



# **XLINKS MOROCCO-UK POWER PROJECT**

## **Preliminary Environmental Information Report**

Volume 2, Chapter 5: Traffic and Transport



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## Glossary

Term	Meaning
Alverdiscott Substation	The existing National Grid substation at Alverdiscott, North Devon, which comprises 400 kV and 132 kV electrical equipment.
Alverdiscott Substation site	The National Grid Electricity Transmission substation site within which the Alverdiscott Substation sits.
Applicant	Xlinks 1 Limited
Baseline	The status of the environment without the Proposed Development in place.
Construction Traffic Management Plan	A document detailing the construction traffic routes for heavy goods vehicles and personnel travel, protocols for delivery of Abnormal Indivisible Loads to site, measures for road cleaning and sustainable site travel measures.
Converter Site	The Converter Site is proposed to be located to the immediate west of the existing Alverdiscott Substation site in north Devon. The Converter Site would contain two converter stations (known as Bipole 1 and Bipole 2) and associated infrastructure, buildings and landscaping.
Cumulative Effects	The combined effect of the Proposed Development in combination with the effects from other projects, on the same receptor or resource.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Duration (of impact)	The time over which an impact occurs. An impact may be described as short, medium or long-term and permanent or temporary.
Effect	The term used to express the consequence of an impact. The significance of effect is determined by correlating magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Environmental Impact Assessment	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.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Frequency (of impact)	The number of times an impact occurs across the relevant phase/lifetime of a project.
Impact	Change that is caused by an action/proposed development, e.g., land clearing (action) during construction which results in habitat loss (impact).
Landfall	The proposed area in which the offshore cables make landfall in the United Kingdom (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Cornborough Range, Devon, between Mean Low Water Springs and the Transition Joint Bay inclusive of all construction works, including the offshore and onshore cable routes, and landfall compound(s).
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980. The relevant Local Highway Authority for the Proposed Development is Devon County Council.
Local Planning Authority	The local government body (e.g., Borough Council, District Council, etc.) responsible for determining planning applications within a specific area.
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Proposed Development.
Mean Low Water Springs	The height of mean low water during spring tides in a year.

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Term	Meaning
National Policy Statement(s)	The current national policy statements published by the Department for Energy Security and Net Zero in 2023.
Onshore HVDC Cable Corridor	The proposed corridor within which the onshore High Voltage Direct Current cables will be located.
Onshore Infrastructure Area	The proposed infrastructure area within the Proposed Development Draft Order Limits landward of the transition joint bays, which contains the onshore HVDC Cables, Converter Site, the Alverdiscott Substation Connection Development, highway works, utility diversions and onshore HVAC Cables.
Planning Inspectorate	The agency responsible for operating the planning process for applications for development consent under the Planning Act 2008.
Policy	A set of decisions by governments and other political actors to influence, change, or frame a problem or issue that has been recognized as in the political realm by policy makers and/or the wider public.
Preliminary Environmental Information Report	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.
Proposed Development	The element of the Xlinks Morocco-UK Power Project within the UK, which includes the offshore cables (from the UK Exclusive Economic Zone to landfall), landfall site, onshore Direct Current and Alternating Current cables, converter stations, road upgrade works and, based on current assumptions, the Alverdiscott Substation Connection Development.
Proposed Development Draft Order Limits	The area within which all offshore and onshore components of the Proposed Development are proposed to be located, including areas required on a temporary basis during construction (such as construction compounds).
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to section 42 of the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
Study area	This is an area which is defined for each environmental topic which includes the Proposed Development Draft Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors. The study area for each topic is intended to cover the area within which an impact can be reasonably expected.
Transboundary effects	Effects from a project within one state that affect the environment of another state(s).
Xlinks Morocco UK Power Project	The overall scheme from Morocco to the national grid, including all onshore and offshore elements of the transmission network and the generation site in Morocco (referred to as the 'Project').

## Acronyms

Acronym	Meaning
AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
ATC	Automatic Traffic Counter
CEA	Cumulative Effects Assessment
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero

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Acronym	Meaning
DfT	Department for Transport
DLHC	Department for Levelling Up, Housing and Communities
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
HDD	Horizontal Directional Drilling
HDV	Heavy Duty Vehicles
HGV	Heavy Goods Vehicle
IEMA	Institute for Environmental Management and Assessment
MHCLG	Ministry of Housing, Community and Local Government
MLWS	Mean Low Water Springs
NCN	National Cycle Network
NPPF	National Planning Policy Framework
NPS	National Policy Statement
PEIR	Preliminary Environmental Information Report
PIA	Personal Injury Accident
PPG	Planning Practice Guidance
PRoW	Public Right of Way
SRN	Strategic Road Network
TAG	Transport Analysis Guidance
UK	United Kingdom
ZoI	Zone of Influence

## Units

Acronym	Meaning
km	Kilometres
m	Metres
mph	Miles per hour
%	Percentage

## 5 TRAFFIC AND TRANSPORT

### 5.1 Introduction

- 5.1.1 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 United Kingdom (UK) elements of the Xlinks Morocco-UK Power Project (the 'Project'). For ease of reference, the UK elements of the Project are referred to in this chapter as the 'Proposed Development'.
- 5.1.2 This chapter considers the potential impacts and effects of the Proposed Development on traffic and transport during the construction, operation and maintenance, and decommissioning phases. Specifically, it relates to the onshore elements of the Proposed Development landward of Mean Low Water Springs (MLWS).
- 5.1.3 In particular, this PEIR chapter:
- sets out the existing and future environmental baseline conditions, established from desk studies, surveys and consultation undertaken to date;
  - presents the potential environmental impacts and effects on all aspects of traffic and transport arising from the Proposed Development, based on the information gathered and the analysis and assessments undertaken to date;
  - identifies any assumptions and limitations encountered in compiling the environmental information; and
  - highlights any necessary monitoring and/or mitigation measures that could prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process.
- 5.1.4 This PEIR chapter also contains an integrated and preliminary 'Transport Assessment' to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development.
- 5.1.5 The assessment presented is informed by the following technical chapters:
- Volume 1, Chapter 3: Project Description of the PEIR.
- 5.1.6 The PEIR will inform pre-application consultation. Following consultation, comments on the PEIR and any refinements in design will be reviewed and taken into account, where appropriate, in preparation of the Environmental Statement that will accompany the application to the Planning Inspectorate for development consent.

### 5.2 Legislative and Policy Context

#### Legislation

- 5.2.1 This section provides a description of the main legislation relevant to traffic and transport, including the Highways Act (1980), the Transport Act (2000) and the Local Transport Act (2008).

- 5.2.2 The Highways Act (1980) sets out the powers and duties of highway authorities and the responsibilities of highway authorities to maintain the public highway network in a condition which is safe for all users.
- 5.2.3 The Transport Act (2000) includes measures to create a more integrated transport system and aims to improve local passenger transport services and reduce both road congestion and pollution.
- 5.2.4 The Local Transport Act (2008) includes measures to improve the quality of local bus services and address increasing road congestion through a statutory requirement for all highway authorities to have a Local Transport Plan as part of a more consistent approach to local transport policies and planning.

## Planning Policy Context

- 5.2.5 The Proposed Development will be located within the UK Exclusive Economic Zone (EEZ) offshore waters (beyond 12 nautical miles (nm) from the English coast) and inshore waters, with the onshore infrastructure located wholly within Devon, England. As set out in Volume 1, Chapter 1: Introduction of the PEIR, the Secretary of State for the Department for Energy Security and Net Zero (DESNZ) has directed that elements of the Proposed Development are to be treated as development for which development consent is required under the Planning Act 2008, as amended.

## National Policy Statements

- 5.2.6 There are currently six energy National Policy Statements (NPSs), three of which contain policy relevant to the Proposed Development, specifically:
  - Overarching NPS for Energy (NPS EN-1) which sets out the UK Government’s policy for the delivery of major energy infrastructure (DESNZ, 2023a);
  - NPS for Renewable Energy Infrastructure (NPS EN-3) (DESNZ, 2023b); and
  - NPS for Electricity Networks Infrastructure (NPS EN-5) (DESNZ, 2023c).
- 5.2.7 **Table 5.1** sets out key aspects from the NPSs relevant to the Proposed Development, with particular reference to the need for and approach to consenting such infrastructure.

**Table 5.1: Summary of relevant NPS policy**

Summary of NPS requirement	How and where considered in the PEIR
<b>NPS EN-1</b>	
<p>The transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects.</p> <p>[Paragraph 5.14.1 of NPS EN-1].</p> <p>Environmental impacts may result particularly from trips generated on roads which may increase noise and air pollution as well as greenhouse gas emissions.</p>	<p>This chapter of the PEIR considers potential traffic and transport impacts during the construction, operation and maintenance and decommissioning phases of the Proposed Development. The traffic and transport chapter of the Environmental Statement, to be submitted with the application for development consent, will further consider all relevant potential traffic and transport impacts during the construction, operation and maintenance and decommissioning phases of the Proposed Development.</p>



<b>Summary of NPS requirement</b>	<b>How and where considered in the PEIR</b>
<p>[Paragraph 5.14.2 of NPS EN-1].</p> <p>Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal.</p> <p>[Paragraph 5.14.3 of NPS EN-1].</p>	<p>The study area has been established to include all relevant routes of the transport network.</p> <p>Noise is considered in Volume 2, Chapter 6: Noise and Vibration of the PEIR. Emissions are considered in Volume 2, Chapter 7: Air Quality of the PEIR.</p>
<p>The consideration and mitigation of transport impacts is an essential part of Government’s wider policy objectives for sustainable development as set out in Section 2.6 of this NPS.</p> <p>[Paragraph 5.14.4 of NPS EN-1].</p>	<p>This chapter of the PEIR considers potential traffic and transport impacts during the construction, operation and maintenance and decommissioning phases of the Proposed Development.</p> <p>All mitigation measures required in relation to traffic and transport to be adopted as part of the Proposed Development are set out in section <b>5.7</b> of this chapter of the PEIR.</p> <p>The traffic and transport chapter of the Environmental Statement, to be submitted with the application for development consent, will further consider all relevant potential traffic and transport impacts and mitigation measures during the construction, operation and maintenance and decommissioning phases of the Proposed Development.</p>
<p>If a project is likely to have significant transport implications, the applicant’s Environmental Statement should include a transport appraisal. The Department for Transport’s (DfT’s) Transport Analysis Guidance (TAG) and Welsh Governments WelTAG provides guidance on modelling and assessing the impacts of transport schemes.</p> <p>[Paragraph 5.14.5 of NPS EN-1].</p>	<p>This chapter of the PEIR contains an integrated and preliminary Transport Assessment (TA) throughout to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development in accordance with relevant parts of the DfT’s TAG, guidance and best practice. This will be updated in conjunction with the Environmental Statement to accompany the application for development consent.</p>
<p>National Highways and Highways Authorities are statutory consultees on Nationally Significant Infrastructure Project applications including energy infrastructure where it is expected to affect the Strategic Road Network (SRN) and/or have an impact on the local road network. Applicants should consult with National Highways and Highways Authorities as appropriate on the assessment and mitigation to inform the application to be submitted.</p> <p>[Paragraph 5.14.6 of NPS EN-1].</p>	<p>Devon County Council as the relevant Local Highway Authority (LHA) has been consulted, as set out in section <b>5.3</b> of this chapter of the PEIR. These consultations will continue to inform the application for development consent in identifying the potential traffic and transport impacts of the Proposed Development and the mitigation measures.</p>
<p>The applicant should prepare a Travel Plan including demand management and monitoring measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by active, public and shared transport to reduce the need for parking associated with the</p>	<p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This</p>

<b>Summary of NPS requirement</b>	<b>How and where considered in the PEIR</b>
<p>proposal, contribute to decarbonisation of the transport network and improve user travel options by offering genuine modal choice. [Paragraph 5.14.7 of NPS EN-1].</p>	<p>shows the sustainable transport options available to construction staff of the Proposed Development.</p> <p>Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged during the construction phase of the Proposed Development.</p> <p>An Outline Construction Traffic Management Plan (CTMP), which will include demand management measures during the construction phase of the Proposed Development, will be prepared as part of the application for development consent. The Outline CTMP will be a live document during the examination process and the demand management measures included can be amended if required. The final version of the CTMP will be completed following development consent of the Project. The measures in the Outline CTMP set out in <b>Table 5.19</b> of this PEIR chapter are typical of measures used for other similar types of projects and are considered to be achievable.</p>
<p>The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports). [Paragraph 5.14.8 of NPS EN-1].</p>	<p>This chapter of the PEIR contains an integrated and preliminary TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development in accordance with relevant parts of the DfT’s TAG, guidance and best practice. This will be updated in conjunction with the Environmental Statement to accompany the application for development consent.</p>
<p>If additional transport infrastructure is needed or proposed, it should always include good quality walking, wheeling and cycle routes, and associated facilities (changing/storage etc) needed to enhance active transport provision. [Paragraph 5.14.9 of NPS EN-1].</p> <p>Applicants should discuss with network providers the possibility of co-funding by government for any third-party benefits. Guidance has been issued which explains the circumstances where this may be possible, although the government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time. [Paragraph 5.14.10 of NPS EN-1].</p>	<p>Additional transport infrastructure for construction of the Proposed Development is limited to the provision of several mostly temporary construction accesses within the Onshore Infrastructure Area (all but one being an improvement to an existing access, as set out in <b>section 5.8</b>). These accesses will be removed/the land reinstated when construction of the Proposed Development is finished. The accesses to be used for operation and maintenance purposes will be used on a limited and irregular basis and will not be for public use.</p> <p>During operation and maintenance of the Proposed Development, parts of the highway network along Gammaton Road and to the Converter Site will be widened, as set out in <b>section 5.8</b>.</p>

<b>Summary of NPS requirement</b>	<b>How and where considered in the PEIR</b>
<p>Where mitigation is needed, possible demand management measures must be considered. This could include identifying opportunities to reduce the need to travel by consolidating trips, locate development in areas already accessible by active travel and public transport, provide opportunities for shared mobility, re-mode by shifting travel to a sustainable mode that is more beneficial to the network, retime travel outside of the known peak times and reroute to use parts of the network that are less busy.</p> <p>[Paragraph 5.14.11 of NPS EN-1].</p>	<p>An Outline CTMP, which will include demand management measures during the construction phase of the Proposed Development, will be prepared as part of the application for development consent. The Outline CTMP will be a live document during the examination process and the demand management measures included can be amended if required. The final version of the CTMP will be completed following development consent of the Project. The measures in the Outline CTMP set out in <b>Table 5.19</b> of this PEIR chapter have been agreed with the engineering and design team and are considered to be achievable.</p> <p>The demand management measures will relate to the routing and timing of Heavy Duty Vehicle (HDV) movements and the management of construction staff movements and are not expected to require any new inland transport infrastructure, apart from temporary construction accesses within the Onshore Infrastructure Area.</p> <p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development.</p>
<p>If feasible and operationally reasonable, such mitigation should be required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts. All stages of the project should support and encourage a modal shift of freight from road to more environmentally sustainable alternatives, such as rail, cargo bike, maritime and inland waterways, as well as making appropriate provision for and infrastructure needed to support the use of alternative fuels including charging for electric vehicles.</p> <p>[Paragraph 5.14.12 of NPS EN-1].</p>	<p>All relevant traffic and transport mitigation measures have been considered in <b>section 5.7</b> of this chapter of the PEIR and are not expected to require any new inland transport infrastructure, apart from temporary construction accesses within the Onshore Infrastructure Area which will be required irrespective of any modal shift of freight from road to more environmentally sustainable alternatives.</p>
<p>Regard should always be given to the needs of freight at all stages in the construction and operation of the development including the need to provide appropriate facilities for HGV drivers as appropriate.</p> <p>[Paragraph 5.14.13 of NPS EN-1].</p>	<p>All accesses within the Onshore Infrastructure Area have been designed to safely accommodate Heavy Goods Vehicle (HGV) movements and all temporary construction compounds will provide welfare facilities, as set out in the Outline CTMP to be prepared as part of the application for development consent.</p>
<p>The Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements; make sufficient provision for HGV parking and associated high quality drive facilities either on</p>	<p>HGV routes have been identified and, along with associated mitigation measures such as restrictions of the timings of HGV movements to avoid adverse impacts on sensitive receptors, will be set out in the Outline CTMP to be prepared as part of the application for development consent. All temporary construction compounds will provide</p>

