdings as part of the Green LSS Option. Considering the presence of farming across the Land Use and Recreation Study Area and MHPGC Project PEIR Red Line Boundary: Onshore, it is considered that the agricultural land present has a sensitivity of high.

Tourism

Tourism Statistics

- 8.4.5.22 According to 2025 data from Visit England, overnight visits from domestic tourists in County Durham had a value of £173.1 million, an increase of approximately £44.6 million from 2024, and a £67.2 million increase from 2022 (Visit Britain, 2026a). Across the North East, overnight visits from domestic tourists had a value of £849.2 million, a decrease of £20.2 million from 2024, and a decrease of £145.2 million since 2022. This shows that although the value of tourism has decreased in the North East, there is still a growing visitor economy in County Durham. Data at the county level is not available for international visitors, but data from 2024 shows that international visitors to the North East (with the main reason for their visit as 'holiday') spent a total of £64 million, a slight decrease of £1 million from 2023, and a £12 million decrease from 2022 (Visit Britain, 2026b). These statistics show that tourist visits are an important source of income to the region.

Tourism attractions

- 8.4.5.23 There are three tourism attractions located within the MHPGC Project PEIR Red Line Boundary: Onshore, and the Tourism Study Area contains a total of 32 tourism attractions, comprising coastal destinations, beaches, nature reserves, heritage attractions and recreational facilities.
- 8.4.5.24 The majority of the receptors are associated with the Durham Heritage Coast, and are located both within and adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore. Those situated within the MHPGC Project PEIR Red Line Boundary: Onshore are Blast Beach (alongside associated car park and Second World War Defence Post), Chourdon Point, and Ginny's Dene.
- 8.4.5.25 Several nature-based tourism attractions are located within the Tourism Study Area, including Hawthorn Dene Nature Reserve (approximately 25m south), Lord Jacob Sandywell Tree (approximately 15 m south-west), Chemical Beach (approximately 100 m north), Hawthorn Hive Beach (approximately 200 m south), Nose's Point (approximately 240 m north) and the Sea Stack (approximately 275 m north).
- 8.4.5.26 A notable concentration of tourism attractions are located within and around Seaham settlement, approximately 1.5km to 5km north of the MHPGC Project PEIR Red Line Boundary: Onshore. These include Seaham Harbour Marina, The Slope Beach, Seaham Beach, Seaham Hall Beach, the East Durham Heritage and Lifeboat Centre, Tommy World War One Soldier Sculpture, the Marquess of Londonderry Statue and the Vane Tempest Sculpture. Collectively, these attractions contribute to Seaham's role as a tourism and recreational destination along the Durham Heritage Coast.
- 8.4.5.27 Durham Heritage Coastline also supports a range of informal recreational activities, including bird-watching, recreational angling, swimming, beach recreation, photography, and sea glass collecting. Such activities are undertaken by both local residents and visitors and are facilitated by public access to the beaches, foreshore, cliff tops and coastal paths.
- 8.4.5.28 Further detail on identified tourism attractions within the Tourism Study Area is presented in Table 8.6.

Tourist accommodation

- 8.4.5.29 There is one tourist accommodation receptor within the MHPGC Project PEIR Red Line Boundary: Onshore, and there are a further 17 tourist accommodation receptors within the Tourism Study Area; the majority concentrated around the Seaham coastline and surrounding settlements, adjacent to the Durham Heritage Coast. The majority of these are likely to be frequently visited by tourists and holiday makers from outside of the local area.
- 8.4.5.30 Accommodation provision includes hotels, guesthouses, self-catering accommodation, holiday cottages, campsites and short-term holiday lets. Key tourism accommodation receptors include Seaham Hall Hotel, Londonderry's Bar and Accommodation, The Seaton Lane Inn and The Barn at

Easington campsite, alongside a number of smaller holiday lets and serviced accommodation properties within Seaham and Easington. The clustering of accommodation along the coast reflects the area's role as a visitor destination associated with the Durham Heritage Coast and related recreational attractions. Accommodation types are generally small to medium scale, serving both short-stay visitors and tourists visiting the wider County Durham coastline.

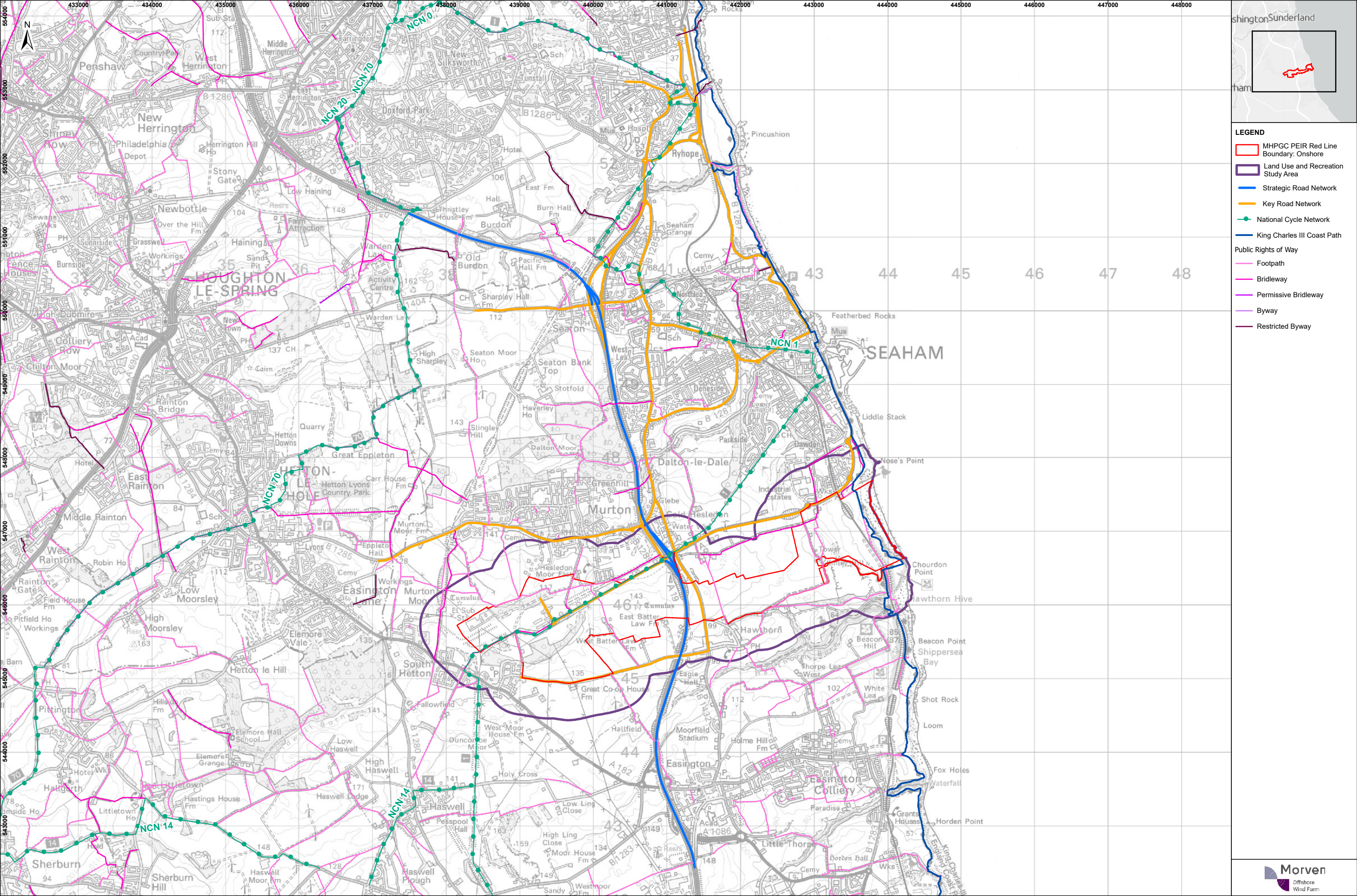
Recreation

Community Land and Assets

- 8.4.5.31 Community land and assets are described as including land, buildings and infrastructure which provide a service or resource to a community, e.g. open spaces, doctor surgeries, village halls, or education facilities (Highways England, now known as National Highways, 2020). The Land Use and Recreation Study Area contains 14 community and recreational assets, none of which are located within the MHPGC Project PEIR Red Line Boundary: Onshore. The majority of these assets are located in South Hetton, Murton and Hawthorn settlements. It should be noted that there are a number of open spaces identified in the County Durham Open Space Needs Assessment (DCC, 2018b) located within the MHPGC Project PEIR Red Line Boundary: Onshore and the Land Use and Recreation Study Area. These open spaces include private spaces such as golf courses, allotments, parks and accessible natural green spaces. Relevant allotments and parks have been included in the baseline for community land and assets, whereas private spaces that operate as a business (such as golf courses) have been included in the business and development land receptors. Finally, publicly accessible natural greenspace has been considered in the tourism attraction baseline where it is associated with the Durham Heritage Coastline. There are no Historic Parks and Gardens located within the Land Use and Recreation Study Area.

Walkers, Cyclists and Horse-riders (WCH)

- 8.4.5.32 Within the MHPGC Project PEIR Red Line Boundary: Onshore, there are 13 WCH routes, comprising 11 PRoW routes, the King Charles III England Coast Path and NCN Route 1, all of which cross the MHPGC Project PEIR Red Line Boundary: Onshore. These routes are presented in **Table 8.6** and are shown in **Figure 8.2**. Several PRoW are located within agricultural land surrounding Kinley Hill, Batter Law Hill, Cold Hesledon, Hawthorn and South Hetton. Among the identified PRoW, Bridleway 0540000006 (Hawthorn) has the greatest extent within the Land Use and Recreation Study Area, approximately 1.70km, and extends south of the A182 through the Seaham Garden Village area towards Stockton Road.
- 8.4.5.33 Approximately 1.30km of the King Charles III England Coast Path is located within the MHPGC Project PEIR Red Line Boundary: Onshore and passes along the top of the cliff face from Nose's Point south towards Chourdon Point. The route forms part of the National Trail network and provides recreational access along the Durham coastline.
- 8.4.5.34 Approximately 3km of National Cycle Network (NCN) Route 1 is located within the MHPGC Project PEIR Red Line Boundary: Onshore. Route 1 forms part of the NCN and provides a strategic long-distance cycling route, it passes through the northern part of the MHPGC Project PEIR Red Line Boundary: Onshore between Murton, Cold Hesledon and Seaham settlements, south of the Jade Business Park.



Project Name:
MORVEN HAWTHORN PIT GRID
CONNECTION PROJECT

Drawing Title:
FIGURE 8.2 LOCAL CYCLE NETWORK AND PROW

0 0.5 1 km
Scale@A3: 1:45,000

Geodetic Information:
Datum: OSGB 1936
Projection: British National Grid

Data Sources:
BP, Ordnance Survey

Service Layer Credits:
Contains public sector information licensed under the Open government License v3.0. © Crown copyright and database rights 2025 Ordnance Survey 6000048283. Light Gray Reference: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
Light Gray Base: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Drawing Number: MHPGC-WSP-PEIR-LAN-150				
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8.4.6 Future baseline conditions

- 8.4.6.1 During the 35 year operational lifetime of the MHPGC Project, the Land Use, Tourism and Recreation baseline can be expected to evolve both on a natural basis and in response to global trends such as climate change and other anthropogenic activities. The Infrastructure Planning (EIA) Regulations 2017 require that "an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge" is included. Therefore, an assessment of future baseline conditions, in the absence of the MHPGC Project, has been undertaken and is described within this section.
- 8.4.6.2 Patterns of land use within the Land Use, Tourism and Recreation Study Areas in the absence of the MHPGC Project may change over time, including as a result of modifications to farm holdings, residential properties, business premises and community facilities. There is inherent uncertainty as to potential changes in the frequency of use of tourism attractions, linear recreational routes and open space as well as the scale, nature and location of future development land. On this basis, the inherent uncertainty associated with the future land use, tourism and recreation baseline, notably in relation to operational lifetime of MHPGC Project (across a 35 year period post completion of construction) and the decommissioning phase (to commence 35 years post completion of construction), mean that for the purposes of the assessment, the existing baseline conditions have been used. The current baseline is considered an appropriate representation of conditions within the Land Use, Tourism and Recreation Study Areas from which to form the basis of the assessment.
- 8.4.6.3 As noted in **Volume 3, Annex 8.1 Land Use, Tourism and Recreation Receptors, of the PEIR** there is a development that is currently under construction (Seaham Garden Village, planning ref DM18/00829/OUT), where some homes are already occupied. For the purposes of the assessment, it is considered that all homes in this development have been constructed, and that they will also form part of the future baseline. Overall, substantial deviations from the current baseline whereby the sensitivity of receptors could change are not anticipated. Additionally, there are four consented planning applications for schemes which are likely to offer employment opportunities. As such, they have been considered as part of the baseline as if they were fully operational.

8.5 Impact assessment methodology

8.5.1 Overview

- 8.5.1.1 **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** sets out the overarching approach that has been used in developing the PEIR. This section describes the technical methods used to determine the sensitivity of the receptors and magnitude of effects and sets out the significance criteria that have been used for the preliminary land use, tourism and recreation assessment. The methodologies for assessing sensitivity, magnitude and significance for land use, tourism and recreation are described in more detail below.

8.5.2 Land Use

Private Property and Housing, Businesses and Development Land, and Agricultural Land Holdings

- 8.5.2.1 Private property and housing is the terminology used in DMRB LA 112 guidance, and defined as 'land, buildings and infrastructure for the purpose of residential use' (Highways England, 2020). It also includes residential site allocations.
- 8.5.2.2 Development land and businesses are defined in DMRB LA 112 as 'land and buildings for the purpose of commercial/industrial enterprise' and 'land identified in national or local plans, policies or strategies for development (including intensification of existing uses) and land subject to planning permission' (Highways England, 2020). For the purposes of this assessment, whilst certain receptors may align with more than one definition (e.g. a theme park, which could be categorised both as a business and also a tourist attraction), to avoid 'double counting' of receptors, each identified asset has been listed in **Table 8.7** according to the most suitable definition for this assessment.

- 8.5.2.3 Agricultural land holdings are 'land and associated infrastructure for the purpose of agricultural production, e.g. arable farming, dairy farming' (Highways England, 2020) and may include land which is owned, tenanted, or leased for agricultural activities.
- 8.5.2.4 The assessments of private property and housing, businesses and development land and agricultural land holdings use the same methodology, hence the approach to assessment and the criteria for sensitivity, magnitude, and significance are outlined together here. The assessment is qualitative and informed by desk-based study. The following methodology for the assessment of likely significant effects has been proposed in accordance with DMRB LA 104 (Highways England, 2020b) and DMRB LA 112 (Highways England, 2020a). Despite the DMRB being the standard for the assessment of road schemes, this guidance also provides an appropriate methodology for assessing the effects on the following receptors in the context of the Project:
- Private properties and housing (including land allocated for housing) or development and businesses (including land allocated for employment) which are subject to disruption through land take, where changes to access or severance could arise, or where amenity effects may arise (on a temporary or permanent basis) are identified.
 - Agricultural land holdings which are subject to disruption through land take, where changes to access or severance would arise are identified.
- 8.5.2.5 An assessment of sensitivity and magnitude has been undertaken, applying professional judgement and prior experience from similar developments.
- 8.5.2.6 The sensitivity criteria for private property and housing, development land and businesses and agricultural land holdings is shown below. This has been informed by DMRB LA 112.

Table 8.7: Sensitivity criteria of private property and housing, development land and businesses and agricultural land holdings receptors

Sensitivity	Definition
Very high	<u>Private property and housing:</u> • 'Existing private property or land allocated for housing located in a local authority area where the number of households are expected to increase by >25% by 2041 (ONS data); and/or' • 'Existing housing and land allocated for housing (e.g. strategic housing sites) covering >5ha and/or >150 houses.' <u>Development land and businesses:</u> • 'Existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering >5ha.' <u>Agricultural land holdings:</u> • 'Areas of land in which the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure; and' • 'Access between land and key agricultural infrastructure is required on a frequent basis (daily).'
High	<u>Private property and housing:</u> • 'Private property or land allocated for housing located in a local planning authority area where the number of households are expected to increase by 16-25% by 2041 (ONS data); and/or' • 'Existing housing and land allocated for housing (e.g. strategic housing sites) covering >1-5ha and/or >30-150 houses' <u>Development land and businesses:</u> • 'Existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering >1 – 5ha' <u>Agricultural land holdings:</u> • 'Areas of land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure; and' • 'Access between land and key agricultural infrastructure is required on a frequent basis (weekly).'