<b>Summary of NPS requirement</b>	<b>How and where considered in the PEIR</b>
<p>the site or at dedicated facilities elsewhere, to support driver welfare, avoid ‘overspill’ parking on public road, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force. [Paragraph 5.14.14 of NPS EN-1].</p>	<p>appropriate provisions for HGVs to ensure no impact upon the highway.</p> <p>The transport of Abnormal Indivisible Loads (AILs) have been subject to necessary studies and is expected to cause minimal disruption. These studies will be submitted with the application for development consent.</p>
<p>The Secretary of State should have regard to the cost effectiveness of demand management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures. [Paragraph 5.14.15 of NPS EN-1].</p>	<p>An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed Development. Additional transport infrastructure for construction of the Proposed Development is limited to the provision of several mostly temporary construction accesses within the Onshore Infrastructure Area (all but one being an improvement to an existing access, as set out in <b>section 5.8</b>). These accesses will be removed/the land reinstated when construction of the Proposed Development is finished.</p>
<p>Applicants should consider the DfT policy guidance “Water Preferred Policy Guidelines for the movement of abnormal indivisible loads” when preparing their application. [Paragraph 5.14.16 of NPS EN-1].</p>	<p>The movement of AILs is considered in <b>section 5.8</b> of this chapter of the PEIR. An Outline CTMP, to be prepared as part of the application for development consent, will include management measures for all AILs.</p>
<p>If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the Secretary of State of any obligations or requirements needed to secure the mitigation. [Paragraph 5.14.17 of NPS EN-1].</p>	<p>The costs of transport mitigation currently envisaged by the Applicant will not make the proposal economically unviable.</p>
<p>A new energy Nationally Significant Infrastructure Project may give rise to substantial impacts on the surrounding transport infrastructure and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public, and shared transport provision and accessibility. [Paragraph 5.14.18 of NPS EN-1].</p> <p>Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should consider requirements to mitigate adverse impacts on transport networks arising from the development, as set out below. [Paragraph 5.14.19 of NPS EN-1].</p>	<p>This chapter of the PEIR considers potential traffic and transport impacts and mitigation measures during the construction phase of the Proposed Development. The potential traffic and transport impacts during the operation and maintenance and decommissioning phases of the Proposed Development have been scoped out of the assessment, as set out in <b>Table 5.6</b> of this chapter of the PEIR.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p>
<p>Development consent should not be withheld provided that the applicant is willing to enter into planning obligations for funding new infrastructure or</p>	<p>This chapter of the PEIR considers potential traffic and transport impacts and mitigation measures during the construction phase of the Proposed</p>

<b>Summary of NPS requirement</b>	<b>How and where considered in the PEIR</b>
<p>requirements can be imposed to mitigate transport impacts. In this situation the Secretary of State should apply appropriately limited weight to residual effects on the surrounding transport infrastructure. [Paragraph 5.14.20 of NPS EN-1].</p>	<p>Development. The potential traffic and transport impacts during the operation and maintenance and decommissioning phases of the Proposed Development have been scoped out of the assessment, as set out in <b>Table 5.6</b> of this chapter of the PEIR.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p>
<p>The Secretary of State should only consider refusing development on highways grounds if there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to the provision of adequate active public or shared transport access and provision. [Paragraph 5.14.21 of NPS EN-1].</p>	<p>This chapter of the PEIR considers potential traffic and transport impacts and mitigation measures during the construction phase of the Proposed Development. The potential traffic and transport impacts during the operation and maintenance and decommissioning phases of the Proposed Development have been scoped out of the assessment, as set out in <b>Table 5.6</b> of this chapter of the PEIR.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>An Outline CTMP will be prepared as part of the application for development consent, which will include demand management measures during the construction phase of the Proposed Development.</p> <p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.6</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development.</p>

## **The National Planning Policy Framework**

- 5.2.8 The National Planning Policy Framework (NPPF) was published in 2012 and updated in 2018, 2019, 2021 and 2023 (Department for Levelling Up, Housing and Communities (DLHC), 2023). The NPPF sets out the Government’s planning policies for England.
- 5.2.9 **Table 5.2** sets out a summary of the NPPF policies relevant to this chapter.

**Table 5.2: Summary of NPPF requirements relevant to this chapter**

Policy	Key provisions	How and where considered in the PEIR
<p>Paragraph 108</p>	<p>Transport issues should be considered from the earliest stages of development proposals, so that:</p> <ul style="list-style-type: none"> <li>• the potential impacts of development on transport networks can be addressed;</li> <li>• opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;</li> <li>• opportunities to promote walking, cycling and public transport use are identified and pursued; and</li> <li>• the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains</li> </ul>	<p>This chapter of the PEIR considers potential traffic and transport impacts during the construction, operation and maintenance and decommissioning phases of the Proposed Development. All mitigation measures required in relation to traffic and transport to be adopted as part of the Proposed Development are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>Additional transport infrastructure for construction of the Proposed Development is limited to the provision of several mostly temporary construction accesses within the Onshore Infrastructure Area (all but one being an improvement to an existing access, as set out in <b>section 5.8</b>. These accesses will be removed/the land reinstated when construction of the Proposed Development is finished. The accesses to be used for operation and maintenance purposes will be used on a limited and irregular basis and will not be for public use.</p> <p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development.</p> <p>Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged.</p> <p>An Outline CTMP, which will include demand management measures during the construction phase of the Proposed Development, will be prepared as part of the application for development consent, including encouraging car sharing between construction staff.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p>

Policy	Key provisions	How and where considered in the PEIR
Paragraph 109	<p>The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in decision-making.</p>	<p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development.</p> <p>Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged.</p> <p>An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed Development, including encouraging car sharing between construction staff.</p>
Paragraph 114	<p>In assessing specific applications for development, it should be ensured that:</p> <ul style="list-style-type: none"> <li>• appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;</li> <li>• safe and suitable access to the site can be achieved for all users; and</li> <li>• any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.</li> </ul>	<p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development. Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged. An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed Development, including encouraging car sharing between construction staff.</p> <p>All accesses within the Onshore Infrastructure Area have been designed to safely accommodate HGV movements.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>An analysis of Personal Injury Accidents (PIAs) within the study area has been undertaken in <b>section 5.5</b> of this chapter of the PEIR. The traffic and transport impact of the Proposed Development on highway safety has been considered in <b>section 5.8</b> of this chapter of the PEIR.</p>

<b>Policy</b>	<b>Key provisions</b>	<b>How and where considered in the PEIR</b>
Paragraph 115	Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.	<p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>An analysis of PIAs within the study area has been undertaken in <b>section 5.5</b> of this chapter of the PEIR. The traffic and transport impact of the Proposed Development on highway safety has been considered in <b>section 5.8</b> of this chapter of the PEIR.</p>
Paragraph 117	All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.	<p>Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged during the construction phase of the Proposed Development.</p> <p>An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed Development, including encouraging car sharing between construction staff.</p> <p>This chapter of the PEIR contains an integrated and preliminary TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development in accordance with relevant parts of the DfT's TAG, guidance and best practice. This will be updated in conjunction with the Environmental Statement to accompany the application for development consent.</p>

- 5.2.10 The Planning Practice Guidance (PPG) (DLHC and Ministry of Housing, Communities and Local Government (MHCLG), 2021) supports the NPPF and provides guidance across a range of topic areas.
- 5.2.11 Guidance on 'Travel Plans, Transport Assessments and Statements' was published in March 2014 and provides advice on when Travel Plans, Transport Assessments and Transport Statements are required and what they should include. Paragraph 002 states '*Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development*' and are '*required for all developments which generate significant amounts of movements*'.
- 5.2.12 This chapter of the PEIR contains an integrated and preliminary TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development in accordance with relevant parts of the DfT's TAG, guidance and best practice. This will be updated in conjunction with the Environmental Statement to accompany the application for development consent.
- 5.2.13 Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged during the construction phase of the Proposed Development. An Outline CTMP will be prepared as part of the



application for development consent which will include demand management measures during the construction phase of the Proposed Development, including encouraging car sharing between construction staff.

## Local Planning Policy

5.2.14 The onshore elements of the Proposed Development are located within the administrative area of Torridge District Council as the Local Planning Authority. The relevant local planning policies applicable to traffic and transport based on the extent of the study area for this assessment are summarised in **Table 5.3**.

**Table 5.3: Summary of local planning policy relevant to this chapter**

Policy	Key provisions	How and where considered in the PEIR
<b>North Devon and Torridge Local Plan 2011-2031</b>		
Policy ST10: Transport Strategy	<p>The Transport Strategy for northern Devon will:</p> <p>(1) Provide good strategic connectivity by:</p> <ul style="list-style-type: none"> <li>ensuring the operational effectiveness of the SRN (A361 and A30) and other strategic routes including the A39, linking the area to the national road network (M5 and A30) and to Exeter, Plymouth and Cornwall;</li> <li>maintaining the function of the wider SRN serving northern Devon;</li> <li>improving journey times and service quality on the Barnstaple-Exeter rail line linking northern Devon to Exeter and the wider rail network;</li> <li>improving the strategic routes towards Ilfracombe along the A399 from Aller Cross and the B3230 from Barnstaple;</li> <li>maintaining the function of Bideford as a commercial port and developing enhanced harbour facilities, including at Ilfracombe to support any future ferry service and operational hub for any future off-shore renewable energy schemes;</li> <li>safeguarding routes and exploring opportunities for the reuse and reinstatement of former railway lines;</li> <li>maintaining and enhancing the function and connectivity of the public rights of way network within northern Devon including the completion of the gap in the Tarka Trail between Willingcott and Knowle; and</li> <li>locating freight generating development and local freight handling facilities close to the strategic road/rail network or Bideford port.</li> </ul>	<p>This chapter of the PEIR considers potential traffic and transport impacts during the construction, operation and maintenance and decommissioning phases of the Proposed Development. All mitigation measures required in relation to traffic and transport to be adopted as part of the Proposed Development are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>Additional transport infrastructure for construction of the Proposed Development is limited to the provision of several mostly temporary construction accesses within the Onshore Infrastructure Area (all but one being an improvement to an existing access, as set out in <b>section 5.8</b>. These accesses will be removed/the land reinstated when construction of the Proposed Development is finished. The accesses to be used for operation and maintenance purposes will be used on a limited and irregular basis and will not be for public use.</p> <p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development. Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged. An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed</p>

Policy	Key provisions	How and where considered in the PEIR
	<p>(2) Meet the needs of local communities and visitors to the area by:</p> <ul style="list-style-type: none"> <li>• providing transport infrastructure that facilitates the delivery of proposed strategic extensions for housing and employment development and facilitates economic regeneration;</li> <li>• developing quality public and community transport networks (and supporting infrastructure) within and between Barnstaple and Bideford and the networks linking these centres to northern Devon’s main towns and rural communities where viable;</li> <li>• improving overall accessibility of northern Devon by providing a wide range of integrated practical and attractive travel options and improving interchanges for transfer between modes of travel;</li> <li>• developing quality strategic recreational routes and local pedestrian, cycle and bridleway networks and further integration and enhancement of the public rights of way network;</li> <li>• protecting and enhancing the function and safety of the road network; and</li> <li>• recognising transport impacts from the seasonal nature of traffic in northern Devon.</li> </ul> <p>(3) Reduce the environmental and social impacts of transport by:</p> <ul style="list-style-type: none"> <li>• reducing the need to travel by car and enabling alternative sustainable travel options as supported by the Local Transport Plan;</li> <li>• improving transport connectivity between rural communities and the main towns where viable;</li> <li>• requiring a Transport Assessment or a Transport Statement and a Travel Plan for developments that generate significant traffic movements;</li> <li>• actively managing car parking provision through type, capacity and charging to influence demand patterns;</li> <li>• developing traffic management schemes in the main towns;</li> <li>• maximising safety on transport networks through improvements to</li> </ul>	<p>Development, including encouraging car sharing between construction staff.</p> <p>The relevant potential traffic and transport impacts during the construction phase of the Proposed Development are considered in <b>section 5.8</b> of this chapter of the PEIR, while mitigation measures are set out in <b>section 5.7</b> of this chapter of the PEIR.</p> <p>This chapter of the PEIR contains an integrated and preliminary TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Proposed Development in accordance with relevant parts of the DfT’s TAG, guidance and best practice. This will be updated in conjunction with the ES to accompany the application for development consent.</p> <p>All accesses within the Onshore Infrastructure Area have been designed to safely accommodate HGV movements.</p>

Policy	Key provisions	How and where considered in the PEIR
	<p>physical infrastructure design whilst conserving historic environment assets;</p> <ul style="list-style-type: none"> <li>• ensuring that access to new development is safe and appropriate; and</li> <li>• protecting the landscape character and ecological interest along the main and minor route(s).</li> </ul>	
<p>Policy DM05: Highways</p>	<p>All development must ensure safe and well-designed vehicular access and egress, adequate parking and layouts which consider the needs and accessibility of all highway users including cyclists and pedestrians.</p> <p>All development shall protect and enhance existing public rights of way, footways, cycleways and bridleways and facilitate improvements to existing or provide new connections to these routes where practical to do so.</p>	<p>All accesses within the Onshore Infrastructure Area have been designed to safely accommodate HGV movements.</p> <p>The design of the construction works will avoid the risk of HGVs parking along surrounding highway and will provide appropriate parking facilities for construction workers.</p> <p>The available public transport adjacent to and within the Onshore Infrastructure Area and the existing walking and cycling infrastructure adjacent to and within the Onshore Infrastructure Area is set out in <b>section 5.5</b> of this chapter of the PEIR. This indicates the sustainable transport options available to construction staff of the Proposed Development. Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged. An Outline CTMP will be prepared as part of the application for development consent which will include demand management measures during the construction phase of the Proposed Development, including encouraging car sharing between construction staff.</p> <p>Additional transport infrastructure for construction of the Proposed Development is limited to the provision of several mostly temporary construction accesses within the Onshore Infrastructure Area (all but one being an improvement to an existing access, as set out in <b>section 5.8</b>. These accesses will be removed/the land reinstated when construction of the Proposed Development is finished. The accesses to be used for operation and maintenance purposes will be used on a limited and irregular basis and will not be for public use.</p>

Policy	Key provisions	How and where considered in the PEIR
Policy DM06: Parking Provision	<p>Development proposals will be expected to provide an appropriate scale and range of parking provision to meet anticipated needs, having regard to the:</p> <ul style="list-style-type: none"> <li>accessibility and sustainability of the site;</li> <li>availability of public transport;</li> <li>provision of safe walking and cycling routes; and</li> <li>specific scale, type and mix of development.</li> </ul> <p>Proposals must encourage the use of sustainable modes of transport through careful design, layout and integration to the existing built form.</p>	<p>The parking proposals will be developed in accordance with these guidelines. The design of the construction works will avoid the risk of HGVs parking along surrounding highway and will provide appropriate parking facilities for construction workers.</p> <p>Where appropriate, it is expected that movement by sustainable modes of transport will be facilitated and encouraged.</p>

5.2.15 Although not forming part of a Development Plan, the ‘Barnstaple with Bideford and Northam Local Cycling and Walking Infrastructure Plan’ (January 2024) and the ‘Devon and Torbay Local Transport Plan 3 2011-2026’ (April 2011) have also been considered with their measures and requirements forming an input to the contents of this PEIR chapter.

## 5.3 Consultation and Engagement

5.3.1 In January 2024, the Applicant submitted a Scoping Report to the Planning Inspectorate, which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant effects for the construction and operation and maintenance phases of the Proposed Development. It also described those topics or sub-topics which are proposed to be scoped out of the EIA process and provided justification as to why the Proposed Development will not have the potential to give rise to significant environmental effects in these areas.

5.3.2 Following consultation with the appropriate statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 7 March 2024. Key issues raised during the scoping process specific to traffic and transport are listed in **Table 5.4**, together with details of how these issues have been addressed within the PEIR.

**Table 5.4: Summary of scoping responses**

Comment	How and where considered in the PEIR
<b>Planning Inspectorate</b>	
The Inspectorate notes Section 10.2 of the Scoping Report, which confirms that no separate waste aspect chapter is to be produced but that a Site Waste Management Plan (SWMP) would detail quantities of waste and management as an appendix to the Environmental Statement. Although the Inspectorate is content with this approach, an assessment of effects relating to waste should be	The construction traffic number estimates set out in <b>section 5.8</b> of this chapter of the PEIR include for movement of waste.

<b>Comment</b>	<b>How and where considered in the PEIR</b>
<p>provided in the relevant aspect chapters where significant effects are likely to occur, including in relation to transport effects arising from the movement of waste.</p>	
<p>Several aspect chapters in the Scoping Report refer to fixed distance study areas with no explanation as to why these have been selected. The Environmental Statement should ensure the study area for each aspect reflects the Proposed Development's Zone of Influence (Zol) and the impact assessment should be based on the Zol from the Proposed Development with reference to potential effect pathways. Clear justification should be provided to support any distances applied.</p>	<p>The traffic and transport study area for the assessment of environmental traffic and transport impacts considers the transport network landward of the MLWS where potential impacts are likely to occur. This includes active travel routes and parts of the highway network most likely to be used by construction traffic and staff movements during the construction, operation and maintenance and decommissioning of the Proposed Development, as well as all accesses (whether temporary or permanent) and any highway improvements required to facilitate the construction of the Proposed Development.</p>
<p>In addition to onshore HVDC cable corridor and converter station, if the Alverdiscott Substation Connection Development is part of the Development Consent Order (DCO), this needs to form part of the study area.</p>	<p>The traffic and transport study area for the assessment of environmental traffic and transport impacts considers the transport network landward of the MLWS where potential impacts are likely to occur. This includes active travel routes and parts of the highway network most likely to be used by construction traffic and staff movements during the construction, operation and maintenance and decommissioning of the Proposed Development, as well as all accesses (whether temporary or permanent), including to the onshore HVDC cable corridor, converter station and the Alverdiscott Substation Connection Development, and any highway improvements required to facilitate the construction of the Proposed Development.</p>
<p>Table 7.6.2 of the Scoping Report states that impacts of AILs on the safety of users of the highway network during operation and decommissioning are scoped out of the assessment, although no justification is provided and it is not known whether AILs would be required for the decommissioning stage, for example.</p> <p>Taking into account the nature of the operation and maintenance, the Inspectorate is content that this matter can be scoped out. The Inspectorate is also content that the assessment of the construction phase would represent a worst-case, in the event that AILs are required for decommissioning, and therefore considers a detailed assessment of decommissioning traffic impacts can be scoped out of the Environmental Statement. However, the Environmental Statement should explain the approach taken.</p>	<p>There are no planned AIL movements to be generated during operation and maintenance. During decommissioning, any AILs generated would be the same as those generated during construction and would be subject to the same mitigation measures set out in <b>section 5.7</b> of this chapter of the PEIR. The impacts of AILs on the safety of users of the highway network during operation and maintenance and decommissioning have therefore been scoped out of the assessment.</p>
<p>The Scoping Report proposes to scope out impacts of additional vehicle movements on the highway network on:</p> <ul style="list-style-type: none"> <li>• Driver and pedestrian delay;</li> <li>• Fear and intimidation;</li> </ul>	<p>Noted and scoped out of the ES.</p>

<b>Comment</b>	<b>How and where considered in the PEIR</b>
<ul style="list-style-type: none"> <li>• Severance; and</li> <li>• Road safety</li> </ul> <p>on the basis that operation and maintenance of the Proposed Development would generate only a limited number of additional vehicle movements on the network. The Inspectorate agrees that due to the likely low numbers of staff to be employed (as described at Paragraph 4.11.4 of the Scoping Report) this matter can be scoped out of the Environmental Statement.</p>	
<p>The Scoping Report proposes to scope out impacts of additional vehicle movements on the highway network on:</p> <ul style="list-style-type: none"> <li>• driver and pedestrian delay;</li> <li>• fear and intimidation;</li> <li>• severance; and</li> <li>• road safety</li> </ul> <p>on the basis that the decommissioning phase of the Proposed Development would generate a lower number of additional vehicle movements on the highway network than the construction phase. The Scoping Report also states that measures to be included in the CTMP, updated as necessary, would also be employed during the decommissioning phase.</p> <p>Although the Inspectorate is content that the assessment of this matter for the construction phase would represent a worst-case compared to decommissioning, the Inspectorate considers that insufficient evidence has been provided to support the scoping out of additional vehicle movements during decommissioning at this stage. The ES should include an assessment of these matters for decommissioning phase, where likely significant effects could occur, or provide evidence that significant effects would be unlikely to occur.</p>	<p>Decommissioning of the Proposed Development will generate a lower number of additional vehicle movements on the highway network than the construction phase. This is because retired infrastructure/equipment will either be left in situ or transported away from site in bulk, reducing the number of additional vehicle movements required to facilitate decommissioning of the Proposed Development. In addition, measures to be included in the CTMP, updated as necessary, will also be employed during the decommissioning phase. Therefore, the potential impact of additional vehicle movements on the highway network and other transport receptors during decommissioning of the Proposed Development based upon future year baseline conditions that could be estimated at this time would be no higher than those impacts during the construction phase. The potential impacts of additional vehicle movements on the highway network during the decommissioning phase of the Proposed Development has therefore been scoped out of the assessment.</p> <p>The preparation of a Decommissioning Plan will be secured via a requirement of the DCO which will secure the mitigation measures relating to all transport movements during decommissioning.</p>
<p>The Barnstaple with Bideford and Northam Local Cycling and Walking Infrastructure Plan was recently approved. Consideration of this Plan should be included within the ES.</p>	<p>The contents of the Barnstaple with Bideford and Northam Local Cycling and Walking Infrastructure Plan have been considered throughout this PEIR chapter.</p>
<p>The ES should explain the how the study area for the Traffic and Transport assessment has been defined, with reference to the extent of the likely impacts.</p> <p>The Inspectorate notes that agreement will be sought with the relevant highways authorities</p>	<p>The traffic and transport study area is shown in Volume 2, Figure 5.1 and considers the transport network landward of the MLWS where potential impacts are likely to occur. This includes active travel routes and parts of the highway network most likely to be used by construction traffic and staff movements during the construction, operation and maintenance and decommissioning of the Proposed</p>

<b>Comment</b>	<b>How and where considered in the PEIR</b>
<p>regarding any additional parts of the highway network that may require consideration in the traffic and transport assessment. The ES should document any consultation undertaken with regards to the scope of the proposed assessment, including matters agreed/not agreed. Where the scope differs from that requested by the relevant highways authority, the ES should provide justification for the alternative approach.</p>	<p>Development, as well as all accesses (whether temporary or permanent) and any highway improvements required to facilitate the construction of the Proposed Development. The highway links and transport network within the traffic and transport study area set out in this chapter of the PEIR will be agreed with the relevant highway authorities in due course through the consultation process.</p>
<p>The Inspectorate advises that collision and casualty data is obtained from <a href="http://www.devon.gov.uk/roads-and-transport/safe-travel/road-safety/collision-data/">www.devon.gov.uk/roads-and-transport/safe-travel/road-safety/collision-data/</a> as a source of verified collision data from Devon County Council, the relevant highway authority.</p>	<p>For the purposes of this PEIR chapter only, PIA data has been obtained from the CrashMap website to identify clusters of injury accidents within the traffic and transport study area.</p> <p>The full assessment to be presented in the ES to be submitted with the application for development consent will use verified PIA data obtained from Devon County Council to undertake further analysis on these clusters of injury accidents to assess the road safety record of highway links within the traffic and transport study area.</p>
<p><b>Alverdiscott and Huntshaw Parish Council</b></p>	
<p>Construction Access (sections 4.6.94-97) also gives some concerns. Whilst all major construction traffic appears to have been accommodated, there remains the question of secondary traffic to the site. There are many very narrow lanes turning off the B3232 between St.John's Chapel and Torrington that can provide access to the site from a southerly direction and any increase in traffic on these lanes brought about by additional delivery vans and any workforce living to the south will cause local residents substantial disruption as they travel towards Bideford.</p> <p>Additionally, any larger vehicles mistakenly using satnav to reach the site from a southerly direction may be tempted to try to get through these lanes causing major disruption as they risk becoming stranded at various choke points. These local lanes, many of which are single track are already seeing the impact of increased traffic from the new estates being built in the Bideford area. We would strongly recommend that restrictive signage be put in place on all access points from the B3232 to prevent any increase in the number of traffic movements; measures similar to that used on the Barnstaple solar panel site may help but are likely to be insufficient.</p>	<p><b>Section 5.7</b> of this chapter of the PEIR sets out that a CTMP will be adopted which will set out suitable construction vehicle routes to be adhered to. The access strategy for the Proposed Development has been designed so construction vehicles do not have to use the narrow lanes between St John's Chapel and Torrington.</p>
<p><b>Devon County Council</b></p>	
<p>It is noted that there is little consideration being given to cycling within the proposed assessments. Some specifics are given below, but please ensure that Active Travel England provide comments and those comments are considered.</p>	<p>The potential impact of construction traffic on non-motorised users within the study area has been considered in the assessment set out in <b>section 5.8</b>. Active Travel England will be a consultee and any comments received to this PEIR will be addressed as part of the traffic and transport chapter of the ES</p>

Comment	How and where considered in the PEIR
	to be submitted with the application for development consent.
Paragraph 7.6.2 must include the Barnstaple with Bideford and Northam Local Cycling and Walking Infrastructure Plan which can be found at the following link <a href="https://www.devon.cc/bbnlcwip">https://www.devon.cc/bbnlcwip</a> .	The contents of the Barnstaple with Bideford and Northam Local Cycling and Walking Infrastructure Plan have been considered throughout this PEIR chapter.
Paragraph 7.6.6 states that “Agreement will be sought with the relevant highway authorities regarding any additional parts of the highway network that may need to be considered in the traffic and transport assessment.” This must also extend to the impact on public rights of way and the Tarka Trail, which is a Devon County Council owned route and not a Public Right of Way (PRoW).	Impacts upon PRoW and the Tarka Trail are considered within Volume 2, Chapter 8: Land Use and Recreation of the PEIR.
Paragraph 7.6.10 states that “An initial desk-based review has identified a number of data sources which provide baseline data coverage of the traffic and transport study area. These data sources are summarised in Table 7.6.1” and table 7.6.1 goes on to provide a list of data sources one of which <a href="http://www.crashmap.co.uk">www.crashmap.co.uk</a> . We would advise that <a href="http://www.crashmap.co.uk">www.crashmap.co.uk</a> should not be used as it is not verified and we therefore recommend that the verified collision data provided by Devon County Council at the following link <a href="https://www.devon.gov.uk/roads-and-transport/safe-travel/roadsafety/collision-data/">https://www.devon.gov.uk/roads-and-transport/safe-travel/roadsafety/collision-data/</a> should be used instead.	For the purposes of this PEIR chapter only, PIA data has been obtained from the CrashMap website to identify clusters of injury accidents within the traffic and transport study area. The full assessment to be presented in the ES to be submitted with the application for development consent will use verified PIA data obtained from Devon County Council to undertake further analysis on these clusters of injury accidents to assess the road safety record of highway links within the traffic and transport study area.
The traffic and transport assessment needs to consider cyclist delay and as such we would request that paragraph 7.6.39 is amended accordingly to include a bullet point titled Cyclist delay.	The potential impact of construction traffic on non-motorised users, including pedestrians and cyclists, within the study area has been considered in the assessment set out in <b>section 5.8</b> . The assessment of pedestrian delay serves as a proxy for the delay of other modes of non-motorised users.
Given that it is likely that most disruption is likely to occur during the construction phase of the development, a Construction and Environmental Management Plan should also accompany the ES detailing the measures being put in place to maintain access, where possible, to any affected routes during construction and detail how the applicant intends to ensure all Public Rights of Way legislation requirements are met should any routes require diversion or temporary closure.	A Construction and Environmental Management Plan (CEMP) will be submitted with the application for development consent.  Impacts upon PRoW are considered within Volume 2, Chapter 8: Land Use and Recreation of the PEIR.
<b>Network Rail</b>	
Network Rail acknowledges the potential for changes in traffic flows which may impact on the number of vehicular and pedestrian movements crossing the railway. These movement may also impact surrounding Level Crossings in the vicinity of the development site. Network Rail's position is that there shouldn't be any increase or change in usage to Level Crossings in the area. Any increase in movement across Level Crossings may increase risk and therefore mitigation methods may be required.	No railway lines will be affected by the Proposed Development.



Comment	How and where considered in the PEIR
Network Rail will wish to agree protection for the railway during the course of the construction works, for proposed construction traffic routes and otherwise to protect our undertaking and land interests. Network Rail reserves the right to produce additional and further grounds of concern when further details of the application and its effect on Network Rail's land available.	No railway lines will be affected by the Proposed Development.
Consideration should be given to ensure that the construction and subsequent maintenance can be carried out without adversely affecting the safety of Network Rail's land. In addition, security of the railway boundary will require to be maintained at all times.	No railway lines will be affected by the Proposed Development.

## 5.4 Methodology

5.4.1 The assessment of environmental traffic and transport impacts of the Proposed Development has followed the methodology set out in Volume 1, Chapter 5: EIA Methodology of the PEIR.

### Relevant Guidance

5.4.2 The primary technical guidance for the assessment of environmental traffic and transport impacts is provided by the 'Environmental Assessment of Traffic and Movement' (Institute for Environmental Management and Assessment (IEMA) 2023) (the 'IEMA guidelines').

5.4.3 The relevant guidance below has also been considered:

- Design Manual for Roads and Bridges (DMRB) LA104: Environmental Assessment and Monitoring (Highways England (now National Highways), Transport Scotland, Welsh Government and Department for Infrastructure Northern Ireland, 2020).
- PPG: Travel Plans, Transport Assessments and Statements (DLHC and MHCLG, 2014).