Sensitivity	Definition
Medium	<u>Private property and housing:</u> ‘Houses or land allocated for housing located in a local authority area where the number of households are expected to increase by >6-15% by 2041 (ONS data); and/or’ ‘Existing housing and land allocated for housing (e.g. strategic housing sites) covering <1 ha and/or <30 houses.’ <u>Development land and businesses:</u> ‘Existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering <1ha.’ <u>Agricultural land holdings:</u> ‘Areas of land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure; and’ ‘Access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly).’
Low	<u>Private property and housing, development land and businesses:</u> ‘proposed development on unallocated sites providing housing with planning permission/in the planning process.’ <u>Agricultural land holdings:</u> ‘Areas of land [in] which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and’ ‘Access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less frequent).’
Negligible	<u>Private property and housing, development land and businesses:</u> - Not applicable. <u>Agricultural land holdings:</u> ‘Areas of land which are infrequently used on a non-commercial basis.’

8.5.2.7 The magnitude of impact for private property and housing, development land and businesses, and agricultural land holdings, has been assigned based on and informed by DMRB LA 112 (Highways England, 2020a) as shown in **Table 8.8**.

Table 8.8 Magnitude of impact criteria of private property and housing, development land and businesses and agricultural land holdings receptors

Magnitude	Definition
Major	‘Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements, e.g., direct acquisition and demolition of buildings and direct development of land; and/or’ ‘Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision’
Moderate	‘Partial loss of/damage to key characteristics, features or elements, e.g., partial removal or substantial amendment to access or acquisition of land compromising viability of property; and/or’ ‘Introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision.’
Minor	‘A discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g., amendment to access or acquisition of land resulting in changes that do not compromise overall viability of property; and/or’ ‘Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision.’
Negligible	‘Very minor loss or detrimental alteration to one or more characteristics, features or elements, e.g., acquisition of non-operational land or buildings not directly affecting the viability of property; and/or’

Magnitude	Definition
	'Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.'
No change	'No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.'

8.5.2.8 The level of significance has been assigned, based on and informed by Table 3.8.1 in DMRB LA 104 (Highways England, 2020b) and as shown in Table 8.9 below. Likely significant effects for the assessment of private property and housing, businesses and development land, and agricultural land holdings comprise those which are assigned as moderate, large or very large. The remaining effects (neutral and slight) are categorised as not significant.

Table 8.9: Significance criteria for private property and housing, businesses and development land and agricultural land holdings.

Sensitivity of receptor	Magnitude of impact				
	No change	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral or slight	Neutral or slight	Neutral or slight	Slight
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
High	Neutral	Slight	Slight or moderate	Moderate or Large	Large or Very Large
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large

8.5.3 Tourism

Tourist Attractions

- 8.5.3.1 Tourist attractions typically comprise facilities such as museums, zoos and farm parks, heritage assets, country parks, theme parks, and points of interest. They may be visited by local residents; however, they can also attract a wider visitor base on a regional, national or international scale.
- 8.5.3.2 The assessment of tourist attractions during construction is qualitative and informed by desk-based study.
- 8.5.3.3 There is no accepted methodology for the assessment of effects on tourist attractions, with studies generally relying on anecdotal evidence or bespoke criteria. For the purposes of establishing a methodology for the assessment of likely significance, this assessment has defined broad categories for receptor sensitivity, magnitude of change, and overall significance, based on those included in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** prior experience and professional judgement. These have been tailored to tourist attractions by considering factors such as type and size of attraction, uniqueness, and anticipated customer base. This is an appropriate approach to assign an overall level of significance when assessing the effects on visitors and tourists accessing tourist attractions in the context of the MHPGC Project.
- 8.5.3.4 The sensitivity criteria for the tourist attractions assessment is shown below in **Table 8.10**.

Table 8.10: Sensitivity criteria of tourist attractions

Sensitivity	Definition
Very high	Attraction or facility that has a regional, national and/or international visitor base, attracting visitors that are likely to make a planned trip to visit the attraction. Activities are likely to be whole day trips, and have associated facilities such as car parking, cafés, toilets, and other assets. Alternatively, an attraction that has national or international renown (e.g. the Houses of Parliament) and attracts daily, very frequent visitors.
High	Attraction or facility that serves a local, regional and national visitor base, likely attracting visitors that have specifically planned to visit the attraction or facility for a day trip or part of a visit to the area. Offers the opportunity to undertake more than one activity (e.g. a historic property with a park or garden, and/or children's play area) and offers associated car parking, café, and toilet facilities.
Medium	Attraction or facility that serves a local, and wider regional visitor base. Offers the opportunity to undertake activities during the visit, with associated facilities such as car parking and/or a café.
Low	Attraction or facility that serves a predominantly local visitor base, with few people likely to travel from the wider region. May have some associated facilities such as car parking, but unlikely to offer facilities or activities which would enable visitors to spend a full day at the attraction or facility.
Negligible	Attraction or facility where alternative facilities are available within the locality. No associated facilities at the attraction, and the level of use is assumed to be low and/or infrequent.

8.5.3.5 The magnitude of impact for tourist attractions is shown in **Table 8.11**.

Table 8.11: Magnitude of impact criteria of tourist attractions

Magnitude	Definition
Major	- The Project could be expected to have a considerable effect (either beneficial or adverse) on receptors and include effects such as: - Loss of resource and/or quality and integrity of resource, severe damage to key characteristics, features or elements, e.g., direct acquisition and demolition of the tourist attraction; and/or - Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision preventing visitors from accessing the attraction.
Moderate	- The Project could be expected to have a perceptible effect (either beneficial or adverse) on receptors and include effects such as: - Partial loss of/damage to key characteristics, features or elements, e.g., partial removal or substantial amendment to access, or acquisition of land compromising viability of the attraction; and/or - Introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision for visitors.
Minor	- The Project could be expected to result in a small, barely perceptible effect (either beneficial or adverse) on receptors and include effects such as: - A discernible change in attributes, quality or vulnerability: minor loss of, or alteration to, one (maybe more) key characteristic, feature or element, e.g., amendment to access or acquisition of land resulting in changes that do not compromise overall viability of property; - Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision which is not likely to change visitors' behaviour or choice to access the attraction.
Negligible	Very minor loss or detrimental alteration to one or more characteristic, feature or element, e.g., acquisition of non-operational land or buildings not directly affecting the viability of property; and/or

Magnitude	Definition
	Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision. No notable change for visitors, with no change to their experience of the attraction.
No change	No discernible effect is expected as a result of the Project on receptors.

8.5.3.6 The level of significance is shown in **Table 8.12** below. Potential significant effects for the assessment of tourist attractions comprise those which are assigned as moderate, large or very large. The remaining effects (neutral and slight) are categorised as not significant.

Table 8.12: Significance criteria for tourist attractions

Sensitivity of receptor	Magnitude of impact				
	No change	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral or slight	Neutral or slight	Neutral or slight	Slight
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
High	Neutral	Slight	Slight or moderate	Moderate or Large	Large or Very Large
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large

Tourist Accommodation

8.5.3.7 Tourist accommodation typically comprises temporary, short-term accommodation, and can vary in type from hotels and bed-and-breakfast establishments to caravans and campsites. In some tourist accommodation, a range of facilities such as spas, entertainment venues and leisure facilities are available.

8.5.3.8 The assessment of tourist accommodation is qualitative and informed by desk-based study.

8.5.3.9 Tourist accommodation has been assessed from the perspective of temporary disruption and delays to access, and amenity effects for visitors, for which significance of effect will be assigned. There is no accepted methodology for the assessment of effects on tourist accommodation with studies generally relying on anecdotal evidence or bespoke criteria. For the purposes of establishing a methodology for the assessment of likely significance, this assessment has defined broad categories for receptor sensitivity, magnitude of change, and overall significance, based on the terminology included in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** prior experience and professional judgement. This is an appropriate approach to assign an overall level of significance when assessing the effects on visitors and tourists accessing tourist accommodation in the context of the MHPGC Project.

8.5.3.10 The sensitivity criteria for the tourist accommodation assessment is shown below in **Table 8.13**.

Table 8.13: Sensitivity criteria of tourist accommodation

Sensitivity	Definition
Very high	Large purpose-built holiday park (e.g. Butlins, Center Parcs) or large hotel offering accommodation >250 bedspaces (or pitches for camping and caravan parks). A range of associated facilities such as events spaces, entertainment, multiple café/restaurant/bar facilities, dedicated areas for children's play, swimming pool and/or spa. There are extremely limited accommodation options offering similar facilities within the local area.

Sensitivity	Definition
High	Larger holiday park, or medium-large hotel, offering accommodation >50-250 bedspaces (or pitches for camping and caravan parks). Also has associated facilities such as a restaurant, bar, play area, and swimming pool. There are limited accommodation options offering similar facilities within the local area.
Medium	Small holiday park, small grouping of premises (e.g. multiple cottages on a farm) or hotel, offering accommodation with up to 50 bedspaces (or pitches for camping and caravan parks). May also have associated facilities such as a restaurant, green space, or park (in the case of caravan, camping, and holiday parks) or a bar and restaurant open throughout the day (in the case of a hotel). There are some accommodation options offering similar facilities within the local area.
Low	Standalone premises (such as a cottage) or small B&B, offering accommodation with approximately 10 bedspaces or fewer. Not part of a chain, or accommodation group. There are accommodation options offering similar facilities within the area.

8.5.3.11 The magnitude of impact for tourist accommodation is shown in **Table 8.14**.

Table 8.14: Magnitude of impact criteria of tourist accommodation

Magnitude	Definition
Major	- Loss of resource and/or quality and integrity of resource: severe damage to key characteristics, features or elements, e.g., direct acquisition and demolition of the accommodation; and/or - Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision preventing visitors from accessing the accommodation.
Moderate	- Partial loss of/damage to key characteristics, features or elements, e.g., partial removal or substantial amendment to access or acquisition of land compromising viability of the accommodation or facilities; and/or - Introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision for visitors.
Minor	- A discernible change in attributes, quality or vulnerability: minor loss of, or alteration to, one (maybe more) key characteristic, feature or element, e.g., amendment to access or acquisition of land resulting in changes that do not compromise overall viability of the accommodation; and/or - Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision which is not likely to change visitors' behaviour or choice to stay at the accommodation.
Negligible	- Very minor loss or detrimental alteration to one or more characteristic, feature or element, e.g., acquisition of non-operational land or buildings not directly affecting the viability of property; and/or - Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.
No change	No notable change for visitors, with no change to their experience of the accommodation or associated facilities.

8.5.3.12 The level of significance is shown in **Table 8.15** below. Potential significant effects for the assessment of tourist accommodation comprise those which are assigned as moderate, large or very large. The remaining effects (neutral and slight) are categorised as not significant.

Table 8.15: Significance criteria for tourist accommodation

Sensitivity of receptor	Magnitude of impact				
	No change	Negligible	Minor	Moderate	Major
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
High	Neutral	Slight	Slight or moderate	Moderate or Large	Large or Very Large
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large

8.5.4 Recreation

Public Access for Walkers, Cyclists and Horse-riders

- 8.5.4.1 WCH are non-motorised users of PRoWs, and other designated routes for pedestrians, cyclists, and equestrians. These may include local routes and those of national importance such as National Trails.
- 8.5.4.2 The assessment of PRoWs and designated routes, and potential disruption to WCH during construction is qualitative and informed by desk-based study. The following methodology for the assessment of likely significant effects has been proposed in accordance with DMRB LA 104 (Highways England 2020b) and DMRB LA 112 (Highways England, 2020a). Despite the DMRB being the standard for the assessment of road schemes, this guidance provides an appropriate methodology for assessing the effects on WCH in the context of the MHPGC Project.
- 8.5.4.3 PRoW, NCN and other designated routes which are subject to disruption, severance or diversion, or where amenity effects may arise (on a temporary or permanent basis) have been identified. An assessment of sensitivity and magnitude has been undertaken, applying professional judgement and prior experience from similar developments.
- 8.5.4.4 The sensitivity criteria for WCH is shown below. This has been informed by DMRB LA 112.

Table 8.16: Sensitivity criteria of walkers, cyclists and horse-riders

Sensitivity	Definition
Very high	'National trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient WCH route. Little/no potential for substitution.' 'Routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small changes in the baseline due to potentially different needs.' 'Rights of way for WCH crossing roads at grade with >16,000 vehicles per day.'
High	- Regional trails and routes (e.g. promoted circular walks) likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution; and/or - Rights of way for WCH crossing roads at grade with >8,000 - 16,000 vehicles per day.'
Medium	'Public rights of way and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys; and/or - Rights of way for WCH crossing roads at grade with >4,000 – 8,000 vehicles per day.'

Sensitivity	Definition
Low	'Routes which have fallen into disuse through past severance or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes; and/or - Rights of way for WCH crossing roads at grade with <4,000 vehicles per day.'
Negligible	Not applicable to WCH.

8.5.4.5 The magnitude of impact for WCH has been assigned based on and informed by DMRB LA 112 (Highways England, 2020a) as shown in **Table 8.17**.

Table 8.17: Magnitude of impact criteria of walkers, cyclists and horse-riders

Magnitude	Definition
Major	- Where the Project could be expected to have a considerable effect (either beneficial or adverse) on receptors. - Permanent loss/severance of an existing recreational or commuting route/resource used by WCH.
Moderate	- Where the Project could be expected to have a perceptible effect (either beneficial or adverse) on receptors. - Disruption of a recreational or commuting route/resource used by WCH with significant increase/decrease in journey length/time.
Minor	- Where the Project could be expected to result in a small, barely perceptible effect (either beneficial or adverse) on receptors. - Alteration of a recreational or commuting route/resource used by WCH but with no significant increase in journey length/time.
Negligible	'Where no discernible effect on receptors is expected as a result of the Project. - No change to recreational or commuting route/resource used by WCH.
No change	'No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.'

8.5.4.6 The level of significance has been assigned, based on and informed by Table 3.8.1 in DMRB LA 104 (Highways England, 2020b) and as shown in **Table 8.18** below. Potential significant effects for the assessment of WCH comprise those which are assigned as moderate, large or very large. The remaining effects (neutral and slight) are categorised as not significant.

Table 8.18: Significance criteria for walkers, cyclists and horse-riders

Sensitivity of receptor	Magnitude of impact				
	No change	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral or slight	Neutral or slight	Neutral or slight	Slight
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
High	Neutral	Slight	Slight or moderate	Moderate or Large	Large or Very Large
Very high	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large

Community land, assets and recreational facilities

8.5.4.7 Community land and assets are described as 'land, buildings and infrastructure providing a service/resource to a community, e.g. open spaces, village greens, village halls, healthcare and

education facilities' (Highways England, 2020a). Recreational facilities are typically associated with open spaces and similar outdoor assets, incorporating sports pitches and other facilities such as playgrounds.

- 8.5.4.8 The assessment of community land, assets and recreational facilities is qualitative and informed by desk-based study. The following methodology for the assessment of likely significant effects has been proposed in accordance with DMRB LA 104 (Highways England, 2020b) and DMRB LA 112 (Highways England, 2020a). Despite the DMRB being the standard for the assessment of road schemes, this guidance provides an appropriate methodology for assessing the effects on community and recreation receptors in the context of the MHPGC Project.
- 8.5.4.9 Community land, assets and recreational facilities which are subject to disruption through land take, where access would be affected, or amenity effects may arise (on a temporary or permanent basis) are identified. An assessment of sensitivity and magnitude has been undertaken, applying professional judgement and prior experience from similar developments.
- 8.5.4.10 The sensitivity criteria for community land, assets and recreational facilities is shown below in **Table 8.19**. This has been informed by DMRB LA 112.

Table 8.19: Sensitivity criteria of community land, assets and recreational facilities

Sensitivity	Definition
Very high	Receptor value is very high when there is a combination of the following: • 'Complete severance between communities and their land/assets, with little/no accessibility provision;' • 'Alternatives are only available outside the local planning authority area;' • 'The level of use is very frequent (daily); and' • 'The land and assets are used by the majority ($\geq 50\%$) of the community.'
High	Receptor value is high when there is a combination of the following: • 'Substantial severance between communities and their land/assets, with limited accessibility provision;' • 'Alternatives are only available in the wider local planning authority area;' • 'The level of use is frequent (weekly); and' • 'The land and assets are used by the majority ($\geq 50\%$) of the community.'
Medium	Receptor value is medium when there is a combination of the following: • 'Severance between communities and their land/assets but with existing accessibility provision;' • 'Limited alternatives are available at a local level within adjacent communities;' • 'The level of use is reasonably frequent (monthly); and' • 'The land and assets are used by the majority ($\geq 50\%$) of the community.'
Low	Receptor value is low when there is a combination of the following: • 'Limited existing severance between communities and their land/assets, with existing full Disability Discrimination Act (DDA) 'DDA 1995 compliant accessibility provision;' • alternative facilities are available at a local level within the wider communities;' • 'The level of use is infrequent (monthly or less frequent); and' • 'The land and assets are used by the minority ($\leq 50\%$) of the community.'
Negligible	Receptor value is negligible when there is a combination of the following: • 'No or limited severance or accessibility issues;' • 'Alternative facilities are available within the same community;' • 'The level of use is very infrequent (a few occasions yearly); and' • 'The land and assets are used by the minority ($\leq 50\%$) of the community.'

- 8.5.4.11 The magnitude of impact for community land, assets and recreational facilities has been assigned based on and informed by DMRB LA 112 (Highways England, 2020) as shown in **Table 8.20**.

Table 8.20: Magnitude of impact criteria for community land, assets and recreational facilities

Magnitude	Definition
Major	'Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements, e.g., direct acquisition and demolition of buildings and direct development of land'; and 'Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision'.
Moderate	- Partial loss of/damage to key characteristics, features or elements, e.g., partial removal or substantial amendment to access or acquisition of land compromising viability of property; and/or; and 'Introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision.'
Minor	'A discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g., amendment to access or acquisition of land resulting in changes that do not compromise overall viability of property;' and 'Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision.'
Negligible	'Very minor loss or detrimental alteration to one or more characteristics, features or elements, e.g., acquisition of non-operational land or buildings not directly affecting the viability of property;' and/or 'Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision'.
No change	'No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.'

8.5.4.12 The level of significance has been assigned, based on and informed by Table 3.8.1 in DMRB LA 104 (Highways England, 2020b) and as shown in **Table 8.21** below. Potential significant effects for the assessment of community land, assets and recreational facilities comprise those which are assigned as moderate, large or very large. The remaining effects (neutral and slight) are categorised as not significant.

Table 8.21: Significance criteria for community land, assets and recreational facilities

Sensitivity of receptor	Magnitude of impact				
	No change	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral or slight	Neutral or slight	Neutral or slight	Slight
Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight moderate or
Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate large or
High	Neutral	Slight	Slight moderate or	Moderate Large or	Large or Very Large
Very high	Neutral	Slight	Moderate Large or	Large or Very Large	Very Large

8.5.5 Assumptions and limitations of the assessment

8.5.5.1 The preliminary assessment has been undertaken based on the maximum design scenario as outlined within **Section 8.6.2**.

8.5.5.2 For the preliminary assessment, it has been assumed that all areas temporarily disturbed during construction and decommissioning would be reinstated and the existing land use resumed. It is assumed that permanent land take includes permanent access tracks, TJB at landfall, joint bays and

link boxes associated with the onshore export cables, the LSS and joint bays and link boxes associated with the AC connection cables.

- 8.5.5.3 For the purposes of the land use, tourism and recreation preliminary assessment, due to uncertainty in relation to the scheduling of specific onshore construction activities at the current stage of assessment, a reasonable worst case assumption has been that the works would occur in tandem, representing the greatest potential intensity of works.

8.6 Key parameters for assessment

8.6.1 Scope of the assessment

- 8.6.1.1 The approach to assessment was presented in the MHPGC Project Scoping Report and has been since been refined, including on the basis of feedback received through the MHPGC Project Scoping Opinions received from the PINS as detailed in **Section 8.3**.
- 8.6.1.2 **Table 8.22** summarises the impacts considered as part of the assessment, while a summary of the impacts scoped out of the assessment is presented in **Table 8.23**.
- 8.6.1.3 At the scoping stage, the following effects were scoped in for construction and decommissioning:
- Effects as a result of permanent change to land use due to construction of permanent features (e.g. LSS, transition joint bay, onshore export cable and AC connection cable) was scoped in for the construction phase.
 - Effects as a result of permanent limitations to land use due to wayleave and easement conditions along the onshore cable route.
- 8.6.1.4 Following further development of the design, during the construction phase, these effects are no longer considered for the construction and decommissioning phases as the permanent changes to land use would take place within the footprint of the temporary works. Additionally, during decommissioning, there would be removal of the substation and the cable would be left in situ with no permanent easement conditions in place.
- 8.6.1.5 As such, the permanent changes to land use as a result of permanent features and effects as a result of permanent limitations due to easement conditions are considered only for the operation and maintenance phase.

Table 8.22: Impacts scoped into the assessment

Impact	Potential effects considered in the assessment
Construction phase	
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity.	Temporary change of land use function and changes in amenity and access, relating to the following: • Private Property and Housing; • WCH; • Community Land and assets.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.	Temporary change of land use function and changes in amenity and access, relating to the following: • Tourist attractions; • Tourist accommodation.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.	Temporary change of land use function and changes in amenity and access, relating to the following: • Business and Development Land; • Agricultural land holdings.

Impact	Potential effects considered in the assessment
O&M phase	
Permanent change to land use due to presence of permanent features (e.g. LSS, transition joint bay, onshore export cable and AC connection cable).	Permanent change of land use function and changes in amenity and access relating to the following: • Private Property and Housing; • Business and Development Land; • Agricultural Land Holdings; • Community Land and Assets; • WCH; • Tourist attractions; • Tourist accommodation.
Permanent limitations to land use due to wayleave and easement conditions along onshore cable route.	Permanent change of land use function and changes in amenity and access relating to the following: • Private Property and Housing; • Business and Development Land; • Agricultural Land Holdings; • Community Land and Assets; • WCH; • Tourist attractions; • Tourist accommodation.
Decommissioning phase	
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity.	Temporary change of land use function and changes in amenity and access, relating to the following: • Private Property and Housing; • WCH; • Community Land and assets.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.	Temporary change of land use function and changes in amenity and access, relating to the following: • Business and Development Land; • Agricultural land holdings.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.	Temporary change of land use function and changes in amenity and access, relating to the following: • Tourist attractions; • Tourist accommodation.

Table 8.23: Impacts scoped out of the assessment

Impact	Justification for scoping out of the assessment
Construction phase	
N/A	N/A
O&M phase	
Temporary change to land use and/or land cover used for public access, public open space, or other community activity.	The following receptor groups have not been considered for the O&M phase as agreed with PINS: • Community Land and assets; • WCH; • Tourist Accommodation; • Tourist Attractions During the O&M phase, temporary loss of land or public access to land is not anticipated to occur.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.	The following receptor groups have not been considered for the O&M phase as agreed with PINS: • Businesses and Development Land; • Agricultural land holdings. During the O&M phase, temporary change to land use and/or land cover which restricts access to land is not anticipated to occur.
Decommissioning phase	
N/A	N/A

8.6.2 Maximum design scenario

- 8.6.2.1 The maximum design scenario (MDS) for each impact identified in **Section 8.6.1** has been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The MDS presented in **Table 8.24** have been selected from the parameters provided in **Volume 1, Chapter 2: Project Description, of the PEIR** and methodology outlined in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR**.

Table 8.24: MDS relevant for the assessment of potential impacts on land use, tourism and recreation

Impact	MDS	Explanation
Construction		
<i>Landfall</i>		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity. Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.	Landfall (trenchless drill) - Landfall trenchless drill installation method: HDD or Direct Pipe; - Maximum burial depth of trenchless drill (per bore): 80m bgl; - Maximum trenchless drill length: 2km; - Duration of trenchless drilling activity: 300 days; - Construction period for Landfall: 3.5 years. Landfall Infrastructure onshore (landward of MHWS) - Maximum width of trenchless drill area, west of Durham Coast Line: 400m; - Corridor length: 800m; - Location of trenchless drill entry point: Within 400m from centre point (E: 443667, N: 546834) except to the east, due to the railway restriction; - Number of trenchless drill entry points: 4 bores; - Material quantities associated with excavation: 130,000m³. Transition Joint Bays - Number of TJBs: 2; - Location of TJBs: Within 150m of landfall trenchless drill entry point; - Working Area for TJB (construction): 750m²; - Depth of TJB: 2.5m. Landfall construction compound - Number of main compounds: 1; - Dimension of main compound: 48,000m² - Number of secondary compounds: 1; - Dimension of secondary compound: 900m²; - Number of access tracks: 2 from A192; - Construction access track widths: 10m;	The MDS is represented by the largest working areas, excavation volumes and associated transport movements which arise from the construction of the Landfall, resulting in the largest extent of disturbance to Land Use, Tourism and Recreation receptors.

Impact	MDS	Explanation
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.	- Drilling mud: bentonite and/or polymer fluids. Movements and workforce – Green LSS Option - Construction period: 33 months; - Abnormal loads: HGV low loader with extendable trailer (70t maximum load) - movement order required. 6 AILs; - Total daily construction traffic movements (HGV): 93 ; - Total daily construction traffic movements (Vehicles): 101 ; - Number of employees working on site: 48 .	
<i>Onshore Export Cable</i>		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity.	Construction period for Onshore Export Cable: 3.5 years Dimensions of trench for grid connection export cable (HVAC) – Blue LSS - Number of export cables: 24; - Length of cable route: 4,260m; - Number of cable trenches: 4; - Width of cable corridor (temporary including permanent): 100m; - Onshore cable area (temporary): 426,000m²; - Trench width at top per circuit: 4.8m; - Trench width at base per circuit: 2.8m; - Trench depth per circuit: 1.8m; - Depth of stabilised backfill: 450mm; - Number of cable route joint bays: 32; - Number of link boxes: 32; - Volume of material excavated per joint bay: 2,264m³ (total = 18,112m³, assuming 4 circuits are jointed in a single excavation)	The MDS is represented by the largest working areas, excavation volumes and associated transport movements which arise from the construction of the LSS Areas (Green or Blue, dependant on worst case), resulting in the largest extent of disturbance to Land Use, Tourism and Recreation receptors.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.		

Impact	MDS	Explanation
	• Construction land take for joint bay (surface area): 1,472m² (total = 11,776m²) • Volume of material excavated per link box: 12.5m³ • Construction land take for link box: 100m² (total = 3200m²); • Volume of material excavated (link boxes): 400m³. Dimensions of trench for onshore export cable (HVDC) – Blue LSS • Number of export cables: 4; • Length of cable route: 4.83km; • Width of cable corridor (temporary inc. permanent): 40m; • Number of cable trenches: 2; • Onshore cable area (temporary): 293,200m² • Trench width at top: 6.85m; • Trench width at base: 4m; • Cable trench depth: 1.8m; • Depth of stabilised backfill: 450mm; • Trenchless depth (excluding landfall): 30m; • Number of cable route joint bays: 12;; • Volume of material excavated per joint bay: 700m³ • Construction land take per joint bay (surface area): 600m² • Volume of material excavated per monitoring box: 18m³ • Volume of material excavated (for monitoring boxes): 216m³ • Construction land take per monitoring box: 64m² • Construction land take for all monitoring boxes: 768m² • Width of haul road (excluding passing bays): 8m. Infrastructure • Number of haul roads: 1; • Haul road construction: geogrids and 500mm stone; • Haul road widths: 8m; • Haul road depth: 0.5; • Dimensions of temporary culvert/bridge crossings for the haul road: 10 x 6 x 5	

Impact	MDS	Explanation
	- Number of main compounds: 2; - Main compound dimensions: 7ha; - Total area of main compounds: 14ha; - Number of secondary construction compounds: 6; - Dimensions per secondary construction compound: 10,000m² - Total area of secondary construction compounds: 6ha. Trenchless Drill Crossings - Major Crossings understood to be: 1) A19 road (crossed by all HVDC routes), 2) Dalton Beck and Jade Business Park (crossed by HVAC or HVDC depending on LSS option taken and cable route taken), 3) Pinch-point between Jade Business Park and future asset SEGL convertor station (crossed by HVAC or HVDC depending of selected LSS site and chosen cable route); - Trenchless drill methodology: HDD, micro-tunnelling (auger bore or direct pipe); - Dimensions of trenchless drill compounds: 60 x 100m working area; - Duration of trenchless drill: Trenchless depth (excluding landfall): 30m; - Drilling mud used: bentonite and/or polymer fluids. Construction Access Number of construction access tracks (excluding existing tracks): 6 Movements and workforce – Green LSS Option - Construction period: 33 months; - Abnormal loads (Number): 450; - Abnormal loads (Type): Cable drums on tractor trailers - low loaded lorry's may be suitable for transport also; - Total daily construction traffic movements Heavy Goods Vehicle (HGV): 102; - Total daily construction traffic movements (Vehicles): 213; - Number of employees working on site: 120.	
<i>Onshore Land Substation</i>		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily	Dimensions	

Impact	MDS	Explanation
restricting access to/use of land) used for public access, public open space, or other community activity. Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions. Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.	- Construction period for LSS: 4.5 years; - Area of temporary construction footprint: 7ha; - Area of temporary works (laydown and storage): 3.5ha; - Number of buildings: 15; - Width of main building/structure: 100m; - Length of main building/structure: 200m. LSS Construction - Description of foundations: raft or pile caps (suspended structure) or piled foundations and suspended structures; - Volume of excavation for foundations: 20,000m³ - Cut and fill balance: 50,000m³ - Material types and quantities associated to excavation: 14,000m³ topsoil, 65,000m³ other materials; - Estimated waste quantities: 50,000m³ Access - Temporary width of access including passing bays: 15m; - Number of temporary accesses: 2; - Reinstatement of temporary land: 4 months. Movements and workforce – Green LSS Option - Abnormal loads (Number): 18; - Abnormal loads (Type): Cable drums on tractor trailers - low loaded lorry's may be suitable for transport also; - Total daily construction traffic movements (HGV): 161; - Total daily construction traffic movements (Vehicles): 351; - Number of employees working on site: 350.	The MDS is represented by the largest working areas, excavation volumes and associated transport movements which arise from the construction of the LSS Areas (Green and Blue), resulting in the largest extent of disturbance to Land Use, Tourism and Recreation receptors. With respect to the optionality between an AIS and GIS solutions, the MDS is defined by the worst-case parameter from either design solution.
Operation and Maintenance		
<i>Landfall</i>		
Permanent change to land use due to presence of permanent feature.	Typical duration of operation: 35 years;	The MDS considers the greatest geographical extent

Impact	MDS	Explanation
Permanent limitations to land use due to wayleave and easement conditions along onshore cable route.	- Operational land take for TJB (surface area): 25m² - Total area of TJB: 150m² - Activities anticipated during operation and maintenance: quarterly.	and longest duration of permanent disruption to land use, tourism and recreation receptors during the operation and maintenance phase.
Onshore Export Cable and AC connection cable		
Permanent change to land use due to construction of permanent feature	- Typical duration of operation: 35 years; - HVAC Cable Corridor – Blue LSS; - Length of cable route: 4.26km; - Width of cable corridor (permanent): 25m; - HVAC Onshore cable area (permanent): 106,500m² - HVAC Operational land take per access cover: 25m² (total = 800m²); - HVDC Cable Corridor – Blue LSS; - Length of cable route: 4.83km; - Width of cable corridor (permanent): 8.65m; - HVDC Onshore cable area (permanent): 41,775m² - HVDC Operational land take per access cover: 16m² (total = 192m²); - Number of operational access tracks (excluding existing tracks): 6; - Operational access track construction: Assume the additional access tracks into the cable route (if required) will use existing access points and unpaved farm tracks where possible. Potential access tracks from the construction works will be retained during operation; - Activities anticipated during operation and maintenance: quarterly.	The MDS considers the greatest geographical extent and longest duration of permanent disruption to land use, tourism and recreation receptors during the operation and maintenance phase.
Permanent limitations to land use due to wayleave and easement conditions along the onshore cable route.		
Onshore Land Substation		
Permanent change to land use due to presence of permanent feature.	- Typical duration of operation: 35 years; - Area of permanent footprint: 6.5ha ; - Impermeable permanent area: 3.5ha; - SuDS area: 2,300m² - SuDS volume: 3,500m³	The MDS considers the greatest geographical extent and longest duration of permanent disruption to land use, tourism and recreation
Permanent limitations to land use due to wayleave and easement conditions along the onshore cable route.		

Impact	MDS	Explanation
	• Number of permanent accesses: 2; • Permanent access width: 15m; • Permanent access points: 2; • Activities anticipated during operation: Monthly day visit inspections; Quarterly detailed inspections/ non-intrusive work; Annual turnaround/shutdown.	receptors during the operation and maintenance phase.
Decommissioning		
Landfall and Onshore Export Cable		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity.	Leave cables in place, to minimise/ avoid environmental disturbance. Leaving the cables in place has little or no environmental impact whilst recovering them would disturb the local environment.	The MDS considers the greatest geographical extent and longest duration of permanent disruption to land use, tourism and recreation receptors during the decommissioning phase.
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.		
Land Substation		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land) used for public access, public open space, or other community activity.	Deconstruction in the inverted sequence of installation, after the Land Substation (LSS) has been decommissioned. All equipment and materials including foundations will be demolished and disposed of, in accordance with the latest relevant guidance. The site will be reinstated.	The MDS considers the greatest geographical extent and longest duration of permanent disruption to land use, tourism and recreation receptors during the decommissioning phase.

Impact	MDS	Explanation
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting access to/use of land for agriculture, forestry or commercial activity.		
Temporary change to land use and/or land cover (working corridor/temporary compounds) temporarily restricting tourism and/or recreation related land use functions.		