### Scope of the Assessment

5.4.4 The scope of this PEIR has been developed in consultation with relevant statutory and non-statutory consultees as detailed in **Table 5.5**. The scope of the assessment considered the environmental impact of vehicles associated with the construction phase of the Proposed Development within the traffic and transport study area. Taking into account the scoping and consultation process, **Table 5.5** summarises the issues considered as part of this assessment.

**Table 5.5: Issues considered within this assessment**

Activity	Potential effects scoped into the assessment
<b>Construction Phase</b>	
Additional vehicle movements or works required to facilitate construction of the Proposed Development	The impact upon driver (including public transport) and non-motorised user delay and fear and intimidation (non-motorised user amenity) for users of the highway network.
	The impact upon severance for users of the highway network.
	The impact upon road safety for users of the highway network and other transport receptors.
	The impact of ALLs on the safety and delay of users of the highway network and other transport receptors.

5.4.5 The effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out of the assessment is presented in **Table 5.6**.

**Table 5.6: Issues scoped out of the assessment**

Activity	Potential effects scoped out of the assessment
<b>Operation and Maintenance</b>	
Assessment of environmental traffic and transport effects during the operation and maintenance phase of the Proposed Development.	The operation and maintenance phase of the Proposed Development will typically generate a limited number of light vehicle movements onto the highway network for maintenance purposes. The number of vehicle trips will be infrequent and under thresholds for which assessment will be required. Therefore, the potential impact of additional vehicle movements on the highway network and other traffic and transport receptors during the operation and maintenance phase of the Proposed Development is unlikely to result in significant effects and is scoped out of the assessment for traffic and transport.
<b>Decommissioning</b>	
Assessment of environmental traffic and transport effects during the decommissioning phase of the Proposed Development.	The decommissioning phase of the Proposed Development will generate fewer vehicle movements on the highway network than the construction phase. This is because retired equipment and infrastructure will either be left in situ or transported away from site in bulk, therefore reducing the number of additional vehicle movements required to facilitate decommissioning of the Proposed Development. Therefore, the potential impact of additional vehicle movements on the highway network and other traffic and transport receptors during the decommissioning phase of the Proposed Development will be no higher than those impacts during the construction phase and is scoped out of the assessment for traffic and transport.

## Study Area

- 5.4.6 The traffic and transport study area for the assessment of environmental traffic and transport impacts considers the transport network landward of the MLWS where potential impacts are likely to occur. This includes active travel routes and parts of the highway network most likely to be used by construction traffic generated by the Proposed Development, as well as all accesses (whether temporary or permanent) and any highway improvements required to facilitate the construction of the Proposed Development.
- 5.4.7 The study area will be reviewed and modified, if necessary, in response to any refinements that may be made to the design of the onshore elements of the Proposed Development landward of MLWS and/or any additional environmental and/or design constraints identified during the EIA process.
- 5.4.8 The highway links which form the study area for the assessment of environmental traffic and transport impacts is shown in Volume 2, Figure 5.1.

## Methodology for Baseline Studies

### Desk Studies

- 5.4.9 Information on traffic and transport within the study area was collected through a detailed desktop review of existing data sources. The data sources used to inform the baseline assessment primarily comprise published material, which is publicly available, as well as material available to purchase from the highway authorities. These data sources are supplemented by site visits undertaken by competent experts and the analysis of newly commissioned traffic survey data on behalf of the Applicant.
- 5.4.10 The baseline data sources as set out in **Table 5.7** will remain under review and may be updated in response to feedback from relevant statutory and non-statutory consultees during the EIA process, or in response to new sources of information becoming available.

**Table 5.7: Traffic and transport baseline data sources**

Data	Source	Details
Traffic Flow Data	Devon County Council National Highways DfT	Existing traffic flow information identifying the current operation of the highway network. This includes results from Automatic Traffic Counters (ATCs).
Sensitive Receptors	Google Maps ( <a href="http://www.google.co.uk/maps">www.google.co.uk/maps</a> )	Details of sensitive receptors within the study area, including active travel routes, schools and built up/populated areas.
PIA Data	CrashMap ( <a href="http://www.crashmap.co.uk">www.crashmap.co.uk</a> ) Devon County Council	PIA data for road traffic collisions.
Existing bus and rail services	Relevant service operators	Records of existing bus and rail services within the Traffic and Transport Study Area obtained from a desktop analysis of route maps and timetables published by relevant service operators.

<b>Data</b>	<b>Source</b>	<b>Details</b>
PRoW and active travel routes	Devon County Council  Google Maps (www.google.co.uk/maps)	Records of existing PRoW and active travel routes within the Traffic and Transport Study Area.
National Cycle Network (NCN) cycle routes and other cycle routes	Sustrans (www.sustrans.org.uk/national-cycle-network)  Devon County Council	Details of NCN routes and other cycle routes within the Traffic and Transport Study Area.
Highway Boundary Information	Devon County Council	Records of the adopted highway boundary.

## Site-Specific Surveys

- 5.4.11 In addition to the baseline data sources identified in **Table 5.7**, site-specific surveys were undertaken to inform the baseline assessment for traffic and transport.
- 5.4.12 ATCs were placed at key locations on the highway between Thursday 2 March 2023 and Wednesday 8 March 2023 where the highway authorities do not hold any such traffic flow data to inform the baseline assessment for traffic and transport. The ATCs recorded total traffic volumes, vehicle classifications and vehicle speeds via pneumatic tubes installed across the carriageway at key locations of the highway over a period of seven days.

## Impact Assessment Methodology

### Overview

- 5.4.13 The assessment presented in this chapter of the PEIR has been undertaken in accordance with the IEMA guidelines and with reference to DMRB LA104: Environmental Assessment (Highways England *et al.*, 2020) and PPG Travel Plans, Transport Assessments and Statements (DLHC and MHCLG, 2014).
- 5.4.14 The significance of environmental effects has been measured by considering the interaction between the magnitude of the impacts and the sensitivity of the receptors in the vicinity of transport corridors. The assessment within this chapter of the PEIR considers Proposed Development construction traffic flows against base traffic flows along highway links.
- 5.4.15 The below has been considered in this chapter, which is consistent with the IEMA guidelines.
  - Driver delay (including temporary delays to public transport services);
  - Severance;
  - Non-motorised user delay;
  - Non-motorised user amenity and fear and intimidation;
  - Road safety; and
  - AILs.

- 5.4.16 A preliminary TA has been incorporated into this chapter of the PEIR and has been prepared in accordance with the guidance contained within PPG Travel Plans, Transport Assessments and Statements (DLHC and MHCLG, 2014).
- 5.4.17 The assessment of AILs is informed by the Road Vehicles (Construction and Use) Regulations 1986 (as amended) and the Road Vehicles (Authorisation of Special Types) (General) Order 2003. The ability of vehicles to negotiate links and junctions has been considered using the AutoCAD computer programme which models the areas required to allow the passage of vehicles and loads.
- 5.4.18 The effects of construction traffic upon Noise and Air Quality are considered separately within Volume 2, Chapter 6: Noise and Vibration of the PEIR and Volume 2, Chapter 7: Air Quality of the PEIR respectively and are based upon traffic flows derived from this chapter. PRoW are considered within Volume 2, Chapter 8: Land Use and Recreation of the PEIR.
- 5.4.19 In terms of the assessment of the environmental traffic and transport impacts, the IEMA guidelines sets out the two rules below to delimit the geographical extent of assessment:
- Rule 1: include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and
  - Rule 2: include any other specifically sensitive areas where traffic flows will increase by 10% or more.
- 5.4.20 The assessment therefore identifies the sensitivity of affected transport routes, taking into account the presence and location of sensitive receptors or route users. The definition of sensitivity in this chapter uses professional judgement and guidance provided in the IEMA guidelines and is described in the following paragraphs.
- 5.4.21 For Rule 1, any highway link with increases in total traffic flows that exceed 30% or HGVs that exceed 30% are screened into the assessment. For Rule 2, those highway links that were not screened into the assessment under Rule 1 but are deemed to be sensitive and have increases in total traffic flows that exceed 10%, will also be screened into the assessment.
- 5.4.22 It should be noted that the IEMA guidelines notes that the day-to-day variation of traffic on a road is frequently at least + or – 10% and goes on to set out that changes in traffic flows of less than 10% creates no discernible environmental impact.
- 5.4.23 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA do not on their own apply to the impact upon driver delay as this relates to junction/highway capacity and operation and the impact upon this is defined by the TA. Generally, a potential impact upon driver delay may result when the highway network is at or close to capacity and not just with reference to the rule 1 and rule 2 thresholds.
- 5.4.24 The IEMA rule 1 and rule 2 thresholds are therefore not applied to this potential impact to delimit the extent of assessment and the extent of assessment is considered across the whole traffic and transport study area, from which key junctions or locations for assessment are identified using observations of existing driver delay, judgement and advice from highway authorities.
- 5.4.25 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA also do not on their own apply to the impact upon road safety as this relates to the consideration of road safety along a highway and the impact upon this which is defined by the TA. Generally, a potential impact upon road safety may result at

locations where there is an existing road safety issue or where development proposals may create a road safety issue.

- 5.4.26 The IEMA rule 1 and rule 2 thresholds are therefore not applied to this potential impact to delimit the extent of assessment and the extent of assessment is considered across the whole traffic and transport study area, from which key locations for assessment are identified from an analysis of PIAs and advice from highway authorities.
- 5.4.27 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts. The terms used to define magnitude and sensitivity are based on and have been adapted from those used in the DMRB methodology (Highways England *et al.*, 2020).

## Receptor Sensitivity/Value

5.4.28 The criteria for defining sensitivity in this chapter are outlined in **Table 5.8**.

**Table 5.8: Sensitivity criteria**

Sensitivity	Definition
Very High	Very high concentration of receptors with greatest sensitivity due to site-specific characteristics which make them particularly sensitive to changes in traffic flow, very high instances of road collisions ('clusters'), urban/residential/built-up roads without commensurate footway provision, very high footfall, severely congested junctions.
High	High concentration of receptors with some sensitivity to changes in traffic flows, high instances of road collisions ('clusters'), urban/residential/built-up roads without commensurate footway provision, high footfall, congested junctions.
Medium	Some concentrations of receptors with some sensitivity to traffic flows, some instances of road collisions ('clusters'), urban/residential/built-up areas with narrow footway provision for its use, demand and footfall or with receptors where there are no setbacks from affected roads and junctions, unsegregated cycleways.
Low	Low concentrations of receptors with some sensitivity to traffic flows including urban/residential/built-up areas with good footway provision commensurate for its use, demand and footfall and other receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.
Negligible	Receptors with negligible sensitivity to traffic flows and those sufficiently distant from affected roads and junctions or where no receptors are present.

5.4.29 All highway links within the traffic and transport study area have been assessed against the Rule 1 threshold. Those highway links which have been defined as being of a high or very high sensitivity in accordance with the IEMA guidelines have been additionally assessed against the Rule 2 threshold.

## Magnitude of Impact

5.4.30 The criteria for defining magnitude in this chapter are outlined in **Table 5.9**.

**Table 5.9: Impact magnitude criteria**

	<b>Negligible</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
Driver Delay	Defined in conjunction with the TA and a review of the change in operation of a junction or highway link with a particular focus on the weekday peak hour periods when baseline traffic flows are at their highest			
Severance	Change in total traffic flow of less than 30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flows of over 90%
Non-Motorised User Delay	Defined from a review of the urban/rural context of a location, site specific local considerations and pedestrian infrastructure, baseline traffic flows and the change in traffic flows			
Non-Motorised User Amenity and Fear and Intimidation	No step changes in the level of fear and intimidation	One step change in the level of fear and intimidation, with <400 vehicle increase in average 18hr vehicle movements and/or <500 HGV increase in total 18hr HGV flow	One step change in the level of fear and intimidation, but with >400 vehicle increase in average 18hr vehicle movements and/or >500 HGV increase in total 18hr HGV flow	Two step changes in the level of fear and intimidation
Road Safety	Defined from a review of PIA data along road links and the predicted changes in traffic flow			
ALLs	Defined by an assessment of the suitability of the access routes to accommodate ALLs.			

**Table 5.10: Impact magnitude criteria**

<b>Magnitude of impact</b>		<b>Definition</b>
High	Adverse	Substantial or total loss of capability for movement along or across transport corridors, loss of access to key facilities and loss of highway safety. Severe delays to travellers.
	Beneficial	Large scale improvement in the capability for movement along and across transport corridors, major improvement in access to key facilities, in highway safety and in delays to travellers.
Medium	Adverse	Loss of capability for movement along or across transport corridors, loss of access to key facilities and loss of highway safety. Delays to travellers.
	Beneficial	Improvement in the capability for movement along and across transport corridors, improvement in access to key facilities, in highway safety and in delays to travellers.
Low	Adverse	Some measurable loss of capability for movement along and across transport corridors, some measurable loss of access to key facilities and some measurable loss of highway safety. Some measurable increase in delays to travellers.
	Beneficial	Some measurable increase in the capability for movement along and across transport corridors, some measurable increase in access to key facilities and some measurable increase in highway safety. Some measurable increase in delays to travellers. Reduced risk of negative impacts occurring.
Negligible	Adverse	Very minor loss of capability for movement along and across transport corridors, very minor loss of access to key facilities and very minor loss of highway safety. Very minor increase in delays to travellers.
	Beneficial	Very minor increase in capability for movement along and across transport corridors, very minor increase in access to key facilities and very minor increase in highway safety. Very minor decreases in delays to travellers.

## Significance of Effect

- 5.4.31 The significance of the effect upon traffic and transport has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact. The method employed for this assessment is presented in **Table 5.11**. Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.
- 5.4.32 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.
- 5.4.33 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

**Table 5.11: Assessment matrix**

Sensitivity of receptor	Magnitude of impact			
	Negligible	Low	Medium	High
Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	Negligible or Minor	Minor	Moderate	Moderate or Major
High	Minor	Minor or Moderate	Moderate or Major	Major
Very High	Minor	Moderate or Major	Major	Major

- 5.4.34 Where the magnitude of impact is ‘no change’, no effect will arise.
- 5.4.35 The definitions for significance of effect levels are described below.
- **Major:** These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category. Effects upon human receptors may also be attributed this level of significance.
  - **Moderate:** These beneficial or adverse effects have the potential to be important and may influence the key decision-making process. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
  - **Minor:** These beneficial or adverse effects are generally, but not exclusively, raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
  - **Negligible:** No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
  - **No change:** No loss or alteration of characteristics, features or elements; no observable impact in either direction.



## Assumptions and Limitations of the Assessment

- 5.4.36 The base and survey data has been obtained from recognised sources and methodologies and is considered representative of current conditions. In this sense, there are few limitations in using this data and any limitations are typical of this project type and size.
- 5.4.37 At this stage, there are no procurements in place and the origins of materials cannot be confirmed. The procurement of material affects the movement of construction HGVs, which in turn affects the number of construction HGVs along each highway link. It is possible that the origin of materials will change as the construction phase progresses as there is only a finite amount of material from each source. For example, an amount of material is sourced from one location, but when this amount is reached, material is then sourced from another location. This will change the movement of HGVs as the construction phase progresses and result in day-to-day variances. An allowance for this has been built into the assessment.
- 5.4.38 Overall, there are few limitations to the data and the use of that data, these limitations are considered to be typical of this project type and size.

## 5.5 Baseline Environment

- 5.5.1 This section defines the baseline environment of the study area based upon site-specific surveys and the baseline data sources set out in **Table 5.7**.