8.7 Commitments adopted as part of the MHPGC Project

- 8.7.1.1 As set out in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR** and **Volume 1, Annex 4.1: Draft Commitments Register, of the PEIR**, several measures have been adopted as part of the MHPGC Project to reduce the potential for impacts on land use, tourism and recreation.
- 8.7.1.2 Embedded mitigation includes the following measures as identified in the Institute of Sustainability and Environmental Professionals (ISEP) Guide to Shaping Quality Development (ISEP, 2015):
- Primary mitigation - measures included as part of the project design. ISEP describes these as *"modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project and do not require additional action to be taken"*. This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the project and the parameters secured in the DCO and marine licence, or both;
 - Tertiary mitigation - ISEP describes these as *"actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects"*.
- 8.7.1.3 Embedded mitigation measures that will form part of the final design (and are established legislative requirements/good practice, or both) have been taken into account as part of the initial assessment presented in **Section 8.8** (i.e., the initial determination of impact magnitude and significance of effects assumes implementation of these measures). This ensures that the measures that the Applicant is committed to are considered in the assessment of effects.
- 8.7.1.4 Where an assessment identifies likely significant adverse effects, secondary mitigation measures may be applied. These are measures that could further prevent, reduce and, where possible, offset these effects. They are defined by ISEP as *"actions that will require further activity to achieve the anticipated outcome"* and may be imposed as part of the planning consent. These include measures required to reduce the significance of environmental effects and may be secured through an environmental management plan. For secondary mitigation measures, both pre-mitigation and residual effects are presented.
- 8.7.1.5 The measures relevant to land use, tourism and recreation are outlined in **Table 8.25**. As there is a secured commitment to implementing these measures, they are considered inherently part of the design of the MHPGC Project and have therefore been considered in the assessment presented in **Section 8.8**. It should be noted that the assessment also considers measures included in **Volume 3, Chapter 5: Traffic and Transport, of the PEIR, Volume 3, Chapter 6 Onshore Noise and Vibration, of the PEIR, Volume 3, Chapter 7 Onshore Air Quality, of the PEIR** and **Volume 4 Chapter 1 Landscape and Visual, of the PEIR**.

Table 8.25: Embedded commitments relevant to land use, tourism and recreation implemented as part of the MHPGC Project

Commitment number	Measure adopted	How the measure will be secured
CoT01	An Outline Code of Construction Practice (CoCP) will be prepared and submitted as part of the application for development consent. A Detailed CoCP will be developed substantially in accordance with the Outline CoCP. The Outline CoCP will include that farm access routes between fields within a farm holding will be maintained (where reasonably practicable), or alternative routes agreed with the land holder to enable the continued operation of agricultural land holdings during the construction phase, where this may be possible.	Will be secured via DCO Schedule &/or Requirement
CoT12	The location of the permanent components of the MHPGC Project, notably Joint Bays, Monitoring and Link Boxes of the onshore export cables and the AC connection cables, will be designed as far as reasonably practicable to avoid severance of fields in agricultural production associated with farm holdings within the application boundary of the Development Consent Order.	Will be secured via DCO Schedule &/or Requirement
CoT16	An Onshore Decommissioning Plan will be developed prior to decommissioning. It will include provisions for the removal of all onshore above ground infrastructure and the decommissioning of below ground infrastructure (if and where relevant and practicable), and details relevant to flood risk, pollution prevention, protection of soils and avoidance of ground disturbance. The Onshore Decommissioning Plan will be in line with the latest relevant legislation and available guidance at the time of production, as far as reasonably practicable.	Will be secured via DCO Schedule &/or Requirement
CoT17	Where practicable, the siting of the temporary and permanent footprint of the MHPGC Project will avoid areas of Flood Risk Zone 2 and 3, sensitive historic, cultural, ecological and other environmental receptors, both statutory and non-statutory, during the site selection process for the MHPGC Project.	Will be secured via DCO Schedule &/or Requirement
CoT27	The onshore export cables and the AC connection cables will be completely buried underground for the entire length. No overhead pylons will be installed as part of the MHPGC Project.	Will be secured via DCO Schedule &/or Requirement
CoT29	Post-construction, the temporary working areas will be reinstated to pre-existing condition as far as reasonably practical, in line with best practice guidance.	Will be secured via DCO Schedule &/or Requirement

Commitment number	Measure adopted	How the measure will be secured
CoT35	An Outline Public Rights of Way (PRoW) Management Plan will form part of the Outline Code of Construction Practice (CoCP), which will be prepared and submitted for development consent. A Detailed PRoW Management Plan will be developed substantially in accordance with the Outline PRoW Management Plan. The Outline PRoW Management Plan will: • Set out the measures needed to keep prows safe and usable during construction, such as clear signage, pre and post-work condition surveys; • Commit to reopening or reinstating any affected route as soon as reasonably practicable, thereby minimising the duration of closures; • Specify that, where full closure cannot be avoided, a temporary diversion or gated crossing will be provided unless demonstrably impracticable.	Will be secured via DCO Schedule &/or Requirement
CoT43	An Outline Landscape and Ecological Management Plan (LEMP) will be prepared and submitted with the development consent application and will establish the mitigation and management measures relevant to terrestrial and intertidal ecology and conservation. It will include: • Mitigation measures relating to protected or notable species and/or sensitive habitats; • Appointment of an ecological clerk of works (ecow) where required; and, • Details of mitigation planting at the onshore substation site including the number, location, species and details of management and maintenance of planting. A Detailed LEMP will be developed substantially in accordance with the Outline LEMP.	Will be secured via DCO Schedule &/or Requirement
CoT46	An Outline Construction Fencing Plan, will form part of the Outline Code of Construction Practice (CoCP), which will be prepared and submitted with the development consent application. All temporary working areas, including in relation to the Transition joint bays, onshore export cables, the preferred onshore LSS option, and the AC connection cables will be made clear through the use of signage and secured with appropriate fencing. A Detailed Construction Fencing Plan will be developed substantially in accordance with the Outline Construction Fencing Plan.	Will be secured via DCO Schedule &/or Requirement

8.8 Assessment of impacts

8.8.1 Overview

- 8.8.1.1 This section includes the assessment of the impacts to land use, tourism and recreation arising from the construction, O&M and decommissioning phases of the MHPGC Project. A summary of the effects is presented in **Table 8.26**. The impacts and receptors presented in **Table 8.22** will be considered for each receptor.

8.8.2 Construction phase

Temporary impacts to land use, access and amenity for Private Property and Housing

Receptor sensitivity

- 8.8.2.1 There are four private residential receptors of medium sensitivity located within the MHPGC Project PEIR Red Line Boundary: Onshore, comprising isolated residential properties. The Seaham Garden Village development is partially within the MHPGC Project PEIR Red Line Boundary: Onshore and is currently being constructed, with some homes already occupied. This has a very high sensitivity. Additionally, there are two planning applications which are currently either under consideration or going through the appeals process, (one of which is DM/24/02696/FPA and is within the MHPGC Project PEIR Red Line Boundary). These planning applications have low sensitivity. All other receptors are located within the Land Use and Recreation Study Area and range from medium to very high sensitivity.

Magnitude of impact

- 8.8.2.2 During construction, potential impacts as a result of disruption as a result of amenity effects, delays, severance of access and potential land take are considered. The assessment of these factors in relation to residential receptors considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned to residential receptors. The preliminary findings of these topic assessments are considered below:
- In terms of amenity effects, the properties within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the construction works and earthworks associated with the Blue LSS and Green LSS Option Areas, alongside the cable corridor. The assessment indicates that there are preliminary significant effects as a result of changes to visual amenity for residents along the proposed route alignment, including (but not limited to) properties in the settlements of: Hawthorn (West Lane at the A19), south of the MHPGC Project PEIR Red Line Boundary: Onshore, and isolated rural properties such as West Batter Law Farm and East Batter Law Farm. Receptors in the vicinity of the Blue LSS Option Area, including isolated rural properties to the south such as East Batter Law Farm and West Batter Law Farm, alongside those in South Hetton (including West Lane) may experience notable changes to views resulting from construction activity within the foreground and middle ground, including earthworks, construction compounds, plant and temporary soil storage mounds. These are reported in **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** as likely to be moderate adverse.
 - As concluded in **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR**, at Viewpoint 6, the construction activity associated with the installation of the cable corridors may be in view from the Batter Law Hill properties; whilst this change would be perceptible, it would not alter the overall amenity of the view and is therefore identified as moderate adverse. In the Little Coop House Farm area (Viewpoint 9), visual effects in the surrounding area including PRoW 11 (Easington) are assessed as major adverse. For residential receptors within South Hetton, views towards the Green LSS Option Area would be partially screened by Coop House Wood. Consequently, lower-level construction activities and earthworks would generally not be readily visible, with any views largely limited to taller construction elements extending above the woodland canopy. Other receptors, particularly around Murton are assessed as minor and negligible adverse, as activities would likely be screened by intervening landforms and vegetation. These residents may experience views of construction activity

associated with the construction of land substations, earthworks and construction traffic. Whilst significant visual effects are identified for some receptors in **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR**, the majority of visual effects reported for residential receptors are minor adverse or negligible adverse and are therefore not significant;

- Construction noise effects represent a precautionary worst-case scenario, as the specific locations and sequencing of construction activities have not yet been confirmed. As reported in **Volume 3, Chapter 6: Noise and Vibration, of the PEIR** residual effects are generally predicted to range from negligible to minor adverse residual effects. However, moderate to major adverse residual effects may remain at R04 Hillcroft Residential (including East House Farm), due to its location within the area identified for Landfall. Similarly, for residential receptors within Murton settlement, Kinley Hill, South Hetton, Hawthorn and Hesledon Moor effects are predicted to range from minor to major adverse, due to noise associated with trenchless technique cable installation works. Noise associated with the construction of the Blue LSS Option Area and road traffic are considered to be minor adverse and not significant.
- **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** identifies temporary construction noise and vibration effects associated with the Landfall, onshore export and AC connection cable corridor, and the LSS Option Areas. Construction effects for both noise and vibration associated with the Landfall, particularly Hillcroft Residential (R04) are assessed as having the potential to be significant. Along sections of the onshore export and AC connection cable corridors, residential receptors including Kinley Hill Tower, Kinley Hill Farm, Hathorn Dene Residential, East and West Batter Law Farm, Little Coop House Farm and properties within South Hetton and Hesleden Moor may experience minor to moderate adverse vibration effects when works are at their closest point, with moderate adverse effects considered significant in EIA terms. For the Blue LSS Option Area, vibration effects at Cold Hesledon North Residential are assessed as minor adverse and not significant in EIA terms. No residential receptors are located within the vibration study area of the Green LSS Option Area and, therefore, vibration effects associated with the Green LSS Option Area have not been assessed further.
- As outlined in **Volume 3, Chapter 7: Onshore Air Quality, of the PEIR**, air quality effects during the construction phase are anticipated to be not significant, with embedded mitigation measures. Construction activities have the potential to generate dust and PM₁₀ emissions through site clearance, earthworks, materials handling, vehicle movements, use of crushing and screening equipment, exhaust emissions, and road construction activities. Health effects associated with vehicle emissions are considered separately within **Volume 4, Chapter 2: Human Health, of the PEIR**;
- In terms of access, the **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse during construction (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). However, moderate adverse effects relating to severance and non-motorised user delay are identified in the vicinity of the access road between the A182 and Jade Business Park, and the Jade Access Roads. These effects may temporarily affect accessibility for residents of nearby properties around Forster Avenue, Hawkins Road, Oliver Street and Barnwick Street, in Murton settlement, together with residents of Seaham Garden Village located adjacent to the A182 corridor.

8.8.2.3 There may be temporary land take from the Seaham Garden Village and DM/24/02696/FPA developments where they are within the MHPGC Project PEIR Red Line Boundary: Onshore. Potential impacts on private residential curtilage are not anticipated; however, some housing receptors located in close proximity to construction activities may experience limited temporary changes to amenity and access during construction. Other residential receptors closest to the MHPGC Project PEIR Red Line Boundary: Onshore may experience temporary changes to visual amenity and access arrangements, including at Hawthorn, Easington, South Hetton, Murton and , as well as the Little Coop House Farm rural farmstead located within the MHPGC Project PEIR Red Line Boundary: Onshore. Where these properties, ongoing developments and housing allocations are located within the MHPGC Project PEIR Red Line Boundary: Onshore, micro-siting during design refinement would be used to reduce direct land take from these assets where possible and ensure that access is maintained (see CoT17). As a result, the magnitude of impact on private property and housing receptors is considered to be no change to minor. The magnitude of impact is more likely to be minor

for Seaham Garden Village, which is located within the MHPGC Project PEIR Red Line Boundary: Onshore, alongside DM/24/02696/FPA, a housing development that is not a DCC allocation. For the isolated farmstead properties, the magnitude of impact is identified as being negligible due to the temporary and transient nature of the effects.

Significance of effect

- 8.8.2.4 Considering a sensitivity of low to very high, and a magnitude of impact as no change to minor, it is anticipated that the effects on private property and housing receptors would be **neutral (not significant) to moderate adverse (significant)**. A **moderate adverse (significant)** effect has been identified in relation to Seaham Garden Village. It is considered that this would not be a major significant effect due to the temporary nature of the works anticipated in this area.

Additional mitigation and residual effect

- 8.8.2.5 A worst-case assessment has been produced at this stage, and should the design of MHGCP Project develop to reduce interaction with the Seaham Garden Village development, this would reduce the potential for significant effects. As the design progresses and details of the onshore components are refined, the assessment will be revisited. This will include development of any additional mitigation measures where required. As such, the residual effect remains **neutral (not significant) to moderate adverse (significant)**.

Temporary impacts to land use, access and amenity for Businesses and Development Land

Receptor sensitivity

- 8.8.2.6 There are 14 businesses and areas of development land within the MHPGC Project PEIR Red Line Boundary: Onshore, seven of which are concentrated in the Jade Business Park (Allocation EMP36) and have medium sensitivity. Jade Business Park itself has an allocation in the DCC Local Plan and is classed as very high sensitivity due to the size of the undeveloped land. Two of the businesses within the MHPGC Project PEIR Red Line Boundary: Onshore are Kinley Hill Pumpkin Patch and KZ Caravan Storage (formerly Woodlands Caravan Storage), which are assessed as high sensitivity. Richardson's Garden Centre (including reindeer paddocks) is situated within the MHPGC Project PEIR Red Line Boundary: Onshore and due to its scale has been considered a high sensitivity receptor. Similarly, due to its scale and the fact it is an active mineral site within the MHPGC Project PEIR Red Line Boundary, Hawthorn Quarry has been assessed as having a high sensitivity. The remaining three businesses situated within the MHPGC Project PEIR Red Line Boundary: Onshore are Jade Business Park (Phase 2: DM/25/02692/RM), the consented application for a solar farm at Croup Hill (DM/26/00964/CEU), and the Eastern Green Link 1 converter station (DM/25/00128/RM), and have been assigned very high sensitivity. All other businesses and development land located within the Land Use and Recreation Study Area are either medium or high sensitivity.

Magnitude of impact

- 8.8.2.7 In terms of land take, there may be temporary land take required from Jade Business Park and the wider DCC allocation (EMP36) in order to construct the Green LSS Option.
- 8.8.2.8 During construction, impacts due to disruption as a result of amenity effects, delays and severance of access are considered. The assessment of these factors in relation to business receptors considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below:
- In terms of amenity effects, the facilities within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the construction works. **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** assesses some businesses and development land such as Jade Business Park, and the A19 (West Lane (South Hetton businesses)), which have been assessed as having moderate adverse effects. At Jade Business Park (and Phase 2 Jade Business Park), taller construction elements associated with the Green LSS Option Area may result in a discernible alteration to the view, although these would be viewed in the context of an existing industrial landscape. Businesses within South Hetton are anticipated to experience more limited views due to screening provided by Coop House Wood. Effects on other

receptors in the Landscape and Visual assessment range from negligible adverse to major adverse;

- **Volume 3, Chapter 6: Noise and Vibration, of the PEIR** provides a preliminary assessment, whereby the majority of noise and vibration effects at the Landfall and onshore cable export corridor are anticipated to have the potential to be significant following the implementation of secondary mitigation and monitoring measures (CoT03, CoT18, CoT26 and CoT41). This includes business receptors within the Spectrum Business Park, Foxcover Distribution Park and Cold Hesledon Industrial Estate, alongside Kinley Hill. Temporary moderate to major adverse noise effects may occur where receptors are located in close proximity to specialist construction activities, including trenchless crossings associated with the A19/ B1432 crossing and Jade Access Road, to the Jade Business Park;
- As noted in **Volume 3, Chapter 7: Onshore Air Quality, of the PEIR**, construction activities have the potential to generate dust and PM₁₀ emissions through site clearance, earthworks, materials handling, vehicle movements, use of crushing and screening equipment, exhaust emissions, and road construction activities. Increases in construction traffic, particularly HGV movements, are predicted on a limited number of road links, including the access road between the A182 and Jade Business Park (Link L20). However, with embedded mitigation measures in place, dust-related effects are expected to be not significant. Health effects associated with vehicle emissions are considered separately within **Volume 4, Chapter 2: Human Health, of the PEIR**;
- In terms of access, the **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is potential for moderate adverse effects at some receptors for severance and non-motorised user delay, around the Jade Park Access Road and Footpath 28. These links provide access to businesses within Jade Business Park (EMP36), including GM Packaging (UK), Sumitomo Electric Wiring Systems (Europe) Ltd (SEWS-E), CoreHaus, Power Roll Ltd, Low Carbon Materials, ECatering and the EGL1 Visitor Centre, and may experience temporary disruption associated with increased construction traffic.

8.8.2.9 It is anticipated that the majority of businesses and development land would experience limited changes to amenity and accessibility during construction. Whilst some businesses may experience temporary visual intrusion, noise disturbance and changes to access associated with construction activities, the majority of effects are anticipated to be negligible to minor adverse residual effects following mitigation. Businesses within established industrial and employment areas, including Jade Business Park, Spectrum Business Park, Foxcover Distribution Park and Cold Hesledon Industrial Estate, are generally expected to experience limited effects due to the nature of the existing environment. However, businesses and development land located within or immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore, including receptors within Jade Business Park (including Phase 2 Jade Business Park), the Eastern Green Link 1 converter station, Croup Hill Solar Farm, Kinley Hill Pumpkin Patch, Drilcorp, Richardson's Garden Centre (including reindeer paddocks), KZ Caravan Storage, WindowSmiths and Vestas Warehouse, may experience greater disruption during construction than businesses and development land located further from the construction works due to their proximity to construction activities. Richardson's Garden Centre (including reindeer paddocks) which are located within the MHPGC Project PEIR Red Line Boundary: Onshore is expected to be more sensitive to construction activities due to the potential for temporary disturbance and changes in access, however, the garden centre is still expected to remain operational with minimal disruption as this portion of the business is located outside the MHPGC Project PEIR Red Line Boundary: Onshore. As such, the magnitude of change at Richardson's Garden Centre is expected to be minor. Hawthorn Quarry may also experience localised disruption during construction where works interact with the quarry access route within the MHPGC Project PEIR Red Line Boundary: Onshore. However, given the industrial nature of the receptor and the implementation of access management measures to maintain operational access throughout the construction period, effects are anticipated to be temporary and of negligible magnitude.

8.8.2.10 Temporary delays in access may also occur in the vicinity of the Jade Access Road. It is anticipated that micro-siting of the temporary works areas, as well as maintaining access to local businesses would limit impacts on development land and businesses during the construction phase (see CoT17). Overall, the anticipated magnitude of impact is considered to range from no change to

minor, with the highest impacts anticipated at a limited number of receptors in close proximity to construction activities, and at Jade Business Park where they may be temporary land take required for construction of the Green LSS Option. The area of the Green LSS Option is understood to be part of Phase 3 of the development of the allocation, and discussions will continue with DCC on the use of the site.

Significance of effect

- 8.8.2.11 With receptor sensitivities ranging from medium to very high and impacts ranging from negligible to minor, effects on businesses and development land are anticipated to range from **neutral (not significant) to moderate adverse (significant)**. Significant effects are anticipated to be limited to a small number of receptors located within or immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore, with the **moderate adverse (significant)** effect located at Jade Business Park allocation (EMP36) should the Green LSS Option be selected. A very large effect is not anticipated due to the temporary nature of the works and the fact that the works are not expecting to affect viability of the wider site. The effect at Richardson's Garden Centre is anticipated to be slight adverse (not significant) rather than moderate and significant as the main garden centre business is expected to experience negligible impacts during the works.

Additional mitigation and residual effect

- 8.8.2.12 A worst-case assessment has been produced at this stage, and should further design refinement of MHGCP Project develop to reduce interaction with the Jade Business Park (EMP36 allocation), this could reduce the potential for significant effects. As the design progresses and details of the onshore components are refined, the assessment will be revisited. This will include development of any additional mitigation measures where required. As such, the residual effect remains **neutral (not significant) to moderate adverse (significant)**.

Temporary impacts to land use and access for Agricultural Land Holdings

Receptor sensitivity

- 8.8.2.13 There are nine agricultural land holdings located within the MHPGC Project PEIR Red Line Boundary: Onshore and two landholding is located within the Blue LSS Option. No agricultural land holdings are located within the Green LSS Option. The sensitivity of the agricultural land across the Land Use and Recreation Study Area and MHPGC Project PEIR Red Line Boundary: Onshore is assumed to be high considering the size of the landholdings and that access between land and key agricultural infrastructure is required on a reasonably frequent basis.

Magnitude of impact

- 8.8.2.14 There are a number of agricultural receptors which have the potential to experience impacts including disruption to farming management, access, field drainage and irrigation systems as a result of land take and changes to access. The assessment of these factors in relation to agricultural receptors considers traffic and transport effects as well as severance, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below.
- 8.8.2.15 In terms of access, **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is potential for moderate adverse effects at some receptors for severance and non-motorised user delay, particularly around the Jade Park Access Roads.
- 8.8.2.16 For the number of landholdings and the total area of loss that these activities present, a worst case scenario is considered. During construction, loss of land as a result of temporary working areas has the potential to result in severance of land holdings, (particularly with the land take required for the Blue Option LSS), and may affect operations of some farms. Measures such as ensuring crossing points are maintained for landowners and tenant farmers will reduce the level of severance (included in the Outline CoCP, see CoT01). Micrositing of joint bays and link boxes will also help to avoid severance of fields (see CoT12). As a result, the anticipated magnitude of impact is minor as it is anticipated that any loss would not affect the viability of the property and adequate access provision would be maintained.

Significance of effect

- 8.8.2.17 This would result in a significance of **slight adverse (not significant)**. A moderate adverse effect is not anticipated as the viability of the property and adequate access provision would be maintained. At this stage, the specific areas of land take have not been confirmed. Therefore, the spatial relationship between the land take and the farm holdings during construction cannot be identified at this stage. As the design, the development of embedded mitigation and the location of temporary compounds and other work areas are progressed, this conclusion will be revisited.

Additional mitigation and residual effect

- 8.8.2.18 No additional mitigation is required. As such, the residual effect remains **slight adverse (not significant)**.

Temporary impacts to land use, access and amenity for Community Land and Assets

Receptor sensitivity

- 8.8.2.19 There are no community assets within the MHPGC Project PEIR Red Line Boundary: Onshore. Those that are within the Land Use and Recreation Study Area range from medium to high sensitivity.

Magnitude of impact

- 8.8.2.20 Due to the distance from the MHPGC Project PEIR Red Line Boundary: Onshore, it is likely that the changes to amenity and access would have a lesser effect on community assets. The assessment of these factors in relation to community receptors considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below:
- In terms of amenity effects, the facilities within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the construction works. **Volume 4, Chapter 1: Landscape and Visual, of the PIER** assesses some community facilities such as Murton Sports and Cricket Ground as having minor adverse effects.
 - Effects reported in **Volume 3, Chapter 6: Noise and Vibration, of the PIER** reports the potential for significant noise and vibration effects, with moderate to major adverse effects reported where receptors are in proximity to construction activities such as open trenching, trenchless crossings and at Landfall, and where BS 5228 noise duration thresholds are exceeded;
 - Air quality effects as a result of increased dust are not significant for the construction phase with mitigation measures in place. Health effects have been considered in **Volume 4, Chapter 2: Human Health, of the PEIR**;
 - In terms of access, **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is potential for moderate adverse effects at some receptors for severance and non-motorised user delay, particularly around the Jade Park Access Roads.
- 8.8.2.21 In **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** the location of community facilities receptors and their distance from the construction works means it is anticipated that changes to amenity as a result of increased dust and disturbance from noise and vibration would be minimal. There may be some changes to visual amenity due to views of the construction activity, however this is not anticipated to constitute a loss or detrimental alteration to the community facilities identified. Additionally, no severance of community facilities is anticipated, and there would be no land take required from community facilities. As a result, the anticipated magnitude of impact is negligible.

Significance of effect

- 8.8.2.22 Considering a sensitivity of medium to high, and a magnitude of impact of negligible, it is anticipated that the effects on community land and assets would be **neutral to slight adverse (not significant)**.

Additional mitigation and residual effect

- 8.8.2.23 No additional mitigation is required therefore the residual effect is **neutral (not significant) to slight adverse (not significant)**.

Temporary impacts to land use, access and amenity for Walkers, Cyclists and Horse-riders

Receptor sensitivity

- 8.8.2.24 There are 13 WCH routes within the MHPGC Project PEIR Red Line Boundary: Onshore, two of which are very high sensitivity as they are nationally designated routes. All other WCH routes across the Land Use and Recreation Study Area are medium sensitivity as detailed in **Appendix E in Volume 3, Annex 8.1: Land Use, Tourism and Recreation Receptors, of the PEIR**.

Magnitude of impact

- 8.8.2.25 During construction, impacts due to disruption as a result of amenity effects, and changes to access are considered. The assessment of these factors in relation to WCH routes considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below:
- In terms of amenity effects, the routes within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the construction works. **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** includes recreational routes such as the King Charles III Coast path and other PRoWs. Effects on these receptors range from negligible adverse to major adverse. Viewpoint 2 includes PRoW which form part of the King Charles III Coast Path, and has been assessed as moderate adverse (owing to views of construction activity), whilst Viewpoints 9a and 9b (which includes footpath 0540000011) are likely to experience major adverse effects (located with views of the LSS Options experienced along the length of the PRoW). Footpaths 0880000016, 0880000015 and 0880000010 are in proximity to Viewpoint 6 and may experience moderate adverse effects. However, it has been concluded that there would be no long-term, permanent visual impacts on users of the King Charles III English Coastal Path;
 - The reported noise effects are considered to be a worst-case scenario as the location of specific construction activities is not yet confirmed. Effects reported in **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** reports the potential for significant effects, with moderate to major adverse effects reported where receptors are in proximity to construction activities such as open trenching or HDD. ;
 - Air quality effects as a result of increased dust are not significant for the construction phase with mitigation measures in place. Health effects have been considered in **Volume 4, Chapter 2: Human Health, of the PEIR**;
 - In terms of access, **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is potential for moderate adverse effects at some receptors for severance and non-motorised user delay, particularly around the Jade Park Access Road. NCN Route 1 is adjacent to this access road.
- 8.8.2.26 It is anticipated that users of PRoWs within the MHPGC Project PEIR Red Line Boundary: Onshore would experience changes to amenity as a result of dust, noise and visual changes. During the construction works, there may be some temporary severance of certain PRoWs where they are located within the MHPGC Project PEIR Red Line Boundary: Onshore, particularly those in proximity to open trench construction methods or where there is an increase in construction traffic (for example at 0880000028 or NCN Route 1). Additionally, a PRoW Management Plan will be implemented (see CoT35 in **Table 8.24**), which will include measures such as a commitment to reopen or reinstate any affected routes as soon as practicable, and ensuring that temporary diversions or gated crossings will be provided where a closure cannot be avoided. As a result, the anticipated magnitude of impact ranges from negligible to minor.
- #### Significance of effect
- 8.8.2.27 Most PRoWs within the MHPGC Project PEIR Red Line Boundary: Onshore, which are likely to experience effects are considered to have medium sensitivity. For these routes, effects are anticipated to range from **neutral (not significant)** to **slight adverse (not significant)**. The King Charles III Coast Path, the NCN Route have very high sensitivity due to their national status and high use. It is considered that the magnitude of change on these receptors could be minor, which would

lead to a **moderate adverse (significant)** effect. A large adverse effect is not anticipated due to the temporary nature of the works.

Additional mitigation and residual effect

- 8.8.2.28 The residual effect remains as ranging from **neutral (not significant)** to **moderate adverse (significant)**.

Temporary impacts to land use, access and amenity for Tourist Attractions

Receptor sensitivity

- 8.8.2.29 As shown in **Appendix C in Volume 3, Annex 8.1: Land Use, Tourism and Recreation Receptors, of the PEIR**, there are three tourist attractions within the MHPGC Project PEIR Red Line Boundary: Onshore, and 29 within the Tourism Study Area. Many of these are associated with the Durham Heritage Coast and include natural spaces such as beaches and geological formations. Due to the nature of these attractions they are considered to range from low to medium sensitivity.

Magnitude of impact

- 8.8.2.30 During construction, impacts including temporary change to land use, changes to amenity and changes to access are considered. The assessment of the factors in relation to tourist attractions considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below, where they are relevant to tourist attractions:

- In terms of amenity effects, receptors within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the construction works as reported in **Volume 4, Chapter 7: Landscape and Visual Amenity, of the PEIR**. Viewpoint 2 includes potential views of Blast Beach, Ginny's Dene and Courdon Point and Nose's Point and has been assessed as moderate adverse as there would be views of disturbed ground, construction machinery and other construction activity. Hawthorn Dene Nature Reserve is in proximity to Viewpoint 1, which may experience minor adverse effects;
- The reported noise effects are considered to be a worst-case scenario as the location of specific construction activities is not yet confirmed. Effects reported in **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** have the potential to be significant where receptors are in proximity to construction activities such as open trenching or HDD. Blast Beach, Ginny's Dene and Courdon Point may be more likely to experience noise effects due to their close location to the landfall site;
- Air quality effects as a result of increased dust are not significant for the construction phase with mitigation measures in place. Health effects have been considered in **Volume 4, Chapter 2: Human Health, of the PEIR**;
- In terms of access, **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is potential for moderate adverse effects at some receptors for severance and non-motorised user delay, particularly around the Jade Park Access Road, however there are no tourist attractions which use this road.

- 8.8.2.31 The majority of the tourist assets within the Tourism Study Area rely on tranquillity and visual amenity to attract visitors, and are used to undertake nature-based activities. Informal activities such as birdwatching, recreational angling, swimming, photography, and sea glass collecting also take place within the Tourism Study Area, and are associated with the Durham Heritage Coast. The information from the chapter assessments demonstrates that there could be some changes in visual amenity, as well as potential for noise impacts as a result of open cut and trenchless crossings for tourist attractions within the MHPGC Project PEIR Red Line Boundary: Onshore. Blast Beach, Chourdon Point and Ginny's Dene (within the MHPGC Project PEIR Red Line Boundary: Onshore) are anticipated to remain accessible. There may be the potential for temporary land take from tourist attractions (for example the publicly accessible open space that forms part of the Durham Heritage Coast), however it is anticipated that the use of micro-siting to avoid sensitive environmental receptors (see CoT17) would prevent temporary land take. As a result, it is likely that the only effects would be in

relation to amenity, where there may be discernible changes to the tranquillity of these sites, therefore the magnitude of impact for tourist attractions ranges from no change to minor.

Significance of effect

- 8.8.2.32 With a sensitivity of low or medium and impacts ranging from no change to minor, the effects are anticipated to range from **neutral (not significant)** to **slight adverse (not significant)**.

Additional mitigation and residual effect

- 8.8.2.33 No significant effects have been identified therefore no additional mitigation is required. Therefore, the residual effects remain as **neutral (not significant)** to **slight adverse (not significant)**.

Temporary impacts to land use, access and amenity for Tourist Accommodation

Receptor sensitivity

- 8.8.2.34 There is one tourist accommodation provider within the MHPGC Project PEIR Red Line Boundary: Onshore (with low sensitivity), and a further 17 providers within the Tourism Study Area. They range in sensitivity from low to high.

Magnitude of impact

- 8.8.2.35 During construction, impacts including temporary change to land use, changes to amenity and changes to access are considered. The assessment of the factors in relation to tourist accommodation considers air quality, noise and vibration, landscape and visual, and traffic and transport effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below, where they are relevant to tourist accommodation:
- In terms of visual amenity effects, **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** does not assess any tourist accommodation providers. Effects on other receptors in the Landscape and Visual assessment range from negligible adverse to major adverse;
 - The reported noise effects are considered to be a worst case scenario as the location of specific construction activities is not yet confirmed. Effects reported in **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** have the potential to be significant, with moderate to major adverse effects reported where receptors are in proximity to construction activities such as open trenching or trenchless techniques;
 - Air quality effects as a result of increased dust are not significant for the construction phase with mitigation measures in place. Health effects have been considered in **Volume 4, Chapter 2: Human Health, of the PEIR**;
 - In terms of access, **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** reports that effects are likely to be negligible to minor adverse for most effects (driver delay, non-motorised user amenity, fear and intimidation, road safety and AIL movements). There is the potential for moderate adverse effects at some receptors for severance and non-motorised user delay, particularly around the Jade Park Access Road, however there are no tourist accommodation providers which use this road.
- 8.8.2.36 No land take from tourist accommodation is anticipated as a result of the MHPGC Project. Kinley Hill Tower (low sensitivity) is located within the MHPGC Project PEIR Red Line Boundary: Onshore and is likely to experience views of the construction works and disturbance due to construction noise. At this stage, it is assumed that access to Kinley Hill Tower will be maintained, however this will be revisited as the design of the Project is confirmed. Other tourist accommodation receptors are less likely to experience changes to their amenity due to their location and the separation from the works. It should be noted that the receptor with high sensitivity (Seaham Hall Hotel) is likely to experience no change due to the nature of the MHPGC Project and lack of effect pathways. As such, the anticipated magnitude of impact is no change to minor, with minor magnitude of change experienced at Kinley Hill Tower.

Significance of effect

- 8.8.2.37 With a sensitivity of low to high and impacts ranging from no change to minor, the effects are anticipated to range from **neutral (not significant)** to **slight adverse (not significant)**. **Slight adverse (not significant)** effects are more likely to be experienced at Kinley Hill Tower.