### Highway Network

- 5.5.2 The study area is characterised by the A39 forming part of the principal road network. The A39 routes broadly north east to south west between Barnstaple (and beyond) and Fairy Cross (and beyond) respectively and will form a key access route for construction vehicles travelling to and from the Onshore Infrastructure Area.
- 5.5.3 To the south east of Barnstaple, the A361 connects with the A39 that bypasses the south of Barnstaple and continues to the west towards Bideford. This section of the A39 is single carriageway and subject to the national speed limit. The A39 passes the B3232 that forms a roundabout junction at Roundswell.
- 5.5.4 The B3232 runs north to south. To the south, the B3232 continues to Alverdiscott village, approximately 1.6 km to the east of the Alverdiscott Substation site and Converter Site via St Johns Chapel and Newton Tracey. At Alverdiscott, the B3232 forms a junction with a local lane adjacent to the church. This lane travels west towards Webbery via Stony Cross to Alverdiscott Lane, from which the Alverdiscott Substation site is accessible.
- 5.5.5 The A39 continues to the west to pass over the River Torridge to the north of Bideford. To the east of the bridge over the River Torridge, the A39 forms a priority junction with a short section of road that connects to a roundabout approximately 400 m to the north. The A39 is subject to a 40 mph speed limit in the vicinity of this junction.
- 5.5.6 The roundabout provides access to the B3233 that runs towards Instow and Yelland to the north and Bideford to the south. To the north of Bideford, the B3233 provides access to Manteo Way, which in turn provides access to Gammaton

Road, Tennacott Lane, Gammaton Moor and Alverdiscott Road from which the Alverdiscott Substation Site is accessible.

- 5.5.7 To the west of the bridge over the River Torridge, the A39 forms a roundabout junction with the A386. This provides access to Northam, Westward Ho! and Appledore to the north and Bideford to the south.
- 5.5.8 The A39 then continues to the south west and forms a signalised junction with the B3236 Buckleigh Road that provides access to Abbotsham, Buckleigh and Westward Ho!. Continuing south west, the A39 forms a roundabout junction at Abbotsham Cross with Clovelly Road that provides access to Handy Cross and Littleham via Littleham Road and with Abbotsham Road that provides access to Abbotsham. The A39 then continues to the south west towards Bude via Fairy Cross.
- 5.5.9 The highway network within the study area as described in the paragraphs above has been determined as being those highway links which are likely to be used by construction traffic and staff movements during the construction of the Proposed Development, as shown in Volume 2, Figure 5.1.

## Public Transport Services

- 5.5.10 Details of the bus services available adjacent to and within the Onshore Infrastructure Area are provided in **Table 5.12**. These services are shown in Volume 2, Figure 5.2.

**Table 5.12: Summary of local bus services**

Service	Operator	Route	Frequency (Monday to Friday)	Frequency (Saturday)	First service	Last service
5B	Stagecoach South West	Barnstaple – Great Torrington via Bideford	7 per day	7 per day	05:20	22:45
14	Stagecoach South West	Bideford – East-the-Water	3 per day on Tuesday and Thursday		09:55	14:43
15	Stagecoach South West	Barnstaple – Bideford Affinity Outlet Devon via East-the-Water	3 per day	1 service (07:51)	06:47	17:02
15A	Stagecoach South West	East-the-Water – Affinity Outlet Devon	Hourly	Hourly	07:54	17:54
16	Stagecoach South West	Bideford – Westward Ho! – Appledore	2 per day on Tuesday and Thursday		11:30	13:50
21	Stagecoach South West	Illfracombe– Westward Ho! via Bideford	Hourly	Hourly	05:30	22:15
21A	Stagecoach South West	Illfracombe – Appledore via Bideford	Hourly	Hourly	06:00	16:55
75	Stagecoach South West	Bideford – Great Torrington	Hourly	Hourly	06:59	18:00
85	Stagecoach South West	Barnstaple - Tavistock	4 per day	4 per day	08:40	16:55
317	Stagecoach South West	Bideford - Okehampton	5 per day	5 per day	05:47	17:40
319	Stagecoach South West	Hartland – Barnstaple via Bideford	7 per day	6 per day	07:09	18:45

Service	Operator	Route	Frequency (Monday to Friday)	Frequency (Saturday)	First service	Last service
322	Taw & Torridge	Ashreigny – Barnstaple via Bideford	Wednesday 09:25 (Return 13:45)			
372	Stagecoach South West	Bradworthy – Barnstaple via Bideford	Monday-Friday 09:50 (Return 13:35)			
386	Taw & Torridge	Petrockstowe – Barnstaple via Bideford	Friday 09:45 (Return 13:00)			
641	Stagecoach South West	Bideford – Holsworthy	Wednesday 09:05 (Return 13:30)			
642	MD Buses	Northlew – Bideford	Monday 09:15 (Return 13:25)			
646	MD Buses	Halwill Junction – Barnstaple via Bideford	Tuesday 09:05 (Return 13:30)			

5.5.11 Details of the rail services available at Barnstaple railway station are provided in **Table 5.13**. The location of Barnstaple railway station is shown in Volume 2, Figure 5.2.

**Table 5.13: Summary of rail services**

Destination	Weekday			Saturday		
	First service	Last service	Typical frequency	First service	Last service	Typical frequency
Exeter Central	06:25	20:41	Hourly	06:31	21:40	Hourly
Axminster via Exeter St David's	1 service at 16:31			No Saturday Service		
Exmouth via Exeter Central	1 service at 18:38			No Saturday Service		
Paignton via Exeter St David's and Torquay	1 service per day 19:42 (Mon-Thursday)			No Saturday Service		

## Walking and Cycling

- 5.5.12 The Onshore Infrastructure Area is located within areas of Devon which consist predominately of agricultural land where the walking and cycling infrastructure provision is poor.
- 5.5.13 The residential areas of Bideford, Northam, Appledore and Westward Ho! have commensurate walking and cycling infrastructure provision throughout, although no footways or cycleways exist in rural areas.
- 5.5.14 Route 3 of the NCN is a long-distance route between Bristol and Land's End and runs through the Traffic and Transport Study Area adjacent to the B3233.
- 5.5.15 The location of walking and cycling infrastructure within the Traffic and Transport Study Area, including PRoW and NCN routes, as well as footway provision and on-road and off-road cycle routes, is shown in Volume 2, Figure 5.3.

## Base Traffic Flows

- 5.5.16 For the purposes of this PEIR chapter, 2023 base traffic flows for the traffic and transport study area have been obtained from the publicly available sources set out in **Table 5.7** and from undertaking site-specific traffic surveys.
- 5.5.17 Where DfT and Devon County Council data has been used, traffic growth rates to 2023 were obtained from the DfT National Trip End Model for the respective road types and then applied to the data. The site-specific surveys were undertaken in 2023 and therefore, growth rates were not required where this data was used. The 2023 base traffic flows along the highway links within the Traffic and Transport Study Area are set out in **Table 5.14**.
- 5.5.18 The base traffic flows include total vehicles (all classifications of vehicles) and HGVs, which comprise all vehicles more than 7.5 tonnes gross weight (including buses) for all highway links within the study area.
- 5.5.19 The DfT and Devon County Council traffic flows and those obtained from the site-specific surveys have been used to inform the preliminary findings of the potential environmental impacts and effects of the Proposed Development on traffic and transport.

## XLINKS MOROCCO-UK POWER PROJECT

**Table 5.14: 2023 base traffic flows**

Highway link reference	Description	2023 AADT flows		Source
		Total vehicles	HGVs	
Link 1	A39 between Lake Roundabout and Roundswell Roundabout	30788	923	DfT
Link 2	A39 between Roundswell Roundabout and B3233	19553	677	DfT
Link 3	A39 between B3233 and Heywood Road Roundabout	22889	744	DfT
Link 4	A39 between Heywood Road Roundabout and B3236 Buckleigh Road	16345	498	DfT
Link 5	A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	16345	498	DfT <i>Estimated from Link 4</i>
Link 6	A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	8907	260	DfT
Link 7	B3233 Barnstaple Street between Barnstaple Street Roundabout and Manteo Way	11737	-	Devon County Council
Link 8	Manteo Way between Barnstaple Street and Gammaton Road	5269	265	DfT
Link 9	Gammaton Road between Manteo Way and Tennacott Lane	797	10	ATC
Link 10	Gammaton Road between Tennacott Lane and Moorview House	797	10	ATC, <i>Estimated from Link 9</i>
Link 11	Gammaton Moor Road between Moorview House and Alverdiscott Substation access	87	5	ATC
Link 12	A386 between Heywood Road Roundabout and Wooda Road (and incorporating Wooda Road)	4364	20	DfT
Link 13	A386 between Heywood Road Roundabout and Ford Rise	15349	300	DfT
Link 14	A386 between Ford Rise and Littleham Road	9449	311	ATC
Link 15	B3236 Buckleigh Road between A39 and Pusehill Road	1910	20	ATC
Link 16	Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	1733	-	Devon County Council
Link 17	Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	1795	106	ATC

## Road Safety

- 5.5.20 PIA data has been obtained and used to consider the road safety record of highway links within the traffic and transport study area. For the purposes of this PEIR chapter, PIA data has been obtained from the CrashMap website, which is a database of road traffic injury accidents recorded by the police as published by the DfT, covering and validated for the latest available five-year period between 2018 and 2022.
- 5.5.21 The baseline position considers clusters of injury accidents (five or more occurring at the same location or within a 50 m radius over a five-year period) across the Traffic and Transport Study Area. These clusters are set out in **Table 5.15**.

**Table 5.15: PIA clusters within the study area**

Cluster Id	Location	Number of PIAs
1	Along the A39, 1km west of Brynsworthy Lane/A39 priority junction	5
2	A386/Bridge Street/Old Bideford Bridge Roundabout	7

## Future Baseline Conditions

- 5.5.22 A 2027 future baseline scenario for the traffic and transport study area has been created to reflect the anticipated peak year of the Proposed Development construction programme and to therefore assess the potential environmental impacts of the Proposed Development on traffic and transport.
- 5.5.23 The 2027 future baseline has been created by applying relevant traffic growth rates obtained from the DfT National Trip End Model for the respective road types to the 2023 base traffic flows set out in **Table 5.14** with the addition of traffic flows (plus any associated transport infrastructure) generated by committed and cumulative development, where appropriate. The 2027 future base traffic flows along the highway links within the traffic and transport study area are set out in **Table 5.16**.

## XLINKS MOROCCO-UK POWER PROJECT

**Table 5.16: 2027 future baseline traffic flows**

Highway link reference	Description	2027 AADT flows		Source
		Total vehicles	HGVs	
Link 1	A39 between Lake Roundabout and Roundswell Roundabout	31805	953	DfT
Link 2	A39 between Roundswell Roundabout and B3233	20261	702	DfT
Link 3	A39 between B3233 and Heywood Road Roundabout	23963	779	DfT
Link 4	A39 between Heywood Road Roundabout and B3236 Buckleigh Road	17112	522	DfT
Link 5	A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	17112	522	DfT <i>Estimated from Link 4</i>
Link 6	A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	9244	270	DfT
Link 7	B3233 Barnstaple Street between Barnstaple Street Roundabout and Manteo Way	11956	-	Devon County Council
Link 8	Manteo Way between Barnstaple Street and Gammaton Road	5749	271	DfT
Link 9	Gammaton Road between Manteo Way and Tennacott Lane	815	10	ATC
Link 10	Gammaton Road between Tennacott Lane and Moorview House	815	10	ATC, <i>Estimated from Link 9</i>
Link 11	Gammaton Moor Road between Moorview House and Alverdiscott Substation access	89	5	ATC
Link 12	A386 between Heywood Road Roundabout and Wooda Road (and incorporating Wooda Road)	4495	21	DfT
Link 13	A386 between Heywood Road Roundabout and Ford Rise	16131	309	DfT
Link 14	A386 between Ford Rise and Littleham Road	9646	317	ATC
Link 15	B3236 Buckleigh Road between A39 and Pusehill Road	1966	21	ATC
Link 16	Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	1768	-	Devon County Council
Link 17	Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	1831	108	ATC

## Key Receptors

5.5.24 The sensitivity of each highway link in the traffic and transport study area set out in Volume 2, Figure 5.1 has been identified using the criteria set out in **Table 5.8** using professional judgement. **Table 5.17** identifies the receptors taken forward into the assessment.

**Table 5.17: Key receptors taken forward to assessment**

Highway link	Sensitivity	Justification
Link 1: A39 between Lake Roundabout and Roundswell Roundabout	Low	A small area of residential development to the north of the highway link adjacent to Roundswell Roundabout, although set back with adequate screening. A small section of footway both sides of the carriageway with an uncontrolled crossing point at Roundswell Roundabout.
Link 2: A39 between Roundswell Roundabout and B3233	Low	A small area of residential development and some employment to the north of the highway link just to the west of the Roundswell Roundabout, although set back with adequate screening.
Link 3: A39 between B3233 and Heywood Road Roundabout	Low	Some small areas of residential development to the north and south of the highway link to the west of Torridge Bridge, although set back with adequate screening. A small section of shared footway/cycleway both sides of the carriageway with an uncontrolled crossing point at Heywood Road Roundabout.
Link 4: A39 between Heywood Road Roundabout and B3236 Buckleigh Road	Negligible	No sensitive receptors.
Link 5: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	Low	An outdoor adventure site and brewery to the north and a hotel to the south of the highway link, although set back with adequate screening.
Link 6: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	Low	A small group of dwellings fronting the carriageway in Fairy Cross. A wide footway adjacent to the carriageway with a 60mph speed limit, plus a bus stop either side. Other residential development to the south of the carriageway set back with adequate screening.
Link 7: B3233 Barnstaple Street between Barnstaple Street Roundabout and Manteo Way	Low	A small group of dwellings to the east of the highway link, although set back with adequate screening.
Link 8: Manteo Way between Barnstaple Street and Gammaton Road	Low	Some concentrations of both residential and employment areas either side of the highway link. A wide footway and shared footway/cycleway adjacent to the carriageway which has a 30 mph speed limit, plus adequate crossing facilities.
Link 9: Gammaton Road between Manteo Way and Tennacott Lane	Negligible	No sensitive receptors.
Link 10: Gammaton Road between Tennacott Lane and Moorview House	Negligible	Some isolated residential properties both adjacent to and set back from the carriageway.



Highway link	Sensitivity	Justification
Link 11: Gammaton Moor Road between Moorview House and Alverdiscott Substation access	Negligible	Some isolated residential properties both adjacent to and set back from the carriageway.
Link 12: A386 between Heywood Road Roundabout and Wooda Road (and incorporating Wooda Road)	Medium	Some concentrations of residential areas either side of the highway link, as well as a place of worship, a leisure centre, a primary school and a care home, with adequate footway both sides of the carriageway, which has a 30 mph speed limit.
Link 13: A386 between Heywood Road Roundabout and Ford Rise	High	Some concentrations of residential areas either side of the highway link, as well as a care home, recreational area (skate park), a place of worship and a library, with adequate footway both sides of the carriageway, which has a 30mph speed limit. Also includes a tourist area along The Quay in Bideford and concentrations of PIAs recorded at the A386/Bridge Street/Old Bideford Bridge junction.
Link 14: A386 between Ford Rise and Wesleyan Chapel	Negligible	Some isolated residential properties set back from the carriageway.
Link 15: B3236 Buckleigh Road between A39 and Pusehill Road	Low	A care home to the south of the highway link, although set back with adequate screening.
Link 16: Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	Negligible	No sensitive receptors.
Link 17: Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	Negligible	No sensitive receptors.