Additional mitigation and residual effect

- 8.8.2.38 No additional mitigation is required. Therefore the residual effect is **neutral (not significant)** to **slight adverse (not significant)**.

8.8.3 O&M phase

Permanent impacts to land use, access and amenity for Private Property and Housing

Receptor sensitivity

- 8.8.3.1 There are four private property and housing receptors of medium sensitivity located within the MHPGC Project PEIR Red Line Boundary: Onshore. The Seaham Garden Village development is partially within the MHPGC Project PEIR Red Line Boundary: Onshore and is currently being constructed, with some homes already occupied. This has a very high sensitivity. Additionally, there are two planning applications which are currently either under consideration or going through the appeals process, (one of which is DM/24/02696/FPA and is within the MHPGC Project PEIR Red Line Boundary: Onshore). These planning applications have low sensitivity. All other receptors are located within the Land Use and Recreation Study Area, and range from medium to very high sensitivity.

Magnitude of impact

- 8.8.3.2 It is anticipated that during operation, there may be some changes in amenity effects as a result of the LSS. The assessment of these factors in relation to residential receptors considers, noise and vibration and landscape and visual effects, which influence the magnitude of impact assigned to residential receptors. The preliminary findings of these topic assessments are considered below,
- In terms of operational amenity effects, according to **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR**, the onshore export and AC connection cables would be underground, with only access covers, joint bays and link boxes present at ground level. These features would not be generally identifiable from surrounding residential receptors. In the vicinity of the Green LSS Option Area, the upper components of the LSS may be viewed from Little Coop House Farm and West Lane (Hawthorn) to the south of the MHPGC Project PEIR Red Line Boundary: Onshore. Whilst this would result in a discernible alteration to views from some of the receptors, the prevailing visual amenity would remain largely unchanged. Therefore, Viewpoints 6 and 9 are identified as experiencing moderate adverse effects, which are significant.
 - The Blue LSS Option Area would be visible from residential receptors in the vicinity of Batter Law Hill, East Batter Law Farm and South Farm, where it would introduce a new urban feature within a generally rural aspect of the overall view. The Blue LSS Option Area would result in more noticeable visual changes from Viewpoints 6, 9 and 14, which are assessed as moderate adverse effects. For the remaining receptors, **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** assesses operational visual effects as neutral, negligible adverse or minor adverse and are therefore not significant.
 - **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR** identifies a number of noise-sensitive residential receptors that may be affected by operational noise associated with the proposed LSS Option Areas. Receptors associated with the Blue LSS Option Area include Hesleden Moor East Residential, Cold Hesleden Moor and East Batter Law Farm. Residential receptors potentially impacted by the Green LSS Option Area include Hesleden Moor North Residential and South Hetton (Windermere Road). The preliminary qualitative assessment (based on a worst case scenario) identifies the potential for operational noise effects ranging from minor adverse to major adverse significance at nearby residential receptors.
 - Air quality effects have been scoped out for the O&M phase;
 - Transport effects have been scoped out for the O&M phase.
- 8.8.3.3 Properties within the MHPGC Project PEIR Red Line Boundary: Onshore and the Study Area may experience changes to amenity as a result of views of the permanent structures. There would be no private properties or housing developments which are likely to experience permanent land take.
- 8.8.3.4 **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** identifies that the majority of private residential receptors would experience limited changes to visual amenity during operation. The onshore export cables and AC connection cables would be located underground and would not be perceptible to residential receptors. In vicinity of the Green LSS Option Area, the greatest changes

to visual amenity are likely to be experienced by the residential receptors in proximity to Little Coop House Farm and West Lane (Hawthorn), where the LSS may be visible in the context of existing industrial infrastructure. If the Blue LSS Option Area is taken forward, the greatest changes to visual amenity is predicted to be experienced by residential receptors near Batter Law Hill, East Batter Law Farm and South Farm, where the LSS would introduce a new built feature within a predominantly rural setting. For the majority of residential receptors visual effects are anticipated to be limited due to distance, existing landform, vegetation and the presence of existing infrastructure in the wider landscape. There would be no permanent land take from private properties. Overall, the magnitude of impact ranges from no change to minor. A minor magnitude of impact is likely to be experienced by those properties nearest the permanent infrastructure, whilst other receptors (including the Seaham Garden Village) are more likely to experience no change or negligible magnitude of impact.

Significance of effect

- 8.8.3.5 Considering a sensitivity of low to very high, and a magnitude of impact of minor it is anticipated that the effects on private property and housing would be **neutral (not significant) to slight adverse (not significant)**.

Additional mitigation and residual effect

- 8.8.3.6 No additional mitigation is required. Therefore, effects remain **neutral (not significant) to slight adverse (not significant)**.

Permanent impacts to land use, access and amenity for Businesses and Development Land

Receptor sensitivity

- 8.8.3.7 There are 14 businesses or areas of development land within the MHPGC Project PEIR Red Line Boundary: Onshore, seven of which are concentrated in the Jade Business Park (EMP36) and have medium sensitivity. Jade Business Park itself has an allocation in the DCC Local Plan and is classed as very high sensitivity due to the size of the undeveloped land. Two of these businesses within the MHPGC Project PEIR Red Line Boundary: Onshore are Kinley Hill Pumpkin Patch and KZ Caravan Storage, which are assessed as high sensitivity. Richardson's Garden Centre (including reindeer paddocks) is also situated within the MHPGC Project PEIR Red Line Boundary: Onshore and is classified as a high sensitive receptor due to the scale of the land and nature of activities onsite. The remaining three businesses situated within the MHPGC Project PEIR Red Line Boundary: Onshore are Jade Business Park (Phase 2: DM/25/02692/RM), the consented application for a solar farm at Croup Hill (DM/26/00964/CEU), and the Eastern Green Link 1 converter station (DM/25/00128/RM), and have been assigned very high sensitivity due to scale. All other businesses and development land located within the Land Use and Recreation Study Area are either medium or high sensitivity.

Magnitude of impact

- 8.8.3.8 Land take from any businesses would be minimised as far as practicable, however there will be a small area permanent land take required from DCC allocation EMP36 (Jade Business Park) in order to construct the Green LSS Option.
- 8.8.3.9 During the O&M phase, impacts as a result of amenity effects, delays and severance of access are considered. The assessment of these factors in relation to business receptors considers noise and vibration, alongside landscape and visual effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below. In terms of amenity effects, the properties within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore, including Jade Business Park, Spectrum Business Park, Foxcover Industrial Estate may experience views of the permanent structures. As the onshore export cables and AC connection cables would be located underground, with only the junction boxes, link boxes and substation infrastructure visible. In the event that the Green LSS Option Area is developed, businesses and development land associated with Jade Business Park and Jade Business Park Phase 2 may experience views of the LSS. The operational infrastructure would be visible in the context of existing industrial development and energy infrastructure, although the LSS would introduce a new and noticeable built feature within the view. Viewpoints in the vicinity of Jade Business Park, including Viewpoints 6 and 9, are assessed in **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR** as experiencing moderate adverse visual effects, which are significant in EIA terms. In the event that the Blue LSS Option Area is developed, views of the LSS would be available from receptors in the vicinity of Batter Law Hill and

the surrounding area. The LSS would introduce a new built feature within views that are currently characterised by a combination of agricultural land, existing infrastructure and industrial development. Viewpoints 6, 9 and 14 are assessed as experiencing moderate adverse visual effects.

8.8.3.10 Richardson's Garden Centre, including the reindeer paddocks, may experience views of the Blue LSS Option Area from parts of the site. Given the visitor-focused nature of the attraction and the presence of outdoor animal paddocks, changes to visual amenity may be more perceptible than for surrounding commercial and industrial receptors. However, the LSS would be viewed in the context of existing infrastructure and development within the wider landscape, and any operational effects on the business are expected to be limited. For businesses and development land associated with Spectrum Business Park, Foxcover Industrial Estate and the wider Murton area, views towards both of the proposed LSS Option Areas are generally screened or filtered by intervening landform, vegetation and existing built development (as included in an Outline LEMP, see CoT43). Where visible, only limited or distant views of the upper elements of the infrastructure may be available. Consequently, operational visual effects are anticipated to be neutral, negligible adverse or minor adverse, and therefore not significant in EIA terms.

- Operational noise has not been assessed for non-residential receptors at the PEIR stage, however the preliminary worst-case assessment for operational noise anticipates that the effects could range from minor to major adverse significance for residential receptors.;
- Air quality effects have been scoped out for the O&M phase;
- Transport effects have been scoped out for the O&M phase.

8.8.3.11 Overall, as construction land will be reinstated, any amenity effects during the O&M phase on businesses and development land are considered to be limited. Businesses associated with Jade Business Park may experience notable changes to visual amenity as a result of views of the proposed LSS, however as this is an established industrial and employment area, as with many of the other businesses within the Study Area, the receptors are generally less reliant on tranquillity and visual amenity than residential or recreational receptors. As a result, changes to businesses and development land during the O&M phase are anticipated to range from no change to minor, with a minor magnitude of change occurring at allocation EMP36 (Jade Business Park) should the Green LSS Option be selected. The area of the Green LSS Option is understood to be part of Phase 3 of the development of the allocation, and discussions will continue with DCC on the use of the site.

Significance of effect

8.8.3.12 With a sensitivity ranging from medium to very high and impacts ranging from negligible to moderate, the effects are anticipated to range from **neutral (not significant) to moderate adverse (significant)**, with the **moderate adverse (significant)** effect experienced at EMP36 (Jade Business Park) should the Green LSS Option be selected. A large significant effect is not anticipated as the wider site is still anticipated to be viable as an employment allocation.

Additional mitigation and residual effect

8.8.3.13 A worst-case assessment has been produced at this stage, and should the design of MHPGC Project develop to reduce interaction with the Jade Business Park (EMP36 allocation) and Richardson Garden Centre (reindeer paddocks), this would reduce the potential for significant effects. As the design progresses and details of the onshore components are refined, the assessment will be revisited. This will include development of any additional mitigation measures where required. As such, the residual effect remains **neutral (not significant) to moderate adverse (significant)**.

Permanent impacts to land use and access for Agricultural Land Holdings

Receptor sensitivity

8.8.3.14 There are nine agricultural land holdings located within the MHPGC Project PEIR Red Line Boundary: Onshore and two landholdings are located within the Blue LSS Option. No agricultural land holdings are located within the Green LSS Option. The sensitivity of the agricultural land across the Study Area and MHPGC Project PEIR Red Line Boundary: Onshore is high.

Magnitude of impact

8.8.3.15 During the O&M phase, two agricultural receptors may experience effects associated with permanent land take required for the Blue LSS Option Area, including changes to field configuration

and access arrangements. The assessment of these effects considers the potential for the permanent loss of agricultural land and the severance of agricultural land holdings, which influence the magnitude of impact assigned. **Volume 3, Chapter 5: Traffic and Transport, of the PEIR** has scoped out the O&M phase from the assessment.

- 8.8.3.16 For the purposes of assessing the number of landholdings affected and the total area of land required, a worst case scenario has been considered. Under the Green LSS Option, only the joint bays and link boxes would result in permanent agricultural land take, whereas the Blue LSS Option would require a greater extent of permanent agricultural land take. On this basis, the Blue LSS Option has been assessed as the reasonable worst case. While permanent land take would occur, it is anticipated to comprise only a small proportion of the affected landholdings. Access to land would be maintained and no loss of agricultural holdings or business operations is anticipated. Consequently, the effect on the continued viability and operation of affected landholdings is expected to be minor.

Significance of effect

- 8.8.3.17 A high sensitivity and a minor magnitude of impact would result in a significance of **slight adverse (not significant)**. The effect would not be significant as it is not anticipated to affect the viability of the property.

Additional mitigation and residual effect

- 8.8.3.18 No additional mitigation is required, and as such, the residual effect remains **slight adverse (not significant)**.

Permanent impacts to land use, access and amenity for Community Land and Assets

Receptor sensitivity

- 8.8.3.19 There are no community assets within the MHPGC Project PEIR Red Line Boundary: Onshore. Those that are within the Study Area range from medium to high sensitivity.

Magnitude of impact

- 8.8.3.20 Due to the distance from the MHPGC Project PEIR Red Line Boundary: Onshore, it is likely that the changes to amenity and access would have a lesser effect on community assets. The assessment of these factors in relation to community receptors considers noise and vibration and landscape and visual effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below:
- 8.8.3.21 According to **Volume 4, Chapter 1: Landscape and Visual Amenity, of the PEIR**, in terms of amenity effects, the facilities immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the permanent structures. Viewpoints 6 (Croup Hill), 9 (PROW at Little Coop House Farm) and 14 (PROW near South Farm) (all with views of both the Green and Blue LSS Options) have been identified as having moderate adverse effects, however for all other viewpoints effects range from neutral to minor adverse.
- Operational noise has not been assessed at the PEIR stage for non-residential receptors, however the preliminary worst-case assessment for operational noise anticipates that the effects could range from minor to major adverse significance for residential receptors;
 - Air quality effects have been scoped out for the O&M phase;
 - Transport effects have been scoped out for the O&M phase.
- 8.8.3.22 **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR**, concludes that the location of community facilities receptors and their distance from the construction works means it is anticipated that changes to amenity as a result of changes to noise would be minimal. There may be some changes to visual amenity due to views of the LSS Options, however, this is not anticipated to change the characteristics of the community facilities identified due to their distance from the LSS Options and the implementation of mitigation planting in an Outline LEMP (see CoT43). Additionally, no permanent severance of community facilities is anticipated, nor is there are permanent land take required from community facilities. As a result, the anticipated magnitude of impact is no change.

Significance of effect

- 8.8.3.23 Considering a sensitivity of medium to high, and a magnitude of impact of negligible, it is anticipated that the effects on community land and assets would be **neutral (not significant)**.

Additional mitigation and residual effect

- 8.8.3.24 No additional mitigation is required therefore the residual effect is **neutral (not significant)**.

Permanent impacts to land use, access and amenity for Walkers, Cyclists and Horse-riders

Receptor sensitivity

- 8.8.3.25 There are 13 WCH routes within the MHPGC Project PEIR Red Line Boundary: Onshore, two of which are very high sensitivity as they are nationally designated routes. All other WCH routes are medium sensitivity.

Magnitude of impact

- 8.8.3.26 During operation and maintenance, impacts due to disruption as a result of amenity effects, and changes to access are considered. The assessment of these factors in relation to WCH routes considers noise and vibration and landscape and visual effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below.
- 8.8.3.27 In terms of amenity effects, the PROWs and recreational routes within the MHPGC Project PEIR Red Line Boundary: Onshore and immediately adjacent to the MHPGC Project PEIR Red Line Boundary: Onshore may experience views of the permanent structures. The Green LSS Option Area and the Blue LSS Option Area would be clearly visible in the view of Viewpoint 6 (Croup Hill) which includes footpaths 0880000016, 0880000015 and 0880000010. Similarly, the Blue LSS Option Area would be clearly visible to the east of Viewpoint 9 (PROW at Little Coop House Farm), which includes footpath 0540000011, with the Green LSS Option Area visible from the Jade Business Park. Viewpoint 14 (PROW near South Farm) would have a clear view of the Blue LSS Option area, in the mid ground view to the west. These viewpoints have all been identified as having moderate adverse effects, however for all other viewpoints effects range from neutral to minor adverse.
- Operational noise for non-residential receptors has not been assessed at the PEIR stage however the preliminary worst-case assessment for operational noise anticipates that the effects could range from minor to major adverse significance for residential receptors;
 - Air quality effects have been scoped out for the O&M phase;
 - Transport effects have been scoped out for the O&M phase.
- 8.8.3.28 According to **Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR**, it is anticipated that users of PROWs within the MHPGC Project PEIR Red Line Boundary: Onshore would experience changes to amenity as a result of noise and visual changes. All PROWs would be reinstated and there would be no permanent severance. As a result, the anticipated magnitude of impact is negligible.

Significance of effect

- 8.8.3.29 With a sensitivity of very high or medium and the magnitude of impact considered negligible, the effects are anticipated to range from **neutral (not significant) to slight adverse (not significant)**.

Additional mitigation and residual effect

- 8.8.3.30 No additional mitigation is required. Therefore, the residual effects remain **neutral (not significant) to slight adverse (not significant)**.

Permanent impacts to land use, access and amenity for Tourist Attractions

Receptor Sensitivity

- 8.8.3.31 There are three tourist attractions within the MHPGC Project PEIR Red Line Boundary: Onshore, and 29 within the tourist accommodation and attractions 5km Study Area. Many of these are associated with the Durham Heritage Coast and include natural spaces such as beaches and geological formations. Due to the nature of these attractions, they are considered to range from low to medium sensitivity.