## 5.6 Key Parameters for Assessment

### Maximum Design Scenario

5.6.1 The maximum design scenarios identified in **Table 5.18** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the maximum design scenario provided in Chapter 3: Project description of the PEIR. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the maximum design scenario (e.g., different infrastructure layout), to that assessed here be taken forward in the final design scheme. Therefore, this comprises a conservative assessment of a worst case scenario.

**Table 5.18: Maximum design scenario considered for the assessment of potential effects**

Potential impact	Phase <sup>1</sup>			Maximum design scenario	Justification
	C	O	D		
The impact on driver delay	✓	×	×	<p><b>Construction phase</b></p> <ul style="list-style-type: none"> <li>A reasonable estimation that all components of the Onshore HVDC Cable Corridor installation works and Landfall would generate up to 30 HGV movements per day based upon site space, loading/unloading requirements and construction staff activities and manpower.</li> <li>A reasonable estimation that Horizontal Directional Drilling (HDD) works would generate an average of up to five HGV movements per day.</li> <li>A reasonable estimation that there would be up to three simultaneous workfronts on the Onshore HVDC Cable Corridor and landfall.</li> <li>A reasonable estimation that each workfront will consist of 30 staff on each day.</li> <li>A reasonable estimation that there would be 200 staff at the Converter Site on each day.</li> <li>A reasonable estimation is that up to 75% of staff may drive themselves to work with limited access by sustainable modes of travel, with an estimation that 25% of staff will car share.</li> <li>A construction assessment year of 2027 is adopted.</li> <li>It is assumed that all materials are transported by HGV and no allowance for rail or maritime has been included.</li> <li>A five and a half day working week (Monday to Friday 07:00 to 19:00 and Saturday 07:00 to 13:00) has been adopted.</li> </ul>	<p>The greatest reasonable estimates of daily HGV movements maximise potential impacts.</p> <p>The greatest reasonable estimates of daily construction staff and workfronts maximises the number of construction staff vehicle movements.</p> <p>Assuming that all materials are transported by HGV rather than rail or maritime results in the greatest number of HGV movements and therefore the greatest impact on the highway network.</p> <p>Assuming a reasonable estimation of working days and working hours results in a reasonable balance of maximum construction traffic flows for both daily and weekday peak hour periods.</p>
The impact on severance	✓	×	×		
The impact on non-motorised user delay	✓	×	×		
The impact on non-motorised user amenity and fear and intimidation	✓	×	×		
The impact on road safety	✓	×	×		
The impact of AILs	✓	×	×		

## XLINKS MOROCCO-UK POWER PROJECT

Potential impact	Phase <sup>1</sup>			Maximum design scenario	Justification
	C	O	D		
					The greatest number of heavy electrical components will maximise the number of AILs and present the greatest potential for impact on transport receptors.

<sup>1</sup> C=construction, O=operation and maintenance, D=decommissioning

## 5.7 Mitigation Measures Adopted as Part of the Proposed Development

5.7.1 For the purposes of the EIA process, the term ‘Measures adopted as part of the Proposed Development’ is used to include the following types of mitigation measures (adapted from IEMA, 2016). These measures are set out within Volume 1, Appendix 3.1: Draft Mitigation Schedule, of the PEIR.

- Primary (inherent) mitigation – measures included as part of the project design. IEMA 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 Development Consent Order (DCO). For example, a reduction in footprint or height.
- Secondary (foreseeable) mitigation. IEMA describes these as ‘actions that will require further activity in order to achieve the anticipated outcome’. These include measures required to reduce the significance of environmental effects (such as lighting limits) and may be secured through an environmental management plan.
- Tertiary (inexorable) mitigation. IEMA 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’. It may be helpful to secure such measures through a Construction Environmental Management Plan (CEMP) or similar.

5.7.2 Several measures will be adopted as part of the Proposed Development to mitigate the potential environmental impacts on traffic and transport. These measures are set out in **Table 5.19** and are considered inherently part of the Proposed Development design.

**Table 5.19: Mitigation measures adopted as part of the Proposed Development**

Measure adopted	How the measure will be secured
<b>Primary Measures</b>	
The provision of appropriate parking facilities for construction workers.	As a requirement of the DCO
The design of HGV access points, including visibility standards and, where necessary, temporary speed restrictions on the adjacent highway will be agreed with the relevant highway authorities.	Through the TA to be submitted in support of the application for development consent and via a subsequent Section 278 Agreement with the relevant highway authorities.
The original highway will be reinstated after construction work is completed at all vehicle accesses where accommodation works are undertaken to allow the movement of vehicles between the Onshore Infrastructure Area and the highway.	Through the TA to be submitted in support of the application for development consent and via a subsequent Section 278 Agreement with the relevant highway authorities.

<b>Measure adopted</b>	<b>How the measure will be secured</b>
For HDD crossings, the drilling compound is anticipated to receive a greater number of HGV movements than that receiving compound. Wherever practical, the drilling direction will be set to minimise the number of HGV movements through sensitive receptors	As a requirement of the DCO
A route for AILs will be identified. The route timing and method of transport of AILs will be discussed and agreed with the relevant highway and bridge authorities, as well as the police.	As part of a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State following an application by the appointed heavy haulage contractor.
It is expected that several AILs comprising large components will be transported to the Onshore Infrastructure Area. The heavy haulage contractor appointed to undertake this work will be required to comply with statutory regulations in terms of consulting with the relevant highway and bridge authorities, as well as the police.	As part of a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State following an application by the appointed heavy haulage contractor.
The timing of AIL deliveries will be discussed with the relevant highway authorities to minimise delay for other highway users and to minimise risk to highway users. The timing of AIL deliveries to the Onshore Infrastructure Area will be discussed to minimise delays to other road users.	As part of a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State following an application by the appointed heavy haulage contractor.
The routing of AIL deliveries will be agreed with the relevant highway authorities. The delivery of AILs may be undertaken in convoy and under escort. Where AILs require the full width of the carriageway or for unusual manoeuvres at junctions, appropriate temporary road closures and traffic management will be put in place as appropriate to maintain the safety of other highway users.	As part of a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State following an application by the appointed heavy haulage contractor.
<b>Tertiary Measures</b>	
Adoption of a CTMP which will set out suitable construction vehicle routes to be adhered to.	As a requirement of the DCO
Adoption of a CTMP which will set out that a pre-entry condition survey will be undertaken before the start of works and after the substantial completion of works on minor highway links and new junctions used by HGVs to access the Onshore Infrastructure Area. Any damage to the highway that has been demonstrably caused by construction traffic associated with the Proposed Development will be repaired.	As a requirement of the DCO
Adoption of a CTMP which will set out the construction working hours. These will be agreed in consultation with the relevant authorities. It is expected that in some circumstances, working hours could be extended when this will reduce the magnitude of environmental impacts of construction, such as to increase safety, reduce driver delays or reduce the duration of impacts.	As a requirement of the DCO
Adoption of a CTMP which will set out restrictions on HGV operating hours along those sections of the highway network that provide access to local schools. The CTMP will restrict HGV movements along the A386 through Bideford during school drop-off and pick-up times.	As a requirement of the DCO
Adoption of a CTMP which will set out restrictions on construction HGV movements through the Barnstaple Road/Manteo Way junction to limit these to no more than 10 per hour during the peak hours.	As a requirement of the DCO
Adoption of a CTMP which will set out restrictions on HGV operating hours and measures to minimise the number of HGV movements through sensitive areas when access to HDD sites is essential.	As a requirement of the DCO

Measure adopted	How the measure will be secured
Adoption of a CTMP which will set out the requirement for wheel cleaning methods at appropriate locations where it is necessary to eliminate the risk of mud and debris on the highway.	As a requirement of the DCO
Adoption of a CTMP which will set out measures to minimise dust and dirt associated with the movement of construction vehicles.	As a requirement of the DCO
Adoption of a CTMP which will set out traffic management measures at those points where cable trenches are cut across highways or where existing access rights are affected.	As a requirement of the DCO
Adoption of a CTMP which will set out requirements to monitor load sizes and vehicle usage and, where possible, load consolidation and delivery to construction sites using alternative vehicles. Encouragement to re-use HGVs wherever possible, such as backloading. Where practical, local suppliers will be used to minimise the distance travelled by HGV.	As a requirement of the DCO

## 5.8 Assessment of Construction Effects

- 5.8.1 The impacts of the construction of the Proposed Development have been assessed. The potential impacts arising from the construction phase of the Proposed Development are listed in **Table 5.18**, along with the maximum design scenario against which each impact has been assessed. A description of the potential effect on traffic and transport receptors caused by each identified impact is given below.
- 5.8.2 The number of construction vehicle movements along each highway link in the study area during the construction phase of the Proposed Development reflects the location of the temporary construction compounds within the Onshore Infrastructure Area. The access strategy for construction vehicles is set out in Volume 1, Chapter 3: Project Description of the PEIR and in the following paragraphs.
- 5.8.3 During construction of the Proposed Development, the A39 will be used as the primary route for construction vehicles to access the Onshore Infrastructure Area, before using either the A386 through Bideford, Barnstaple Street then Manteo Way through East-the-Water, or the B3236 north of the A39 to access the temporary construction compounds. These roads will be used by construction vehicles before turning onto temporary haul roads along sections of the Onshore HVDC Cable Corridor to remove these movements from the public highway.
- 5.8.4 The temporary construction compounds along the Onshore HVDC Cable Corridor will be in areas which are accessible from the A39, the A386, Manteo Way and the B3236 to enable construction vehicles to be directed towards the relevant construction compounds, while reducing movements along minor roads within the study area.
- 5.8.5 It is proposed that construction vehicle access to the Converter Site adjacent to Alverdiscott Substation site will be taken from a haul road from the construction compound at Gammaton Road. From the construction compound, construction vehicles will use a haul road which will route adjacent to Gammaton Road and the minor road leading north from Gammaton Cross towards the Converter Site to remove construction traffic from Gammaton Road and turning through Gammaton Cross.

- 5.8.6 It is proposed that access will be required for construction workforce traffic, HGVs and AILs for certain items (drill rigs, transformers, cable drums, large cranes or construction plant).
- 5.8.7 All construction workers will travel to the construction compound at Gammaton Road before onward travel by minibus to other work fronts in the study area using Manteo Way/Barnstaple Street and the A39, then the A386 and the B3236, or further westbound along the A39. The proposed routing of construction workers is shown in Volume 2, Figure 5.4.
- 5.8.8 HGVs will travel along the highway network directly to the relevant construction compound before moving along the Onshore HVDC Cable Corridor route on purpose built temporary haul roads, including to the Converter Site from the construction compound at Gammaton Road. The proposed routing of HGVs is shown in Volume 2, Figure 5.5.
- 5.8.9 The construction vehicles to transport cable drums to the construction compounds and transformers to the Converter Site will be AILs on the public highway in terms of both weight and size. The cable drums and transformers for the Proposed Development will arrive at Appledore Quay by sea before onward travel along the highway network by AILs to either the construction compounds or Converter Site.
- 5.8.10 From Appledore Quay, the AILs will travel along Wooda Road and then the A386 towards the A39 at Heywood Road Roundabout, before using the same highway network or haul roads as the HGVs to access the construction compounds or Converter Site. The proposed routing of AILs is shown in Volume 2, Figure 5.6.
- 5.8.11 The location of the existing access to each of the five temporary construction compounds within the Order Limits area is shown in Volume 2, Figure 5.7. It is proposed alterations will be made to each existing access to accommodate the movements of AILs, as stated in the list below.
- Cornborough Sewage Treatment Works – widening of current access arrangement.
  - Abbotsham North – widening of existing gated field access.
  - Abbotsham South – widening of existing gated field access, the layout of which will be compatible with both the current and future layout of the road south of Clovelly Road once the residential development is built out.
  - A386 – realignment of Littleham Road onto the A386 with temporary traffic signals and creation of new access along Littleham Road.
  - Gammaton Road – creation of a new access to the south east of Tennacott Lane to provide access to the main construction compound.
- 5.8.12 The Proposed Development will include further improvements to the highway network within the study area, which will facilitate access during both construction and operation, as stated in the list below.
- Widening of Gammaton Road following the construction of the Project to accommodate AIL movements in the unlikely event a transformer fails at the Converter Site and a replacement is to be delivered.
  - Widening of A386/Wooda Road junction and Barnstaple Road/Manteo Way junction to accommodate AIL movements.
- 5.8.13 The construction vehicle movements over the construction period of the Proposed Development within the study area based upon the proposed access strategy and

location of construction compounds are set out in **Table 5.20** along with an assessment of these against 2027 future base traffic flows.

**Table 5.20: Impact of Proposed Development construction traffic flows**

Highway link	Base traffic flows		Construction traffic flows		% increase	
	Total vehicles	HGVs	Total vehicles	HGVs	Total vehicles	HGVs
Link 1: A39 between Lake Roundabout and Roundswell Roundabout	32,270	967	545	105	2%	11%
Link 2: A39 between Roundswell Roundabout and B3233	20,568	712	545	105	3%	15%
Link 3: A39 between B3233 and Heywood Road Roundabout	24,389	793	166	105	1%	13%
Link 4: A39 between Heywood Road Roundabout and B3236 Buckleigh Road	17,417	531	166	105	1%	20%
Link 5: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	17,417	531	162	105	1%	20%
Link 6: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	9,387	274	154	105	2%	38%
Link 7: B3233 Barnstaple Street between Barnstaple Street Roundabout and Manteo Way	12,075	329	532	80	4%	24%
Link 8: Manteo Way between Barnstaple Street and Gammaton Road	5,447	274	532	80	10%	29%
Link 9: Gammaton Road between Manteo Way and Tennacott Lane	824	10	532	80	65%	774%
Link 10: Gammaton Road between Tennacott Lane and Moorview House	824	10	0	0	0%	0%
Link 11: Gammaton Moor Road between Moorview House and Alverdiscott Substation access	90	5	0	0	0%	0%
Link 12: A386 between Heywood Road Roundabout and Wooda Road (and incorporating Wooda Road)	4,552	21	0	0	0%	0%
Link 13: A386 between Heywood Road Roundabout and Ford Rise	16,010	313	39	35	0%	11%
Link 14: A386 between Ford Rise and Wesleyan Chapel	9,749	321	39	35	0%	11%



Highway link	Base traffic flows		Construction traffic flows		% increase	
	Total vehicles	HGVs	Total vehicles	HGVs	Total vehicles	HGVs
Link 15: B3236 Buckleigh Road between A39 and Pusehill Road	1,990	21	39	35	2%	168%
Link 16: Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	1,786	105	39	35	2%	33%
Link 17: Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	1,850	109	39	35	2%	32%

5.8.14 In terms of total vehicle movements, only Link 9 is predicted to exceed the respective threshold as defined in the IEMA guidelines set out in section 5.4 of this PEIR chapter.

5.8.15 In terms of HGVs, Link 6, Link 9, Link 15, Link 16 and Link 17 are predicted to exceed the respective threshold as defined in the IEMA guidelines set out in section 5.4 of this PEIR chapter.

5.8.16 The highway links of the study area to be considered for assessment as part of the EIA in accordance with the IEMA guidelines set out in section 5.4 of this PEIR chapter are set out in **Table 5.21**.

**Table 5.21: Highway links for EIA**

Highway link	Sensitivity	Change in daily traffic flow		IEMA rule
		Total vehicles	HGVs	
Link 6: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	Medium	2%	38%	Rule 1
Link 9: Gammaton Road between Manteo Way and Tennacott Lane	Negligible	65%	774%	Rule 1
Link 15: B3236 Buckleigh Road between A39 and Pusehill Road	Low	2%	168%	Rule 1
Link 16: Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	Negligible	2%	33%	Rule 1
Link 17: Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	Negligible	2%	32%	Rule 1

5.8.17 In terms of the other 13 highway links in the study area, these have been screened out of the EIA assessment in accordance with IEMA guidelines given

that the effect along these highway links will be of negligible adverse significance and not significant in EIA terms.

### The Impact on Driver Delay

- 5.8.18 Delays to non-development traffic can occur at several points on the highway network, including:
- At site entrances where there will be additional turning movements;
  - On the highways passing a development site where there is likely to be additional traffic and/or the flow might be affected by additional parked cars;
  - At other key intersections along the highway which might be affected by increased traffic;
  - At side roads where the ability to find gaps in the traffic may be reduced, thereby lengthening delays.
- 5.8.19 The IEMA Rule 1 and Rule 2 thresholds which delimit the extent of EIA do not on their own apply to this impact as this relates to junction/highway capacity and operation and the impact upon this is defined by the TA. Generally, impact upon driver delay may result when the highway network is at or close to capacity and not just with reference to the Rule 1 and Rule 2 thresholds. The IEMA Rule 1 and Rule 2 thresholds are therefore not applied to this potential impact to delimit the extent of assessment.
- 5.8.20 The extent of assessment for driver delay is considered across the whole study area, from which key junctions or locations of the highway network are identified using observations of existing driver delay, judgement and advice from highway authorities.
- 5.8.21 The assessment focuses on the Barnstaple Road/Manteo Way junction as this is known to suffer from congestion during the highway network peak hours, as well as at the A386/Littleham Road junction, as this will become signalised during the construction phase of the Proposed Development to provide access to the River Torridge HDD construction compound and haul road. The assessment also considers driver delay along Gammaton Road at the location of the haul road crossing.
- 5.8.22 It is noted that there can be some seasonal variation in traffic flows within the traffic and transport study area due to tourism. In particular, the A39 Roundswell Roundabout suffered from congestion a number of years ago, however, improvements were subsequently made to address these. The assessments undertaken are based upon typical traffic conditions of peak traffic demand during the AM and PM peak hours.

### Sensitivity of the Receptor

#### Barnstaple Road/Manteo Way Junction

- 5.8.23 The Barnstaple Road/Manteo Way junction experiences congestion during highway network peak hours as traffic flow along Barnstaple Road prevents vehicles from turning both left and right from Manteo Way. The sensitivity of the receptor is **high**.

### Temporary Traffic Signals at A386/Littleham Road Junction

- 5.8.24 It is proposed that temporary traffic signals will be installed at the A386/Littleham Road junction located to the south of Bideford along Link 14. The sensitivity of the receptor is **low**.

### Gammaton Road Haul Road Crossing

- 5.8.25 The haul road between the construction compound at Gammaton Road and the Converter Site adjacent to Alverdiscott Substation will cross Gammaton Road along Link 10. The sensitivity of the receptor is **negligible**.

## Magnitude of Impact

### Barnstaple Road/Manteo Way Junction

- 5.8.26 The Barnstaple Road/Manteo Way junction was assessed as part of the planning application for a proposed household recycling materials and food waste processing facility on Gammaton Road (Torrige District Council Reference: 1/1141/2022/LA) during 2023.
- 5.8.27 That proposal was predicted to generate 10 two-way vehicle movements during both the AM and the PM peak hours. Planning consent was granted and an extract from DCCs comments set out within the Committee Report is as follows:

*‘Given this extremely minimal increase as a result of the proposed development, it is clear that the capacity issue at this junction during the peak AM and PM times is as a result of previous developments. It is not the responsibility of the development now proposed to mitigate the issues that have been caused by other developments. Further, the expected increase of 10 two-way traffic movements, compared with a 2022 5 day average of 317 movements in the peak AM and 464 in the peak PM, is not considered to be a significant increase. Accordingly, it is your Officer’s view that the requested contribution is not necessary to make the development acceptable in planning terms’.*

- 5.8.28 The number of vehicle movements through the Barnstaple Road/Manteo Way junction associated with the construction phase of the Proposed Development will be limited to no more than 10 during the peak hours, to ensure no material changes to the performance of the junction or to driver delay.
- 5.8.29 It should also be noted that the planning application for the processing facility was considered on the basis of there being a permanent increase in vehicle movements through the Barnstaple Road/Manteo Way junction during the peak hours, whereas the vehicle movements generated by the Proposed Development will be temporary.
- 5.8.30 Based upon the above, the impact of construction vehicle movements on driver delay at the Barnstaple Road/Manteo Way junction is predicted to be of local spatial context and short term duration. The magnitude is therefore **negligible**.

### Temporary Traffic Signals at A386/Littleham Road Junction

- 5.8.31 It is proposed that temporary traffic signals will be installed at the A386/Littleham Road junction as part of traffic management measures during the construction

phase of the Proposed Development. The proposed use of the temporary traffic signals will be discussed and agreed with Devon County Council.

- 5.8.32 The Traffic Signs Manual Chapter 8 Part 01 discusses levels of traffic flows that can cause delays when temporary traffic signals are used for works. Paragraph D5.1.6 states: '*On roads where flows are very high, overload of the controlled area is possible and exceptional delays may result. This can occur with two-way flows as low as 1,300 vehicles per hour (for sites about 50 m long) and with a one-way flow of 900 vehicles per hour (for longer sites with balanced flows) with signal control.*
- 5.8.33 ATC data for Link 14 included in **Table 5.14**, indicates that an average of 402 two-way vehicle movements are undertaken per hour along the A386, which is well within the traffic flow where exceptional delays may result.
- 5.8.34 While these guidelines are more applicable for shuttle working road works where a junction is not involved, the traffic flows are considerably below the guidelines and therefore, it is considered that significant delay to drivers on both the A386 and Littleham Road will not occur with the introduction of temporary traffic signals.
- 5.8.35 Based upon the above, the impact of the introduction of temporary traffic signals at the A386/Littleham Road junction on driver delay is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Gammaton Road Haul Road Crossing

- 5.8.36 The haul road crossing of Gammaton Road has the potential to result in driver delay along Gammaton Road by introducing a new junction and therefore more opposing vehicle movements.
- 5.8.37 ATC data for Link 10 included in **Table 5.14** indicates that an average of 34 two-way vehicle movements are undertaken per hour along Gammaton Road. Using professional judgement based upon the form that the haul road crossing is likely to take, the peak hour traffic flow along Gammaton Road is much lower than the level at which drivers are likely to experience delay.
- 5.8.38 Based upon the above, the impact of the haul road crossing along Gammaton Road is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.39 The magnitude of the impact on driver delay at the Barnstaple Road/Manteo Way junction is **negligible** and the sensitivity of the receptor is **high**. The effect will, therefore, be of a **minor** adverse significance, which is not significant.
- 5.8.40 The magnitude of the impact on driver delay at the A386/Littleham Road junction due to the proposed temporary traffic signals is **negligible** and the sensitivity of the receptor is **low**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.
- 5.8.41 The magnitude of the impact on driver delay along Gammaton Road due to the haul road crossing is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## The Impact on Severance

- 5.8.42 In the context of traffic and transport, severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure or factors that separate people from places and other people. This may result from the difficulty of crossing a heavily trafficked highway or a physical barrier created by infrastructure.
- 5.8.43 The IEMA guidelines set out that proportional increases in total traffic flows along a highway link of between 30% and 60% may result in a low impact upon severance, increases of between 60% and 90% may result in a medium impact upon severance and increases of more than 90% may result in a high impact upon severance.
- 5.8.44 The changes in total traffic flow as a result of the construction phase of the Proposed Development on four of the five highway links (Link 6, Link 15, Link 16 and Link 17) are all lower than the 30% required for a slight effect to occur. Link 9 will experience an increase in total traffic flow as a result of the construction phase of the Proposed Development of 65%.

### Link 6

#### Sensitivity of the Receptor

- 5.8.45 There is a small group of dwellings fronting the carriageway in Fairy Cross with other residential development set back the other side of the A39. The sensitivity of the receptor is **low**.

#### Magnitude of Impact

- 5.8.46 The change in traffic flow along Link 6 as a result of the construction phase of the Proposed Development will be an increase of 2%. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

#### Significance of the Effect

- 5.8.47 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **low**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

### Link 9

#### Sensitivity of the Receptor

- 5.8.48 Link 9 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall. There are no built up frontages onto either side for which severance could occur. The sensitivity of the receptor is **negligible**.

#### Magnitude of Impact

- 5.8.49 The change in traffic flow along Link 9 as a result of the construction phase of the Proposed Development will be an increase of 65%. However, there are no built

up frontages onto either side for which severance could occur. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.50 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 15

### Sensitivity of the Receptor

- 5.8.51 There is a care home and assisted living residences to the south of Buckleigh Road set back behind adequate screening, although no other development exists along the carriageway which will require people to cross or for which severance could occur. The sensitivity of the receptor is **low**.

### Magnitude of Impact

- 5.8.52 The change in traffic flow along Link 15 as a result of the construction phase of the Proposed Development will be an increase of 2%. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.53 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **low**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 16

### Sensitivity of the Receptor

- 5.8.54 Link 16 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

- 5.8.55 The change in traffic flow along Link 16 as a result of the construction phase of the Proposed Development will be an increase of 2%. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.56 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 17

### Sensitivity of the Receptor

- 5.8.57 Link 17 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

- 5.8.58 The change in traffic flow along Link 16 as a result of the construction phase of the Proposed Development will be an increase of 2%. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.59 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## The Impact on Non-Motorised User Delay

- 5.8.60 The IEMA guidelines set out that the assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads.
- 5.8.61 Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend upon the general level of pedestrian and non-motorised user activity, visibility and general physical conditions.
- 5.8.62 Given the range of local factors and conditions that can influence non-motorised user delay, for example, a discrete delay may have a lesser impact in an urban environment than a rural setting, the IEMA guidelines do not set out definitive thresholds against which to assess pedestrian and non-motorised user delay. The IEMA guidelines recommends that the competent traffic and movement expert uses judgement to determine whether any changes in pedestrian and non-motorised user delay may be significant.
- 5.8.63 The previous IEMA guidance document which the IEMA guidelines replaced (Guidelines for the Environmental Assessment of Road Traffic, IEMA, 1993) set out that pedestrian delay is perceptible or considered significant beyond a delay threshold of 10 seconds, for a highway link with no crossing facilities. It goes on to say that a 10 second pedestrian delay in crossing a road broadly equates to a two-way link flow of approximately 1,400 vehicle movements per hour. This means that where two-way traffic flows on a road exceed 1,400 vehicle movements per hour, then a pedestrian seeking to cross that road will perceive a delay.
- 5.8.64 Although this guidance has been superseded, it does provide a useful guide to assist when considering whether any changes in pedestrian and non-motorised user delay may be significant.

- 5.8.65 To consider the potential for pedestrian and non-motorised user delay to occur on each of the five highway links, the maximum peak hour base traffic flows, along with the addition of construction traffic flows, has been considered.

### Link 6

#### Sensitivity of the Receptor

- 5.8.66 The A39 is a principal highway route with a 60mph speed limit. Most of Link 6 has no footway provision and no at-grade crossing facilities as there is no / limited pedestrian and non-motorised user demand along the majority of the route. A wide footway exists along both sides of the carriageway in Fairy Cross given the small number of dwellings which front the carriageway, although there are no pedestrian crossing facilities along the A39 through the village. The sensitivity of the receptor is **low**.

#### Magnitude of Impact

- 5.8.67 It is predicted that in 2027, Link 6 will have a base hourly traffic flow of 391 vehicles and a hourly traffic flow of 398 vehicles with construction traffic. This is substantially lower than the 1,400 vehicles per hour whereby non-motorised user delay will be perceptible. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

#### Significance of the Effect

- 5.8.68 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **low**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

### Link 9

#### Sensitivity of the Receptor

- 5.8.69 Link 9 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no development exists either side of the highway. The sensitivity of the receptor is **negligible**.

#### Magnitude of Impact

- 5.8.70 It is predicted that in 2027, Link 9 will have a base hourly traffic flow of 34 vehicles and an hourly traffic flow of 57 vehicles with construction traffic. This is substantially lower than the 1,400 vehicles per hour whereby non-motorised user delay will be perceptible. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

#### Significance of the Effect

- 5.8.71 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.



## Link 15

### Sensitivity of the Receptor

- 5.8.72 Link 15 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as very little development exists either side of the highway. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

- 5.8.73 It is predicted that in 2027, Link 15 will have a base hourly traffic flow of 83 vehicles and an hourly traffic flow of 85 vehicles with construction traffic. This is substantially lower than the 1,400 vehicles per hour whereby non-motorised user delay will be perceptible. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.74 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 16

### Sensitivity of the Receptor

- 5.8.75 Link 16 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no development exists either side of the highway. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

- 5.8.76 It is predicted that in 2027, Link 16 will have a base hourly traffic flow of 74 vehicles and an hourly traffic flow of 76 vehicles with construction traffic. This is substantially lower than the 1,400 vehicles per hour whereby non-motorised user delay will be perceptible. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

- 5.8.77 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 17

### Sensitivity of the Receptor

- 5.8.78 Link 17 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no

development exists either side of the highway. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

5.8.79 It is predicted that in 2027, Link 17 will have a base hourly traffic flow of 77 vehicles and an hourly traffic flow of 79 vehicles with construction traffic. This is substantially lower than the 1,400 vehicles per hour whereby non-motorised user delay will be perceptible. The impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.

### Significance of the Effect

5.8.80 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## The Impact on Non-Motorised User Amenity and Fear and Intimidation

5.8.81 The term non-motorised user amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and footway width/separation from traffic. This definition also includes fear and intimidation.

5.8.82 The IEMA guidelines refers to a tentative threshold for judging the significance of changes in non-motorised user amenity where the traffic flow (or its HGV component) is halved or doubled.

5.8.83 The IEMA guidelines set out that fear and intimidation from traffic, in terms of vehicular criteria, encompasses total traffic movements, HGV movements and vehicle speeds. It assigns a 'degree of hazard' score to each of these from which a total degree of hazard score is calculated and from which impacts can then be determined. This is calculated using the criteria set out in the IEMA guidelines, which is replicated in **Table 5.22** below.

**Table 5.22: Degree of hazard score criteria**

Average traffic flow over 18-hour day (vehicles/hour) (a)	Total 18-hour heavy goods vehicle flow (b)	Average vehicle speed (c)	Degree of hazard score
1,800 +	3,000 +	>40	30
1,200–1,800	2,000–3,000	30-40	20
600–1,200	1,000–2,000	20-30	10
<600	<1,000	<20	0

5.8.84 A 'total hazard score' is then calculated for each highway link for traffic flow scenarios. Table 3.2 of the IEMA guidelines provides an example of the total hazard score calculation to identify a level of fear and intimidation and is replicated in **Table 5.23** below.