Magnitude of impact

- 8.8.3.32 The assessment of the factors in relation to tourist attractions considers noise and vibration and landscape and visual effects, which influence the magnitude of impact assigned. The preliminary

findings of these topic assessments are considered below, where they are relevant to tourist attractions:

- In terms of amenity effects, Blast Beach, Ginny's Dene and Chourdon Point are located in proximity to Viewpoint 2, which will experience neutral effects during the O&M phase. Viewpoints 6 (Croup Hill) which includes footpaths 0880000016, 0880000015 and 0880000010; Viewpoint 9 (PROW at Little Coop House Farm), which includes footpath 0540000011; and Viewpoint 14 (PROW near South Farm) (all with views of both the Blue and Green LSS Options permanent structures) have been identified as having moderate adverse effects, however for all other viewpoints effects range from neutral to minor adverse. There are no tourist attractions which are considered likely to have views of the permanent structures;
- Operational noise for non-residential receptors has not been assessed at the PEIR stage however the preliminary worst-case assessment for operational noise anticipates that the effects could range from minor to major adverse significance for residential receptors;
- Air quality effects have been scoped out for the O&M phase;
- Transport effects have been scoped out for the O&M phase.

8.8.3.33 The majority of the tourist assets within the Study Area rely on tranquillity and visual amenity to attract visitors, and are used for nature-based activities. Informal activities such as birdwatching, recreational angling, swimming, photography, and sea glass collecting also take place within the Study Area, and are associated with the Durham Heritage Coast. As land used for construction will be reinstated, any visual effects during O&M phase on tourist attractions are considered to be limited. At this stage, the exact location of permanent land take associated with link boxes or junction boxes has not been confirmed, therefore there is the potential for permanent land take on publicly accessible open space associated with the Durham Heritage Coast. As a result, the changes to tourist attractions during the O&M phase are anticipated to range from no change to minor.

Significance of effect

8.8.3.34 With a sensitivity of low to medium and impacts ranging from no change to minor, the effects are anticipated to be **neutral (not significant) to slight adverse (not significant)**.

Additional mitigation and residual effect

8.8.3.35 No additional mitigation is required, therefore the residual effects remain as **neutral (not significant) to slight adverse (not significant)**.

Permanent impacts to land use, access and amenity for Tourist Accommodation

Receptor sensitivity

8.8.3.36 There is one tourist accommodation provider within the MHPGC Project PEIR Red Line Boundary: Onshore (with low sensitivity), and a further 17 providers within the Tourism Study Area. They range in sensitivity from low to high.

Magnitude of impact

8.8.3.37 The assessment of the factors in relation to tourist accommodation considers noise and vibration and landscape and visual effects, which influence the magnitude of impact assigned. The preliminary findings of these topic assessments are considered below, where they are relevant to tourist accommodation:

- In terms of visual amenity effects, **Volume 4 Chapter 1 Landscape and Visual, of the PEIR** does not assess any tourist accommodation providers. Effects on other receptors in the Landscape and Visual assessment range from negligible adverse to major adverse;
- Operational noise for non-residential receptors has not been assessed at the PEIR stage however the preliminary worst-case assessment for operational noise anticipates that the effects could range from minor to major adverse significance for residential receptors;
- Air quality effects have been scoped out for the O&M phase;
- Transport effects have been scoped out for the O&M phase.

8.8.3.38 Following the construction phase, the construction works areas will be reinstated and will return to previous uses, (see CoT29). There will be permanent land take at the junction boxes, link boxes and the LSS. Although the location of the junction boxes and link boxes have not been confirmed yet, it

is considered that Kinley Hill Tower (low sensitivity) would not experience any long-term effects as a result of visual amenity due to the fact that these assets sit at ground level.. No changes are anticipated to be experienced by other tourist accommodation receptors due to their distance from permanent infrastructure. As such, the anticipated magnitude of impact is no change to negligible.

Significance of effect

- 8.8.3.39 Receptor sensitivity is assessed as ranging from low to high; however, the magnitude of impact is predicted to range from no change to negligible. Consequently, the resulting effects are anticipated to be **neutral (not significant)**.

Additional mitigation and residual effect

- 8.8.3.40 No additional mitigation is required. Therefore, the residual effect is **neutral (not significant)**.

8.8.4 Decommissioning phase

8.8.5 *Temporary impacts to land use, access and amenity for Private Property and Housing, Businesses and Development Land, Agricultural Land Holdings, Tourist Attractions, Tourist Accommodation, Community Land and Assets and Walkers, Cyclists and Horseriders.*

- 8.8.5.1 The cable will remain in situ, and the substation will be deconstructed in the inverted sequence of installation, after the LSS has been decommissioned. The land at the substation site will be reinstated to its original use. As such, it is anticipated that effects will be no worse than those reported during construction.

8.9 Cumulative effects

8.9.1 Cumulative effects assessment methodology

- 8.9.1.1 The Morven Programme comprises four distinct projects: Morven North, Morven South, Morven Hawthorn Pit Grid Connection Project (MHPGC Project), and Morven Branxton Area Grid Connection Project (MBAGC Project). As the largest Zone of Influence (ZOI) for the onshore CEA does not overlap with Morven North, Morven South or MBAGC, the onshore Cumulative Effects Assessment (CEA) has been undertaken to assess the MHPGC Project alone with relevant projects, plans and activities using a tiered approach. The CEA has been undertaken in accordance with the methodology described in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PIER**.
- 8.9.1.2 The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 1, Annex 4.4: Cumulative Screening and Location Plan). Each project or plan has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.
- 8.9.1.3 In undertaking the CEA for MHPGC Project, it should be noted that other projects and plans under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to a cumulative impact alongside MHPGC Project. Therefore, a tiered approach has been adopted, whereby all third-party projects and plans considered have been allocated into 'tiers' reflecting their current stage within the planning and development process. This provides a framework for placing relative weight upon the potential for each project/plan included in the CEA to ultimately be realised, based upon the project/plan's current stage of maturity and certainty in the project/plan's parameters. The tiered approach utilised within the MHPGC Project CEA employs the following tiers:
- Tier 1 assessment – Existing developments either built (operational) or under construction¹; approved developments awaiting implementation; and permitted/submitted application(s), but not yet determined, plus Morven North and Morven South.
 - Tier 2 assessment – All plans/projects assessed under Tier 1, plus plans/projects where a scoping report has been submitted and is in the public domain.
 - Tier 3 assessment – All plans/projects assessed under Tier 1 and 2, plus MBAGC Project, and plans/projects that are reasonably foreseeable (e.g. projects identified in development plans, projects in other plans and programmes, offshore renewable energy projects that have a Crown Estate Scotland Lease Option Agreement).
- 8.9.1.4 The specific projects and plans screened into the CEA for Land Use, Tourism and Recreation are outlined in **Table 8.26**.
- 8.9.1.5 The potential impacts that have been considered in the CEA represent a subset of those assessed for MHPGC Project alone. While all impacts scoped into the project-level assessment were considered for inclusion in the CEA, a number were screened out at the CEA stage on the basis that they are localised, temporary, and/or event-based in nature, or have been assessed as negligible. These impacts are not considered capable of interacting cumulatively with similar changes arising

¹ Note that existing developments are included in Tier 1 CEA long list but are generally screened out of the CEA assessments, aside from the following exceptions:

1) Existing developments which were not present at the time of baseline characterisation, where a potential cumulative impact-receptor pathway has been identified.

2) Existing developments are screened into tier 1 assessments for specific topics where there is a large conceptual, temporal and spatial overlap between project impacts. In these instances, the potential for ongoing effects through cumulative impact-receptor pathways throughout project lifetime, across the development phases, means that they are considered within quantitative assessment for these topic CEAs (e.g., offshore ornithology assessments consider the cumulative effects of operational offshore wind farms).

from other plans or projects in a manner that could give rise to a cumulative impact and have therefore been scoped out of the cumulative assessment. These impacts include:

- Effects on community land and assets during the O&M phase;
- Effects on tourist accommodation during the O&M phase.

- 8.9.1.6 Similarly, some of the potential impacts considered within the MHPGC Project alone assessment are specific to a particular phase of development (e.g. construction, O&M or decommissioning). Where cumulative effects with other plans or projects only have potential to occur where there is spatial or temporal overlap with MHPGC Project during certain phases of development, impacts associated with a certain phase may be omitted from further consideration where no plans or projects have been identified that have the potential for cumulative effects during this period.
- 8.9.1.7 For Land Use receptors (private property and housing, businesses and development land, community assets, agricultural land) and Recreational receptors, the study area is 500m. For tourism receptors, the study area is 5km.
- 8.9.1.8 Other developments have been screened in based on their proximity to the study areas and whether there are any likely common receptor pathways.

Table 8.26: Projects and plans screened in to land use, tourism and recreation CEA

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
Tier 1					
DCC1 (Electric Vehicle Charging Hub)	Consented	0km	Change of use of land to electric vehicle charging hub including resurfacing, erection of electricity substation, installation of electric vehicle charging points, landscaping and associated external works	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC2 (Land To The West Of Elemore View 50 dwellings)	In Planning - Application submitted	0.73km	Erection of 50. affordable dwellings with associated access and landscaping (amended description).	Detail not available	Tourist attractions Tourist Accommodation
DCC3 (Land Wst of Units 1-3 Admiralty Way Seaham, Erection of a petrol filling station and drive thru' coffee outlet (Class E)	Consented	0km	Erection of a petrol filling station and drive thru' coffee outlet (Class E), along with access, car parking, drive thru' lane, external seating area, refuse stores, hard and soft landscaping and associated works.	Under construction	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC4 (EGL1 Visitor Centre)	In Planning - Application submitted	0km	Full planning application for a temporary visitor centre at the EGL1 site compound for a period of up to 5 years		Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC5 (Croup Hill Solar Farm)	Consented	0km	Commencement of Development for the creation of a solar farm	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC6 (Seaham Garden Village - 1500 dwellings)	Consented	0km	Garden village of up to 1500 dwellings, integrated community health and wellbeing village, commercial and leisure uses, business innovation hub, primary school, public open space, community allotments and associated infrastructure, including new pedestrian and vehicular access from A182.	Under construction, due to be complete 2030	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC7 (Phase 2 Jade Business Park)	Consented	0km	Application for reserved matters comprising the construction of 3 industrial units with associated access, parking, landscaping and drainage (Phase 2) pursuant to outline planning permission DM/21/002901/OUT (B2/B8 industrial development).	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC8 (Transport hub and active travel scheme)	Consented	0km	Transport hub and active travel scheme including improvements to bus, cycle and pedestrian facilities and access road, car parking and associated works including landscaping and biodiversity enhancement.	Under construction, due to be complete April 2027	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC9 (Temporary installation of a battery energy storage system)	In Planning - Application submitted	0km	Temporary installation of a battery energy storage system, along with ancillary infrastructure, acoustic and security fencing, access, landscaping provision and ecological enhancements.	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC10 (Battery Energy Storage System)	In Planning - Application submitted	0km	The construction and installation of a Battery Energy Storage System, associated infrastructure, landscaping, fencing, access tracks, biodiversity net gain and underground cable corridor.	12 month construction programme	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC11 (Eastern Green Link 1, Converter Station)	Consented	0km	Reserved Matters application (all matters, being details of the permanent access, appearance, landscaping, layout and scale) for the erection of a converter station, and the laying out of replacement public open space on land to the west and south of Jade Business Park pursuant to DM/22/01663/OUT	Under construction, works to be complete in 2029	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC12 (81 homes and a convenience store)	In Planning - Application submitted	0km	Erection of 81 no. homes, a convenience store (use class E) and associated infrastructure and landscaping	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
DCC13 (149 homes, Land East of Seaham Garden Village)	In Planning - Application submitted	0km	Demolition of existing farm buildings and dwellings and erection of 149 dwellings (use class C3) with vehicle access, open space, landscaping, SUDS, and associated infrastructure works	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
DCC15 (South Sharpley Solar Farm)	In Planning - Application submitted	1.5km	Installation of a solar farm together with all associated works, equipment and necessary infrastructure including battery storage (Cross boundary site with Sunderland City Council)	Construction to span 12 months, with a project lifespan of 40 years	Tourist attractions Tourist accommodation
DCC16 (Land At Former Forest Estate/South Of Murton Lane - Erection of 135 no. dwellings)	Consented	1.6km	Erection of 135 no. residential dwellings (Use Class C3) with associated access, parking, landscaping, sustainable drainage and associated infrastructure.	Detail not available	Tourist attractions Tourist accommodation
DCC114 (Land To The North Of Hackworth Road Solar Farm)	In Planning - Application submitted	2km	Temporary planning permission for 40 years for the construction and operation of a solar farm, battery energy storage system (BESS) with associated infrastructure, access improvements, and ancillary development, including ecological enhancements and continued agricultural use.	Detail not available	Tourist attractions Tourist accommodation
DCC116 (East of Stockton Solar Farm)	In Planning - Application submitted	3.5km	Construction and operation of a solar park together with associated equipment, infrastructure and ancillary works (Cross boundary site with Sunderland City Council)	It is anticipated that the proposed development will be constructed within 12 months. The Grid Connection Offer Date is 2026.	Tourist attractions Tourist accommodation

Project/plan	Status	Distance from MHPGC Project PEIR Red Line Boundary: Onshore (km)	Description of project/plan	Estimated dates of construction (If applicable)	Overlap with MHPGC Project
SCC28 (Land at Salters Lane Slingley Hill - Installation of a Solar Farm)	In Planning - Application submitted	3.7km	Installation of a solar farm together with all associated works, equipment and necessary infrastructure including battery storage. (Additional plans and documents received 28.05.2026).	Detail not available	Tourist attractions Tourist accommodation
DCC118 (North East Industrial Estate Stephenson Road North East Industrial Estate Peterlee Durha, 282 dwellings)	Consented	3.82km	Outline application for up to 282 dwellings with all matters reserved except for access (Amended Description April 2024).	Detail not available	Tourist attractions Tourist accommodation
SCC27 (Land Off North Road Hetton-le-Hole - Outline Planning application for the erection of up to 255 dwellings)	Refused - Appeal Lodged	0km	Outline planning application (with all matters reserved except for means of access) for the erection of up to 255 dwellings, with public open space, landscaping, sustainable drainage system (SuDs) and associated infrastructure.	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation
Tier 3					
DCC14 (Land North West Of Hallfield Farm Solar Farm)	Pre-Application (Screening)	0km	Screening Opinion request for the construction, operation and decommissioning of a Battery Energy Storage System (BESS) with a storage capacity of up to 300 megawatts (MW).	Detail not available	Private property and housing Businesses and development land Community land and assets Agricultural land holdings Walkers, Cyclists and Horseriders Tourist attractions Tourist Accommodation

8.9.2 Maximum design scenario – cumulative effects assessment

8.9.2.1 The MDSs identified in **Table 8.24** have been selected as those having the potential to result in the greatest effect on Land Use, Tourism and Recreation. The cumulative effects presented and assessed in this section have been based on **Volume 1, Chapter 2: Project Description, of the PEIR** alongside as well as publicly available information on other third-party projects and plans that have been screened into the CEA (Table 8.26).

8.9.3 Cumulative effects assessment

8.9.4 Overview

8.9.4.1 A description of the significance of cumulative effects upon Land Use, Tourism and Recreation receptors arising from each identified impact is given below. The CEA for MHPGC Project is presented in **Table 8.27**. **Table 8.27** is considered that decommissioning effects will be no worse than construction effects.

8.9.5 Private Property and Housing

8.9.5.1 There is potential for cumulative private property and housing effects as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.27**.

Table 8.27: MHPGC Project CEA for Private Property and Housing

Cumulative Effects Assessment	
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that temporary land take from private properties and housing is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some isolated changes to amenity (noise, air quality or visual amenity), however it is considered these effects are short term, and may be managed through measures implemented in a CEMP, or equivalent document. There is no temporary land take from private properties or housing as a result of the MHPGC Project, with changes to access and amenity the main driver of the effects. Receptors such as Little Coop House Farm, West Batter Law Farm, East Batter Law Farm and properties off the A182 may be more likely to experience a cumulative effect as they are in proximity to both the MHPGC Project works and potential works for other developments.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of private property and housing receptors ranges from Medium to Very High.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to moderate adverse (significant). The cumulative interaction between projects will be short term and only occur in isolated locations where significant effects from the MHPGC Project alone are less likely, therefore cumulative effects on private property and housing are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for Private property and housing receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

Cumulative Effects Assessment	
Operations and maintenance phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that permanent land take from private properties and housing is unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained and reinstated during operation. There may be some isolated changes to amenity, as a result of the other projects. There is no permanent land take from private properties or housing as a result of the MHPGC Project, with changes to access and amenity limited to the substation locations. Properties with views of the substation locations and other projects such as Coop Hill Farm (with views of Phase 2 of Jade Business Park [DM/25/02692/RM]) may be more likely to experience cumulative effects.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of private property and housing receptors ranges from Medium to Very High.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). The cumulative interaction between projects will occur in isolated locations and be associated with specific views, therefore cumulative effects on private property and housing are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for private property and housing receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

8.9.6 Businesses and Development Land

8.9.6.1 There is potential for cumulative business and development land effects as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.28**.