**Table 5.23: Total hazard score and level of fear and intimidation calculation**

Level of fear and intimidation	Total hazard score (a) + (b) + (c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

## Link 6

### Sensitivity of the Receptor

5.8.85 The A39 is a principal highway route with a 60 mph speed limit. Most of Link 6 has no footway provision and no at-grade crossing facilities as there is no/limited non-motorised user demand along the majority of the route. A wide footway exists along both sides of the carriageway in Fairy Cross given the small number of dwellings which front the carriageway, although there are no pedestrian crossing facilities along the A39 through the village. The sensitivity of the receptor is **low**.

### Magnitude of Impact

**Table 5.24: Degree of hazard and level of fear and intimidation for Link 6**

Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HGV flow	Posted vehicle speed	Total hazard score	Level of fear and intimidation
<b>2027 base traffic flows</b>				
522	15	60	30	Moderate
<b>2027 base traffic flows with construction traffic</b>				
530	21	60	30	Moderate

5.8.86 It is predicted that there will be no step change in the level of fear and intimidation along Link 6 as a result of construction traffic. The magnitude is therefore **negligible**.

### Significance of the Effect

5.8.87 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **medium**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 9

### Sensitivity of the Receptor

5.8.88 Link 9 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no

development exists either side of the highway. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

**Table 5.25: Degree of hazard and level of fear and intimidation for Link 9**

Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HGV flow	Posted vehicle speed	Total hazard score	Level of fear and intimidation
<b>2027 base traffic flows</b>				
46	1	30	10	Small
<b>2027 base traffic flows with construction traffic</b>				
75	5	30	10	Small

5.8.89 It is predicted that there will be no step change in the level of fear and intimidation along Link 9 as a result of construction traffic. The magnitude is therefore **negligible**.

### Significance of the Effect

5.8.90 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## Link 15

### Sensitivity of the Receptor

5.8.91 Link 15 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as very little development exists either side of the highway. The sensitivity of the receptor is **negligible**.

### Magnitude of Impact

**Table 5.26: Degree of hazard and level of fear and intimidation for Link 15**

Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HGV flow	Posted vehicle speed	Total hazard score	Level of fear and intimidation
<b>2027 base traffic flows</b>				
111	1	40	20	Small
<b>2027 base traffic flows with construction traffic</b>				
113	3	40	20	Small

5.8.92 It is predicted that there will be no step change in the level of fear and intimidation along Link 15 as a result of construction traffic. The magnitude is therefore **negligible**.

**Significance of the Effect**

5.8.93 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

**Link 16**

**Sensitivity of the Receptor**

5.8.94 Link 16 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no development exists either side of the highway. The sensitivity of the receptor is **negligible**.

**Magnitude of Impact**

**Table 5.27: Degree of hazard and level of fear and intimidation for Link 16**

Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HGV flow	Posted vehicle speed	Total hazard score	Level of fear and intimidation
<b>2027 base traffic flows</b>				
99	6	40	20	Small
<b>2027 base traffic flows with construction traffic</b>				
101	7	40	20	Small

5.8.95 It is predicted that there will be no step change in the level of fear and intimidation along Link 16 as a result of construction traffic. The magnitude is therefore **negligible**.

**Significance of the Effect**

5.8.96 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

**Link 17**

**Sensitivity of the Receptor**

5.8.97 Link 17 is rural in nature with no footway provision adjacent to the carriageway to reflect the limited footfall along this route. No crossing facilities are required as no development exists either side of the highway. The sensitivity of the receptor is **negligible**.

## Magnitude of Impact

**Table 5.28: Degree of hazard and level of fear and intimidation for Link 17**

Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HGV flow	Posted vehicle speed	Total hazard score	Level of fear and intimidation
<b>2027 base traffic flows</b>				
103	6	60	30	Moderate
<b>2027 base traffic flows with construction traffic</b>				
105	8	60	30	Moderate

5.8.98 It is predicted that there will be no step change in the level of fear and intimidation along Link 17 as a result of construction traffic. The magnitude is therefore **negligible**.

### Significance of the Effect

5.8.99 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## The Impact on Road Safety

5.8.100 It is possible to estimate the impact of increased traffic on road safety from existing PIA records, national statistics and the type and quantity of traffic generated by the Proposed Development.

5.8.101 The IEMA Rule 1 and Rule 2 thresholds which delimit the extent of EIA do not on their own apply to this impact as this relates to the consideration of road safety along a highway and the impact upon this which is defined by the TA. Generally, a potential impact upon road safety may result at locations where there is an existing road safety issue or where proposals may create a road safety issue. The IEMA Rule 1 and Rule 2 thresholds are therefore not applied to this potential impact to delimit the extent of assessment.

5.8.102 The extent of assessment for road safety is considered across the whole study area, from which key locations of the highway network are identified from an analysis of PIA records and advice from highway authorities.

5.8.103 A review of the CrashMap database has been undertaken to determine key locations within the study area for assessment within this PEIR chapter.

5.8.104 As shown in **Table 5.15**, analysis of PIA records has indicated two locations in the traffic and transport study area where a cluster of injury accidents have been recorded. The analysis has indicated that five PIAs were recorded along a section of the A39 approximately 1 km to the west of the Brynsworthy Lane junction and seven PIAs were recorded at the A386/Bridge Street/Old Bideford Bridge Roundabout junction in Bideford.

## Sensitivity of the Receptor

5.8.105 The section of the A39 approximately 1 km to the west of the Brynsworthy Way junction is located along Link 2. The sensitivity of the receptor is **medium**. The A386/Bridge Street/Old Bideford Bridge Roundabout junction in Bideford is located along Link 13. The sensitivity of the receptor is **high**.

## Magnitude of Impact

- 5.8.106 The movement of construction vehicles would be controlled by the CTMP to ensure they travel in a safe and efficient manner. As part of the industry's Considerate Constructors Scheme, which all reputable contractors are signed up to and which seeks to raise standards within the industry (contractors who are not signed up to the scheme fail to progress in similar construction contractor procurements), contractors have responsibilities relating to the safe and efficient movement of their associated and related vehicle movements, including arrangements for deliveries.
- 5.8.107 The construction vehicles will not result in significant increases in traffic, will not result in any noticeable changes to the composition of traffic along highway links in the traffic and transport study area and there is nothing to suggest they would alter the injury accident rates by any noticeable amount.
- 5.8.108 All construction HGVs will be routing through the study area under strict traffic management control via the CTMP and warning signage will be used where relevant, for example at accesses to construction compounds, to alert other drivers of the construction traffic.
- 5.8.109 With specific reference to the A386/Bridge Street/Old Bideford Bridge roundabout, the CTMP will manage construction traffic in this location such that they must avoid the busy school drop off and pick up times.
- 5.8.110 Overall, the impact is predicted to be of local spatial extent and short term duration. The magnitude is therefore **low**.

## Significance of the Effect

- 5.8.111 Overall, for the section of the A39 approximately 1.0km to the west of the Brynsworthy Way, the magnitude of the impact is **low** and the sensitivity of the receptor is **medium**. The effect will, therefore, be of a **minor** adverse significance, which is not significant.
- 5.8.112 Overall, for the A386/Bridge Street/Old Bideford Bridge roundabout, the magnitude of the impact is **low** and the sensitivity of the receptor is **medium**. The effect will, therefore, be of a **minor** adverse significance, which is not significant.

## The Impact of AILs

- 5.8.113 It is expected that AILs will be required during the construction phase of the Proposed Development to transport cable drums to the construction compounds and transformers to the Converter Site.
- 5.8.114 These movements will be irregular throughout the study area and not just the five highway links of the traffic and transport study area to be considered for

assessment as part of the EIA. The assessment relating to AILs is therefore considered across the whole study area.

### Sensitivity of the Receptor

- 5.8.115 The access routes to be used by AILs will necessarily be of a standard that safely accommodates the movement of these vehicles. The route must necessarily be of a standard to safely accommodate the AILs to ensure the heavy haulage company's insurance is valid.
- 5.8.116 Any restrictions along the routes would also necessarily be removed to accommodate the transport delivery vehicles and they would travel under controlled environments.
- 5.8.117 Given the controlled environment, the sensitivity of the receptor is **negligible**.

### Magnitude of Impact

- 5.8.118 Depending on the width, length or weight of the vehicle, different notice periods have to be provided to highway authorities, bridge authorities and the police. These can vary between two and five days. The following activities will need to be undertaken in accordance with the Road Vehicles (Authorisation of Special Types) Order 2003 (STGO):
- Before the start of any journey, notify in accordance with Schedule 5 the chief office of police for each area in which the vehicle or vehicle-combination is to be used;
  - Ensure that the vehicle or vehicle-combination is used in accordance with the requirements of that Schedule; and
  - Ensure that the vehicle or vehicle-combination is accompanied during the journey by one or more attendants employed in accordance with Schedule 6.
- 5.8.119 The number of AIL movements will be low and each load will be present on the highway network for a short period of time, standard measures (including traffic management measures) will be applied in terms of route, timing and method of delivery to minimise delays to other highway users. The police will be notified of all AIL movements and will give prior notification given to the locality via local newspapers/radio etc so that other users have advance notification and can avoid or re-time their journeys to negate any impact.
- 5.8.120 AILs will also be under escort, as directed by the local police authority or as voluntary provided by the heavy haulage contractor, with those delivering transformers being under police escort. Escorts will not only control the AILs but will also interact with other road users to control, guide and protect them accordingly so as to safeguard their safe and expedient passage. This includes not just other vehicles but also non-motorised users and those who simply wish to watch/observe the movement of the AILs transporting the larger transformers from the roadside.
- 5.8.121 Based upon the above, the impact of AILs on the safety of highway users is predicted to be of local spatial extent and short term duration. The magnitude is therefore **negligible**.



## Significance of the Effect

5.8.122 Overall, the magnitude of the impact is **negligible** and the sensitivity of the receptor is **negligible**. The effect will, therefore, be of a **negligible** adverse significance, which is not significant.

## 5.9 Cumulative Environmental Assessment

- 5.9.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Proposed Development together with other projects and plans. 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, Appendix 5.3: Cumulative Effects Assessment screening matrix). Each project 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.
- 5.9.2 The traffic and transport CEA methodology has followed the methodology set out in Volume 1, Chapter 5: EIA Methodology of the PEIR. As part of the assessment, all projects and plans considered alongside the Proposed Development have been allocated into 'tiers' reflecting their current stage within the planning and development process.
- Tier 1
    - Under construction;
    - Permitted application(s), but not yet implemented;
    - Submitted application(s), not yet determined; and
    - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
  - Tier 2
    - Scoping report has been submitted
  - Tier 3
    - Scoping report has not been submitted
    - Identified in the relevant Development Plan
    - Identified in other plans and programmes.
- 5.9.3 This tiered approach is adopted to provide a clear assessment of the Proposed Development alongside other projects, plans and activities.
- 5.9.4 Upon an analysis of these, currently no specific projects, plans and activities have been scoped into the traffic and transport CEA. However, the projects, plans and activities will be reviewed again for the Environmental Statement chapter to be submitted in support of the application for development consent and updated accordingly if necessary.

## 5.10 Transboundary Effects

- 5.10.1 A screening of transboundary impacts has been undertaken and has identified that there was no potential for significant transboundary effects regarding traffic and transport from the Proposed Development upon the interests of other states.

## 5.11 Inter-related Effects

- 5.11.1 Inter-relationships are the impacts and associated effects of different aspects of the Proposed Development on the same receptor. These are as follows.
- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Proposed Development (construction, operation and maintenance), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases (e.g., construction noise effects from piling and operational substation noise).
  - 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. As an example, all effects on traffic and transport, such as construction dust and noise, increased traffic and visual change etc, may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.
- 5.11.2 Further details regarding inter-related effects are provided in Volume 4, Chapter 5: Inter-related effects.

## 5.12 Summary of Impacts, Mitigation Measures and Monitoring

- 5.12.1 Information on traffic and transport within the Traffic and Transport Study Area was collected through desktop reviews and site surveys.
- 5.12.2 **Table 5.30** presents a summary of the impacts, measures adopted as part of the Proposed Development and residual effects in respect to traffic and transport. The impacts assessed include:
- Driver delay (including temporary delays to public transport services);
  - Severance;
  - Non-motorised user delay;
  - Non-motorised user amenity and fear and intimidation;
  - Road safety; and
  - AILs.
- 5.12.3 Overall, it is concluded that there will be no significant effects arising from the Proposed Development during the construction, operation and maintenance or decommissioning phases.
- 5.12.4 Overall, it is concluded that there will be no significant cumulative effects from the Proposed Development alongside other projects/plans.

5.12.5 No potential transboundary impacts have been identified in regard to effects of the Proposed Development.

**Table 5.29: Summary of potential environmental effects**

Receptor	Sensitivity of receptor	Description of impact	Short/medium / long term	Magnitude of impact	Significance of effect	Significant/Not significant
<b>Construction phase</b>						
Barnstaple Road/Manteo Way	High	The impact on driver delay	Short term	Negligible	Minor	Not significant
A386/Littleham Road Junction	Low	The impact on driver delay	Short term	Negligible	Negligible	Not significant
Gammaton Road	Negligible	The impact on driver delay	Short term	Negligible	Negligible	Not significant
A39 approximately 1.0km to the west of the Brynsworthy Lane	Medium	The impact on road safety	Short term	Low	Minor	Not significant
A386/Bridge Street/Old Bideford Bridge Roundabout	High	The impact on road safety	Short term	Low	Minor	Not significant
Link 6: A39 between B3236 Buckleigh Road and Abbotsham Cross Roundabout	Medium	The impact on severance, non-motorised user delay and non-motorised user amenity	Short term	Negligible	Negligible	Not significant
Link 9: Gammaton Road between Manteo Way and Tennacott Lane	Negligible	The impact on severance, non-motorised user delay and non-motorised user amenity	Short term	Negligible	Negligible	Not significant
Link 15: B3236 Buckleigh Road between A39 and Pusehill Road	Low	The impact on severance, non-motorised user delay and non-motorised user amenity	Short term	Negligible	Negligible	Not significant
Link 16: Bowood Farm Road between Abbotsham Cross Roundabout and Construction Compound Access 2	Negligible	The impact on severance, non-motorised user delay and non-motorised user amenity	Short term	Negligible	Negligible	Not significant
Link 17: Littleham Road between Abbotsham Cross Roundabout and Construction Compound Access 3	Negligible	The impact on severance, non-motorised user delay and non-motorised user amenity	Short term	Negligible	Negligible	Not significant
Traffic and Transport Study Area	Negligible	The impact of AILs	Short term	Negligible	Negligible	Not significant

## 5.13 Next Steps

- 5.13.1 The following steps will be undertaken as part of the work for the ES chapter submitted in support of the application for development consent:
- Given the time between preparation of this PEIR chapter and the ES chapter, and to ensure the ES chapter utilises the most up to date data available at that time, new up to date PIA data will be obtained from DCC for analysis of the impact of the construction phase of the Proposed Development on road safety.
  - Additional site-specific traffic surveys in the form of ATCs will be undertaken to supplement the traffic surveys utilised for this PEIR chapter and the baseline environment and assessment for traffic and transport will be reviewed and updated where required.
  - Finalise the access arrangements in conjunction with comments received on this chapter, DCC and landowners and access requirements.
  - Meet with DCC to discuss the contents and findings of this PEIR chapter, to discuss the access arrangements and to discuss the impacts to ensure the ES chapter submitted in support of the application for development consent is prepared accordingly.
  - Undertake further assessments to determine any significant effects and any mitigation requirements in order to inform the EIA and the application for development consent including further assessments of peak hour traffic flow across the Traffic and Transport Study Area to inform the impact of the construction phase of the Proposed Development on driver delay.

## 5.14 References

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