Table 8.28: MHPGC Project CEA for Businesses and Development Land

Cumulative Effects Assessment	
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that temporary land take from businesses and development land is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some isolated changes to amenity, however it is considered these effects are short term, and will be managed through measures implemented in a CEMP, or equivalent document. There may be temporary land take from businesses or development land as a result of the MHPGC Project, particularly at the DCC allocation EMP 36 should the Green LSS Option should be selected. Receptors such as Jade Business Park, businesses within South Hetton and Hawthorn Quarry are more likely to experience a cumulative effect in terms of access and amenity, as they are in proximity to both the MHPGC Project works and potential works for other developments.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of businesses and development land receptors ranges from Medium to Very High.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to moderate adverse (significant). The cumulative interaction between projects will be short term and only occur in isolated locations, where significant effects from the MHPGC Project alone are less likely. At DCC allocation EMP36, there is no additional land take anticipated from any Tier 1 and Tier 3 projects, therefore cumulative effects (with the large adverse effect from the MHPGC Project on its own) are not anticipated. With mitigation measures in place therefore cumulative effects on businesses and development land as a result of changes to access and amenity are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for businesses and development land receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.
Operations and maintenance phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that permanent land take from businesses and development land is considered unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained and reinstated during operation. There may be some isolated changes to amenity, as a result of the other projects. There may be permanent land take from businesses or development land as a result of the MHPGC Project, particularly at the DCC allocation EMP 36 should the Green LSS Option should be selected. Receptors such as Jade Business Park, businesses within South Hetton and Hawthorn Quarry are more likely to experience a cumulative effect, in terms of access and amenity, as they are in proximity to both the MHPGC Project and other developments.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of businesses and development land receptors ranges from Medium to Very High.

	Cumulative Effects Assessment
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to large adverse (significant). The cumulative interaction between projects will occur in isolated locations and is not expected to impact the businesses' day to day operation. At DCC allocation EMP36, there is no additional land take anticipated from any Tier 1 and Tier 3 projects, therefore cumulative effects in this regard are not anticipated. Therefore cumulative effects on businesses and development land are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for businesses and development land receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

8.9.7 Agricultural Land Holdings

8.9.7.1 There is potential for cumulative agricultural land effects as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.29**.

Table 8.29: MHPGC Project CEA for Agricultural Land Holdings

	Cumulative Effects Assessment
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from agricultural land holdings may occur, however it is considered there would be very little overlap between the agricultural land parcels on the MHPGC Project PEIR Red Line Boundary: Onshore and the land parcels on the Tier 1 and Tier 3 projects. Additionally, it is assumed other projects would implement measures to ensure that access is maintained and severance between land parcels is reduced where possible. There may be some temporary land take from agricultural land holdings during the construction phase, alongside changes in access and severance. The exact locations of this land take have not been confirmed, and are also dependent on the location of the LSS Option.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of agricultural land holdings receptors is high.
Significance of effect	Effects reported for the MHPGC Project on its own are slight adverse (not significant), with the conclusions to be refined as the design of the MHPGC Project develops. The cumulative interaction between projects will be limited, with the greatest effects for the MHPGC Project experienced at the Blue LSS Option, where there is no overlap with other projects. Additionally, any cumulative effects are anticipated to be short term and only occur in isolated locations, therefore cumulative effects on agricultural land are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for agricultural land receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms
Operations and maintenance phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from agricultural land holdings may occur, however it is considered there would be very little overlap between the permanent land take for agricultural land parcels on the MHPGC Project and the land parcels on the Tier 1 and Tier 3 projects. Additionally, it is

	Cumulative Effects Assessment
	assumed other projects would implement measures to ensure that access is maintained and severance between land parcels is reduced where possible. There may be some areas of permanent land take from agricultural land holdings during the operational phase, alongside and the potential for severance. The exact locations of this land take have not been confirmed, and are also dependent on the location of the LSS Option.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of agricultural land holdings receptors is high.
Significance of effect	Effects reported for the MHPGC Project on its own are slight adverse (not significant). There is not anticipated to be any overlap in permanent land take, cumulative effects on agricultural land holdings are anticipated to be slight adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for agricultural land receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms

8.9.8 Tourist Attractions

- 8.9.8.1 There is potential for cumulative effects on tourist attractions as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.30**.

Table 8.30: MHPGC Project CEA for Tourist Attractions

	Cumulative Effects Assessment
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from tourist attractions is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some changes to amenity, however it is considered these effects are short term, and may be managed through measures implemented in a CEMP, or equivalent document. There is no land take from tourist attractions as a result of the MHPGC Project, with changes to access and amenity the main driver of the effects. Some areas, such as the Durham Heritage Coast and associated points of interest such as Nose's Point may experience changes in access and amenity to the landward side due to cumulative effects with DM/24/02696/FPA. It is anticipated that this other project will implement mitigation to screen views of construction activity from these points of interest. DM/25/00287/FPA may affect visitors to tourist attractions north of Seaham, however effects in this area as a result of the MHPGC Project are not anticipated to be significant.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of tourist attractions ranges from low to medium.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). The cumulative interaction between projects will be short term and in isolated locations. Therefore cumulative effects on tourist attractions are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for tourist attractions are considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

Cumulative Effects Assessment	
Operations and maintenance phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from tourist attractions is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is restored during operation. There may be some changes to amenity, however it is considered these effects would only occur in isolated situations and would not change the experience of tourists visiting attractions. There is no land take from tourist attractions as a result of the MHPGC Project, with changes to access and amenity the main driver of the effects. Tourist attractions in the immediate vicinity of the permanent infrastructure are unlikely to experience direct effects due to their distance from the infrastructure. As such, it is considered that the potential for cumulative interactions is low.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of tourist attractions ranges from low to medium.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). There are unlikely to be any cumulative interactions between Tier 1 and Tier 3 projects due to the location of permanent infrastructure and effect pathways with tourist attractions. Therefore, cumulative effects on tourist attractions are anticipated to be negligible (not significant).
Further mitigation and residual significance	No additional mitigation measures for tourist attractions are considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

8.9.9 Tourist Accommodation

8.9.9.1 There is potential for cumulative effects on tourist accommodation as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.31**.

Table 8.31: MHPGC Project CEA for Tourist Accommodation

Cumulative Effects Assessment	
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from tourist accommodation is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some changes to amenity, however it is considered these effects are short term, and may be managed through measures implemented in a CEMP, or equivalent document. There is no land take from tourist accommodation as a result of the MHPGC Project, with changes to access and amenity the main driver of the effects. There is one tourist accommodation provider within the MHPGC Project PEIR Onshore Red Line Boundary, (Kinley Hill Tower) and there may be a discernible change in views of the MHPGC Project construction activity alongside other developments such as DM/18/00829/OUT and DM/24/02696/FPA.
Sensitivity of receptor	As reported in Section 8.2 , the sensitivity of tourist accommodation ranges from low to high.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). The cumulative interaction between projects will be

	Cumulative Effects Assessment
	short term and in isolated locations. Therefore, cumulative effects on tourist attractions are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for tourist attractions are considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

8.9.10 Community Land and Assets

8.9.10.1 There is potential for cumulative community land and assets effects as a result of activities associated with MHPGC Project and other projects that are under construction. The summary of the Cumulative Effects Assessment is presented in **Table 8.27**.

Table 8.32: MHPGC Project CEA for Community Land and Assets

	Cumulative Effects Assessment
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from Community Land and Assets is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some isolated changes to amenity (noise, air quality or visual amenity), however it is considered these effects are short term, and may be managed through measures implemented in a CEMP, or equivalent document. There is no land take from community land or assets as a result of the MHPGC Project, with changes to access and amenity the main driver of the effects. Receptors such as St Michael and All Angels Church, alongside South Hetton Independent Methodist Church and receptors along the B1285 (Church Lane) may be more likely to experience a cumulative effect as they are in proximity to both the MHPGC Project works and potential works for other developments (including the DM/25/02485/FPA consented transport hub and DM/24/03281/FPA erection of 81 homes application). Murton Recreation ground may be likely to experience a cumulative effect as this is adjacent to the MHPGC Project boundary, alongside being in close proximity to DM/26/00964/CEU (a consented solar farm development).
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of community land and assets ranges from Medium to High.
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). The cumulative interaction between projects will be short term and only occur in isolated locations, therefore cumulative effects on community land and assets are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for community land and asset receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms.

8.9.11 Walkers, Cyclists and Horse-riders

8.9.11.1 There is potential for cumulative effects on WCH as a result of activities associated with MHPGC Project and other projects that are under construction, or in operation. The summary of the Cumulative Effects Assessment is presented in **Table 8.33**.

Table 8.33: MHPGC Project CEA for Walkers, Cyclists and Horse-riders

Cumulative Effects Assessment	
Construction phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from WCH routes is considered to be unlikely. Additionally, it is assumed other projects would implement measures to ensure that access is maintained throughout their construction periods. There may be some isolated changes to amenity, however it is considered these effects are short term, and may be managed through measures implemented in a CEMP, or equivalent document. While users of some WCH routes may experience temporary changes to amenity, including increased noise, visual disturbance or disruption to access where multiple construction activities occur concurrently, these effects are expected to be short term and localised. Receptors such as the King Charles III Coast Path and NCN Route 1 may be more likely to experience a cumulative effect as they are in proximity to both the MHPGC Project works and potential works for other developments. Due to being within the MHPGC PEIR Onshore Red Line Boundary and in proximity to both DM/26/01109/FPA (application for a temporary visitor centre) and DM/25/00128/RM and DM/25/02692/RM (consented Phase 2 Jade Business Park), Bridleway 29 (0880000029) and Footpath 25 (0880000025) may be more likely to experience a cumulative effect. Similarly, Bridleway 15 (0500000015) may be more likely to be affected by cumulative effects due to being within the MHPGC RLB and DM/18/00829/OUT Seaham Garden Village.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of WCH routes ranges from Medium to Very High (whereby routes are nationally dedicated).
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to moderate adverse (significant) (for the King Charles III Coast Path and NCN Route 1)). The cumulative interaction between projects will be short term and only occur in isolated locations where significant effects from the MHPGC Project alone are less likely, therefore cumulative effects on WCH routes are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for WCH receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25), is not significant in EIA terms
Operations and maintenance phase	
Magnitude of impact	For Tier 1 and Tier 3 projects, a review of the red line boundaries has concluded that land take from WCH routes is not required. Additionally, it is assumed other projects would implement measures to ensure that access is maintained and reinstated during operation. There may be some isolated changes to amenity, as a result of the other projects. There is no permanent land take from WCH routes as a result of the MHPGC Project, with changes to access and amenity limited to the substation locations. Routes with views of the substation locations and other projects such as Bridleway 29 (0880000029) and Footpath 25 (0880000025) (with views of Phase 2 of Jade Business Park [DM/25/02692/RM]), alongside Bridleway 15 (0500000015) (with views of Seaham Garden Village (DM/18/00829/OUT) may be more likely to experience cumulative effects.
Sensitivity of receptor	As reported in Section 8.4.5 , the sensitivity of WCH routes ranges from Medium to Very High (whereby these are nationally designated routes).
Significance of effect	Effects reported for the MHPGC Project on its own range from neutral (not significant) to slight adverse (not significant). The cumulative interaction between projects will occur

	Cumulative Effects Assessment
	in isolated locations and be associated with specific views, therefore cumulative effects on WCH routes are anticipated to be minor adverse (not significant).
Further mitigation and residual significance	No additional mitigation measures for WCH receptors is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 8.25).

8.10 Transboundary effects

- 8.10.1.1 A screening of transboundary impacts has been carried out and any potential for significant transboundary effects from the construction, O&M and decommissioning phases of the MHPGC Project upon interests of other states has been assessed as part of the PEIR.
- 8.10.1.2 The potential transboundary impacts are screened within **Volume 1, Annex 4.2: Transboundary Screening, of the PEIR**.
- 8.10.1.3 There are no potential transboundary effects on Land Use, Tourism and Recreation from the MHPGC Project therefore it is not considered any further.

8.11 Inter-related effects

- 8.11.1.1 Inter-related effects are the combined impact of multiple aspects of the MHPGC Project on a single receptor. These are as follows:
- **Project lifetime effects:** Assessment of the scope for effects that occur throughout more than one phase of the MHPGC Project (construction, O&M and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases.
 - **Receptor led effects:** Assessment of the scope for all effects (including inter-relationships between environmental topics) to interact, spatially and temporally, to create inter-related effects on a receptor.
- 8.11.1.2 Potential project lifetime effects on land use and access, including temporary restrictions to public open space, community facilities, tourism and recreation areas, agricultural land, forestry land, and commercial land uses during construction and decommissioning; permanent changes to land use associated with project infrastructure during operation; and ongoing restrictions on land use resulting from wayleave and easement requirements along the onshore cable route.
- 8.11.1.3 This chapter inherently considers receptor-led effects from other technical topic assessments, including **Volume 4, Chapter 1: Landscape and Visual Impact Assessment, of the PEIR, Volume 3, Chapter 6: Onshore Noise and Vibration, of the PEIR, Volume 3, Chapter 5: Traffic and Transport, of the PEIR and Volume 3, Chapter 7: Onshore Air Quality, of the PEIR**.
- 8.11.1.4 Inter-related effects are assessed **within Volume 4, Chapter 5: Inter-related Effects, of the PEIR** with no likely significant inter-related effects anticipated.

8.12 Summary

8.12.1 Summary of effects

8.12.1.1 This chapter has assessed the potential impacts on land use, tourism and recreation resulting from the construction, O&M and decommissioning phases of the MHPGC Project.

8.12.1.2 **Table 8.34** presents a summary of impacts and confirms the residual effects.

Table 8.34: Summary of potential impacts and residual effects

Receptor	Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Construction phase						
Private Property and Housing	Changes to land use, access and amenity	Low to Very High	No change to minor	Neutral (not significant) to moderate adverse (significant)	None identified at this stage.	Neutral (not significant) to moderate adverse (significant)
Development Land and Businesses	Changes to land use, access and amenity	Medium to Very High	No change to moderate	Neutral (not significant) to moderate adverse (significant)	None identified at this stage. Significant effect reported for the Green LSS Option.	Neutral (not significant) to moderate adverse (significant)
Agricultural Land Holdings	Changes to land use and access	High	Minor	Slight adverse (not significant)	N/A	Slight adverse (not significant)
Tourist Attractions	Changes to land use, access and amenity	Low to Medium	No change to minor	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Tourist Accommodation	Changes to land use, access and amenity	Low to High	No change to minor	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Community Land and Assets	Changes to land use, access and amenity	Medium to High	Negligible	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Routes for WCH	Changes to land use, access and amenity	Medium to Very High	Negligible to minor	Neutral (not significant) to moderate adverse (significant)	None identified at this stage.	Neutral (not significant) to moderate adverse (significant)

Receptor	Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Operation and Maintenance Phase						
Private Property and Housing	Changes to land use, amenity and access.	Low to Very High	No change to negligible	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Business and Development Land	Changes to land use, amenity and access.	Medium to Very High	No change to moderate	Neutral (not significant) to moderate adverse (significant)	None identified at this stage.	Neutral (not significant) to moderate adverse (significant)
Agricultural Land Holdings	Changes to land use and access.	High	Minor	Slight adverse (not significant)	N/A	Slight adverse (not significant)
Tourist Attractions	Changes to land use, amenity and access.	Low to Medium	No change to minor	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Tourist Accommodation	Changes to land use, amenity and access.	Low to High	No change to negligible	Neutral (not significant)	N/A	Neutral (not significant)
Community Land and Assets	Changes to land use, amenity and access.	Medium to High	No change	Neutral (not significant)	N/A	Neutral (not significant)
WCH	Changes to land use, amenity and access.	Medium to Very High	Negligible	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Decommissioning Phase						

Receptor	Impact	Sensitivity of receptor	Magnitude of impact	Significance of impact	Secondary mitigation and monitoring	Residual effect
Private Property and Housing	Changes to land use, access and amenity	Low to Very High	No change to minor	Neutral (not significant) to moderate adverse (significant)	None identified at this stage.	Neutral (not significant) to moderate adverse (significant)
Development Land and Businesses	Changes to land use, access and amenity	Medium to Very High	No change to moderate	Neutral (not significant) to moderate adverse (significant)	None identified at this stage. Significant effect reported for the Green LSS Option.	Neutral (not significant) to moderate adverse (significant)
Agricultural Land Holdings	Changes to land use and access	High	Minor	Slight adverse (not significant)	N/A	Slight adverse (not significant)
Tourist Attractions	Changes to land use, access and amenity	Low to Medium	No change to minor	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Tourist Accommodation	Changes to land use, access and amenity	Low to High	No change to minor	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Community Land and Assets	Changes to land use, access and amenity	Medium to High	Negligible	Neutral (not significant) to slight adverse (not significant)	N/A	Neutral (not significant) to slight adverse (not significant)
Routes for WCH	Changes to land use, access and amenity	Medium to Very High	Negligible to minor	Neutral (not significant) to moderate adverse (significant)	None identified at this stage.	Neutral (not significant) to moderate adverse (significant)

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